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Causes and Effect of Out-Migration in Rural Areas of Benue State, Nigeria



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ABSTRACT: The study assessed the effect of out-migration from rural settlements in Benue State, Nigeria. The objective of the study was to examine the causes, effect and control of migration in rural settlements of the study area. A total of 1202 respondents were selected from rural communities in 5 Local Government Area of the State. The study used multi-stage sampling technique involving purposive, simple random, judgement and snowball sampling techniques in selecting the communities and the respondents. Data were obtained via questionnaire. Frequencies and percentages were used for data analysis while tables were used for data presentation. The study found that 60.1% of the respondents are male. Most of the respondents (23.7%) are within age 50-54 years. Majority of the respondents are married (79.8%) and have households that have migrated to other places in Nigeria and beyond. The major causes of migration include unemployment (99.8%), inadequate educational institutions (97.2%), village hardship and crises (69.2%), lack of social amenities (6.7%) and insecurity/crisis in rural areas. The major effect of out-migration includes reduction in labour supply, increased in demand for labour (97.1%), high cost of labour (99.8%), decreased in farm size (99.5%), decreased in productivity (99.7) and decreased in income (99.7%) in rural areas. Migration also causes low social economic growth and development in rural areas. The study recommends some major strategies for making the rural areas attractive to minimise youth migration in the State. These includes mechanization of agriculture, establishing agro-based industries, creating employment opportunities, provision of social amenities and ensuring adequate security of life and properties in rural areas of the State.

KEYWORDS: Effect, Rural, Urban, Migration, Rural, Areas, Benue and State.

1. INTRODUCTION

Migration is a complex phenomenon, and a common feature of both developed and developing countries. Humans have been migrating throughout history, and the pattern has change considerably over time from the search for space in early civilization to that of congestion in cities in modern days (Stephens, 2000; Ikwuyatum, 2016 and International Organisation for Migration (IOM), 2018). According to IOM (2018), migration flows are steadily increasing globally every year. Globalization, economic development, and crisis have increased human mobility globally. Majority of the migrants crossed border in search of better economic and social opportunities. In 2011, statistics showed that 10.5 million people were refugees who fled armed conflict, natural disasters, famine, and persecution around the world. In 2013, a total of 214 million people (3%) of the world's population lived outside their country of origin (Commission on Population and Development (CPD), 2013). The number of migrants keep increasing year by year; international migration increased from 258 million migrants as at 2018 (United Nations (UN), 2018) to 281 million migrants (IOM, 2022) while, the volume of global internal migration was 740 million people in 2009 (IOM, 2018). This increased to 763 million people in 2021 (Food and Agricultural Organisation ((FAO), 2021). Migration is also going on in Nigeria. Though migration data are difficult to come by, a survey on internal migration in Nigeria by NPC (2010) indicates that the volume of internal migration in Nigeria was 25% in 2010.

People are on the move across the globe for several reasons. The causes of migration include physical, economic, social, cultural and political factors. These factors are usually categorised into push and pull factors, which operate at both areas of origin and destination (Mundi, 1998: Bhende and Kanitkar, 2003: Hassan, 2013: Dokubo, Sennuga, Omolayo, Bankole and Barnabas, 2023). Besides, conflict is gradually becoming a major driver of migration. Severe conflicts lead to flow of internally displaced people in various parts of the world. World Bank (2023) opined that conflict, violence, and persecution continue to

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drive large numbers of people out of their home countries while Ikwuyatum (2013) assert that conflicts and its consequences have increasingly become a major driver of inter-regional migration in Nigeria and other regions of the world. Violent religious extremism in Syria and Boko Haram in Nigeria is a typical example (UN, 2018). United Nations High Commission for Refugee (UNCHR) (2023) revealed that there are 108 million forcibly displaced people in the world. More so, violence, insecurity and discriminatory attacks in Nigeria forced people to flee their home of origin for safety. As at 2017, statistics showed that there are about 2.1 million forced migrants in Nigeria (UNCHR, 2017).

The volume and pattern of migration have great consequence in area of origin and destination of migrants: influences on demographic, social, economic, cultural and political configuration of a society (Connell and Conway 2000; Adger, Kelly, Winkels, Huy and Locke, 2002; Ode, 2006). According to World Bank (2023), "Migration is a response to shock and global imbalances, such as massive gaps in income and well-being across countries." It has proved to be a powerful force for development, but there are challenges as well for the migrants, place of origin and destinations. The socio-economic effects of migration vary within the home of origin and destination; in the home of origin, migrants send money and goods to their respective communities. While such remittances can be used for development purposes, migrants are also involved directly in providing infrastructures in their communities (Umoh, 2001; Ajaero and Onokala, 2013), the negative effect of migration at the source region include decreased labour size, increased cost of labour, decreased farm size and productivity of individual farmers (Hwande 2003 and Suswam, 2003). At the destination region, migration enhances cheap/surplus labour and development while it creates unemployment, cultural dilution, and pressure on infrastructures at the receiving regions (World Economic Forum, 2017). Migration has the potential to contribute to sustainable development, skills transfer, and investment, in areas of origin (Wilson, 2001; CPD, 2013).

Out-migration has consequences on the elderly, parents, women, and children left behind. While, parents and siblings benefits from monetary and material remittances, the departure of young and able-bodied men (rural work force) constitute a loss of productive man power in the production system thereby affecting farm size, productivity, and family income in rural areas (Knodel and Saengtiechai, 2007). Rural-Urban migration are impacting food systems, bringing about upsurge in food prices and mounting hunger (World Bank, 2022).

Migration is a common phenomenon in Benue State. Every year, many migrants find it worthwhile to leave rural settlements and migrate to towns, cities and other places. A survey on internal migration in Nigeria by NPC (2010) indicated that Benue State has 280,427 out-migrants spread across the 36 States of the federation. This study was necessitate by the concern for continuous increase in out-migration of people from rural areas to urban areas in Benue State and beyond as well as its impending implications on farming activities, food security and the rural population in Benue State where Enefu and Orfega (2023) and Akighir (2023) opined that 75% of the working population and more than 85% of the active rural population are engage in agriculture and commerce. Thus, the objective of the study was to examine the causes, effect and strategies of making rural settlements attractive to minimise out-migration in Benue State.

2. THE STUDY AREA

The study area is located between Latitude $6^{\circ}25'$ and $8^{\circ}8'$ North of the Equator and Longitude $7^{\circ}47'$ and $10^{\circ}0'$ East of the Greenwich Meridian. It has boundary with Nasarawa State in the North, Kogi State to the West, Taraba State in the North East, Cameroun Republic in the South East, Ebonyi and Cross River and Enugu State in the South West. The area comprised 23 Local Government Area (L.G.A) and a landmass of $32,818.43\text{km}^2$ as revealed on Figure 1 (Lyam, 2005; Ministry of Lands and Survey, 2021; Benue State Government, 2015).

In the year 2006, Benue State has a population of 4,253,641 persons with a density of 130 persons per km^2 (National Population Commission (NPC), 2009). It has a projected population of 6,298,765 persons and a density of 192 per km^2 in 2018. The ethnic groups in the State includes the Tiv, Idoma, Igede, Jukun, Etulo, Igbo, Hausa and Yoruba. (NPC, 2009 and Benue State Ministry of Health, 2009). The State has three (3) Senatorial District namely Zone A, B and C: Zone A and B are dominated by the Tiv while the Idoma dominates Zone C.

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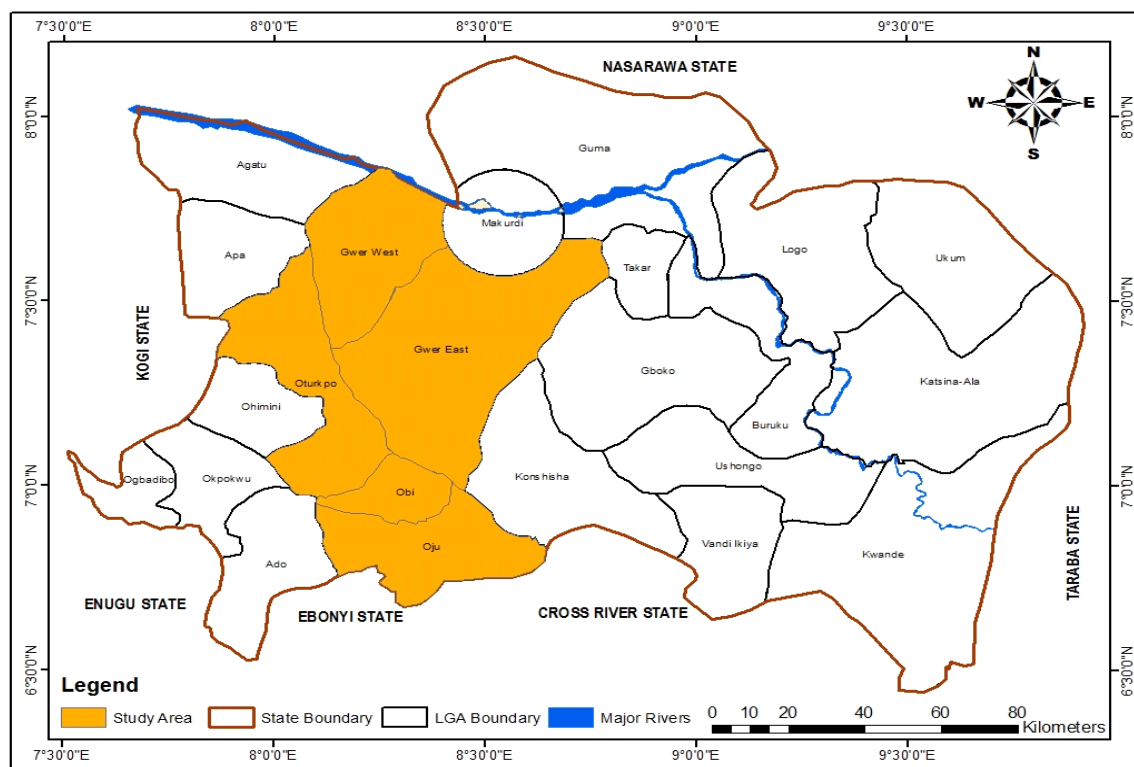


Figure 1: Benue State Showing the Showing the Local Government Area of Study

Source: Ministry of Lands and Survey, Makurdi (2021)

3. MATERIALS AND METHODS

3.1 Study Population

The study population include 1276 male and female household heads (respondents) whose occupation is farming and are within the age of 40 years and above in rural settlements in Benue State. The age category was chosen to enable the study collect data from the respondents who have households residing inside and outside the study area. The household heads were selected from 5 local Government Area namely Oturkpo, Oju, Obi, Gwer-West and Gwer-East. The study was stratified across three major ethnic groups in the State (Tiv, Idoma and Igede). The selected L.G.A forms 20% of the 23 L.G.As in Benue State.

3.2 Sampling Techniques

Multi-stage sampling technique was used in selecting the L.G.As, rural settlements (communities) and the expected sample population in each settlements of study. The first stage is the determination and selection of five (5) L.G.As (20% of the 23 L.G.As) in the State. These include Oju, Obi, Oturkpo, Gwer West, and East L.G.As via purposive sampling technique. The basis for using purposive sampling technique was to enable the study to cut across the major ethnic groups (Tiv, Idoma and Igede) of the study area. The second stage involved the determination of the number of rural communities for the study. The study used 55 rural settlements (10% of the 548 settlements) in the five (5) selected L.G.As of study based on Gupta (2013) who stated that a minimum of 5-10% of a parent population is good for any study. The third stage was the selection of the 55 rural communities via simple random sampling technique using a table of random numbers. The fourth stage is the determination of the number of the respondents from the selected communities with a population of 25520 household heads. The total sample size (required respondents) for the study was 1276 respondents (5% of 25520 total household heads). The study used 5% because it was considered good enough for a study of this nature which is in line with Gupta (2013) who stated that a good sample size ranged between 5-10% of the parent population. The fifth stage is the subsequent selection of 1276 respondents (household's head) from the available households (25520) via judgement and snowball sampling technique. The justification for using judgement-sampling technique is that, it allows the study to decide and collect data from only the household heads that have at least one of their children out-side their home of origin as out-migrants since the study-involved people who must have out-migrants households based on the judgement of the study. The snowball sampling technique enabled connection and referrals to the unknown migrant's family by the family earlier identified. Through this method, few migrants' family were identified through inquiry, and those families helped to unravel the location of other migrants' family within the same community.

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3.3 Data Collection Tool and Analytical Techniques

The questionnaire was used for collecting data from the respondents. The data were age, sex, marital status, family size of the household heads, causes of migration, number of out-migrants, pattern of migration, effect of migration, and ways of managing migration in study area. The data obtained from the field were analysed via frequency and percentages. The results were presented via tables.

4. RESULTS AND DISCUSSION

4.1 Age Category of the Respondents

The result on table 1 indicates that majority of the respondents (23.7%) were 50-54 years closely followed by 19.4% who were age 55-59 years. More so, the youngest respondents (7.9%) were 40-44 years while the aged 70 years above were 6.8%. The mean age of the respondents (farmers) in the study area is 56 years. This means that the farming population is relatively in active labour stage for farming activities in rural areas. The trend is almost the same in all the L.G.As as follows; Otukpo (57 years), Gwer-West (57 years), Oju (56 years), Obi (55 years) and Gwer-East (55 years). Thus, Obi and Gwer-West L.G.A has the youngest farmers. The implication of this on the study is that young farming population do better in farm work compared to the aged farming population when combined with the prevailing types of crude farm implements used in farming in rural settlements in the study area. This finding is consistent with Odozi., Adeniyi and Yusuf (2018) posited that the mean age of the farming population is 57 years in Nigeria.

4.2 Sex of the Respondents

The study used both male respondents (60.1%) and female (39.9%). Furthermore, in all the L.G.As, more males than females were also used for the study in Otukpo (58.9% and 41.1%), Oju (51.0% and 49.0%), Obi (58.5% and 41.5%), Gwer-West (75.6% and 24.4%) and Gwer-East (61.7% and 38.3%) respectively as indicated on table 1. The males dominate the study because majority of them volunteered to participate in the study compared to the females. The finding agrees with Ayiti and Adedlokun (2023) who used more male respondents (61%) compared to female (39 %) who availed themselves for the study in rural areas in Ekiti State.

4.3 Marital Status of the Respondents

The study indicates that majority (79.8%) of the respondents were married while 14.6% were widowed, and 2.7% were separated whereas 2.8% were either divorced/single as shown on table 1. Similarly, the study found that there is high proportion of married respondents in all the Local Government Areas; with Gwer-West having 85.6%, Obi (81.6%) and Gwer-East (80.9%) compared to Otukpo (77.4%) and the Least was Oju (76.2%). The higher the level of marriage among the respondents, the greater the tendency of having large household population as indicated on table 1. This study agrees with Mbah, N. E., Ezeano, I. C and Agada, O. M (2016), who opined that majority (91.2%) of the farming population Benue State were married.

4.4 Respondents' Household Size

The study examined the respondents' family size the study area. Table 1 indicates that majority of the respondents (54.2%) had 4-6 children, 20.7% had 7-9 children, 19.2% had 1-3 children while 5.8% had 10 household and above. The respondents have 5.4 households each. This is slightly above the ideal mean number of children per family in Benue State (5.1 Children) in 2019. The mean number of children reported by this study is slightly less than the total fertility rate (5.9) for rural areas in Nigeria reported by NPC and ICF (2019). This implies that the population of the State is increasing irrespective of the on-going migration. Similarly, in all the L.G.A majority of the respondents have 4-6 children. The study found that the respondents had 6508 households. The mean numbers of household in the L.G.As are Otukpo (5.6), Obi (5.4), Gwer-East (5.4) and Gwer-West (5.3) while Oju has the least (5.3). The study established that the some household members (3425) are currently residing at the home of origin while 3083 were migrants at various destination areas in Nigeria and beyond. The ratio of migrants to respondent is 2.5 migrants. Large family size is important in rural areas because it provide farm labour for the respondents (farmers).

Table 1: Demographic and Social Characteristics of the Respondents by L.G.A

Variables	L.G.A					Total (%)
	Otukpo (%)	Oju (%)	Obi (%)	Gwer-West (%)	Gwer-East (%)	
Age Category						
40-44	8(3.2)	47(15.8)	14(9.5)	14(7.8)	12(3.6)	95(7.9)

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45-49	37(14.9)	40(13.4)	29(19.7)	28(15.6)	50(15.2)	184(15.3)
50-54	63(25.4)	49(16.4)	30(20.4)	37(20.6)	106(32.2)	285(23.7)
55-59	61(24.6)	32(10.7)	34(23.1)	22(12.2)	84(25.5)	233(19.4)
60-64	34(13.7)	67(22.5)	24(16.3)	42(23.3)	45(13.7)	212(17.6)
65-69	19(7.7)	38(12.8)	8(5.4)	22(12.2)	24(7.3)	111(9.2)
70 Above	26(10.0)	25(8.4)	8(5.4)	15(8.3)	8(2.4)	82(6.8)
Sex						
Male	146 (58.9)	152(51.0)	86(58.5)	136(75.6)	203(61.7)	723(60.1)
Female	102 (41.1)	146 (49.0)	61(41.5)	44 (24.4)	126 (38.3)	479 (39.9)
Marital Status						
Married	192(77.4)	227(76.2)	120(81.6)	154(85.6)	266(80.9)	959(79.8)
Single	1(0.4)	3(1.0)	0(0.0)	1(0.6)	2(0.6)	7(0.6)
Separated	10(4.0)	5(1.7)	2(1.4)	7(3.9)	9(2.7)	33(2.7)
Divorced	6(2.4)	6(2.0)	5(3.4)	4(2.2)	6(1.8)	27(2.2)
Widowed	39(15.7)	57(19.1)	20(13.6)	14(7.8)	46(14.0)	176(14.6)
Household Size						
1-3	29(11.7)	80(26.8)	26(17.7)	34(18.9)	62(18.8)	231(19.2)
4-6	152(61.3)	134(45.0)	85(57.8)	95(52.8)	186(56.5)	652(54.2)
7-9	45(18.1)	67(22.5)	28(19.0)	41(22.8)	68(20.7)	249(20.7)
10 Above	22(8.9)	17(5.7)	8(5.4)	10(5.6)	13(4.0)	70(5.8)
Total Household	1390	1586	801	985	1746	6508
Mean no of Children	5.6	5.3	5.4	5.4	5.3	5.4
Household at Home	761	735	436	541	1042	3425
Total migrants	719	851	365	444	704	3083
Ratio of Migrants	2.8	2.8	2.4	2.4	2.1	2.5
Total	248(100)	298(100)	147(100)	180(100)	329(100)	1202(100)

Source: Field Work, 2019

4.5 Causes of Out-Migration in Benue State

The study reveals that migration is going on in the study area. Some of the major causes of out-migration in the study area as indicated on table 2 includes unemployment (99.8%), inadequate educational institutions (97.2%), village hardship and crises (69.2%), lack of social amenities (6.7%) in rural areas as indicated on table 2. Those who left the rural areas due to Fulani headers/farmers clashes (6.6%) and other reasons not clearly named by the respondents accounted for 2.3%.

At the L.G.A level, 100% of the respondents in Otukpo, Oju, Obi and Gwer-East agreed that the major causes of migration is unemployment in rural areas except in Gwer-West where inadequate educational institution is seen as the major cause of migration as indicated by 98.3% of the respondents followed by unemployment. In Gwer-West and Gwer-East people also migrate in order to avoid Fulani headers/farmers clashes in rural areas as indicated by 20.6% and 12.8% of the respondents respectively. The implications of this on rural settlements are decrease in cultivation, productivity and income, which in turn affected human welfare and development of the rural communities as indicated on table 2.

This study agreed with Mgbakor, Uzendu, and Osifo (2014), found out that migrants move to urban areas mostly to secure employment as opined by 50% of the farmers in rural areas in Delta State. Furthermore, this study also agree with Mbah, Ezeano and Agada (2016) who found out that migration in Benue State is majorly caused by inadequate employment opportunities in rural areas and the quest for better education. Similarly, Dokubo et al. (2023) found that lack of jobs opportunities and the quest for education were the major reasons for rural urban migration as indicated by 48% and 47% of the respondents. More so, Ayiti and Adedokun (2023) also established that desire for better education, urban jobs and income were

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the major factors affecting rural urban migration. Thus, unemployment not only in the urban areas but also in the rural areas is a very serious issue that deserved urgent attention in order to manage migration.

Table 2: Causes of Migration by L.G.A

Causes of Migration	L.G.A					Total(%)
	Otukpo(%)	Oju(%)	Obi(%)	Gwer-West(%)	Gwer-East(%)	
Inadequate Educational Institutions	247(99.6)	266(89.3)	146(99.3)	180(100)	329(100)	1168(97.2)
Unemployment in Villages	248(100)	298(100)	147(100)	177(100)	329(100)	1199(99.8)
Lack of Social Amenities	74(29.8)	233(78.2)	85(57.8)	94(52.2)	195(59.3)	681(56.7)
Boredom in Villages	36(14.5)	45(15.1)	18(12.2)	28(15.6)	67(20.4)	194(16.1)
Family reason	78(31.5)	133(44.6)	72(49.0)	83(46.1)	108(32.8)	474(39.4)
Fear of Witch Craft	4(1.6)	35(11.7)	0(0.0)	3(1.7)	9(2.7)	51(4.2)
Trade/Business	77(31.0)	83(27.9)	49(33.3)	80(44.4)	168(51.1)	457(38.0)
Transfer of Work	12(4.8)	8(2.7)	3(2.0)	3(1.7)	8(2.4)	34(2.8)
To Avoid Village Hardship/Crises	172(69.4)	198(66.4)	111(75.5)	122(67.8)	229(69.6)	832(69.2)
To Avoid Fulani Headers/Farmers Clashes	0(0.0)	0(0.0)	0(0.0)	37(20.6)	42(12.8)	79(6.6)
Others	6(2.4)	5(1.7)	0(0.0)	5(2.8)	12(3.6)	28(2.3)
Total Respondents	248(20.6)	298(24.8)	147(12.2)	180(15.0)	329(27.4)	1202(100)

Source: Field Work, 2019

4.6 Pattern of Out-Migration from Rural Areas in Benue State

The study found three major pattern of migration from the study area as revealed on table 3. Majority of the out-migrants moved to urban areas in Benue State and beyond as indicated by 100% of the respondents. Only 27.2% of the respondents indicated that migrants moved to rural areas whereas 5.7% stated that some migrants moved to foreign countries. This finding agrees with a study on the effects of migration on agriculture in rural areas in Delta State by Mgbakor, Uzendu, and Osifo (2014) which found out that 53.3% of the respondents agreed that out-migrants mostly end up in urban areas. Similarly, Odimegwu and Adewoyin (2020) established that, most migrants ends up in urban areas (67.3%) compared to rural areas (32.7%). The implication of out-migration is that agriculture is left in the hand of old people and children couple with use of crude implements leading to low productivity and income in the absence of migrants' remittances to boost agriculture as indicated on table 4. Although migration to urban areas can also give the migrants better and greater opportunity in terms of access to job, education, health facilities and other modern innovation which can better the life of the migrants themselves, migrants' family and community of origin through remittance.

Table 3: Out-Migration Pattern by Local Government Area

Out-Migration Pattern	L.G.A					Total(%)
	Otukpo(%)	Oju(%)	Obi(%)	Gwer-West(%)	Gwer-East(%)	
Rural-Rural Areas	65(26.2)	75(25.2)	31(21.1)	58(32.2)	98(29.8)	327(27.2)
Rural-Urban Areas	248(100)	298(100)	147(100)	180(100)	329(100)	1202(100)
Rural-(Foreign) Abroad	36(14.5)	10(3.4)	10(6.8)	2(1.1)	11(3.3)	69(5.7)
Total	248(20.8)	298(24.8)	147(12.2)	180(15.0)	329(27.4)	1202(100)

Source: Field Work, 2019

4.7 Consequences of Out-Migration on Rural Areas in Benue State

The study found that out-migration has several effects on rural areas in Benue State as indicated on table 4. The result revealed that 98.8% of the respondents agreed that rural urban migration leads to reduction in labour supply, inadequate labour

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supply (99.9%), increased in demand for labour (97.1%), high cost of labour (99.8%), decreased in farm size (99.5%), decreased in productivity (99.7) and decreased in income (99.7%). Migration also leads to reduction in rural population as indicated by 57.4% of the respondents. Whereas, only 45.3% of the respondents opined that migration causes low social economic growth and development in rural areas. Clearly, inadequate labour supply is the most common effect of migration on rural areas as revealed by the study. The result obtain is also similar across the local governments areas of the study.

Furthermore, the findings of this study also agree with Amrevurayire and Ojeh (2016) who established that migration mostly causes shortage of farm labour than any other effects in rural areas according to 57.4% of the respondents. This occurred mostly due to excessive drain of young people to areas of prosperity in urban centres (Braun, 2004). Similarly, a study on the effect of migration on agriculture by Mgbakor, Uzendu, and Osifo (2014) also found out that migration causes reduction in rural population, loss of agricultural labour force and decline in agricultural output. This study is also in agreement with Mbah, Ezeano and Agada (2016) who reported that migration causes reduction in agricultural labour force, high cost of labour, low agricultural productivity, and reduction of household income among others in Benue State. In the same manner, Gartaula (2009), opined that migration lead to loss of productive man power at the source region while Agwu, Anugwa, and Ifeonu (2021) opined that due to labour shortages, disrupted intra-household labour substitution patterns, and higher farm labour costs, the large migration of people, particularly youths, from rural to urban regions had negative repercussions for agricultural output in Nigeria, placing food out of reach for many. Similarly, Dokubo et al. (2023), Ayiti and Adedokun (2023), Igene, Onymekonwu and Ehiwario (2023) revealed that rural-urban migration mostly lead to reduction in agricultural labour, high cost of labour low productivity and reduction in household income.

Table 4: Consequences of Out-Migration on Rural Areas by L.G.A

Consequences of Migration	L.G.A					Total(%)
	Otukpo(%)	Oju(%)	Obi(%)	Gwer-West(%)	Gwer-East(%)	
Reduction in Rural Population	95(38.3)	248(83.2)	94(63.9)	113(62.8)	140(42.6)	690(57.4)
Reduction in Labour Supply	247(99.6)	298(100)	145(98.6)	180(100)	319(97.0)	1189(98.9)
Increased in Demand for Labour	246(99.2)	298(100)	147(100)	176(97.8)	300(91.2)	1167(97.1)
Inadequate Supply of Labour	248(100)	298(100)	147(100)	180(100)	328(99.7)	1201(99.9)
High Cost of Labour	248(100)	298(100)	147(100)	178(98.9)	328(99.7)	1199(99.8)
Decreased in Farmer's Farm Size	248(100)	298(100)	147(100)	177(98.3)	326(99.1)	1196(99.5)
Decreased in Farmer's Productivity	248(100)	298(100)	147(100)	180(100)	325(98.9)	1198(99.7)
Decreased in Farmer's Income	248(100)	298(100)	147(100)	180(100)	325(98.8)	1198(99.7)
Low Socio-Economic Growth and Development	55(22.2)	160(53.7)	70(47.6)	89(49.4)	170(51.7)	544(45.3)
Total	248(20.6)	298(24.8)	147(12.2)	180(15.0)	329(27.4)	1202(100)

Source: Field Work, 2019

4.8 Strategies of Making Rural Areas Attractive to Minimise Youth Migration in Benue State

The study revealed several strategies suggested by the respondents for making the rural settlements attractive in order to minimise youth migration and encouraged agriculture in rural settlements in Benue State as indicated on table 5. The major strategies suggested by over 98-100% of the respondents are mechanizing and providing agricultural machinery in rural areas, establishing industries in rural areas, creating and spreading employment opportunity in rural areas and the provision of social amenities in rural areas. The respondents also stated that migration can be controlled by providing credit facilities to farmers in rural areas and giving incentives to the youth to discourage out-migration of rural population. In addition, 47.3% of the respondents opined that migration could be controlled by ensuring adequate security of life and properties in rural areas while 42.7% of the respondents indicated prohibition of open grazing among the Fulani headers. Only 34.1% opined that granting easy access to improved seedlings and breeds of livestock could help in reducing migration whereas 22.7% suggested that people should be advised to reduce movement from rural areas. Also, 12.1% said laws limiting emigration from rural areas should be

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enacted. Other means of controlling emigration suggested by 2.3% of the respondents include giving scholarship to the youth in rural areas. These findings agrees with Mbah, Ezeano and Agada (2016) who established that migration can be reduced through provision of social amenities, establishment of vocational training centres for skill acquisition, provision of modern farming technology, establishment of agro processing centres, giving incentives to the youths and provision of farm inputs in rural areas to promote the interest of youths in agriculture. This study agreed with Dokubo et al. (2023) that migration should be reduce through provision of improved varieties of crops and animal species, provision of access to electricity, water and school facilities as well as establishing agricultural bank in rural areas to enhance agriculture.

Clearly, the least most popular means of controlling migration among the respondents is making laws to limit migration. This is because migration is not entirely a bad phenomenon. One of the remarkable finding of this study irrespective of the persistent attacks on the Benue farmers headsmen, only 513 (42.7%) of the respondents supported banning open grazing as a means of controlling migration and headers/farmers conflict in the study area. This ideological difference arise among the Idoma and Igede Ethnic groups because they are either hardly or less affected by the Fulani headers/farmers crises except in Agatu L.G.A. of Benue State compared to the Tiv ethnic groups of the study area. The proposed ban on open grazing is a positive development, which has attracted the attention of Benue State Government who has enacted and implemented an anti-open grazing law in Benue State.

Table 5: Ways of Making Rural Areas Attractive to Minimise Youth Migration in Benue State

Ways of Making Rural Areas Attractive	L.G.A					Total(%)
	Otukpo(%)	Oju(%)	Obi(%)	G-West(%)	G-East(%)	
Advice People to reduce Movement from Rural area	37(14.9)	151(50.7)	24(16.3)	23(12.8)	38(11.6)	273(22.7)
Provision of Social Amenities in Rural areas	246(99.2)	298(100)	147(100)	177(98.3)	320(97.3)	1188(98.8)
Creating and Spreading Employment Opportunities in Rural Areas	243(98.0)	298(100)	147(100)	180(100)	329(100)	1197(99.6)
Making Laws Limiting Out-Migration	12(4.8)	53(17.8)	21(14.3)	24(13.3)	36(10.9)	146(12.1)
Establishing Industries in Rural areas	248(100)	298(100)	147(100)	180(100)	329(100)	1202(100)
Given Incentives to the Youths to discourage Emigration	150(60.5)	238(79.9)	76(51.7)	92(51.1)	166(50.5)	722(60.1)
Mechanizing and providing agricultural Machinery in Rural Areas	248(100)	298(100)	147(100)	180(100)	329(100)	1202(100)
Ensuring Adequate Security in Rural Areas	41(16.5)	167(56.0)	18(12.2)	108(60.0)	234(71.1)	568(47.3)
Providing Credit Facilities to farmers in Rural Areas	155(62.5)	235(78.9)	93(63.3)	114(63.3)	198(60.2)	795(66.1)
Granting easy Access to Seedlings and Breeds of Livestock	87(35.1)	158(53.0)	33(22.4)	68(37.8)	64(19.5)	410(34.1)
Prohibits Open Grazing to addressed Fulani Headers/Farmers Clashes	26(10.5)	102(34.2)	3(2.0)	120(66.7)	262(79.6)	513(42.7)
Others	7(2.8)	11(3.7)	1(0.7)	0(0.0)	9(2.7)	28(2.3)
Total	248(20.6)	298(24.8)	147(12.2)	180(15.0)	329(27.4)	1202(100)

Source: Field Work, 2019

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4.9 CONCLUSION AND RECOMMENDATION

The study concludes that out-migration is an on-going phenomenon among the households in the study area. The respondents (household heads) are young and in active labour stage for farm work (mean age is 56 years). Majority (79.8%) of the respondents are married and have households that serve as source of farm labour. Though, some of the respondents' children (3425) are residing at the home of origin, others (3083) have migrated to other parts of Nigeria and beyond. The major reasons for migration were unemployment, inadequate educational institutions, village hardship and crises, lack of social amenities and Fulani headers/farmers clashes. The major pattern of migration from the study area is majorly rural-urban migration. This movement has effect on the household heads and rural areas in rural areas because the household members provide labour for agricultural operations. Thus, the major effect of out-migration on in rural communities includes reduction in labour supply/inadequate labour supply, increased in demand for labour, high cost of labour, decreased in farm size, decreased in productivity and decreased in income. Migration also leads to reduction in rural population low social economic growth and development in rural areas. To minimise the effect of out-migration, several strategies recommended for making the rural settlements attractive in order to minimise youth migration and encouraged agriculture in rural settlements in the study area. These includes mechanization and provision of agricultural machinery in rural areas, establishing agro-based industries in rural areas, creating and spreading employment opportunity in rural areas, provision of social amenities in rural areas and ensuring adequate security of life and properties in rural areas.

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Implementation of AISAS Theory as Optimization of Digital Marketing at Perum BULOG



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ABSTRACT: Digital advertising activities include various strategies and tactics carried out online to promote products, services, or brands, such as creating weekly promotional advertisements, influencer marketing, website marketing, interactive content creation, weekly content creation, and e-commerce. The digital advertising activity process implemented by the marketing communications sub-division has different paths. Marketing communications in marketing Bulog products plays an important role from the beginning of the pre-production process to post-production in digital marketing activities. Technical barriers are obstacles that originate from supporting tools in carrying out digital advertising such as the equipment and facilities used. This research aims to analyze the use of digital marketing carried out by Perum BULOG in marketing products effectively. The data collection techniques used were active participation, in-depth interviews, and literature study through journals and e-books. The object of this research is marketing communications activities carried out by the marketing communications sub-division. This type of research uses descriptive qualitative methods and uses AISAS theory. This research found that the implementation of digital marketing communications carried out by Perum BULOG used social media, Instagram and websites, to create content and promote products.

KEYWORDS: Digital, Marketing Communication, Social Media

I. INTRODUCTION

According to Ningrum (2020) communication is a tool in carrying out the process of achieving goal activities. The sub-field of communication is marketing communication. Marketing communication is a means by which companies try to inform, persuade and remind consumers directly or indirectly about the products and brands they sell. Marketing communications in the global era has become an important part of an institution, especially commercial companies. According to Firmansyah (2019), the relationship between marketing and communication is a close relationship. Communication is the process by which thoughts and understanding are conveyed between individuals, or between companies and individuals.

Marketing communication is a form of communication that aims to strengthen marketing strategies, in order to reach wider market segments. Companies use various forms of marketing communications to promote what they offer and achieve financial goals. Marketing activities that involve communication activities include advertising, sales force, store signage, point-of-purchase displays, product packaging, direct mail, free product samples, coupons, publicity, and other communication tools.

According to Sari et al (2020) Digital technology has changed the way people communicate, act and influence the marketing process. Marketing activities cannot be separated from the influence of digital technology. The definition of digital marketing according to the American Marketing Association (AMA) is activities, institutions, and processes facilitated by digital technology that create, communicate, and provide value to consumers and other stakeholders.

Marketing communications is one of the starting points in introducing products to consumers and getting a lot of profits from the business being run. In general, the marketing communications mix includes advertising, sales promotions, special events and experiences, public relations and news, direct marketing and personal selling. Each marketing communications strategy has its own strengths and weaknesses. It's just whether everything should be implemented or not because it is necessary to study which

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strategy is the most effective and adjust budget availability. As can be seen, the internet is the right marketing strategy to get close to the audience. Digital advertising activities carried out at Perum BULOG often experience obstacles, such as inappropriate target audiences, monotonous content, and lack of consistency. This consistency is very important in digital advertising activities. If there are inconsistencies in the message, this can reduce the brand image of the product produced. The existence of intense business competition in this modern era not only requires business people and entrepreneurs to create superior products that are good quality and cheap, but they must be able to market their products to consumers.

II. METHODS

This research uses a qualitative descriptive approach to examine digital advertising activities carried out at Perum BULOG. A qualitative approach is used as a concept used to understand the process of digital advertising activities from pre-production to post-production. The qualitative descriptive approach is general and is basically used in the world of social sciences and humanities, in micro-study settings. Mainly related to human patterns and behavior and what is behind this behavior which is usually difficult to measure with numbers (Harahap, 2021). The data collected is in the form of words, and not numbers (Kusumastuti et al, 2019). The data collection technique used as the data research method in this research was carried out in several stages, namely, active participation, in-depth interview observation, and literature study. The unit of analysis is something related to the focus or component being studied (Sugiyono, 2017). The unit of analysis for research can be individuals, groups, organizations, objects and certain times according to the focus of the problem. The unit of analysis in this research is the Marketing Communications Sub Division of Perum BULOG. The researcher determined several informants who knew and understood the existing problems, followed the digital advertising activities that were the focus and research questions so that the researcher could receive data that met their needs. The informants in this research were the Head of the Marketing Communications Sub Division and the head of the content and branding section.

III. RESULTS OF RESEARCH AND DISCUSSION

3.1 Implementation of Digital Advertising at Perum BULOG

Marketing communication in achieving optimal performance and productivity certainly has a practical role. The role of Perum BULOG marketing communications is very necessary in order to convey messages to the public, especially target consumers, regarding the existence of products on the market. This role is certainly in line with the statement according to Mujib (2020), the role of marketing communication is divided into three, including:

- 1) Creating brand awareness
is a strategic step to promote products and services to new consumers or remind them to old consumers. Perum BULOG marketing communications play a role in increasing potential consumers' awareness of the existence of products and services by creating easy-to-remember names and logos, as well as utilizing social media to promote products with a wider reach. One of the methods used by Perum BULOG marketing communications is to release a brand called "Befood". Befood is also called "Umbrella Branding" belonging to Perum BULOG. Umbrella branding is a marketing practice of selling several related products under the same brand.
- 2) Increasing consumer interest in trying the product
Perum BULOG marketing communication plays a role in motivating consumers to buy and try the product again. One of the things that Perum BULOG marketing communications do to increase consumer interest is by participating in exhibitions. Exhibitions are a means of promotion as well as an opportunity to establish cooperation.
- 3) Building relationships with customers
the role of Perum BULOG marketing communications is to help companies build close relationships with customers through responsive interactions in promotional activities. Perum BULOG marketing communications created a forum to interact with its customers under the name "BULOG Care" or what is usually abbreviated as "Becare".

The role of marketing communications in digital marketing activities reflects the rapid evolution of the world of business and marketing which is increasingly shifting to the digital realm. In the current digital era, the products produced by Perum BULOG not only compete in the conventional market, but also in the increasingly dominant online realm. Communication marketing is an important key in digital marketing activities, because it shapes the way companies interact with consumers, builds brand awareness, and creates interesting experiences for the target audience. This statement is in line with the opinion (Rizvanovic et al., 2023) that digital marketing aims to increase engagement and digitize marketing which includes several channels such as email, video, websites and social media.

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The digital marketing activities carried out by Perum BULOG have various activities to support the promotion of the products produced. The following digital marketing activities are carried out by the communications marketing sub-division:

- 1) Content Marketing
The communications marketing sub-division at Perum BULOG routinely makes weekly advertising videos and advertises content available on platforms such as Instagram. This aims to make social media users' awareness more focused on the content produced regarding BULOG products. The resulting output is in the form of image, video or advertisements that appear on the user's home page.
- 2) Influencer Marketing
In order to promote the products produced to a wider target reach, Perum BULOG collaborates with individuals or online influencers who have a large number of followers to promote BULOG products by uploading posts on social media, reviews or collaborations specifically with Perum BULOG.
- 3) Website Marketing
The marketing website used by BULOG communications marketing sub-division is used as information and advertising media that can be accessed by the public. The use of websites in digital marketing carried out by Perum BULOG can increase public trust and make them look professional. The managed website displays information about BULOG products in the form of text, still images, moving images which, if clicked, become more informative about certain products.
- 4) Weekly Promotional Content Creation
The digital marketing activity that is routinely carried out by the communications marketing sub-division is routinely uploading content on BULOG Business Instagram social media. The use of social media must be more creative and varied in creating content so that potential consumers are interested in the products being advertised. The weekly content produced can increase traffic on the website.
- 5) Interactive Content Marketing
The communications marketing sub-division routinely creates content that allows users to interact, such as games with prizes, polls, or other interactive experiences.
- 6) E-Commerce
E-Commerce is one of the digital marketing implementations carried out by the communications marketing sub-division to market products available at Perum BULOG. E-commerce services can enable consumers to access products and place orders from locations spread across Indonesia.
- 7) Becare
Becare is to build relationships with customers, the role of Perum BULOG marketing communications. BULOG is helping companies build close relationships with customers through responsive interaction in promotional activities. Public Company marketing communications. BULOG created a forum to interact with its customers with the name "BULOG Care" or what is usually abbreviated as "Becare".

3.2 Implementation of AISAS Theory of Digital Marketing at Perum BULOG

Digital marketing at Perum BULOG can involve various strategies to increase visibility, expand reach, and increase interaction with customers. The results of this research indicate that the Marketing Communications Sub Division of Perum BULOG applies the AISAS theory to the marketing communications digital advertising activities carried out.

Based on AISAS theory, a digital marketing strategy begins with attention, namely attracting the attention of the audience or potential consumers. The attention in question is when the public becomes aware of the social media accounts and websites used by Perum BULOG marketing to socialize certain programs or products offered. Accounts used in product marketing efforts must be able to attract the attention of the public, at least knowing the official account used by BULOG first. Based on the results of interviews conducted with the assistant manager for branding and social media, the Instagram Ads feature is a mainstay feature that can attract public awareness of special products and programs from Perum BULOG. The marketing communications sub-division of Perum BULOG uses the Instagram account @pangankita_official in implementing Instagram Ads. Applying the term attention in AISAS theory requires creativity and consistency.

Interest is the second element of the AISAS theory. This is done by Perum BULOG marketing to attract the public to be more interested in the products they offer to the public. This stage is obtained after the marketing communications division can attract the attention of the audience. Innovation is really needed to attract the interest of the public so that it doesn't look monotonous. Based on the results of interviews with the assistant manager of branding and social media to attract public interest, namely making creative videos which contain daily messages and product promotions from Perum BULOG, this content is called JUMPOST,

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then creating interactive content that can create communication two-way between consumers and Perum BULOG. These things are considered capable of attracting public interest in Perum BULOG.

The third element in digital marketing communication strategy according to AISAS theory is search. This stage will be achieved when it can attract the attention and interest of the audience. In this case, business owners can make the public want to look for their business premises or the products they offer. This means that Perum BULOG marketing communications ensure that information about BULOG basic food products is easy to find and access. Optimize the Perum BULOG website for search engines and provide a content platform to answer common questions or potential customer needs. Apart from that, the sub division gives away to customers or followers of managed social media. The give away system involves creating content containing questions or other things that can invite customer interaction, then using the hashtags #BULOG #SEMBAKOMURAH to make it easier for the public to search for BULOG social media. The search element in the AISAS theory is also applied through influencer marketing, where BULOG marketing collaborates with influencers or someone who is influential on social media to promote products from Perum BULOG, so that they get higher attention and search from the public.

The fourth element of the AISAS theory applied by Perum BULOG marketing communications is Action, namely encouraging customers to take action by providing clear actions in the form of special offers, discounts or purchase promotions. Facilitate purchases such as shopping vouchers by providing easy transaction options both online and offline.

The final element in a digital marketing communication strategy based on AISAS theory is share. At this stage, Perum BULOG makes their audience or consumers share information related to the products being sold to other social media users. This stage is expected to encourage customers to share their experiences with BULOG products. Invite them to provide reviews, testimonials, or share content via social media. This can help expand your reach and build trust within the online community.

The application of AISAS theory in marketing basic food products at Perum BULOG can also involve digital marketing strategies such as online advertising campaigns, an active presence on social media, and the use of email marketing to send product information and promotions to customers. By using AISAS theory, Perum BULOG can design marketing campaigns that depict the consumer journey holistically, from generating attention to encouraging action and sharing positive experiences.

IV. CONCLUSIONS

The role of marketing communications in digital marketing activities reflects the rapid evolution of the world of business and marketing which is increasingly shifting to the digital realm. In the current digital era, the products produced by Perum Bulog not only compete in the conventional market, but also in the online realm which is increasingly dominant. The types of digital marketing carried out by Bulog marketing are Content Marketing, Influencer marketing, Website Marketing, Interactive Content Marketing, Content Creation Weekly, and E-commerce. By applying AISAS theory in digital advertising, Perum BULOG can create targeted and effective journeys for consumers. This strategy helps create stronger relationships between brands and customers, increases online engagement, and ultimately increases the success of grocery product marketing campaigns. It is important to continuously monitor and evaluate campaign performance for appropriate adjustments to stay relevant in ever-changing market dynamics.

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Evaluation Study of Special Class Sports Program Management at High School Level



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ABSTRACT: This research aimed to evaluate the management of the special sports class (*kelas khusus olahraga/KKO*) program. Material and Methods: This research is evaluation research that employed the context, input, process, and product (CIPP) evaluation model. The research utilized a qualitative data approach, employing an interview guide as a research instrument. The sampling technique used was non-probability sampling, specifically purposive sampling, which involved setting research sample criteria and obtaining 5 samples. Each sample was interviewed at different times, and their identities were kept confidential to ensure objectivity in the responses. The findings of this research indicate that the evaluation of the special sports class program management in all aspects is still suboptimal. The results for each aspect are as follows: the context aspect meets the good criteria, the input aspect meets the medium criteria, the process aspect falls into the poor criteria, and the product aspect also meets the medium criteria. These results are accompanied by essential notes fundamental to the input, process, and product aspects. As a result, the researchers recommend several actions for each aspect. Firstly, for the context aspect, administrators are advised to continue operating the program in line with the existing vision and mission to enhance its optimal functioning. Secondly, for the input aspect, administrators are encouraged to place KKO students within the science major. Furthermore, for the process aspect, it is recommended that the management determine the continuity of the teaching and learning process for the KKO program, whether to use a new curriculum specifically for KKO, merge it with regular classes, or continue managing it in one class by simply changing the major system. Finally, for the product aspect, it is recommended to collaborate with the education department and local sports faculties to provide outreach to prospective students and their parents about the function of the KKO program's major system

KEYWORDS: Student Athletes, Career, Sport Management, Special Sport Class, High School

I. INTRODUCTION

Proper coaching and the development of potential or talent can lead to the emergence of outstanding students. Self-achievement encompasses both academic and non-academic accomplishments (1). In today's sports arena, the term student athlete has emerged in the world of sports. A *student athlete* is a student who actively participates in sports competitions alongside their academic pursuits. Coaching for student athletes should be approached with the understanding that sports achievements cannot always serve as a guide for life. Formal academic education, whether pursued through traditional academic pathways or at an educational institution, provides an opportunity to deepen understanding of aspects related to professional or high-intensity sports (2). According to Fusco, it is crucial for student athletes, especially high school (SMA) students, to consider their future academic career paths. Each student athlete should take formal academic steps or seek educational opportunities to support their academic endeavors.

The researchers conducted an initial research survey at a high school that offers the KKO program, specifically SMA Negeri 4 Yogyakarta, and at a sports faculty in the Special Region of Yogyakarta, namely the Faculty of Sports and Health Sciences at Yogyakarta State University (FIKK UNY). The survey involved searching for documents on the official website regarding the acceptance of new students at the sports faculty and conducting interviews with four alumni of the KKO program at SMA Negeri

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4 Yogyakarta who were pursuing their studies at FIKK UNY. This initial research revealed that the four alumni were directed to enter the Social Sciences (IPS) education pathway when they were in high school. This is not in accordance with the education department at FIKK UNY, which stipulates that student must come from the Natural Sciences (IPA) department.

In addition to the aforementioned discrepancies, the initial research samples also indicated that each of them encountered academic challenges when continuing their education at the sports faculty, as the courses taught in the first semester predominantly focused on natural sciences, such as human anatomy, physiology, and sports. Considering these challenges, the researchers aimed to evaluate the management of special sports class programs at the high school level, as evaluation is a process of assessing all aspects of the quality of education (3). The researchers expected that the results of this evaluation process can serve as valuable insights for schools in designing and ensuring the sustainability of the KKO program. This, in turn, would facilitate comprehensive training for students, enabling them to pursue further studies in alignment with their respective fields.

II. MATERIAL AND METHODS

2.1 Study design

This research constitutes a program evaluation utilizing the CIPP (context, input, process, and product) evaluation method through a qualitative approach. The utilization of a qualitative approach aimed to obtain more nuanced responses compared to a quantitative approach. The application of the CIPP model for program evaluation is instrumental for policy considerations (3). It is anticipated that administrators of the KKO program can assess the ongoing programs, including leveraging the evaluation findings from this research.

2.2 Participants

The researchers employed a purposive sampling technique, selecting program administrators with the authority to oversee special sports class programs at the high school. The sample comprised the principal, deputy principal for student affairs, deputy principal for curriculum, and two sports teachers, resulting in a total of 5 participants.

2.3 Instruments

The research instruments used in this evaluation were adapted to the approach taken by the researchers. In the previous paragraph, this research approach is qualitative so the research instrument used is an interview guide. The following is the interview grid and guidelines used.

2.4 Statistics Analysis

The data analysis technique in this research employed the Miles and Huberman technique (4), which includes several stages, including data collection, data reduction, and drawing conclusions. Data collection and reduction are described in the research results. Meanwhile, the conclusions from data collection and reduction are presented in the discussion and conclusion sections.

Table 1. Interview Grid and Guidelines

Aspects	Guidelines	Questions
Context	a. Legal Basis for the KKO Program	1) Did the establishment of KKO at SMA N 4 Yogyakarta have a legal basis??
	b. Background to the founding of KKO	2) Did the establishment of KKO at SMA N 4 Yogyakarta was based on the wishes of the school or appointment from the relevant department?
	c. Vision and Mision	3) Does KKO at SMA N 4 Yogyakarta have a management vision and mission??
Input	a. Administrator's educational background	4) Is the background of the KKO program administrator a sports graduate or not a sports graduate?
	b. Management knowledge about departments at local sports faculties	5) Do the administrators know that sport itself has a basis in natural science when viewed from all the study program science groups at FIKK UNY?

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	c. Competence of each administrator	6) Is each administrator competent in the field being managed?
Process	a. Implementation of the KKO management system	7) Did the implementation of the KKO management system at SMA N 4 Yogyakarta involve experts in the field of sports?
	b. Regular monitoring and evaluation by the school	8) What are the school's obstacles if all KKO students are assigned to the science major?
	c. The obstacles if all KKO students are included in the science major	9) Does the school routinely monitor the implementation of the KKO management system at SMA N 4 Yogyakarta?
	d. Management meeting with students regarding the sustainability of the KKO program	10) Has there ever been a Forum Group Discussion (FGD) between SMA N 4 Yogyakarta and students to discuss the sustainability of the program?
	e. Management meeting with local sports faculty academics	11) Has there ever been a Forum Group Discussion (FGD) between SMA N 4 Yogyakarta and FIK UNY as an external party that has a collaborative relationship?
Product	a. Rewards or awards for KKO students who achieve accomplishments	12) Does the school provide rewards for KKO students who excel in both non-academic and academic fields?
	b. Student knowledge about majors	13) Do all KKO students know the function of the science major at SMA N 4 Yogyakarta?
	c. Students' knowledge that sports has a basic science knowledge	14) Do students know that sports have a basic science knowledge?

III. RESULTS

The results of the research carried out started from the context, input, process and product aspects. The following are the research results obtained.

3.1 Context Aspect

The legal basis, background, and vision and mission of the KKO program meet the "excellent" category. All administrators said that "the legal basis for the KKO program is the City Mayor's decision. All administrators said that this high school has a KKO program based on appointment from the mayor." Until now, there is only one state school at the senior high school level in Yogyakarta that has KKO. Other schools that have KKO services are private high schools or managed by a foundation.

The answer from the management to the question "Were the establishment of KKO at SMA N 4 Yogyakarta based on the wishes of the school or appointment from the relevant major?":

- "Appointment"
- "The background to the establishment of the KKO was the appointment of the mayor directly and stated in the mayor's decision"

Continue to the next results regarding the vision and mission of the KKO program. The management's answer to question number three:

- "There is a combined vision and mission with a general vision and mission"
- "The vision and mission follow the general aspect"

Continuing statements or answers from all administrators, the researchers conducted field observations regarding the existence of the school's vision and mission. Based on the researchers's observations, the school's vision and mission document was printed and framed neatly. The vision and mission frames are placed in front of the main entrance or close to the school picket room.

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3.2 Input Aspect

The input aspect results start from the background of the program administrator. The question about the background, which is question number 4, produced answers including:

- “No, there is an administrator who have a background in Indonesian language education”
- “Not yet, there is KKO program administrator who come from outside sports field, namely Indonesian language teachers.”
- “There is an administrator with backgrounds outside of sport”

Continuing with the input aspect, question number 5 asks about the administrator’s knowledge of the field of science at FIKK UNY, because KKO at SMA Negeri 4 has a collaborative relationship with FIKK UNY. The question produced an answer.

- “You know, and currently the school is discussing about enrolling KKO students in the Natural Sciences major”.

The answer above is a summary of all the sentences given from each research sample. The next question is question number 6 with answers including:

- “Competent and, so far, under control”
- “Not yet, at one time there was a purchase of equipment that was less than what was desired”

3.3 Process Aspect

Process aspect questions start from question number 7, the answers to these questions are:

- “Entrance selection involves physical strength as a reinforcement in measurement tests, the major system still does not involve experts in the field of sports”
- “As long as KKO enters the Social Science pathway, it still does not involve experts”

The next question number 8 with the topic of obstacles to changing majors in the KKO program produced an answer:

- “The student’s academic scores do not meet the standards of regular science major students”
- “Stay alert while maintaining an optimistic outlook. Be vigilant about whether KKO students are meeting the science major’s grade standards, while also remaining optimistic as the academic and non-academic achievements of KKO program students need to be balanced. The selection of SMA Negeri 4 Yogyakarta as the school presents an additional challenge, as students’ majors begin in grade 2”
- “It depends on the initial conditioning carried out by the education office to direct prospective high school KKO students to enter the science major and academic monitoring of students has been carried out at the junior high school level.”
- “Class conditioning must be serious, whether KKO students join the regular class or remain in the same class”

Question number 9 on the topic of program monitoring produced answers:

- “Regularly”
- “Routinely, both from an academic and non-academic perspective. In fact, during the pandemic students were asked to send training photos as a form of attendance”
- “Practices are carried out routinely and academic aspects are monitored at the end of the semester or receipt of report cards”

After the topic of program monitoring, the next question is question 10 which produced answers including:

- “Forum Group Discussion (FGD) conducted with students and parents can provide suggestions and input to the school”
- “FGD was conducted with parents. The school asks for help from the parents to remain caring and direct students while studying so that not all responsibility is placed on the school”

The next question number 11 with the topic of school meetings with the local sports faculty produced the answers:

- “An FGD with the lecturer was conducted and the lecturer entered the school”
- “This was ever done to one of the sports lecturers at FIKK UNY”

3.4 Product Aspect

The product aspect question started from question number 12 with the topic of rewards for KKO students who excel. From this question the researchers got the answer:

- “Gave a congratulations plaque from the school and once provided a set of office stationery”
- “Certificate on graduation and appreciations”
- “Banners or certificates”

Next is question number 13, from this question the researchers got the answer:

- “The management cannot confirm yet”
- “The management doesn’t know yet, but the students know that they will be majored in social studies through the registration information for new students”

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The last question, question number 14, is about students' knowledge that sports actually have a basis in the natural sciences, from this question the researchers got the answers:

- "The management doesn't know for sure"
- "It's not certain because officially, the school has never said anything"

"I don't know for sure considering the students have never said anything"

IV. DISCUSSIONS

4.1 Context Aspect

The context aspect will discuss environmental components, including the internal and external environment of a program (5). According to (6), internal and external factors will be related to an organization when the organization aims to become a professional entity. In this case, school administrators include the principal, deputy principal for student affairs, deputy principal for curriculum, two sports teachers, the mayor, and the Education Office, which represent the program's internal environment. These three entities can be considered internal stakeholders in the program because the KKO at SMA N 4 Yogyakarta was established based on the mayor's decision. As a senior high school is an educational institution, the Yogyakarta City Education Office naturally plays a role in supervising the implementation of education, especially in KKO at this school. Collaboration among the three internal environments of the KKO program must be optimized to ensure that the external environment, comprising the students and the parents, is satisfied with the program's implementation.

The foundation of an evaluation is contextual assessment (7). Once the school has established the groundwork for a strong KKO program, the discussion transitions to the program's founding background. Based on the aforementioned research findings, the establishment of the KKO program at SMA N 4 Yogyakarta stemmed from the appointment process by the local regional government. This appointment entails a significant responsibility for the school to effectively organize the program. Additionally, private schools now serve as competitors, as the right to organize the KKO program is not exclusive to public schools. Private schools and those under foundations also have the opportunity to host this program.

Administrators who lack proper planning have a high likelihood of failing to achieve targets (8). The plans outlined in this research are linked to the program's vision and mission. According to the research results, the program's vision and mission align with the school's general vision and mission. This alignment means that administrators overseeing the program and the rights of KKO program students are more or less equivalent to those of regular students. The presence of the vision and mission displayed at the school gate serves as evidence that the vision and mission of the KKO program exists, and the program's implementation must naturally adhere to the established vision and mission.

4.2 Input Aspect

The educational background, administrators' familiarity with local sports faculty departments, and the competence of each administrator are the primary aspects of the input evaluation study. Upon reviewing the responses from all research participants in the section regarding administrators' educational backgrounds, it becomes evident that not all of the KKO program administrators have backgrounds in the sports sector. Additionally, as per research conducted by (9), teacher competence is included in the study of input aspects. While the management's competence has been functioning effectively thus far, there have been instances of errors in purchasing sports equipment during the program.

Elite athletes with talent have the right to pursue a dual career in both sports and education (10). This perspective reinforces the study concerning the administrators' knowledge of the sports department, particularly with the local sports faculty. Upon reflecting on the author's initial research and exploration, it is evident that the local sports faculty initially focused on science courses such as human anatomy and human physiology. These courses are rooted in natural sciences. Despite the inclusion of social studies-based courses like sports communication, the initial research indicates that alumni of the KKO program who further their studies at FIKK UNY encounter challenges in grasping fundamental science courses such as human anatomy and physiology.

The performance of student athletes is not directly influenced by academic aspects, indicating a need for further research into the academic performance of student athletes (11). This perspective further emphasizes the importance of optimal management for KKO program students. If not, all student athlete performances are directly influenced by academic aspects, then as an administrator, it is essential to be capable of guiding student athletes whose performance is hindered by academic factors. This guidance is necessary to monitor the careers of student athletes, identify any academic-related issues, and facilitate the realization of a dual career (DC) in both sports and academics.

An evaluation should establish a connection between planned input, goals or objectives, and output (12). This issue involves the correlation between student input at the high school level and the desired student input by the local sports faculty. The sports major is the most pertinent focus for further study or potential employment for KKO students. Consequently, based on the

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preceding discussion, researchers recommend that KKO students should be encouraged to enroll in the science major. This recommendation stems from the fact that upon graduating, the most relevant major for KKO students is sports. Presently, the local sports faculty, FIKK UNY, explicitly specifies that all sports departments are rooted in natural sciences. By directing high school level KKO students towards the science major, they will align with the desired student major at FIKK UNY when they progress to higher education.

4.3 Process Aspect

The examination of implementation, performance monitoring, program audits tailored to prepared laws and ethics, and identification of deficiencies in program design and implementation are the aspects assessed in process evaluation (13). The initial aspects of process evaluation encompass the implementation of the KKO management system and periodic evaluation monitoring. Upon reviewing the sample answers, the conclusion that can be drawn is that the monitoring and evaluation processes are still not optimal.

In his research, (14) explains that student athletes exhibited poorer academic performance compared to non-athlete students. This finding aligns with a sample answer indicating that administrators were optimistic about transitioning the KKO major to a science major but expressed concerns about whether KKO students would meet the academic standards of regular students, particularly those in the science major. The selection of this high school as a school mover appointed by the Ministry of Education should serve as a catalyst for transforming the existing majors to align with the competencies desired by the government and the broader community.

Balancing an athlete's career and a student's academics poses a challenge (15). because athletes do not always rely solely on sports for their livelihood. Sports schools are tasked with monitoring their students' educational progress to ensure that all students attain predetermined cognitive competencies (16). This viewpoint underscores the necessity for schools to oversee students' educational development, particularly student athletes. Such efforts are crucial to achieving a balance between academics and sports for student athletes, despite the inherent challenges.

Conducting program evaluations is integral to the educational process (17); thus, every educational program should include an evaluation component. The dual careers of student athletes span many years, commencing from a young age, and involve varying demands of training, competition, and school, which are tailored to the sports and education policies of each country (18). Fostering a student athlete's dual career is a protracted process. While the input aspect presents a challenging endeavor, schools or sports programs should endeavor to furnish facilities for student athletes.

The feedback provided to leaders or decision makers assesses the extent to which the teaching process is carried out in a planned and effective manner in accordance with the set plan (19). It is essential for leaders to make decisions that align with the understanding and aspirations of all school stakeholders. Focus group discussions (FGDs) involving parents, students, and sports practitioners have been conducted. While student entry selection already collaborates with the sports faculty, the major system is not yet in place. Based on the preceding discussion, the recommendation for the process aspect is to determine the continuity of the teaching and learning process for the KKO program, whether through the adoption of a new curriculum specifically tailored for KKO, integration with regular classes, or retention within a single class by modifying the major system.

4.4 Product Aspect

According to (20), the objective of product evaluation is to understand and assess the program's output in terms of its benefits, value, and level of significance. This perspective was reaffirmed by (21), emphasizing that product evaluation focuses on examining the program's results. The product study encompasses the rewards bestowed by the school to outstanding KKO students, students' understanding of the major system, and their comprehension of the fundamental science of sports.

Implementing long-term systems thinking requires commitment within an organization, where all work behaviors reflect this mindset (22). In the KKO program, changing majors automatically when thinking long term necessitates cooperation from various parties to avoid conflicts. Research by (23) suggests a positive correlation between trust in a leader and team effectiveness. School leaders have demonstrated this by rewarding KKO students who excel, a commendable effort to foster positive influence and students' trust in the school as the program organizer.

The dual career of a student athlete begins in elementary school or when they start studying sports professionally (24). Hallmann's opinion reiterates the discussion on the input aspect, demonstrating a relationship between all aspects. The development of a student athlete's dual career must be approached from various perspectives and considerations. Assessing the research sample's responses regarding students' understanding of the major system, it is evident that collaboration between administrators and students is suboptimal. When administrators are aware of the appropriate major direction for KKO students, students should also understand why the KKO major system is more beneficial when grounded in science.

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In his research at a football university, (25) says that the independent life of a student in the first semester, particularly a student athlete, means that students have the option to skip lectures and prioritize training. The flexible lecture schedule poses a challenge for university student-athletes in balancing study time with training. It is important to ensure that student athletes entering college prioritize their academic career alongside their athletic pursuits.

Student athletes at universities differ from professional athletes, as each student athlete faces academic and social pressures comparable to those of their fellow students (26). Therefore, schools, particularly administrators, must ensure that students and parents understand the function of the major system and recognize that sports themselves are rooted in scientific knowledge, considering the relatively high pressures students experience while at university. Based on the discussions conducted, researchers recommend collaborating with the education department and local sports faculties to educate prospective students and their parents about the function of the KKO program's major system. This is crucial for the broader community to comprehend the objective of the KKO program: to cultivate student athletes who excel in sports while maintaining their academic abilities and enabling them to pursue a dual career.

V. CONCLUSIONS

The conclusion drawn from this special sports class program management evaluation research is that the condition of the KKO program is still suboptimal. While the context aspect does not yield any significant notes, recommendations from the input process and product aspects offer valuable insights that can hopefully be utilized as a guide by administrators to enhance the program. The recommendations provided by researchers to administrators include:

1. The context aspect involves continuing to operate the program in line with the existing vision and mission, thereby enabling the program to run more optimally.
2. The input aspect involves directing KKO students to be included in the science major. This is because when KKO students graduate, the recommended major most relevant for them is the sports major, and all programs at the local sports faculty have a science base.
3. The process aspect includes determining the continuity of the KKO program's teaching and learning process. This involves deciding whether to use a new curriculum specifically for KKO, combine it with regular classes, or continue to be managed in one class by simply changing the major system.
4. The product aspect involves collaborating with the education department and local sports faculties to provide outreach to prospective students and their parents about the function of the KKO program major system. This aims to help student athletes develop dual careers into adulthood.

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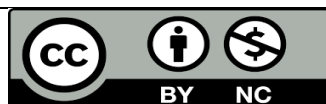
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Parental Separation: An Exploration on Learner's Psychosocial well-being



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ABSTRACT: Parental divorce or separation is an extensive issue that may affect children's emotional, social, and academic well-being. Children who undergo parental separation may encounter a range of emotions, including confusion, sorrow, and rage, as they adjust to alterations in their family structure. Furthermore, they may face challenging loyalty issues, feel conflicted between their parents, and experience guilt for favoring one parent over another. This study utilized a phenomenological approach to investigate the experiences of a junior high school student living in Barangay Glan-Padidu, a rural area within the Municipality of Glan, Sarangani Province, Region XII, Philippines. The collected data revealed the disruption of students' daily routines and the loss of stability and security, resulting in anxiety and tension. These consequences also impacted students' social connections, academic achievements, and ability to develop healthy relationships with peers and adults. This study aimed to demonstrate how parental separation can weaken an individual's self-esteem and alter their perceptions of themselves. Family members with close ties are more likely to address problems both positively and productively. This study suggests that the power of a family stems from its ability to provide its children with a sense of identity, support, and purpose. By respecting and investing in familial relationships, we not only promote children's personal development and happiness but also contribute to a more compassionate and resilient society.

KEYWORDS: Child, Family, Separation, Rural Area, Philippines

INTRODUCTION

"An article titled 'Understanding the Impact of Family Dynamics, on Religious Beliefs, published in JSTOR in 2024' emphasized the role that family plays in society and how it influences individuals lives and interactions. Family members are allies offering unwavering support during life trials. In today's fast-paced world, acknowledging the importance of the family in cultivating bonds and ensuring a brighter future for us and our loved ones is crucial. By dedicating time and effort to nurturing family connections, we establish a support network that empowers us to confront life's obstacles, with strength and resilience."

(Guanlan, 2024) stated in "Characteristics of parent-child separation related to bullying involvement among left-behind children in China" that bullying among children from harrowing families is a widespread problem that affects children of all ages and backgrounds. It can take numerous forms, including physical, verbal, and cyberbullying forms. Bullying can have devastating effects on children, leaving emotional and psychological scars. (Sullivan et al., 2023) stated that an individual's persistent fear of being targeted by their peers can lead to feelings of helplessness and isolation, making it difficult for youngsters to build meaningful relationships and participate in social activities. This can lead to a cycle of loneliness and despair; that may continue into adulthood.

The actual separation of parents can be a source of distress, especially if it occurs unexpectedly and the children are unprepared. (Qaiser, 2024) on "Inter-Parental Conflict's Persistent Effects on Adolescent Psychological Distress, Adjustment Issues, and Suicidal Ideation During the COVID-19 Lockdown" expresses that an adolescent may struggle to understand why their parents are no longer together. People may blame themselves for their parents' divorce, and feelings of guilt and confusion lead to a keen sense of sadness and hopelessness, which eventually contributes to melancholy.

"What About the Children? Co-Occurrence of Child Maltreatment and Parental Separation," a study article produced by (Sheila, 2024), described how when parents' divorce, their children may begin to act out, demonstrating violent or defiant behavior to cope with overwhelming emotions. They become irritable, easily irritated, and have difficulty adhering to regulations

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and directions. Behavioral changes indicate that a young person struggles to process emotions and changes caused by phenomena. (Crittenden & Spieker, 2023) also stated that divorce can induce stress and upheaval in households, making it difficult for children to maintain their study patterns and focus. Consequently, divorced children may struggle with their studies and may fall behind in class.

("Response and Coping Mechanisms of Overseas Filipino Workers (OFW) Children to Parents' Separation | Emerald Insight," 2023) explained that the absence of a parent due to labor migration can cause feelings of abandonment and loneliness in children, who may struggle to cope with the emotional void left by their parent's absence. This may result in emotions such as uneasiness, worry, and instability within the family. In other situations, children may seek emotional support and direction from other family members or classmates, potentially leading to unhealthy relationships and behaviors.

According to Paediatric Child Health's research in (2000), children who experience parental separation, regardless of the reason, may exhibit a range of emotional and behavioral reactions. These reactions can include regression, anxiety and depressive symptoms, increased irritability and noncompliance, and difficulties in social relationships and academic performance.

As (Richardson, 2016) found, a child's healthy socio-emotional development and well-being depend on a strong attachment to their primary caregiver. Additionally, Samuelson, Bartel, Valadez, and Jordan's study from the same year suggested that attachment relationships can significantly predict childhood cognitive and behavioral problems, such as mood and anxiety disorders in childhood and adolescence, as well as trauma- and stressor-related, substance-related, and addiction disorders.

It is important to note that separation can disrupt a child's attachment system and lead to negative outcomes, as (Fox & Rutter's research, 2010) indicated. Young children are particularly sensitive to stressors, and experiencing separation during childhood can result in a range of emotions, including fear, helplessness, dysphoria, rage, confusion, and anxiety, as (Malone, Westen, & Levendosky, 2011) found.

The effects of separation on children are associated with impairments in executive function, profound deficits in adaptive emotional behavior, difficulty in maintaining appropriate interpersonal relationships, and disrupted biological and behavioral systems, including dissociative symptoms, as (Scott, 2015) suggested. This research is grounded in attachment theory, which suggests that early attachment bonds are influenced by separation. (Delima & Vimpani, 2011) and (Hostinar & Gunner, 2013) both found similar results.

In the Philippines, (Tubeza, 2011) reported a significant increase in parental separation cases over the past decade, with a 40% increase and approximately 22 cases filed each day. The Catholic Bishop News Agency indicated that the number of annulment cases increased from 4,500 in 2001 to 8,282 in 2010. The agency also reported that those who filed cases had to 3-4 children, and 1 percent had to 5-6 children.

Children from these marriages were likely to be affected by their parents' separation.

The Municipality of Glan, Sarangani Province has not addressed this issue. There were learners whose parents had separated, while others faced academic challenges, including lower grades, premature dropping out of school, and increased disruptive behavior.

Considering these circumstances, researchers have been inspired to investigate the consequences of parental separation on learners' psychological and social wellbeing. Teachers play a crucial role in molding the youth and building the nation's future. As part of their responsibilities, they must look after the welfare of their learners and recognize that the school serves as their second home.

RESEARCH QUESTIONS

To explore the psychosocial consequences of parental separation in relation to the learner's personal distress, this study sought the answers to the following research questions:

1. How does the learner react and deal with parental separation?
2. How does parental separation affect their psychological well-being and social identity?

METHODOLOGY

The study utilized a qualitative phenomenological method to examine the experiences of children who have been impacted by parental separation. To offer a comprehensive understanding of the participants' experiences, interviews were conducted for approximately two hours.

The research aimed to explore the consequences of parental separation on children's psychosocial well-being. A descriptive method was utilized, providing a comprehensive overview of the techniques and procedures involved. This approach encompasses the process of recording, transcribing, analyzing, and interpreting the data. The primary means of collecting information were in-depth interview questions and group discussions.

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RESULTS AND DISCUSSIONS

This research aimed to explore the psychosocial inclinations of learners following parental separation. To bolster the examination of the collected data, researchers referred to relevant authorities and utilized citations to strengthen the evidence.

Informant's reaction/dealing and Psychosocial well-being with parental separation

When a child is born, they are entirely reliant on their parents for survival. The parents are responsible for feeding the infants when they are hungry and comforting them when they cry. The consistent presence of the parents provides the child with a sense of safety and security. As a result, children begin to develop trust in their parents and the world around them. The primary developmental goal of a child's first year of life is to foster love and trust in others.

Unfortunately, when both parents are absent, children often feel uncertain and doubtful. Their expressions lack any specific emotions, and they appear to have a question mark etched on their faces. It is crucial for parents to be present and supportive during their child's formative years to ensure their emotional and psychological development.

In: May I know asa man imuhang parents? (*May I know where your parents are?*)

A2: abroad akoang mama. (*My mama is abroad*)

In: ang imuhang papa asa man? (*Where is your father?*)

A2: na-priso sir. (*He's imprisoned sir*)

In: kanus-a lang? (*When?*)

A2: katong pag grade seven nako sir. (*When I was in Grade 7 sir*)

In: pila na katuig napriso imuhang papa? (*How long has he been in prison?*)

A2: upat naman siguro sir. (*may be 4 sir*)

The informant directed their gaze towards the interviewer, however, their focus remained on a blank space, displaying no discernible emotions. Nonetheless, it was evident from their responses that they were feeling frustrated, as their eyes, though not fixed, conveyed a sense of loneliness and worry. Parental absence can have a profound influence on children, often leaving lasting emotional scars due to feelings of abandonment, sadness, or anger caused by the absence of a parent.

This phenomenon, commonly referred to as "empty arms," can have significant and long-lasting effects on a child's emotional development and overall well-being, regardless of the reason for their absence, whether due to divorce, work commitments, or other reasons.

In: Unsa may feelings nga wala imuhang parents? (*How does it feel when your parents are not around?*)

A2: Sa una pa mingaw kaayo labi na wala pud si mama nga muatiman sa amua. (*Since then, it is so lonely especially that my mother is not around to take care of us*)

In: Gimingaw ka sa iyaha, unsay reaction nimo nga pati si Papa mo wala pud. (*You miss her so much. How did you react to not having your father around also?*)

A2: Sobra kahadlok Sir. Daghan kaayo ko og pangutana. Unsay mahitabo sa amuaa. Mura ko og mabuang kay unsa nako pag atiman ang mga manghod nako? (*I was so scared sir. I had plenty of questions. What will become of us? I felt I was going crazy because how would I take care of my siblings?*)

The consequences of parental separation can have a profound impact on the mental wellbeing of children, leading to the development of adverse behavioral patterns, a negative self-concept, social problems, and difficulties in forming family relationships. As the family unit serves as the child's primary point of contact, it is often the case that students within these families are the ones most affected, feeling as though their world has been completely upended. Consider another extract below:

In: Kumusta imuhang pag eskwela? (*How is school?*)

A2: pirmi ko wala sa klase. Dili man gud ko ganahan. (*I am always out of school. I don't have any interest.*)

In: Nag inom na ka? (*Do you drink?*)

A2: Yes sir.

Here, it clearly shows that separation is also associated with negative outcomes and earlier life transitions. Children are more likely to experience poverty and educational failure. Parents must bear in mind the substantial impact that their absence

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can have on the emotional or mental health of their offspring and take proactive measures to establish a robust emotional bond and physical presence with them.

The loss of a parent, whether through death, abandonment, or prolonged separation, can have a profound impact on a child's emotional well-being. In such circumstances, children may experience intense fear, panic, grief, depression, helplessness, and hopelessness. The child has lost a vital life and may struggle to maintain a sense of self. The world and life may appear disorganized and terrified by the child.

In: aware baka sa imuhang feelings sa imuhang gipaminaw panahon nga wala imuhang ginikanan pirme? (*Are you aware of what emotions to feel, knowing that your parents are not around?*)

A2: Yes Sir.

In: Unsa man imuhang ginabati? (*What do you feel?*)

A2: Wala ko kasabot sir, mutulo ra akong luha, usahay wala ko kabalo nga naghilak

na diay ko. (*I am uncertain whether there will be instances in which my tears will spontaneously flow from my eyes, and there have been instances in which I was unaware that I was crying.*)

It is crucial for children who experience parental loss to receive adequate emotional support from loved ones to help them work through their grief. Failure to do so can lead to long-lasting emotional distress. Children who consume grief may lack the psychic energy necessary to engage in learning, play, and other activities.

CONCLUSIONS

Parental separation has several adverse effects on children. These children have poorer outcomes than their counterparts from intact families, including more stress, more problems with their parents, dismal views of their lives, and low academic standing. Despite the challenges posed by parental separation, many children can navigate through these difficulties and adapt to new circumstances with resilience and support.

By understanding the ripple effect of parental separation on children's lives, parents, caregivers, and professionals can work together to provide the necessary support and resources to help children cope and thrive in the face of adversity. Parental separation can have a profound impact on children's lives, causing emotional, behavioral, and academic challenges. It is important for parents to prioritize their children's well-being during and after separation by maintaining open communication, providing emotional support, and seeking professional help if needed. By being aware of the ripple effect of parental separation on children, parents can mitigate negative consequences and create a more positive and stable environment for their children to thrive in.

IMPLICATIONS FOR EDUCATIONAL PRACTICE:

School as the children's second home and their teachers as their second parents, these students must be treated just like any other student in the school, social justice, and equality. Social justice and equality would mean equal opportunities in terms of obtaining an education and having a high level of parental support and contact. Specifically, early intervention can drastically alter perceptions and outcomes.

Such interventions may include family and individual counseling to ensure that students are coping with the situation, communicating with parents, and maintaining stability in their education and other aspects of life. Early intervention with these students may have had a profound and positive influence on their overall well-being. Therefore, students experiencing parental separation would be able to fulfill basic needs earlier, resulting in equal opportunities. In the academic realm, this study may contribute to a better understanding of the long-term effects of parental separation.

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The Impact of International Financial Reporting Standards on Corporate Governance, Board Size and Income Smoothing in the Nigerian Financial Market



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ABSTRACT: Income smoothing as an accounting technique is an earnings management method that has recently piqued the interest of company boards of directors, accountants, and accounting researchers. Income smoothing is the application of financial reporting principles and standards to level out earnings volatility.

This paper focussed on the theoretical investigation of the impact of the International Financial Reporting Standard on corporate governance and income smoothing. This study theoretically examined the link between board size and income smoothing, with an emphasis on the intervening effect of International Financial Reporting Standards (IFRS). This paper covers a period of 2003 to 2023 and which focussed on the Nigerian Financial Market.

In this study, a systematic literature review (SLR) was performed, and the research revealed crucial impact of the International Financial Reporting Standard on corporate governance and income smoothing. The SLR was performed using a sample of 100 research articles chosen from a pool of 400 papers obtained from Scopus, Web of Science, Google Scholar, ABS journal and, among other sources.

Following the findings of the many research evaluated, the study discovered significant divergence and inconsistency in the results, indicating that corporate governance has either a positive or negative association with income smoothing.

KEYWORDS: IFRS, Corporate governance, Income smoothing, Board size, Financial Market

INTRODUCTION

Income smoothing is becoming a major source of worry, compromising the confidence of both the accounting and auditing departments. Guillaume and Pierre (2016) claimed that changing revenues diminishes the importance of financial reporting, particularly accounting rules. The necessity to manage the widespread use of income smoothing while also ensuring the openness and credibility of company reports prompted global corporate governance and the establishment of international financial reporting standards (IFRS). Corporate governance offers the structure for setting the company's objectives and determining how to achieve those objectives and assess performance (Omoye & Eriki, 2014).

Implementing good corporate governance practices and adopting international financial reporting standards (IFRS) aim to promote transparency, accountability, and integrity of company financial reports and accounts, with the goal of reducing income smoothing as a form of earnings management (Samak, El Said, & El Latif, 2014; Saftiana, Mukhtaruddin, & Ferina, 2017). Agency theory has provided the theoretical basis for expectations about how corporate governance might serve to decrease, if not eliminate, income smoothing tendencies. Although income smoothing is a legal strategy, it is misleading since it takes use of gaps in accounting rules and principles to manipulate revenue by increasing or decreasing it as needed.

According to Al-Baaj, Al-Zabari, and Abbas (2018), income smoothing comprises altering costs and revenue to create the false impression that a company's revenues are consistent. When firms use income smoothing, there is no way to identify their true earnings (Moh & Winny, 2014). There will undoubtedly be agency problems and information asymmetry as a result of income smoothing actions carried out by corporate management for personal advantage.

In Nigeria, numerous institutional efforts have been undertaken to guarantee that corporate governance is successful and resulting in improved financial reporting through falling income smoothing. This resulted in the "Nigeria code of corporate

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governance" launched in November 2003, and the revised code, released in 2016, gives more insight on the relationship between income smoothing and corporate governance in Nigeria. Countries all around the globe are developing corporate governance best practice standards to promote trustworthy financial reporting.

Examples include the Cadbury Report (1992) in the United Kingdom, Sarbanes Oxley (2002) in the United States, the Dey Report (1992) in Canada, the Vienot Report (1995) in France, the Olivencia Report (1998) in Spain, the King's Report (1994) in South Africa, the Principles and Guidelines of Corporate Governance (2004) in New Zealand, and the Cromme Code (2002) in Germany. The majority of these legislations aim to strengthen organisations' corporate governance conditions and the fundamental purpose of financial reporting for economic choices (Bhagat & Bolton, 2009).

Corporate managers may be driven to smooth revenues for their personal benefit. While the topic of income smoothing is not new, it remains a major concern in accounting study due to the deception of financial reporting caused by the technique. Importantly, this study incorporates the intervening role of IFRS adoption in the link between corporate governance and income smoothing, providing a more rigorous understanding of the interplay of processes influencing managers' income smoothing behaviour. The implementation of IFRS has been attributed with creating a more transparent information environment, improving accounting quality, and reducing management opportunism. Consequently, this study theoretically explores corporate governance on income smoothing by addressing the intervening influence of IFRS adoption among listed businesses in Nigeria. Scholars claim that corporate governance is inadequate in regulating income smoothing behaviour because accounting standards allow managers to participate in such manipulative methods (Chi-Yih, Boon, & Xiaoming, 2012). Several academic researchers in accounting are questioning the validity of corporate reporting (Gulzar & Wang 2011; Ali & Marziyeh, 2012; Al Baaj, Al-Zabari, & Abbas, 2018) due to the potential effects of income smoothing practices by company management on the information content of corporate financial reports.

Manukaji and Ijeoma (2018) stated that the shortcomings of corporate governance structures, such as board size, board independence, audit committee, and external auditors, are arguably the most prominent causes cited for income smoothing in Nigeria. Income smoothing can be damaging to the business or its owners, particularly when repercussions develop. Income smoothing tactics have been connected to the failure of high-profile corporations throughout the world, including Enron (2001) Savanna Bank Nigeria Plc (2002), Lehman Brothers (2008), Intercontinental Bank Nigeria Plc (2010), Bank PHB (2010) and FinBank (2010).

For example, Enron overstated profits by \$586 million for four years, WorldCom capitalised operating expenses of \$3.8 billion, Tyco and Adelphia lost \$460 billion, and Cadbury Nigeria Plc's books were manipulated by management, resulting in a loss of over ₦15 billion (Okaro, Okafor & Ofoegbu, 2013). Ironically, an analysis of these research reveals that there is no consensus about the relationship between corporate governance and income smoothing. While some research argues for a favourable impact (Gulzar & Wang 2011; Ali & Marziyeh, 2012; Guo & Ying, 2015), others suggest a detrimental effect (Uadiale, 2012; Samak, El Said, & El Latif 2014).

These inconsistencies suggested that the association was dependent on the specific variable in issue. This lack of clear consensus indicates that this subject is still open for dispute, and there is a need to re-examine and give other viewpoints on the influence or link between corporate governance procedures and income smoothing in Nigeria.

The overall goal of this research is to conceptually explore corporate governance and income smoothing in Nigeria, with a focus on the intervening effect of IFRS adoption.

The study aims to theoretically identify the link between board size and revenue smoothing in Nigeria.

The second section goes on the study's research methodology. The third section delves into the literature review, including concepts such as conceptual review, conceptual framework, theoretical review, and empirical review. Section four covers critical analysis of the board size, corporate governance and income smoothing. Section 5 contains a summary, findings, and suggestions.

RESEARCH METHODOLOGY

This article focuses on an extensive and comprehensive literature review (SLR). In agreement with Owoeye (2023), the systematic literature review process was used to find, select, and critically evaluate studies addressing a specific subject. Furthermore, Owoeye (2023) emphasised that the systematic literature review developed a well-stated method or plan prior to completing the study, with clearly defined criteria. The author used the procedure described above to summarise the main sources of literature for each of the subject topics.

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The author used a sample of 120 research papers to perform an SLR. These articles were chosen from a pool of 350 papers obtained from Google Scholar, Web of Science, and Scopus. The publications were chosen based on the number of citations in Google Scholar and Scopus, as well as the impact factor of the journals in Scopus. The paper is grounded on the critical evaluation of the impact of corporate governance and income smoothing in Nigeria, with a focus on the intervening effect of IFRS adoption in the Nigerian economy. Based on the synthesis of the established literatures, the paper tends to establish the theoretical relationship between corporate governance and Income smoothing with the Nigerian financial economy. After the review, the paper will proffer the necessary recommendation to combat impact of corporate governance issue, income smoothing and management of board sizes issues within the context of the Nigerian Economy. Due to the theoretical nature of this piece of work, the authors chose relevant papers from 2003 to 2023 which are well cited by many academics globally. The review is then carried out in five steps: locating relevant literature, screening for inclusion, grading the quality, extracting data, and analysing and synthesising the findings. Ultimately, the review is reported on, with a summary of the findings (Xiao & Watson, 2019).

The next section will provide a detailed discussion on the theoretical perspective of this study which was focused on conceptual review, conceptual framework, theoretical review, and empirical review and critically discuss how this is relevant to this paper.

LITERATURE REVIEW

Conceptual Review

Income Smoothing

Income smoothing is a financial management method used by businesses to reduce the volatility of their reported results across many accounting periods. The notion is based on consciously changing the timing or recognition of revenue and costs in order to generate a more regular and predictable earnings pattern. This approach seeks to demonstrate consistent financial performance to stakeholders such as investors, creditors, and regulators, so increasing trust and reducing perceived risk connected with the company's activities.

Income smoothing is defined and regarded differently by accounting experts and practitioners. Belkaoui (2006) defined income smoothing as the decrease of year-to-year income volatility by moving revenue from high-earning years to less-profitable times. According to Ronen and Yaari (2008) paper, they argued that income smoothing is a type of earnings management that focuses on damping changes in reported profits across time. In this case, management of the business decides to take activities to boost earnings when earnings are relatively low and to decrease earnings when earnings are relatively high.

Guillaume and Pierre (2016) further argued that income smoothing is used in accounting to reduce the unpredictability of accounting outcomes. Corporate managers may choose to smooth their own income (or security), thinking that income stability and growth rates are more important than higher average income streams with greater fluctuation (Samak, El Said, & El Latif, 2014).

Al-Baaj et al. (2018) defined income smoothing as the manipulation of costs and revenue to create the false impression that a company's earnings are steady. Guillaume and Pierre (2016) see income smoothing as one of accounting's incentives, which is focused with controlling and manipulating swings in certain levels of revenues for the firm.

Chhabra (2016) observed that income smoothing is used by management without any input from stakeholders, hence management does not reveal any information about it. There are two perspectives on income management. The first dominates and sees earning management as fraudulent, but in the second scenario, stakeholders decide such actions as management based on their preferences. Chhabra (2016). Managers smooth earnings for several purposes, including maximising their personal wealth, minimising the business's perceived riskiness, increasing corporate value, satisfying debt covenants, lowering tax and political expenses, and improving the dependability of financial predictions.

However, executive discretion is not utilised just for earnings management. According to Coelho and Lima (2009), CEOs' discretionary authority is mirrored in organisations' levels of conservatism. In essence, businesses can be more or less cautious in their accounting procedures, and this level of conservatism influences their accounting outcomes. According to Samak, El Said, and El Latif (2014), there are two forms of income smoothing: purposeful, which is based on true intention, and false income smoothing. Real (deliberate) income smoothing refers to management efforts aimed at controlling economic conditions that will have a direct impact on future business profitability. This type of income smoothing influences cash flow. On the contrary, fake income smoothing might reveal manipulation carried out by management to smooth earnings.

Francis et al (2005) emphasized income smoothing helps to eliminate ambiguity regarding reported revenue while also compromising the knowledge level of the structure of corporate payments, which is important to investors. According to

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international accounting rules, income smoothing is illegal because it employs deceptive accounting processes and interpretations to smooth out changes in net income. When firms use income smoothing, there is no accurate information to calculate their true earnings in order to avoid taxes.

Owoeye (2023) also claimed that income smoothing is a frequent practice in Nigeria. The report examined the misrepresentations of accounting data and the financial performance of Nigerian listed corporations from 2007 to 2023. The report evaluated 105 non-financial enterprises listed on the Nigerian Stock Exchange. The study's analysis was statistical and based on secondary data obtained from various firms' annual reports.

The study found that some tampering tactics, such as erroneous asset assessment and asset transaction timing, increased return on assets, justifying the immoral activity. Other methods, such as income fabrication and liability understatement, were found to have a negative impact on return on assets. The research recommends that investors engage expert financial analysts to review the financial statements of firms in which they wish to invest.

Corporate Governance

Corporate governance was born from the notion of executives checking during the period spent in outstanding fundamental leadership. According to Ogbonnaya, Ekwe, and Ihendinihu (2016), corporate governance is primarily concerned with managing the behaviour of senior corporate executives in order to defend the interests of firm owners (shareholders). These issues develop as a result of the split between owners and firm management. The company's owners, as capital providers, might assign management power to a professional manager.

According to La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000), Corporate Governance is a check-and-balance structure designed to protect financial resources from internal abuse. According to Liu, Harris, and Omar (2013), corporate governance is an internal process meant to increase shareholder interest and promote managers' transparency and accountability on matters connected to company operations and decision-making.

Shukeri and Md-Aminu (2012) paper described corporate governance as a type of structure put in place by enterprises that is managed and directed to promote the perpetuity of the organisation, which is the main responsibility of the management and the board of directors.

Good corporate governance is described as the interaction of institutions and procedures that provide control and responsibility while also encouraging the company's efficiency and performance.

Alawattage and Wickramasinghe (2004) defined corporate governance as procedures that connect structures and agents, the method in which management is directed and transparent, and institutional rules, conventions, and regulations. Corporate governance encompasses not just board activities and techniques related to management, boards, shareholders, and other stakeholders, but also broader concerns that might enhance corporate performance (Chowdary, 2002).

Cadbury (1992) emphasized that corporate governance is a set of financial or other controls that assure the organisation is being guided in the appropriate direction. In its study, the World Bank (2002) defines corporate governance as a system of norms that influence expectations for the exercise of control over resources in a corporation. Corporate governance refers to the systems and institutions in place to restrict managers' self-serving behaviour.

Matters arising from corporate governance (CG) have sparked a lot of interest, and one factor that can be attributed to the volume of attention that corporate governance has received, particularly in recent times, is the rising risk and possibility of corporate failure, which is a global issue that cannot be limited to developing countries but also to developed countries.

Corporate failures such as Enron Corporation (US), Barings Empire (UK), and Malaysian examples such as Perwaja and Pan Electric Inc., as well as bank collapses in Nigeria, are entirely caused by a lack of adherence to suitable corporate governance frameworks. According to Hassan and Yaacob (2017), corporate governance is a combination of procedures and structures headed by the governing body to authorise, coordinate, and administrate the board in order to achieve organisational goals.

In Nigeria, the Security and Exchange Commission (SEC) and the Corporate Affairs Commission (CAC) established a seventeen (17)-member committee led by Mr Peterside Atedo in 2001 to review existing corporate governance provisions in order to identify weaknesses and ways to improve them (Obeten, Ocheni, and John, 2014). According to Javid and Iqbal (2010), excellent corporate governance standards may help to safeguard the interests of small and big investors, raise investment rates, obtain financing for project execution, and enhance competitive capacities.

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Prior to the implementation of the Private Sector Code, several businesses or sectors in Nigeria had their own corporate governance codes (including the overall Code of Corporate Governance for Public Companies). When publishing the Private Sector Code, the steering committee considered existing codes and comparable directives in order to harmonise the codes and eliminate conflicts and overlaps with the Private Sector Code. The committee specifically evaluated the Code of Corporate Governance for Banks in Nigeria Post-Consolidation 2006; Licenced Pension Operators 2008; Insurance Industry in Nigeria 2009; the SEC Code in Nigeria 2011; and the Central Bank of Nigeria Code for Banks and Discount Houses 2014.

The harmonised and unified various codes of the Private Sector Code supersede corporate governance codes in force in Nigeria as of October 17, 2016, or before the date, and where there is a conflict between the provisions of the Private Sector Code and any sectoral code or supplement thereto, the provisions of the Private Sector Code shall prevail to the extent of the inconsistencies.

IFRS Adoption in the Nigeria

The rising acceptance of International Financial Reporting Standards (IFRS) as a financial reporting framework may indicate a fundamental challenge in the accounting profession. According to Barth, Landman, and Lang (2008), IFRS represents the combined impact of financial reporting system characteristics, accounting standard interpretation and enforcement, and other environmental elements that influence management incentives. Accounting information is used across borders when common standards are employed to prepare financial statements (Leuz & Verrecchia, 2000). IFRS aims to promote openness, improve the quality and effectiveness of financial reporting, provide financial statements that will instill investor trust (due to IFRS's stringent disclosure standards), and facilitate cross-border stock market listing (Oseni 2013).

According to Fathi (2013), the goal of financial reporting is primarily to eliminate information asymmetry between corporate management and parties contracting with the organisation, which is achieved by revealing relevant and timely information. Accounting quality enhancement has favourable desirable implications (Soderstrom and Sun 2007), such as decreased capital costs and improved international capital mobility (Young and Guenther 2002).

Board Size and Income Smoothing

Board size refers to the total number of individuals that make up the company's board of directors (Tafamel, Dania, & Akrawah, 2016). According to Omoye and Eriki (2014), the size of the board is a critical component of strong corporate governance in both small and large enterprises when it comes to earning management practices. According to Hermalin and Weisbach (2003), bigger boards may be less operational than boards with fewer directors. They claimed that when the number of directors on the board exceeds a certain threshold, it becomes more symbolic rather than fulfilling its intended managerial purpose. The efficacy of the board of directors depicts how the decision-making authority of the directors who comprise the board influences the company favourably.

The size of the board is critical since it may aid in adequate monitoring and supervision capabilities, particularly when more directors are added to the board (Jensen, 1993). He suggested that larger boards may be less effective than smaller boards. As the board's size grows, so will the number of agency problems (director free-riding) and the likelihood of being ineffective.

Ahmadu, Tukur, and Aminu (2011) suggested that a big board size has a significant impact on the board's activities through effective corporate governance framework. Fodio, Ibikunle, and Oba (2013) discovered that board size and independence had a negative and substantial impact on earnings management for Nigerian listed insurance businesses.

THEORETICAL FRAMEWORK

This study is based on Agency Theory. Jensen and Meckling are credited with developing agency theory in 1976. According to Jensen and Meckling (1976), agency is a contract between the principle (owner) and the agent (management) under which the agent is assigned certain authority to act on behalf of the principal. According to this view, the primary (shareholders) are the company's owners, while the agent is management or selected executive directors who have the authority and obligations to carry out the company's operations (Clarke, 2004). Investors who believe in agency theory want management to act and make decisions that benefit shareholders. However, contrary to expectations, management may not always make decisions that benefit the principals the most (Padilla 2000).

According to agency theory, management may succumb to personal circumstances, engage in deception, and miss the point in terms of harmony between the principals' aims and the management's interests. However, if there is a disagreement between the principal and the management, the organisation model may be used to align the management's goals with those of the owners.

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This hypothesis proposes that knowledge disclosure become mandatory in order to minimise the moral hazard issue that might occur between principals and managers.

As a result, strengthening the organization's information environment by increased disclosure, such as in the context of this study's drive for greater human capital disclosures, will reduce the moral hazard problem, which is one of the primary concerns concerning agency theory. This paper chooses the agency theory as the right theory for the investigation since it investigates corporate governance as a method for addressing information asymmetry between management and shareholders. The theory also posits that managers' and shareholders' interests may vary.

As a result, the theory proposes that corporate governance expenditures be expended to provide monitoring to guarantee that misalignment between shareholders and management is reduced and managers' expropriation inclinations are curtailed. In light of this, the agency theory approach provides a foundation for corporate governance to assist reduce income smoothing.

Empirical Studies

Moh and Winny (2014) investigated income smoothing evidence in Indonesia. The goal was to identify the elements that influence income smoothing on the National Private Commercial Foreign Exchange Banks listed on the Indonesia Stock Exchange. The variables in the study were business size, profitability, and financial leverage. The Eckel Index was used to evaluate income smoothing. The sample was drawn at random from ten private foreign exchange national banks that were listed on the Indonesia Stock Exchange (IDX) between 2009 and 2013, with a sub-sample of fifty financial reports. The findings revealed that the majority of National Private Commercial Foreign Exchange Banks listed on the Indonesia Stock Exchange (IDX) employ income smoothing. The size of the organisation, profitability, and financial leverage were discovered to have a considerable impact on income smoothing.

Okougbo and Elewechi (2015) did a research on corporate governance and earnings management, based on data collected from the accounts of listed firms in one of Africa's major countries, Nigeria. To estimate discretionary accruals, the study used the Modified Jones model, and the data was evaluated using regression. The results show that there is a positive and substantial association between board size, return on assets, and earnings management.

Bala and Kumai (2015) investigated the impact of board features on earnings management of listed food and beverage enterprises in Nigeria during the six-year period 2009–2014. The statistical tool used was OLS regression, and the findings revealed an inverse relationship between board size, board meetings, and board financial expertise and earnings management of listed food and beverage firms in Nigeria, whereas board composition and women directorship are positively related to earnings management of listed food and beverage firms in Nigeria.

Obigbemi, Omolehinwa, Mukoro, Ben-Caleb, and Olusanmi (2016) conducted an empirical study on the association between board structure and earnings management in Nigeria. The study examined 137 publicly traded Nigerian firms from 2003 to 2010. Earnings management was assessed using discretionary accruals predicted by the modified Jones model, and the statistical method utilised was ordinary least square regression. The findings found a substantial association between board structure and Nigerian earnings management methods, as well as a significant negative relationship between board size, gender, and board composition and earnings management.

Manukaji (2018) investigated corporate governance mechanisms and income smoothing in Nigeria's deposit money institutions. It spanned five years (2012–2016), and the Eckel index was used to determine income smoothing. Multiple regression analysis was used to analyse the data. The study discovered that income smoothing in deposit money institutions is primarily dependent on corporate governance procedures, specifically CEO duality, ownership concentration, and the presence of an audit committee. Banks with concentrated ownership may be more likely to smooth their income. The empirical findings also show that board size is ineffective in monitoring income smoothing.

Khairul, Wan, and Yasin (2018) investigated the income smoothing perspective (deceptive or informative) by focusing on four audit committee attributes: audit committee size, audit committee meeting frequency, nonexecutive proportion, and independent audit committee members. The sample size consisted of 604 publicly listed Malaysian enterprises from 2008 to 2014. The study discovered that organisations with a strong audit committee, a big audit committee, more regular meetings, and a high share of independent directors are related with a low level of income smoothing.

Shuaibu and Aliyu's (2019) research looked at how income smoothing affected the financial performance of Nigerian listed deposit money banks. Data were taken from eight (8) chosen banks' annual reports and accounts from 2012 to 2017. Loan loss provision was employed as a proxy for income smoothing, while return on assets (ROA) and return on equity (ROE) were used to measure

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profitability and proxy a bank's financial performance. The study used ordinary least squares for data analysis. The study found that income smoothing (LLP) had a negative and minor influence on the financial performance (ROA, ROE) of DMBs in Nigeria. It is recommended that Nigerian deposit money banks operate in a low-risk environment and have the expertise to control their lending operations. Deposit money banks that operate in more risky environments and lack the expertise to control their lending operations will most likely have a higher loan-loss provision ratio to cover this risk. The impact of Board size on corporate governance was not considered.

Ahmed and Yahaya (2023) article looked at the relationship between board structure and income smoothing in 21 Nigerian banks over ten years (2013-2022). Corporate board structure is defined by board size, independence, and the proportion of foreign directors. In contrast to previous research, income smoothing is characterised as loan loss provision rather than earnings management. Furthermore, the research investigates the relationship between board structure and income smoothing. Individual board elements have been demonstrated to impact the income smoothing behaviour of Nigerian banks during the time examined. Overall, the findings show that the board of directors may impact the income smoothing behaviour of publicly listed Nigerian banks. Consequently, these findings are essential for regulators, shareholders, lenders, and other stakeholders. Furthermore, the findings contribute to a better understanding of the role of the board of directors in minimising corporate income smoothing and increasing quality and sustainable profitability for Nigerian banks, where differing systems may lead to opportunistic revenue smoothing behaviour. It should be noted that these findings apply only to banks in emerging economies.

Income Smoothing and Emerging Economy

Income smoothing in the context of an emerging economy refers to the practice of deliberately manipulating reported earnings to present a more stable and predictable pattern of income over time. This practice is often employed by companies in emerging economies to manage perceptions of financial performance and reduce the volatility of reported earnings.

This paper is of the perspective that Corporate Businesses in Nigeria considered Income Smoothing because of economic volatility, access to capital market, regulatory environment considerations, corporate governance issues and market expectations.

Considering Economic volatility. This paper argued that businesses in emerging economies particularly in Nigeria often experience higher levels of economic volatility compared to advanced economies. The emerging economies experience fluctuations in exchange rate, interest rates, high core inflation and high price instability and other macroeconomic factors can significantly impact businesses financial performance. In this environment, many businesses may resort to income smoothing to mitigate the effects of economic volatility on reported earnings.

Furthermore, Businesses considers the access to the Capital market. The Capital market in emerging economies like Nigeria is critical to access the long-term finances needed for business expansion. Businesses in emerging economies may face challenges in accessing capital markets, particularly during periods of economic uncertainty or instability. Smooth and consistent earnings patterns may be perceived more favourably by investors and creditors, enhancing companies' ability to raise capital and access financing.

Weak Regulatory Framework prevailing in emerging economies thus encouraging income smoothing. This paper argued that the regulatory environment in emerging economies may be less stringent or rigorously enforced compared to developed economies and as a consequent, businesses results to income smoothing. This may create opportunities for Businesses to engage in income smoothing practices without facing significant regulatory scrutiny and proper sanctions when necessary.

In addition to the arguments above is the poor Corporate governance framework issues. Corporate governance standards and practices in emerging economies may vary widely and may be less developed compared to those in developed economies. Weak governance structures, inadequate oversight mechanisms, and limited transparency can facilitate income smoothing activities by allowing management to exercise greater discretion over financial reporting.

Market expectations of emerging is critical to income smoothing. Investors and stakeholders in emerging economies may have different expectations regarding financial performance and risk compared to those in developed economies. Businesses may feel pressure to meet or exceed market expectations for earnings stability and growth, leading to the use of income smoothing techniques to manage perceptions and maintain investor confidence.

This section concluded that income smoothing in emerging economies reflects a combination of economic, regulatory, governance, and market-related factors unique to these environments. While income smoothing may serve certain short-term objectives for companies operating in emerging economies, it can also raise concerns about transparency, accountability and the reliability of financial information for investors and stakeholders.

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DISCUSSIONS OF FINDINGS

After conceptually reviewing related literature on corporate governance in regard to income smoothing as a sort of earnings management, this study discovered inconsistencies with the findings of previous studies. The findings are examined separately.

First, board size as a corporate governance measure had a considerable impact, but it was inversely correlated with income smoothing. As a result, board size is an important component in corporate governance for improving income smoothing. Moh and Winny (2014) validated the conclusion, revealing that board size was substantially connected with earnings management for Nigerian listed insurance businesses. Okougbo and Elewechi (2015) and Ahmed and Yahaya (2023) discovered a connection between board size and earnings management. Meanwhile, Obigbemi, Omolehinwa, Mukoro, Ben-Caleb, and Olusanmi (2016) shown that board size does not effectively supervise businesses' income smoothing methods.

Furthermore, the board size impact on corporate governance and income focus on the effectiveness and efficiency. This paper argued that larger boards should bring effectiveness and efficiency to the company as well as income smoothing. This is consequent on the diversity and expertise they bring to the board. Where it is well managed, effective decision-making and coordination are efficient.

The Dynamics of decision-making are important to income smoothing and board size. This paper argued that in Nigeria financial market, larger boards can make it difficult for individual directors to have their opinion particularly if they are dissenting perspective which could potential lead to groupthink and reduce accountability (Owoeye, 2024). However, this paper believed that with the incorporation of the strict corporate governance culture in the Nigerian economy should prevent and protect dissenting Directors in the corporate organisation.

In addition to the larger board to small board sizes. Obigbemi et al (2016) argued that larger boards are very expensive which could impact on the profit of the business. They argued that larger boards may incur higher costs for the business. This is because the business will have more compensations, meeting expenses and administrative overhead as a result of the larger board size. The paper emphasized that too large board could be counterproductive. This is based on the argument that the resources used here could have been better allocated to other productive and effective financial activities such as investments in research and development and improving shareholders value.

The paper argued that Business performance are directly board size and enable income smoothing. Furthermore, the paper is of the opinion of the larger boards are associated with better performance. There is no sufficient evidence that larger boards lead to poor performance. Many factors can contribute the poor performance of businesses such as poor and rigid leadership style, lack of diversity, bad decision making, poor investment and many more.

Building on the income smoothing financial reporting technique by businesses. Board effectiveness can enhance how income smoothing financial reporting can artificially even out fluctuations when reporting earnings over multiple periods.

Owoeye (2023) argued that in relation to the manipulate of financial statements which could potentially mislead investors and stakeholders. He argued that income smoothing could increase the potential manipulation of financial statement. This could raise ethical consideration because with the manipulation of financial statements for income smoothing could paint a picture that gives a false financial health of the business, further raising ethical concerns on transparency and trust in financial reporting.

Furthermore, this paper argued that Income smoothing practices may violate accounting standards and regulatory requirements. Regulators such as the Securities and Exchange Commission (SEC), Central Bank of Nigeria and Financial Reporting Council of Nigeria closely monitor financial reporting practices to detect and deter income smoothing activities.

Okougbo and Elewechi (2015) argued of the long-term consequence of income smoothing, board size and earnings management. They emphasized that while income smoothing may provide short-term benefits by reducing earnings volatility, critics argue that it can mask underlying problems within the company. This can ultimately lead to more severe financial shocks and long-term damage to shareholder value.

The size of the board can affect the efficiency of monitoring tools, such as detecting and preventing revenue smoothing methods. A broader board with different experience may be more suited to scrutinising financial data and detecting any errors. In contrast, a smaller board may be more open to manipulation by management.

Overall, board size and income smoothing are difficult issues with far-reaching consequences for corporate governance, financial reporting, and stakeholder interests.

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RECOMMENDATION

This research advises that corporations' boards be structured based on their size. It should be comprised of individuals with honesty and transparency who are capable of preventing and minimising income smoothing as a sort of earnings management approach. The impact of International Financial Reporting Standards (IFRS) on corporate governance and income smoothing in Nigeria is a multifaceted issue that requires careful consideration.

Here are some recommendations provided here:

Enhance Board Oversight

Encourage Nigerian businesses to improve their boards of directors by enhancing independence, expertise, and diversity. Boards should regularly review financial reporting procedures, including IFRS compliance, to maintain openness and integrity in reporting.

Prioritize Stakeholder Engagement

Encourage businesses to communicate with stakeholders such as shareholders, regulators, and the general public to promote a culture of openness and accountability. The regular communication and disclosure of financial information in line with IFRS can boost trust and confidence in corporate governance standards.

Capacity Building

Provide training and education programmes for board members, management, and accounting professionals to help them better grasp IFRS regulations and their consequences for corporate governance. This can assist to reduce the risk of misunderstanding or misapplication of accounting rules.

Regulatory Enforcement

Enhance regulatory supervision and enforcement measures to guarantee compliance with IFRS and other applicable rules. Implement effective monitoring and enforcement procedures to detect and prevent fraudulent activities, such as income smoothing.

Focus on Transparency and Disclosure

Encourage Nigerian businesses to provide clear and thorough disclosures regarding their accounting practices, including the use of income smoothing techniques. This can assist investors and stakeholders in better understanding financial statements and determining the danger of earnings manipulation.

Auditors' Independence and Scepticism

In auditing IFRS-compliant financial accounts, emphasise auditor independence and professional scepticism. To maintain financial reporting credibility, auditors should rigorously analyse management's judgements and assumptions, particularly those related to income smoothing techniques.

Investor Education

Educate investors and analysts about the possible impact of income smoothing on financial performance and risk management. Provide instructions on how to spot red flags and irregularities in financial statements that might suggest the usage of income smoothing techniques.

Regulatory scrutiny

Increase regulatory control of financial reporting methods, with an emphasis on discovering and discouraging income smoothing operations. Implement actions to improve the accuracy and integrity of financial reporting, such as regular reviews and investigations of suspect accounting practices.

By applying these guidelines, Nigerian businesses may strengthen corporate governance standards, increase transparency and integrity in financial reporting, and reduce the risk of income smoothing. This can contribute to investor trust, capital market development, and long-term economic progress in Nigeria.

CONCLUSION

This research focuses on the theoretical analysis of the intervening function of International Financial Reporting Standards (IFRS) in corporate governance and income smoothing practices of enterprises. Corporate governance is the frontline monitoring mechanism for management, therefore research in this field has arrived and is expected to remain so for the foreseeable future. According to agency theory, organisations' corporate governance policies can help resolve conflicts between managers and shareholders.

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The Mediating Role of E-Trust Between Online Customer Review, Online Customer Rating, and E-Service Quality on Customer Loyalty on the E-Commerce Site Shopee (Case Study of the Seberang Ulu Community of Palembang City)



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ABSTRACT: This research uses a quantitative approach method. The population in this study were the people of the Seberang Ulu Region of Palembang City with a sample size of 170 respondents. Data collection techniques using primary in the form of distributing questionnaires using a Likert scale. The data analysis technique in this study used Structural Equation Modeling with the Partial Least Squares (PLS) approach with the help of the SmartPLS 3.0 application program. The results of this study indicate that: Online Customer Review has no effect on Customer Loyalty, Online Customer Rating has no effect on Customer Loyalty, E-Service Quality affects Customer Loyalty, Online Customer Review affects E-Trust, Online Customer Rating affects E-Trust, E-Service Quality affects E-Trust, E-Trust has an effect on Customer Loyalty, E-Trust is able to mediate Online Customer Review on Customer Loyalty indicated by the calculation of Indirect Effect, E-Trust is able to mediate Online Customer Rating on Customer Loyalty indicated by the calculation of Indirect Effect, E-Trust is able to mediate E-Service Quality on Customer Loyalty indicated by the calculation of Indirect Effect.

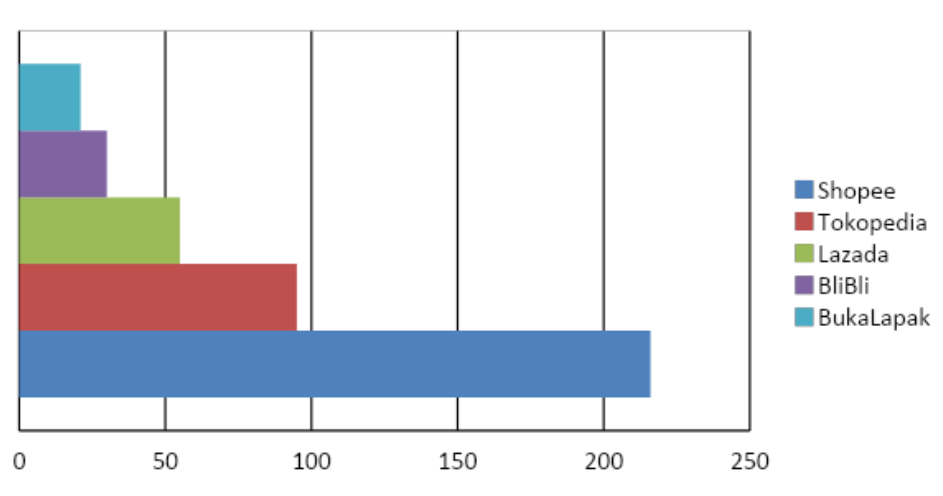
KEYWORDS: Online Customer Review, Online Customer Rating, E-Service Quality, Customer Loyalty, E-Trust

I. INTRODUCTION

With the advancement of information technology, the internet has an important role in the digital era. Because the internet has no time limit and can be accessed anywhere. According to the Indonesian Internet Service Providers Association (APJII) (Indonesia, 2023) reported that Indonesia in 2020 had 73.7% of internet users. And experienced an increase in internet users in Indonesia in 2021 and 2022 of 77.02%. The data shows that there is an increase from the previous year in internet users in Indonesia. The rapid development of technology has given birth to many e-commerce platforms that have an impact on consumer behavior. A number of e-commerce platforms make buying and selling transactions easier for consumers. Online shopping on E-Commerce platforms has become a habit of the Indonesian people because of various conveniences and savings in time and energy. The competition of e-commerce platforms is now getting tighter, such as, Shopee, Lazada Tokopedia, Bukalapak, OLX. Blibli, and others. Shopee is an online shopping application that provides fashion, household appliances, and so on. Shopee became the first online shopping application that allows application users to shop and sell various types of products and has a very fast development. (Saidani, Lusiana and Aditya, 2019)

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Graph 1
Number of E-Commerce Site Visits In Indonesia In The Third Quarter of 2023



Source: Databoks, 2023

Graph 1 states that the number of visits to e-commerce sites in Indonesia in the third quarter of 2023 with the top position is Shopee with 216 million visits, Tokopedia 97.1 million visits, Lazada 52.2 million visits, BliBli 28.4 million visits, and last is BukaLapak 12.4 million visits. Shopee has the most visits in other e-commerce in Indonesia. (Databox, 2023)

There are important problems in Shopee, such as the fact there are still many counterfeit items or items that do not match the orders sent. In addition, the increasing number of Shopee customers affects the length the time it takes to deliver goods to buyers. This can cause inconvenience to buyers who expect the goods not to be delivered on time.

So that consumers have to extend the shipping warranty on the Shopee application. If this customer cancels, it is also not impossible because the seller has arranged the delivery and issued a delivery receipt (Pramuditha, Hidayah and Indriastuti, 2021). Problems with product quality are often encountered when the product received does not meet expectations in terms of quality. Goods may arrive in damaged or defective condition, or not function as they should p. Therefore, buyers must be careful and wise in looking at at store the assessment through reviews of products received by buyers before making a purchase. (Putri et al. , 2023)

If Shopee is able to provide good E-Service Quality and in accordance with consumer expectations, it will foster good perceptions in the eyes of consumers. Therefore, Shopee must be able to understand and understand every consumer expectation. Other factor that influence loyalty are Online Customer Review and Online Customer Rating. Online Customer Review is an online review that will facilitate the process of making consumer purchasing decision. Online Customer Rating is a symbol of stars and opinions from customers. For potential buyers, Online Customer Review, Online Customer Rating and E-Service Quality are very useful for potential buyers for consumer intention to revisit. (Arbaini, Wahab and Widiyanti, 2020). Thus, Online Customer Review, Online Customer Rating, and E-Service Quality have an important role for consumers for purchasing these products. Based on this background, the researcher intends to conduct research with the following problem formulation: **The effect of Online Customer Review , Online Customer Rating , and E-Service Quality on Customer Loyalty on the Shopee E-Commerce Site in an Islamic Economic Perspective Through E-Trust as a Mediating Variable (Case Study of the Seberang Ulu Community of Palembang City).**

II. LITERATURE REVIEW

A. Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB) is a development of Ajzen and Fishbein's Theory of Reasoned-Action which adds constructs that are not yet in the Theory of Reasoned-Action , namely behavioral control. (Pangestika and Prasastyo, 2017). Theory of Planned Behavior is used to understand the relationship between intention to perform specific individual behavior. Individual performance comes from certain behavior influenced by his intention to perform these behavior. Intention affects attitudes towards behavior, subjective norms , and behavioral control. Theory of Planned Behavior is very suitable for use in

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explaining various behaviors, as said by Ajzen that Theory of Planned Behavior is very suitable for explaining any behavior that requires planning, this is a good and good theory for predicting and describing customer loyalty. (Mahyarni, 2013)

B. Customer Loyalty

According to Khamdan Rifa'i (2019) , customer loyalty is someone who has become accustomed to buying the products offered and often interacts or makes purchases over a period of time, while remaining loyal to all company offers. According to Tjiptono (2015) , customer loyalty is a customer commitment to a brand, store, supplier based on a very positive attitude and is reflected in consistent repeat purchases. Customer Loyalty includes attitudes in which customer assessments and feelings about a product, service, relationship, brand, or company are related to repeat purchases. According to Griffin (2015) ,the indicators of customer loyalty are; Make Regular Repeat Purchases , Buy Between Product or Service Line, Recommending to Others , Show Immunity to Product Attractiveness from Competitors.

C. Online Customer Review

According to Hariyanto and Trisunarno (2021) , online customer reviews are a feature that attracts customer attention and influences purchasing decisions, this shows that the value of a product review will affect the desire to buy a product. According to Mulyati and Gesitera (2020) , online customer reviews are reviews provided by consumers related to information on the evaluation of a product about various aspects of the product. If consumers find it difficult to guess the quality of a product or the assumption of product criteria is ambiguous, then the availability of information becomes one of the determinants in making decisions. Online Customer Reviews is a review in the form of positive or negative which is useful for consumers who contain reliable information so that the greater the number of reviews, it can influence consumers to attract consumers to buy the products sold by the sellers. According to Schepers (2015) , the indicators for Online Customer Review are as follows; Argument Quality , Volume of Review , Valance , Timeliness , Source Credibility .

D. Online Customer Rating

According to Hariyanto and Trisunarno (2021) , online customer ratings are made by customers who have made online purchases and published on the seller's website or stall so that the rating is one of the feedback given by customers to the seller, the rating is also a global customer opinion not only on online goods but also how customers are served by the seller. The rating given by consumers is an assessment that not only leads to product quality, but also includes an overall assessment that shows consumer satisfaction with how they are served by the seller. Online Customer Rating is an assessment score from consumers to a store for product quality and service, so that the more the number of ratings on a store or product can be of interest to consumers in buying the product and the assessment is in the form of stars where the number of stars shows the quality of the product, service, packaging, and delivery. According to Lackermair, Kailer, and Kanmaz (2013) , the indicators of Online Customer Rating are as follows; Perceived Usefulness , Perceived Enjoyment , Volume of Rating .

E. E-Service Quality

According to Ismawati and Retno (2023) , E-Service Quality is a customer assessment of services provided online including the extent to which the seller can accommodate effective purchases, as well as responsive and fast product delivery with quality service.

E-service quality can be defined as electronic services that facilitate shopping, purchasing and distribution activities effectively and efficiently. According to Ladhar (2010) E-service quality indicators are as follows; Reliability or Fulfillment , Responsiveness , Privacy or Security , Information Quality or Benefit , Ease of Use or Usability , Web Design .

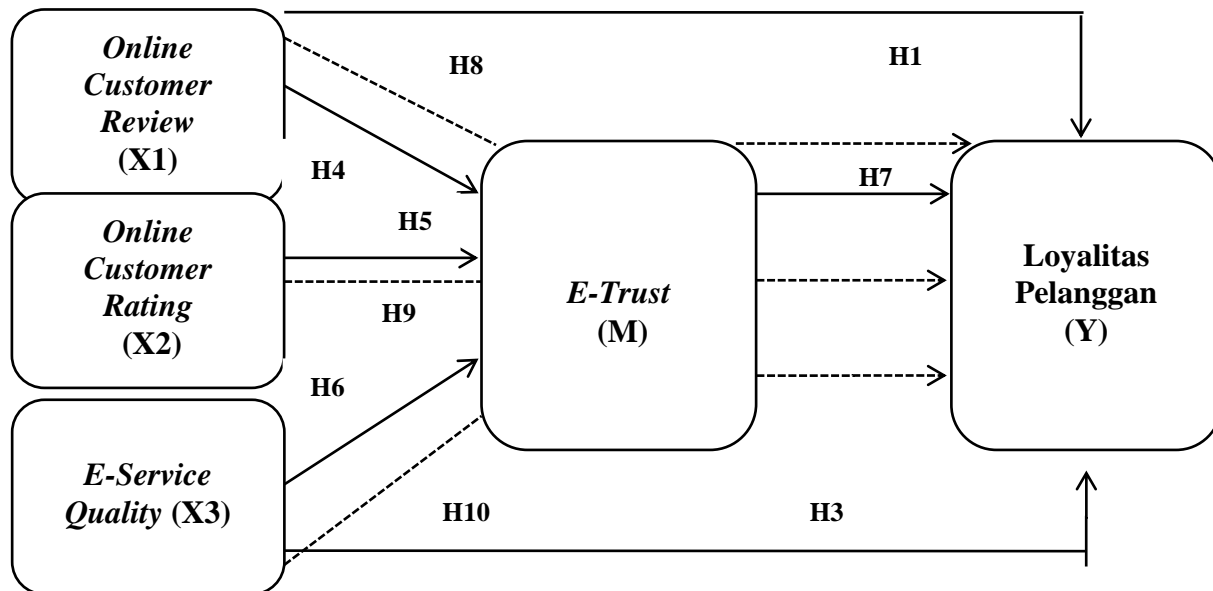
F. E-Trust

Trust in internet-based services is called e-trust . According to Mowen and Minor (2017) , trust is a conclusion made by customers based on knowledge about objects, attributes and benefits in a product so that customers can respond and believe in the product.E-trust can generally be interpreted as trust in another party because that party can be trusted and the individual's desire for another party or other person in the hope that that person will do as expected. According to McKnight, Choudhury, and Kacmar (2002) E-trust indicators as follows; Benevolence , Integrity , Competence.

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G. Framework of Thought

Figure 1. Framework of Thought



Source: Processed thinking, 2023

H. Research Hypothesis

- H1: There is a positive and significant influence on *Online Customer Reviews* on Customer loyalty.
- H2: There is a positive and significant influence on *Online Customer Rating* Customer loyalty.
- H3: There is a positive and significant influence on *E-Service Quality* on Customer Loyalty.
- H4: There is a positive and significant influence on *Online Customer Reviews* on *E-Trust* .
- H5: There is a positive and significant influence on *Online Customer Rating* on *E-Trust* .
- H6: There is a positive and significant influence on *E-Service Quality* on *E-Trust*.
- H7: There is a positive and significant influence on *E-Trust* Customer loyalty.
- H8: *E-Trust* mediates the relationship between the influence of *Online Customer Reviews* on Customer loyalty.
- H9: *E-Trust* mediates the relationship between the influence of *Online Customer Rating* on Customer loyalty.
- H10: *E-Trust* mediates the relationship between the influence of *E-Service Quality* on Customer Loyalty.

III. RESEARCH METHODS

The type of research used in this research is quantitative research. Quantitative research data is also referred as data in the form of numbers (Sugiyono, 2019) . The data source used in this research is primary data. Primary data is data collected by researchers directly through questionnaires (Duli and Nikolouse, 2019) . The population in this study were the people of the Seberang Ulu Region of Palembang City. There are 5 sub-districts in the Seberang Ulu region of Palembang, consisting of Seberang Ulu I, Seberang Ulu II, Jakabaring, Plaju, and Kertapati, so the population in this study is the people of the sub-districts included in the Seberang Ulu region of Palembang City. Non-probability method using purposive sampling technique . Purposive sampling is a technique based on special criteria, namely people who are considered experts (Djaali, 2020) . The population is unknown, so the sample determination used in this study uses the Hair, et al formula with a sample size of 5-10 times the indicator. So that the number of indicators in this study were 21 indicators. Then the number of indicators 21 times 8 is 168 people, the rounded up to 170 respondents. The data analysis technique uses the Structural Equation Model (SEM) method based on Partial Least Square (PLS). Partial Least Square (PLS) is a component or variant-based SEM structural equation model (Abdillah and Jogiyanto, 2015) . Modeling research through SEM allows a researcher to answer research questions that are regressive or dimensional. In this study using the Partial Least Square method with the analysis techniques carried out, namely Outer Model Analysis, Inner Model Analysis, Bootstrapping Method , and Path Coefficient Estimation. (Haryono, 2017)

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IV. RESULTS AND DISCUSSION

1. Outer Model Analysis

A. Convergent Validity

Table 1. Convergent Validity Value

Variable	Indicator	Loading Factor	Information
Online Customer Reviews (X1)	X1.1	0.864	Valid
	X1.2	0.777	Valid
	X1.6	0.873	Valid
	X1.7	0.897	Valid
	X1.8	0.871	Valid
	X1.9	0.885	Valid
	X1.10	0.885	Valid
Online Customer Rating (X2)	X2.1	0.869	Valid
	X2.2	0.865	Valid
	X2.3	0.731	Valid
	X2.4	0.847	Valid
	X2.5	0.746	Valid
	X2.6	0.702	Valid
E-Service Quality (X3)	X3.6	0.906	Valid
	X3.8	0.906	Valid
	X3.9	0.850	Valid
	X3.10	0.831	Valid
	X3.11	0.873	Valid
	X3.12	0.909	Valid
Customer Loyalty (Y)	Y.1	0.800	Valid
	Y.2	0.862	Valid
	Y.3	0.883	Valid
	Y.4	0.850	Valid
	Y.6	0.830	Valid
	Y.7	0.883	Valid
	Y.8	0.833	Valid
E-Trust (M)	M.1	0.785	Valid
	M.2	0.886	Valid
	M.3	0.858	Valid
	M.4	0.879	Valid
	M.5	0.813	Valid
	M.6	0.881	Valid

Source: SmartPLS 3.0 Output , 2024

Based on table 1, it is concluded that the results of data processing with a loading factor value of >0.70, this indicates that the Outer Model value or correlation between constructs and variables has Convergent Validity because the loading factor value is >0.70.

B. Discriminant Validity

Table 2. Cross Loading Value

	E-Service Quality (X3)	ET rust (M)	Customer loyalty (Y)	Online Customer Ratings (X2)	Online Customer Reviews (X1)
M.1		0.785			
M.2		0.886			
M.3		0.858			
M.4		0.879			
M.5		0.813			
M.6		0.881			
X1.1					0.864

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	E-Service Quality (X3)	ET rust (M)	Customer loyalty (Y)	Online Customer Ratings (X2)	Online Customer Reviews (X1)
X1.10					0.885
X1.2					0.777
X1.6					0.873
X1.7					0.897
X1.8					0.871
X1.9					0.885
X2.1				0.869	
X2.2				0.865	
X2.3				0.731	
X2.4				0.847	
X2.5				0.746	
X2.6				0.702	
X3.10	0.906				
X3.11	0.906				
X3.12	0.850				
X3.6	0.831				
X3.8	0.873				
X3.9	0.909				
Y.1			0.800		
Y.2			0.862		
Y.3			0.883		
Y.4			0.850		
Y.6			0.830		
Y.7			0.883		
Y.8			0.833		

Source: SmartPLS 3.0 Output , 2024

Based on table 2, it shows that all indicators that passed the Cross Loading (Discriminant Validity) test were valid because they were >0.70 and were greater than the values of the other variables.

C. Composite Reliability

Table 3. Composite Reliability Value

	Composite Reliability	Criteria	Information
E-Trust (M)	0.940	>0.70	Reliable
Customer Loyalty (Y)	0.948	>0.70	Reliable
Online Customer Reviews (X1)	0.954	>0.70	Reliable
Online Customer Rating (X2)	0.912	>0.70	Reliable
E-Service Quality (X3)	0.954	>0.70	Reliable

Source: SmartPLS 3.0 Output , 2024

Based on table 3, it shows that all variables have a composite reliability value of >0.70. These results indicate that each variable has met composite reliability so that it can be concluded that all variables have a high level of reliability.

D. Cronbach's Alpha

E.

Table 4. Cronbach's Alpha value

	Cronbach's Alpha	Criteria	Information
E-Trust (M)	0.923	>0.70	Reliable
Customer Loyalty (Y)	0.935	>0.70	Reliable
Online Customer Reviews (X1)	0.944	>0.70	Reliable
Online Customer Rating (X2)	0.883	>0.70	Reliable
E-Service Quality (X3)	0.941	>0.70	Reliable

Source: SmartPLS 3.0 Output , 2024

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Based on table 4, it shows that the Cronbach's Alpha value of each research variable is >0.70 , so it can be concluded that each variable has a high level of reliability.

2. Inner Model Analysis

A. R-Square Testing (R^2)

Table 5. R-Square Value

	R-Square	Model Power
E-Trust (M)	0.710	Strong
Customer Loyalty (Y)	0.775	Strong

Source: SmartPLS 3.0 Output, 2024

Based on table 5, shows that the R-Square value E-Trust (M) of $0.710 > 0.67$, means that it has a strong coefficient of determination and 71% of E-Trust can be explained by Online Customer Review, Online Customer Rating, E-Service Quality, and Customer Loyalty and the remaining 29% can be explained by other factors. Meanwhile, Customer Loyalty (Y) is $0.775 > 0.67$, means that the coefficient of determination is strong and 77% of E-Trust can be explained by Online Customer Review, Online Customer Rating, E-Service Quality, and E-Trust and the remaining 23% can be explained by other factors.

B. Relevance of Predictions (Q^2)

Table 6. Construct Crossvalidated Redundancy Value

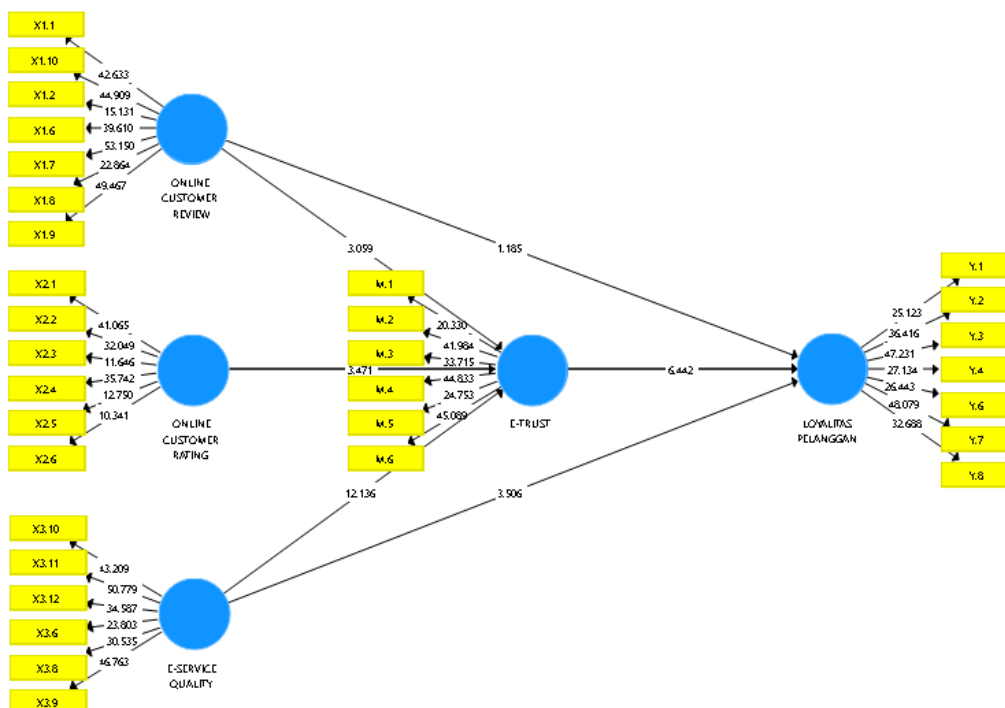
Construct	SSO	SSE	$Q^2 (=1-SEE/SSO)$
E-Trust (M)	1020,000	503,147	0.507
Customer Loyalty (Y)	1190,000	535,219	0.550

Source: SmartPLS 3.0 Output, 2024

Based on table 6, it shows that the calculation result of Q^2 is greater than zero (0), it can be concluded that it has a strong predictive relevance value.

3. Bootstrapping

Figure 1. Bootstrapping Model



Source: SmartPLS 3.0 Output, 2024

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4. Path Coefficient

Table 7. Path Coefficient

	T-Statistics (O/STDEV)
Online Customer Review (X1) → Customer Loyalty (Y)	1,185
Online Customer Rating (X2) → Customer Loyalty (Y)	1,010
E-Service Quality (X3) → Customer Loyalty (Y)	3,506
Online Customer Review (X1) → E-Trust (M)	3,059
Online Customer Rating (X2) → E-Trust (M)	3,471
E-Service Quality (X3) → E-Trust (M)	12,136
E-Trust (M) → Customer Loyalty (Y)	6,442

Source: SmartPLS 3.0 Output , 2024

Table 8. Bootstrapping Model Results Indirect Effect

Variable Relationships	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics (O/STDEV)	P Values
Online Customer Review (X1) → E-Trust (M) → Customer Loyalty (Y)	0.096	0.097	0.035	2,718	0.007
Online Customer Rating (X2) → E-Trust (M) → Customer Loyalty (Y)	0.119	0.120	0.034	3,529	0.001
E-Service Quality (X3) → E-Trust (M) → Customer Loyalty (Y)	0.331	0.320	0.061	5,386	0,000

Source: SmartPLS 3.0 Output , 2024

IV. DISCUSSION OF RESEARCH RESULTS

1. The Effect of Online Customer Review on Customer Loyalty on the Shopee E-Commerce Site

Based on the results of the study obtained a t -statistic value of $1.185 < t_{table}$ of 1.96 and a p -value of $0.238 > 0.05$, then the t -statistic value $< t_{table}$ then with a significance level > 0.05 , namely 0.238 , it was decided to reject H_1 and accept H_0 , so based on the test results shows that Online Customer Review has no effect on Customer Loyalty on the Shopee E-Commerce site .

2. The Effect of Online Customer Rating on Customer Loyalty on the Shopee E-Commerce Site

Based on the results of the study obtained a t -statistic value of $1.010 < t_{table}$ of 1.96 and the p -value of $0.314 > 0.05$, then the t -statistic value $< t_{table}$ so with a significance level > 0.05 , namely 0.314 , it was decided to reject H_2 and accept H_0 , so based on the test results indicate it that Online Customer Rating has no effect on Customer Loyalty.

3. The Effect of E-Service Quality on Customer Loyalty on the Shopee E-Commerce Site

Based on the research results, the t -statistic value of $3.506 > t_{table}$ of 1.96 and p -value of $0.001 < 0.05$, then the t -statistic value $> t_{table}$ then with a significance level above 0.05 , namely 0.001 , it was decided to reject H_0 and accept H_3 , so based on the test results it shows that E-Service Quality has an effect on Customer Loyalty.

4. The Effect of Online Customer Review on E-Trust on the Shopee E-Commerce Site

Based on the results of the study obtained a t -statistic value of $3.059 > t_{table}$ of 1.96 and a p -value of $0.003 < 0.05$, then the t -statistic value $> t_{table}$ then with a significance level above 0.05 , namely 0.003 , it was decided to reject H_0 and accept H_4 , so based on the test results indicate that Online Customer Review have an effect on E-Trust.

5. The Effect of Online Customer Rating on E-Trust on the Shopee E-Commerce Site

Based on the results of the study obtained a t -statistic value of $3.471 > t_{table}$ of 1.96 and a p -value of $0.001 < 0.05$, then the t -statistic value $> t_{table}$, then with a significance level above 0.05 , namely 0.001 , it was decided to reject H_0 and accept H_5 , so based on the test results indicate that Online Customer Rating has an effect on E-Trust.

6. The Effect of E-Service Quality on E-Trust on the Shopee E-Commerce Site

Based on the research results, the t -statistic value is $12.136 > t_{table}$ of 1.96 and the p -value is $0.000 < 0.05$, then the t -statistic value $> t_{table}$ then with a significance level above 0.05 , namely 0.000 , it is decided to reject H_0 and accept H_6 , so based on the test results it shows that E-Service Quality has an effect on E-Trust.

7. The Effect of E-Trust on Customer Loyalty on the Shopee E-Commerce Site

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Based on the results of the study obtained a t -statistic value of $6.442 > t_{table}$ of 1.96 and a p -value of $0.000 < 0.05$, then the t -statistical value $< t_{table}$ then with a significance level above 0.05 , namely 0.000 , it was decided to reject H_0 and accept H_7 , so based on the test results it shows that E-Trust has an effect on Customer Loyalty.

8. The Effect of Online Customer Review on Customer Loyalty through E-Trust as a mediating variable on the Shopee E-Commerce Site

Based on the results of the study obtained a t -statistic value of $2.718 > t_{table}$ of 1.96 and a p -value of $0.007 < 0.05$, then the t -statistical value $< t_{table}$ then with a significance level above 0.05 , namely 0.007 , it was decided to reject H_0 and accepting H_8 , then based on the test results indicate that Online Customer Review indirectly through E-Trust as a mediating variable has a significant effect on Customer Loyalty. This model is included in "Partial Mediation" or mediation occurs, where the Online Customer Review variable is able to influence Customer Loyalty through E-Trust, so E-Trust mediates the relationship between Online Customer Review and Customer Loyalty.

9. The Effect of Online Customer Rating on Customer Loyalty through E-Trust as a mediating variable on the Shopee E-Commerce Site

Based on the results of the study obtained a t -statistic value of $3.529 > t_{table}$ of 1.96 and a p -value of $0.001 < 0.05$, then the t -statistical value $< t_{table}$ then with a significance level above 0.05 , namely 0.001 , it was decided to reject H_0 and accepting H_9 , then based on the test results indicate that Online Customer Rating indirectly through E-Trust as a mediating variable has a significant effect on Customer Loyalty. This model is included in "Partial Mediation" or mediation occurs, where the Online Customer Rating variable is able to influence Customer Loyalty through E-Trust, so E-Trust mediates the relationship between Online Customer Rating and Customer Loyalty.

10. The Effect of E-Service Quality on Customer Loyalty through E-Trust as a mediating variable on the Shopee E-Commerce Site

Based on the results of the study obtained a t -statistic value of $5.386 > t_{table}$ of 1.96 and a p -value was $0.000 < 0.05$, then the t -statistical value $< t_{table}$ then with a significance level above 0.05 , namely 0.000 , it was decided to reject H_0 and accepting H_{10} , then based on the test results indicate that E-Service Quality indirectly through E-Trust as a mediating variable has a significant effect on Customer Loyalty. This model is included in "Partial Mediation" or mediation occurs, where the E-Service Quality variable is able to influence Customer Loyalty through E-Trust, so E-Trust mediates the relationship between E-Service Quality and Customer Loyalty.

V. CONCLUSIONS

Based on the results of the study, it can be concluded that; Online Customer Review has no effect on Customer Loyalty, Online Customer Rating has no effect on Customer Loyalty, E-Service effects Customer Loyalty, Online Customer Review effects E-Trust, Online Customer Rating effects E-Trust, E-Service Quality effects E-Trust, E-Trust affects Customer Loyalty, E-Trust mediates the relationship between Online Customer Review on Customer Loyalty, E-Trust mediates the relationship between Online Customer Rating, E-Trust mediates the relationship between E-Service Quality and Customer Loyalty. The suggestion in this study is that research has not that revealed all the variables that can affect Customer Loyalty, it is hoped that future research will include other variables not examined in this study such a Cash On Delivery, E-Satisfaction, Perceived Ease Of Use, Brand Trust, Commitment, Transaction Security, and others.

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Environment, Social and Governance Investment, the Current Situation and Proposed Solutions for Vietnam



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ABSTRACT: Currently, ESG is a global trend due to climate change and the urgency of green development. Therefore, many investors have the demand for sustainable investment in general and ESG investment in particular. This presents an opportunity for businesses and governments to attract investment through ESG practices. To contribute to a better explanation of ESG investment, this study aims to synthesize and analyze the concepts related concepts, current situation and proposed solutions should be conducted during the development process of ESG investment, especially applied to Vietnamese economy.

KEYWORDS: ESG investment, Vietnamese economy, sustainable development, green investment, Net zero, investment decision.

I. INTRODUCTION

Currently, we are living in the era of global warming, with annual occurrences of a series of climate-related disasters. This raises the alarm about the necessity of sustainable development goals. Following the Covid-19 pandemic, the practice of sustainable development, especially ESG practices, has become a mandatory objective for all businesses worldwide under the pressure of society, governments, and especially investors. When asked about the importance of ESG in their investment approach in 2022, over a quarter of global investors stated that ESG is a "focus" in their investment approach (26%, compared to 28% in 2021). However, a higher proportion expressed their views on ESG investment as "acceptance" (34% compared to 32%) and "compliance" (29% compared to 24%). Besides, ESG is increasingly solidifying its position in the investment community, with research indicating that only 13% of global investors agree that ESG is a short-term and temporary trend (Ground, 2022). This suggests that the majority of investors view ESG as an essential trend in the context of long-term investments.

The ESG principle is a framework including environmental (E), social (S), and governance (G) factors, and was first proposed in 2004. Henceforth numerous milestones of progress in each factor and ESG as a whole were attained, such as the establishment of the ESG valuation system, the ESG disclosure standards and the ESG index system. Moreover, ESG stems from responsible investment. The principles for responsible investment (PRI) define responsible investment as "a strategy and practice to incorporate environmental, social and governance (ESG) factors in investment decisions and active ownership" (UNPRI, 2022). Therefore, ESG is usually a standard and strategy used by investors to evaluate corporate behavior and future financial performance (Ting-Ting Li, Kai Wang, Toshiyuki Sueyoshi, Derek D. Wang, 2021). Hence, ESG is an investment philosophy that pursues long-term value growth, and it is a comprehensive, concrete, and down-to-earth governance method (Ting-Ting Li, Kai Wang, Toshiyuki Sueyoshi, Derek D. Wang, 2021).

According to Virlics (2013), investment decisions in economic theory are made based on 2 criterias: the expected rate of profit and the riskiness of various potential investment opportunities, and the finance cost; "if the expected rate of profit exceeds the cost of finance by the margin required to cover the risk element, the businessman would wish to undertake the project." (Harcourt, 1967). Investments, aimed at profit, can be in physical assets like buildings or machinery, or financial assets like stocks or bonds, both aiding business growth. They can replace existing assets or add new ones. The decision to invest hinges on expected profit, asset cost, and financing availability and method (Harcourt, 1967). However, as the investment decisions are under the economical and financial environment (Virlics, 2013), in order to achieve highest performance in investing, environmental and social environmental effects could be neglected.

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Thus, ESG investing refers to companies' investment actions that consider the environment (Environment), society (Social), and corporate governance (Governance) together. "Environment" refers to activities such as reducing carbon dioxide emissions and energy consumption. "Social" refers to activities such as human rights issues and promoting women's activities. "Corporate Governance" refers to activities such as compliance and management transparency (Shigeyuki Hamori, Xiao-Guang Yue, Lu Yang, James C. Crabbe, 2022).

II. CURRENT SITUATION OF ESG INVESTMENT IN VIETNAM

Great potential ESG investment market in the region

In general, Vietnam is considered as a potential market with the market size and growth recently. With the significant difficulty in the business environment in 2023, the scale of listed and registered transactions in the market as of the end of November 2023 reached 2,092 trillion Vietnamese dong, representing a 5.5% increase compared to the same period in 2022. In addition, the market also continues to attract active participation from investors with the upward trend to more than 7.25 million securities accounts, equivalent to 7.3% of the population.

Regarding the ESG market, this is still a new potential market in Vietnam. Vietnam is a developing country, focused on industrialization and modernization, which leads to less sufficient attention to sustainable development. It does not mean that ESG is not widely known here; however, investors, enterprises and the government are in the research and experiment process, preparing for the future market in 3-5 years. As a result, there will be a lot of problems that are necessary to solve to make this potential market become a big one.

The high ESG trend in Vietnamese enterprises

Recently, Vietnam's enterprises are gradually aware of the importance of ESG. 80% businesses have made ESG commitments or plan to do so in the next 2-4 years. To be more specific, 57% FIEs had their ESG plan while most listed companies were in the planning phase. Of the remaining 20% of businesses that have not committed to ESG because of the lack of knowledge (PwC, 2022). But in 2023, the ESG trend is increasingly strongly responded to by Vietnamese businesses. To be more specific, 94% of businesses participating in the survey are clearly aware of the importance of sustainable development and 51% have officially practiced ESG (UOB group, 2023) For example, Vietnam Dairy Products Joint Stock Company (Vinamilk) announced action programs to achieve net zero emissions by 2050, providing specific roadmaps to reduce emissions; Vietnam Joint Stock Commercial Bank for Investment and Development (BIDV) recognizes and sets the goal of "striving for sustainable development" as a pervasive objective in the bank's operations, making green credit and green financing a priority in the development strategy. In addition, young people nowadays is increasingly interested in environmental issues and sustainable growth. On the one hand, this means there is an upward trend in using green products that lead to the increasing demand and potential market in the near future. On the other hand, with the early green knowledge, the next businesses leaders generation may lengthen the ESG trend in Vietnam market. Specifically, up to 68% of the next generation in Vietnam believe that they have a responsibility to fight climate change and 45% see an opportunity for private businesses to take the lead in climate change. Moreover, 77% of them showed their desire to participate in sustainable corporate in the future (PwC, 2022).

The effort of the government

Recently, the government has gradually improved ESG practices in Vietnam. Firstly, more and more ESG performance measurement tools appeared in the market such as ESG ranking list of Vietnam Chamber of Commerce and Industry, VNSI score of Ho Chi Minh City Stock Exchange that evaluate ESG performance based on Global Reporting Initiative in order to supply more information and measurement for investors to reference. Next, government also train and enhance ESG capabilities ESG practices by organizing a large number of seminars in all sectors like the scientific workshop on "Implementing ESG in the Banking Industry: Opportunities, Challenges, and Solutions" organized by the State Bank of Vietnam or the seminar "ESG - Inevitable Shift in the Global Supply Chain" organized by the Ho Chi Minh City Investment and Trade Promotion Center (ITPC) in collaboration with the Ho Chi Minh City Mechanical and Electrical Enterprise Association (HAMEE).

The government also created favorable conditions to encourage projects related to ESG and ESG investment. Specifically, in 2012, the national policy on green growth was a crucial directive of the Party and the State aimed at greening the economy. The focal point was the National Green Growth Strategy for the period 2011-2020, with a vision towards 2050, to promote sustainable development, particularly in the context of declining biodiversity and deteriorating environmental conditions. The strategy also underscored the role of financial policies in mobilizing, allocating, and incentivizing organizations, individuals, investors, and businesses to invest in green initiatives, engage in green production, and adopt green consumption practices. In 2023, according to the Ministry of Finance, the budget policy has given priority to green growth, and the state budget for environmental protection has become increasingly specific and transparent; additionally, public investment in green growth also has been integrated into

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investment priorities for industries, sectors, regions, and targeted programs. As a result, the government could encourage the ESG practices of local enterprises, limit their environmental destructive actions and repair a long-term strategy for sustainable development.

In addition, although Vietnam is lagging behind developed countries in green transition efforts, after the conference COP 26 in Glasgow, the government has outlined a comprehensive roadmap to realize climate goals. This includes establishing a National Steering Committee to implement Vietnam's commitments at COP26, issuing new management regulations related to auditing, greenhouse gas reduction, environmental protection, biodiversity preservation, and climate change adaptation; specially, there is a direction towards developing the domestic carbon market with an official plan and target for it to operate by 2028.

Challenges in developing ESG investment in Vietnam

At present, the integration of ESG assessment into the investment process in Vietnam is still quite limited, despite the increasing awareness of ESG among businesses and investors and the effort of the government. There are some main challenges in developing ESG investment that need to be addressed.

- Firstly, the majority of companies in the market have not yet fully recognized the importance of implementing good ESG practices in their business operations, resulting in inadequate allocation of resources to ESG. At present, only large enterprises show a proper level of interest and investment in ESG, as evidenced by their sustainable development reports. For small and medium-sized enterprises, activities related to ESG are still not given enough attention or are not publicly disclosed. This poses challenges for investors who have a demand for green investments but lack sufficient information.
- Secondly, the current legal framework for this field is still incomplete, leading to a lack of confidence for businesses to issue ESG bonds, and investors do not feel secure in their investments.
- Thirdly, environmental, social, and governance factors are not receiving equal attention from businesses. Vietnamese companies prioritize the governance factor more, while for long-term sustainable development and attracting green capital, prioritizing all three factors is necessary.
- Fourthly, as a relatively new market, the information disclosed about ESG still lacks validation from international credit rating organizations. Consequently, there is a lack of genuine 'green' stories with the potential for sustainable greenwashing, causing hesitation among green investors in the decision-making process.
- Finally, businesses lack long-term strategies for ESG and sustainable development. The majority of publicly listed companies have short and medium-term ESG goals (84% and 70%, respectively), but less than half (48%) have long-term goals (i.e., over 5 years), and only 8% disclose Net Zero targets (PwC, 2022) while green investments require a longer payback period and return on investment.

III. SOLUTIONS

Through analyzing the economical situation in Vietnam, it can be concluded that ESG investment plays an important role in developing a sustainable economy in Vietnam. In order to develop this kind of investment effectively, in the near future, the central tasks and solutions need to be carried out as follows:

On the government's side, there is a need to expedite the process of refining the legal framework, creating favorable conditions for green funds to flow into Vietnam and instilling a sense of security for investors. Additionally, the government should pay more attention to the implementation of sustainable development in general and ESG practices specifically in small and medium-sized enterprises, developing policies that facilitate these businesses. Furthermore, the government should establish standards and criteria for information related to green and ESG to minimize information dilution or greenwashing.

Regarding enterprises, for businesses that have begun practicing ESG, the focus should be on developing a balanced approach to all three factors: environmental, social, and governance. These businesses should also take a leadership role, assisting and guiding other enterprises in the market to enhance their ESG performance. For small and medium-sized enterprises, it is crucial to first recognize their significant role in the Vietnamese economy and then actively implement ESG practices to attract green capital. Moreover, all businesses need to be transparent in their disclosures related to sustainable development, avoiding exploiting legal loopholes that can negatively impact the entire market and affect investor confidence.

IV. CONCLUSION

In summary, amidst the global challenge of severe climate change, the role of the green economy in general and ESG in particular is crucial in reducing emissions and pollution, giving rise to a trend of green and sustainable investments worldwide. Although ESG has only recently emerged in Vietnam and faces numerous challenges, the government and businesses have made efforts to refine policies to attract green investments. As a result, the ESG investment market in Vietnam has become dynamic with significant

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potential. Despite issues such as legal incompleteness, uneven prioritization among environmental, social, and governance factors, and a lack of transparency in information, the ESG market in Vietnam remains promising for the future as these challenges are addressed.

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Environmental Law Enforcement in Philosophy of Law



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ABSTRACT: The environment is God's gift which should be protected and preserved. In Indonesia, arrangements regarding environmental management are regulated by various laws and regulations. However, ongoing destruction and even environmental pollution still exist. Therefore, this study aims to examine how environmental law is enforced in Indonesia and review environmental laws from the philosophy of law perspective. This study uses the philosophy of law research method in a paradigmatic study emphasizing the qualitative tradition. In its enforcement, environmental disputes can be resolved through criminal, civil, and administrative ways. In the study of Paradigm Critical Theory et al., environmental law must continue to be actively pursued by dismantling existing laws that consistently represent the authorities' interests. For the critical paradigm, law enforcement always seeks to achieve justice for the poor, weak, or minority groups for the oppression and legal imbalances that occur.

KEYWORDS: Law enforcement, environmental justice, philosophy of law, paradigm

1. INTRODUCTION

The environment is a God's gift that should be preserved and developed by humans so that they can support the lives of humans and other living things to improve the quality of life [1]. According to Djanius Djamin, the environment is defined as the condition of nature and all its contents that influence one another [2]. In Indonesia, the scope of the environment itself includes the space where the Indonesian state exercises its sovereign rights, sovereignty, and jurisdiction. Thus, the Government is obliged to carry out environmental management by issuing policies consisting of structuring, utilization, maintenance, restoration, supervision, and control of the environment. In this case, the government has complete control over activities related to environmental management by making rules that focus on environmental management in a renewable and sustainable manner [3]. Discourse on environmental management and law enforcement with environmental justice is a global issue with an international dimension. This issue is related to the common interest of humanity in enjoying a healthy and clean environment.

In making rules regarding environmental management, we must obey the law because rules and law are closely related. Ontologically, the law is generally interpreted as a rule in shared life or whole as a rule regarding behaviour that applies in a shared life. In its implementation, it can be imposed with a sanction [4]. According to ethical theory, the law's true purpose is simply justice. Therefore, the substance of the law is determined by our beliefs about what is fair and what is not. Thus, according to this theory, the law aims to realize justice. The nature of justice is an assessment of a treatment or action by studying it using a norm in a subjective view. In this case, two parties are involved: the party who treats and receives treatment [4].

In an environment, we recognize the concept of environmental justice, which can be defined as the suitability of rights between human needs and the surrounding environment. In order to achieve this conformity, a product of statutory regulations is made. In enforcing environmental law, the main instrument is its legality in the form of statutory regulations [5]. Based on the taxonomy of justice, environmental justice itself can be classified into four categories, namely: a. environmental justice as distributive justice; b. environmental justice as corrective justice; c. environmental justice as procedural justice; and d. environmental justice as social justice.

In Article 1 Point 2 of Law Number 32 of 2009 on Environmental Protection and Management, it is stated that "Environmental protection and management are systematic and integrated efforts made to preserve environmental functions and prevent environmental pollution and damage that includes planning, utilization, control, maintenance, supervision, and law enforcement." With environmental management, the government must develop various regulations, work programs, and activities supported by an environmental management support system that includes institutional stability, human resources, and environmental partnerships. The interdependence and holistic nature of the essence of the environment have resulted in the consequence that environmental management, including its support system, cannot stand alone but is integrated with all development activities in various sectors, both at the central and regional levels [5]. Therefore, in order to regulate more specifically related to environmental management, there are several regulations derived from the *a quo* law, such as Government Regulation Number 27 of 2012 on Environmental Permits, Government Regulation Number 101 of 2014 on Hazardous Waste Management, and Regulation of the Minister of Environment No. 13 of 2013 on Environmental Audit.

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Even though arrangements regarding environmental management have been made in such a way, Indonesia is currently experiencing severe problems regarding environmental pollution and destruction, which are increasing daily. Environmental issues are a big responsibility because this will affect the quality of life in the future. The exploitation of natural resources and the environment has worsened the quality of the environment, incredibly natural resources. In terms of environmental damage, forest fires are one of the phenomena that often occur in Indonesia and continue to increase. Based on data from the Indonesian Forum for the Environment (WALHI), forest fires in Indonesia have increased almost yearly. In 2015, around 2.6 million hectares of forest were burned, the most severe of which occurred in Central Kalimantan, Papua, South Sumatra and Riau. Then, in 2016 there were 438.3 thousand hectares of forest burned. This figure shows a decrease in the level of forest fires.

Furthermore, in 2017 there was another decline where there were around 165 thousand hectares of cases of forest fires. However, this lasted only a short time because, in 2018, there was an increase in forest fires, around 510 thousand hectares. Meanwhile, in 2019, the Ministry of Environment and Forestry (KLHK) of the Republic of Indonesia recorded around 135 thousand hectares of cases of forest fires in Indonesia still occurring and dominated by Sumatra, Kalimantan, and Papua [6].

Several related previous research articles, including the writings of Elly Kristiani Purwendah in the Journal of Legal Communication, entitled "*The Concept of Ecological Justice and Social Justice in the Indonesian Legal System Between Idealism and Reality.*" In addition, Rahmat Rahmat also added in an article entitled "*Legal Harmonization of a Just, Democratic and Sustainable Environment.*" [7]. Meanwhile, this paper has a novelty compared to the two titles of the article. This paper discusses the study in philosophy of law regarding environmental justice law. The author will examine how environmental justice laws through philosophy of law's perspectives, something that has never been written about before.

Based on the described above, two formulations of the problem can be drawn: first, what is the portrait of law enforcement in environmental cases in Indonesia today?; second, how is the law of environmental justice in philosophy of law?

2. RESEARCH METHODS

This is philosophy of law research in a paradigmatic study emphasizing the qualitative tradition. The research specifications used in this study are analytical descriptive. Based on the understanding of Guba and Lincoln's paradigm, the author uses the critical theory et al. as an analytical tool in this paper. Methodologically, this paradigm uses dialogic/dialectical means to understand reality interactively, dialogues the subjectivity of researchers or writers on the reality under study, intending to transform ignorance and misunderstanding into awareness that historical structures can be changed and therefore real action is needed, one of which is through this critical review [8]. Furthermore, this study uses secondary data collected through a literature search or literature study. Research data were obtained from scientific journal articles, books, and previous research results.

3. RESULTS AND DISCUSSION

3.1. Portrait of Law Enforcement in Environmental Cases in Indonesia

Environmental law is a branch of law that has its characteristics, which Drupsteen calls the field of functional law. That is a field of law with elements of criminal, civil, and administrative law. Therefore, environmental law enforcement can be interpreted as applying instruments and sanctions in administrative, civil, and criminal law to force people to comply with environmental regulations. The government, community, or civil legal entities use administrative law instruments and sanctions. Suppose a government official issues a State Administrative Decision which is formally or materially contrary to laws and regulations related to the environment. In that case, the public can file a State Administrative Lawsuit. For the use of criminal sanctions, only government agencies are authorized to do so. Meanwhile, civil law instruments in the form of lawsuits can be carried out by the public, civil legal entities, and the government [9].

Based on the description, as explained earlier, in Indonesia, environmental cases can be enforced in 3 ways: by using criminal sanctions, civil lawsuits, or administrative efforts. In enforcing environmental law through Administrative Law, enforcement aims to stop environmental pollution directly at the source under the supervision and the application of administrative sanctions. Periodic supervision is carried out on activities with environmental permits to monitor compliance with licensing requirements by agencies authorized to issue environmental permits. The general legal basis for supervision to enforce administrative environmental law in pollution control in Indonesia is Articles 71-75 of the Environmental Protection and Management (PPLH) Law. Article 74 (1) of the PPLH Law emphasizes that supervisors have several tasks: monitoring, requesting information, making copies of documents or making necessary notes, entering certain places, taking pictures, making audio-visual recordings, taking samples, checking equipment, inspecting installations or means of transportation, and stopping certain violations. However, in reality, the monitoring facilities in environmental pollution control have yet to be comprehensively regulated, so administrative environmental law enforcement through preventive juridical means has not run optimally for controlling environmental pollution. Furthermore, as a consequence of supervision, administrative sanctions will arise consisting of the following [10]: a. government coercion or coercive action ("*bestuursdwang*" or "executive coercion"); b. forced money ("*publiekrechtelijke dwangsom*" or "coercive sum"); c. closure of place of business ("*sluiting van een inrichting*"); d. cessation of the company's machinery activities ("*buitengebruikstelling van een toestel*"); e. revocation of permits ("*intrekking van een vergunning*") through the process of: reprimand, government coercion, closure and forced money.

One concrete example of applying this administrative sanction is in the case of Mitra Plastik Sejahtera (MPS) Pollution Business Plastic Factory (UD) against the Avur Budug River where UD MPS. The Head of the Jombang Regency Environmental Service gave them environmental administrative sanctions in January 2019 because the factory did not have a Liquid Waste Disposal Permit (IPLC). The environmental administrative sanction was in the form of an operational ban for a certain period,

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construction of several Wastewater Treatment Installations (IPAL), and the obligation to obtain a Liquid Waste Disposal Permit (IPLC). The imposition of administrative sanctions is included in environmental administrative sanctions by coercion from the government, as stipulated in Article 80 Paragraph (1) of Law No. 32 of 2009 [11].

In enforcing environmental law, apart from administrative sanctions, there are also criminal sanctions contained in Articles 97-120 of Law Number 32 of 2009 on Environmental Management. One example of the application of criminal law in environmental law cases can be seen in the case of PT. Cipta Rasa Utama. In this case, PT. Cipta Rasa Utama places B3 waste as Bottom ash and fly ash in an open area behind the factory site near the boiler without permission (hoarding, utilization from the authorities/governors, district heads, etc.). In this case, the judge stated that PT. Cipta Rasa Utama, represented by Hermawan Sunyoto as the Director, had been legally proven and convinced guilty of committing a criminal act of dumping waste or materials to environmental media without permission. Therefore, the judge imposed a sentence against PT. Cipta Rasa Utama with a fine of Rp. 750,000,000 (seven hundred and fifty million rupiahs) provided that within 1 (one) month, they did not pay the fine. Their property/assets would be confiscated for auction following the provisions of the law. In addition, the judge also imposed additional penalties in the form of cleaning up solid waste (fly ash and bottom ash) with a total volume of 19.105 m³ (nine fifteen point one hundred and five cubic meters) and removing the waste from PT. Cipta Rasa Utama is to be submitted to a third party with permits at their expense [12].

For more details, the following table presents the judge's decisions related to environmental cases that have occurred in Indonesia:

Table 1. Enforcement of Environmental Law in Indonesia in Judge Decisions

Judge Decisions	Verdicts
North Jakarta District Court Decision: Number 735/Pdt.G-LH/2018/PN Jkt.User	<ul style="list-style-type: none"> • In this case, the party that becomes the Defendant is PT. How Are You Indonesia while the Plaintiff is the Ministry of Environment and Forestry of the Republic of Indonesia, represented by Dr Ir. Siti Nurbaya, M.Sc. • In this case, PT. How Are You Indonesia has committed an unlawful act because its business activities produce hazardous and toxic waste materials, including Sludge from WWTP which contains heavy metals consisting of Arsenic, Cadmium, Chromium, Copper, Lead, and Zinc. • For companies that produce waste, the government prohibits waste disposal into environmental media through Article 69 paragraph (1) letters a and e of the Law on Environmental Management. • In the verification I of the KLH Verification team, it was found that some of the wastewater from the production process was not treated through the WWTP and was directly discharged into the Cihujung River through underground pipes. • While in verification II, the KLH Verification team found that the WWTP area had several repair activities. In addition, two inlet streams in the equalization tub are trapezoidal without a stirrer. In the equalization tub found, a relatively long flexible hose. Furthermore, the verification team also found seepage of black waste water from chemical processes going into the river and a bypass directly leading to the river with a fairly heavy flow. • Based on the results of lab tests, it is proven that the waste generated from the defendant's business activities in the textile industry, which is disposed of directly into the environmental media, has caused pollution to the Cihujung River. • In his decision, the judge partially granted the plaintiff's claim. In addition, the judge also stated that the defendant committed water pollution with absolute responsibility. Furthermore, the judge also ordered the defendant to pay compensation of Rp. 12.013.501.184,-. The judge also ordered the defendant to pay a fine of Rp. 10,000,000.- per day of delay in implementing the decision calculated from the time the decision has permanent legal force.
Decision Number: 252/Pid.B/LH/2019/PN. Sbr.	<ul style="list-style-type: none"> • In this case, PT. Cipta Rasa Utama produces B3 waste in the form of bottom ash and fly ash, which is required to manage the B3 waste it produces. However, the company does not manage the B3 waste it produces. • The Company's actions constitute a criminal offence as stipulated and punishable under Article 102 in conjunction with Article 116 paragraph (1),

Decision Number B/LH/2020/PN Bks	238/Pid.	<p>the letter of law Number 32 of 2009 on Environmental Protection and Management.</p> <ul style="list-style-type: none">• In his ruling, the judge stated that PT. Cipta Rasa Utama has been legally and convincingly proven guilty of dumping waste and materials into environmental media without permission. Therefore the judge sentenced the company to a fine of Rp. 750,000,000, - provided that within one month PT. Cipta Rasa does not pay a fine, so the property/assets belong to PT. Cipta Rasa Utama was confiscated for auction under statutory provisions. In addition, the judge also imposed additional penalties in the form of cleaning up solid waste in the form of fly ash and bottom ash with a total volume of 19,105m³ and removing the waste from PT. Cipta Rasa Utama will be handed over to a licensed third party at their expense.• In this case, Muhammad Firdaus managed B3 waste without a permit, as referred to in Article 59 paragraph (4) of Law Number 32 of 2009 on Environmental Protection and Management.• The actions committed by Firdaus constitute criminal acts as stipulated in the provisions of Article 102 jo: article 59, paragraph (4) of Law Number 32 of 2009 concerning Environmental Protection and Management.• In his ruling, the judge decided that Muhammad Firdaus had been legally and convincingly proven guilty of committing a crime in waste management without the permission of the Minister, Governor or Regent per his authority. Therefore, the judge sentenced him to 1 year in prison with the provision that the sentence would not be carried out unless, at a later date, there was another order in the Judge's decision because Muhammad Firdaus committed a crime that can be punished before the probationary period for one year ends and a fine is imposed. Rp. 1,000,000,000, - provided that if the fine is not paid, it will be replaced with a 14-day prison sentence.
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The three judges' decisions on environmental pollution cases tend to be *la bouche de la loi* or mouthpieces of laws in applying the law. In deciding these cases, judges tend to use the deductive method, the process of reasoning from general statements to specific statements, producing a conclusion. Thus, judges decide an environmental case using a positivism paradigm which assumes that law is a law and is considered perfect. If we examine it in depth, the law is always behind in following human development, so it cannot be said to be perfect and does not necessarily create justice for humans. If we relate this to the judge's decisions above, the judge has written a sentence following the law. However, the problem is, what about the immaterial losses caused by the environmental damage?

Based on the results of previous research by Elly Kristiani Purwendah in her writing entitled "*The Concept of Ecological Justice and Social Justice in the Indonesian Legal System Between Idealism and Reality*", current environmental justice is social justice [13]. Meanwhile, Rahmat Rahmat, in an article entitled "*Harmonization of Laws in the Field of Environment that is Equitable, Democratic and Sustainable*", argued that in order to form a just, democratic and sustainable environmental law, environmental sovereignty for appropriate human-nature balance with a legal pluralism approach to realizing environmental justice, can be a reference for establishing norms in laws governing the management of natural resources and the environment. For this reason, all parties' participation is required to create a just law. Law enforcement that only relies on written law has the potential to distort justice because it is made in a top-down manner and does not involve the participation of all parties involved.

3.2. Law with Environmental Justice in Philosophy of Law

In a broad sense, a paradigm is defined as the main, primary, or umbrella philosophical system built from ontology, epistemology, and methodology consisting of fundamental beliefs that cannot be exchanged. In this case, a paradigm can show a particular set of fundamental beliefs related to the main principles that cause adherents to be bound to a particular worldview, along with ways of understanding and studying the world that will always guide the thoughts, attitudes, words, and actions of its adherents. One of the opinions and classifications of paradigms that are systematic, dense, and rational is conveyed by Guba and Lincoln, where they differentiate paradigms based on three fundamental questions, which include [13]: a. the form and nature of reality are then known as ontological questions; b. the relationship between individuals or community groups and the environment is from now on referred to as epistemological questions; and c. how individuals or community groups get answers to what they want to know is known as methodological.

In understanding a systematic, solid, and rational paradigm, Guba and Lincoln offer five main paradigms: Positivism, Post-Positivism, Participatory, Critical Theory et al., and Constructivism. The classification of the five paradigms is obtained through responses to 3 basic questions consisting of ontological, epistemological, and methodological. Following are the five main paradigms as a fundamental belief system according to Guba and Lincoln [13]:

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Table 2. 5 Main Paradigms as Basic Belief in Philosophy of Law

Questions	Positivism	Postpositivism	Participatory	Critical Theory et al.	Constructivism
Ontology	<u>Naive Realism;</u> The external reality is objective, honest and understandable.	<u>Critical Realism;</u> Imperfectly understood external, objective and actual reality.	<u>Participatory Reality;</u> Subjective – objective reality co-created by the mind and the cosmos.	<u>Histroist Realism:</u> Virtual realism is formed from social, political, cultural, economic, ethnic and gender factors.	<u>Relativism:</u> Multiple and varied realities, based on social experience.
Epistemology	<u>Dualist/ Objectivist:</u> The researcher and the object of investigation are two value-free independent entities.	<u>Dualis Modification/ Objectivist:</u> Dualism recedes, and objectivity becomes the determining criterion.	<u>Critical Subjectivity:</u> Participatory transaction with the cosmos; an extended experiential, propositional, and practical epistemology of knowledge; findings are co-created.	<u>Transactional/ Subjectivists:</u> Researchers and investigative objects are linked interactively.	<u>Transactional/S objectivity:</u> Researchers and investigative objects are related interactively.
Methodology	<u>Experimental/ Manipulative:</u> Empirical test and verification of research questions and hypotheses.	<u>Experimental Modification:</u> Falsification utilizing critical multipliism or modification of triangulation.	<u>Political Participation:</u> Collaborative action inquiry; practical preferences; use of grounded language in a shared experiential context.	<u>Dialogic/ Dialectical:</u> There is a dialogue between the researcher and the object of investigation.	<u>Hermeneutical/ Dialectical:</u> Construction is traced through the interaction between the researcher and the object of investigation.

The law in the Critical Theory et al. paradigm is interpreted as 'virtual realities' where the law is understood as virtual/historical reality. Thus, adherents of this paradigm believe in the law virtually because, according to them, the law is an awareness that is not true/false realized. Hence, the law is a series of structures as a virtual/historical reality that is a crystallization of political, cultural, economic, social, cultural, ethnic, gender, and religious values that have been going on for a long time. Adherents of this paradigm also believe that law is an instrument of hegemony that tends to be dominant, discriminatory and exploitative. Therefore, the law should be open to criticism, revision, and transformation to achieve emancipation. Thus, it can be said that the ontology of this school is historical realism [13]. Furthermore, the epistemology of this paradigm is transactional-subjectivist, in which humans, groups, and institutions are bound to each other interactively. Therefore, in making, forming or developing, even law enforcement begins with mediation between the values held by all interested parties. According to this paradigm, law is created, formed, built, and enforced through a dialectical methodology. In this case, a 'dialogue' occurs between lawmakers, law enforcers, and the wider community. It should be noted here that this dialogue is dialectical, namely turning ignorance and misunderstanding into awareness to break inequality or oppression [13].

Thus, according to this paradigm, environmental justice laws must always be sought and fought for because the existing laws display the opposite. This is because adherents of this paradigm believe that applicable law is an instrument of hegemony that tends to be dominant, discriminatory, and exploitative. This happens because behind it is a historical structure in the form of political, cultural, economic, social, cultural, ethnic, gender, and religious aspects that have lasted long and crystallized. According to this paradigm, environmental justice law can be achieved when the relationship between law and society is united because the epistemology of this paradigm itself is subjectivist transactional in which humans, groups, and institutions are bound to one another interactively. Therefore, this paradigm interprets environmental justice law as a law that is integrated with its subject. Epistemologically, in terms of environmental law products in Indonesia, the relationship between humans and law is distant because Indonesia is a country with a Civil Law System country that is very thick with a positivist paradigm. In the positivist paradigm, the epistemology is objectivist-dual, in which the relationship between the subject and the law is dissimilar since the paradigm sees law as independent, meaning it is not interrelated/dependent on one another. In addition, in this paradigm, a new law can be just when it is built together through a dialectical process. Hence, a law for the environment should be built together

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through dialogue. Initially, forming a legal product will begin with mediation between the values held by all interested parties. This has been adopted in Chapter XI of Law Number 11 of 2011 on the Formation of Legislation. However, in reality, this public participation is often neglected.

One of Paradigm Critical Theory et al. is Critical Legal Studies. This originated from a movement in the 1970s in the United States. This movement continues the legal school of American realism, which wants a different approach to understanding the law, not just the Socratic understanding [14][15][16][17]. CLS rejects the notion that law is separate from political, economic, social, and cultural elements as conceptualized by Hans Kelsen with his theory of the pure theory of law (pure legal theory) which longs for a law to be free from non-legal elements such as politics, economics, social, and others. On the other hand, CLS considers that outside interests always intervene in law and are never neutral and objective. This means that law cannot be separated from politics because it is not formed in a value-free vacuum. CLS's thinking lies in the fact that law is politics, so they reject and attack the positivist beliefs in legal science. CLS criticizes the applicable law because it has been biased towards politics and has never been neutral. The legal doctrine that has been formed so far is more in favour of those who have power, so it is concluded that the law is flawed from birth because it is formed through political "battles" that tend to take sides and are subjective for the interests of certain groups. Thus, this school views social justice in law as an ideal that still has to be strived for because political, economic, and other factors always influence laws related to the environment. As shown the documentary, the film "Sexy Killer" portrays the coal industry in Kalimantan; the policies and laws that apply cannot be separated from the authorities' interests related to political and economic factors. Small communities become victims. They have to face various environmental impacts related to health and various other adverse effects from the coal mining that is carried out. The interests of the owners of capital are paramount.

In Critical Legal Studies' view, laws that are lame, unfair, oppressive, and exploitative like this must be opposed. The struggle towards emancipation, equality, and justice must be continuously pursued, including through demonstrations that environmental activists must carry out. They must also continue to inflame that fighting spirit in other communities to invite anyone out of misunderstanding and ignorance that the law has always been on the side of the authorities and entrepreneurs. Communities must be aware, willing to move together and fight to realize environmentally just laws. That is the character in the fundamental belief of a person with a paradigm of Critical Theory et al.

4. CONCLUSION

Based on the previous discussion, the following conclusions can be drawn: In enforcing environmental law in Indonesia, three efforts can be taken: administrative, criminal, and civil efforts. Based on a review of judges' decisions on cases concerning the environment, thus far, environmental law enforcement has not been able to achieve justice for all parties because judges only based their judgment in passing decisions on environmental cases on written law.

In the critical theory et al. paradigm study, laws just for the environment must be continuously strived for and fought for because the applicable law displays the opposite. According to this paradigm, the law itself is a tool of hegemony that was formed due to the existence of a historical structure in the form of political, economic, social, cultural, religious, racial, and gender aspects, which have lasted a long time and were formed just like that. In terms of law enforcement related to the environment, the law is related to the historical structure in the form of political and economic aspects, which makes it impossible for the law to be fair because it is bound to side with particular political and economic interests. In order to realize a law that is environmentally just, there must be real action to dismantle this historic structure. It can be done through resistance to the regime, power, and owners of capital. Those oppressing the people and vulnerable groups have only been oriented towards gaining unilateral benefits. Therefore, environmental law enforcement should prioritize emancipation and listen to the voices of the common people as the party that should be defended.

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Analysis of Food Provider Performance with Work Motivation as a Mediating Variable



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ABSTRACT: The objective of this study is to examine the impact of work ability, budget participation, and spirit at work on performance, as well as to determine the mediating role of work motivation in the relationship between work ability, budget participation, spirit at work, and performance. The research was conducted with a sample of 99 food providers in the Semampir and Kenjeran districts of Surabaya City, where the owners also participated as respondents and managers. Primary data was collected through the distribution of questionnaires to the participants, and data analysis was carried out using the Partial Least Square (PLS) method. The results of the study reveal that 1) an improvement in work ability significantly enhances performance, 2) budget participation does not have a significant impact on performance, 3) high spirit at work can lead to a significant improvement in performance, 4) work motivation does not mediate the relationship between work ability and performance, 5) on the other hand, work motivation acts as a mediator between budget participation and performance. The more involvement in budget determination, the higher the work motivation. 6) Work motivation does not mediate the relationship between spirit at work and performance, as spirit at work directly influences performance without the need for work motivation as an intermediary.

KEYWORDS: Work Ability, Budget Participation, Spirit at work, Work Motivation, Performance

I. INTRODUCTION

Performance plays a vital role in the success of organizations, as it directly impacts their ability to make a positive difference in society and the environment. It is essential to regularly and systematically measure performance to ensure that goals are being met efficiently and effectively. Performance is closely tied to the strategic objectives of the organization, customer satisfaction, and overall economic contribution. According to Armstrong and Baron in [1], performance is a reflection of the work done, while Mangkunegara et al. [2] define it as the qualitative and quantitative outcomes achieved by employees in fulfilling their assigned responsibilities. Ultimately, performance is influenced by both motivation and capability.

One of the key challenges faced by organizations is ensuring that their employees work efficiently. This requires employees to effectively carry out their tasks based on their skills. However, not all employees possess the necessary capabilities and job skills [3]. Efficiency in work is achieved when employees are competent, skilled, and motivated, leading to optimal work performance [4].

Work ability is a crucial aspect of competency that is developed through education, training, and experience. It is linked to an individual's physical and mental capacity to execute tasks required for a job, rather than just their desires [5]. As per Robbins & Judge [6], work ability refers to an individual's ability to handle various job responsibilities. It represents the inherent potential within an individual to successfully carry out tasks in a job role.

The ability to perform work is dependent on an individual's interest, knowledge, and experience in relation to the tasks assigned to them based on their position. This concept is elaborated by Wursanto [7], who suggests that an employee's level of capability while working is connected to their psychological aspects, including agility and problem-solving skills. Apart from Work Ability, another crucial factor that impacts performance is the motivation of each employee. The outcomes of performance are undoubtedly influenced by the high motivation levels of employees facilitated by a government leader.

Higher performance serves as a motivating factor in a job, with enthusiasm for work being a key element in enhancing satisfaction levels at work. Pohan [8] highlights that spirit at work and compensation are individual factors that impact employee

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performance. Spirit at work reflects how dedicated employees are in fulfilling their duties and obligations within the organization. It can be gauged through attendance, adherence to rules, meeting deadlines, and taking responsibility. The involvement of human resources in a company is vital for maintaining performance levels. This research seeks to explore the impact of work ability, involvement in budgeting, and spirit at work on the performance of service providers, as well as the role of motivation in mediating the influence of work ability, budget participation, and spirit at work on provider performance.

Employee participation in budgeting has a positive impact on work motivation. This is because when employees are involved, they feel valued as they contribute to decision-making for the future. Feeling valued and being involved in budgeting generates internal motivation within employees, leading them to perform their tasks more effectively. Consequently, with high motivation, it is expected that employee performance in task completion will improve. According to Laberto [9], there were significant and positive correlations between budget participation and work motivation. When employees are highly motivated, they are more likely to understand the budget and effectively handle challenges during its implementation. Budiman [10] also supports this notion, as it demonstrates a positive and significant relationship between motivation and managerial performance. In other words, the higher the motivation of a manager, the better their performance. Similar to Laberto's study, it also found a positive and significant relationship between motivation and performance, with motivation acting as a mediating variable between budget participation and managerial performance [9].

According to F. Fahmi et al. [11], individuals who are motivated to work hard utilize their full capabilities in order to achieve their desired outcomes. In reality, motivated employees are often complex and their work behavior can be difficult to comprehend. This is because motivation factors vary for each employee and involve both individual and organizational aspects. Individual factors include personal needs, clear goals, attitudes, and each employee's ability to work. On the other hand, organizational factors encompass monetary rewards, well-being, recognition for achievements, and the nature of the tasks performed. This aligns with Nurpitasari et al. [12], which asserts that Work Ability combined with work motivation has a positive and significant impact.

II. LITERATUR REVIEW

A. Performance

Performance is the outcome of work that directly impacts an organization's strategic objectives, customer satisfaction, and overall economic contribution [1]. Employee performance, as stated by [13], is the evaluation of an employee's work in terms of quality and dedication based on the organization's standards. Mangkunegara et al. [2] further defines performance as the qualitative and quantitative results attained by employees while fulfilling their assigned responsibilities. It is influenced by motivation and capability, as highlighted by Keith Davis, where ability and motivation play a crucial role in determining performance levels.

In essence, performance reflects the achievements of individuals or teams within a company in alignment with their designated roles towards reaching organizational goals. The successful attainment of these goals is a direct result of optimal individual or team performance. Conversely, falling short of set targets is a consequence of inadequate individual or team performance.

According to Simamora [14], there are various aspects used to measure performance. One aspect is work quantity, which refers to the visible achievements of employees during work. This includes the timeliness of completing tasks, precision in task execution, and skill in task execution. Another aspect is work quality, which is measured by the results of the work achieved by workers. Work quality can also be assessed by comparing output or work results with the company's established output standards.

Performance appraisal, or job performance evaluation, is a crucial process for companies to assess employee performance. It not only influences personnel decisions but also provides valuable feedback to employees regarding their job performance. Performance appraisal can be conducted individually or in groups or business divisions, with the ultimate goal of achieving company performance targets together. Individual performance assessments often have a direct impact on salary increases, bonuses, and promotions.

B. Work Ability

The ability to perform work is dependent on an individual's interest, knowledge, and experience in relation to the tasks assigned to them based on their position. This concept is elaborated by Wursanto [7], who suggests that an employee's level of ability while working is connected to their psychological aspects, including agility and problem-solving skills. Apart from work ability, another crucial factor that impacts performance is the motivation of each employee. The outcomes of performance are undoubtedly influenced by the high motivation levels of employees facilitated by a government leader.

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Ability means an individual's capacity to perform various tasks in a job. Ability is also a behavioral dimension of someone's expertise or excellence that involves skills and knowledge in solving a problem. Ability in an organization is essential, especially in responding to organizational demands, where there is rapid change, increasingly complex and dynamic problem development, and uncertainty about the future in the community's life order. Job satisfaction can be interpreted as a measure of the level of satisfaction of workers in performing a job [15]. Ability is the potential within an individual to do something, enabling them to either perform or not perform a job [6].

Work Ability has a positive and significant effect on employee performance, meaning that any small changes, whether increasing or decreasing Work Ability, will affect a larger increase or decrease in employee performance. The same research has been conducted by D. A. Kristiani, A. Pradhanawati, Wijayanto, and Andi [16] stating that Work Ability has an effect on employee performance. The opinion of Y. G. Rakata, A. Subyantoro, and A. Pujiharjanto [17] in his study concludes that work ability partially has a significant effect on performance. The positive influence of Work Ability on performance indicates that with increasing work ability, performance will increase. Research by S. Awaluddin and Yusuf [18] found that work ability influences employee performance. The lowest employee assessment or perception on the indicator is being able to work creatively independently.

C. Budget Participation

Budget participation is a fundamental aspect of organizational processes, wherein individuals play an active role and exert influence in decision-making that directly impacts them. According to Utama & Rohman [19], participation entails direct involvement and influence in setting budget targets, with the potential for performance evaluation and rewards based on the achievement of these targets. Consequently, budget participation involves the direct engagement of stakeholders in the policy-making process of budget preparation.

Kusuma [20] in his study states that budget participation has a positive influence on managerial performance. The results show evidence that active involvement in the budgeting process will have a direct impact on improving managerial performance. The same research by D. Ferdiani and A. Rohman [21] shows a positive and significant relationship between budget participation and organizational commitment. High employee participation in budgeting will increase the commitment of employees to the organization where they work. When employees are involved in budgeting, they will feel that their opinions are needed and considered by the organization. The higher the level of employee participation in budgeting, the performance produced by those employees will also experience a significant improvement. Budget participation significantly positively influences managerial performance. The higher the level of participation of structural officials in the Bondowoso Regency Government SKPD in the budgeting process, the better their managerial performance.

D. Spirit at Work

Spirit at work is an individual's desire and dedication to perform their work well and discipline to achieve maximum work achievements. This spirit stimulates individuals to create and be creative in their work [22]. The decline in spirit at work can be seen from low productivity, high absenteeism rates, high employee turnover rates, rising damage rates, widespread anxiety, frequent demands, and strikes. Pohan [8] defines spirit at work as one of the individual factors that influence performance, and remuneration is one of the organizational factors that influence employee performance.

The research results by A. A. N. Pratama, Wardani, and Aprina [23] conclude that spirit at work has a positive and significant effect on employee performance. Spirit at work has a positive and significant effect on employee performance. The more spirited an employee is at work, the higher the employee's performance can increase. Spirit at work and discipline toward performance show a very strong or positive relationship [24]. The research results by Syuhada & Amelia [25] support the results of previous research that spirit at work has a positive and significant effect on the performance of Angkasa Pura Avsec Division employees. The more spirited in carrying out work in their field, the higher the employee's performance can increase.

E. Work Motivation

Work motivation is a factor that drives someone to perform a specific activity; therefore, work motivation is often also interpreted as a driving factor for someone's behavior in the workplace. Every activity carried out by someone in the professional context certainly has a factor that drives that activity [26]. Work motivation is related to the level of effort made by someone in pursuit of a goal within the work environment [27]. Work motivation is the drive that causes a person to behave in a professional setting. This drive can be caused by factors within oneself (intrinsic work motivation) and factors from outside oneself (extrinsic work motivation). Factors within a person are values lived with all their souls. External factors driving work-related behavior, such as expectations for a career, salary, bonuses, and community recognition [28].

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Several studies have found that work motivation can act as a mediator between work ability and employee performance. Guterresa, L. Armanu & Rofiaty [29] in their study show that work motivation can act as a mediator between work ability and employee performance. In other words, the higher the work ability, the higher the work motivation, and the higher the employee's performance. Some studies show that budget participation can affect employee performance through work motivation mediation. Budget participation can have a positive effect on employee work motivation, and higher work motivation can improve employee performance. Y. K. Putra et al [30] in their study show that budget participation has a positive effect on work motivation, and work motivation has a positive effect on employee performance. Research conducted by Chariri and Fitrianto [31] also shows the same results, where budget participation has a positive effect on employee work motivation, which then affects employee performance. Therefore, work motivation can be an important mediating variable in explaining the relationship between budget participation and employee performance.

Research results explaining the relationship between spirit at work, work motivation, and performance have shown that spirit at work has a positive effect on work motivation, and higher work motivation can improve employee performance. This is supported by study in Pakistan [32], showing that spirit at work has a positive effect on work motivation, and work motivation has a positive effect on employee performance. Spirit at work is a condition where employees feel motivated and enthusiastic in carrying out their tasks and responsibilities at work. Spirit at work can affect work-related motivation because employees who feel motivated and enthusiastic tend to be more focused, energetic, and enthusiastic in their professional tasks. This can improve overall productivity and employee performance. Therefore, work motivation can be an important mediating variable in explaining the relationship between spirit at work and employee performance.

III. RESEARCH METHODS AND HYPOTHESES

This study adopts a quantitative approach to analyse the impact of work ability, budget participation, and spirit at work on performance. The research focuses on 99 food providers in the Semampir and Kenjeran Subdistricts of Surabaya City, with owners and managers serving as respondents. The exogenous variables include work ability, budget participation, and spirit at work, while work motivation is considered as a mediating variable. The endogenous variable under scrutiny is the provider's performance. Measurement of research variables utilizes the Likert scale: a. strongly disagrees (score 1); b. disagrees (score 2); c. neutral (score 3); d. agree (score 4), e. strongly agree (score 5).

Primary data, obtained directly from the research object through responses to statements in the questionnaire, serves as the data source. The data collection technique employed is the questionnaire, a list of statements used for data acquisition. The data analysis method involves the Partial Least Square (PLS) method, utilizing a covariance-based approach due to its flexibility in handling more complex models that test moderation and mediation relationships [33].

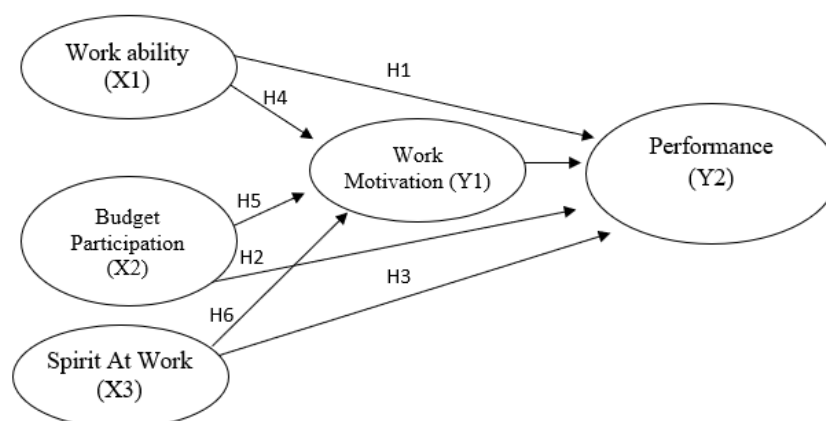


Figure 1. Conceptual Framework

Research Hypotheses

- H1: Work ability has a positive influence on the provider's performance.
- H2: Budget participation has a positive influence on the provider's performance.
- H3: Spirit at work has a positive influence on the provider's performance.
- H4: Work motivation can mediate the influence of work ability on the provider's performance.
- H5: Work motivation can mediate the influence of budget participation on the provider's performance.
- H6: Work motivation can mediate the influence of spirit at work on the provider's performance.

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IV. RESULTS AND DISCUSSION

TABLE 1. RESPONDENT IDENTITIES

	Variable	Frequency	Percentage
Gender	Male	72	72,7%
	Female	27	27,3%
Age	20 – 40 ages	21	21,2%
	41 – 60 ages	35	35,4%
	> 60 ages	43	43,4%
Education Level	Junior High School	19	19,2%
	Senior High School /Equivalent	72	72,2%
	College	8	8,6%

Source: Primary data processed, 2023

Table 1 depicts that respondents based on gender are 72 males, accounting for 72.7%. Concerning age groups, those above 60 years constitute the majority of respondents, with 43 individuals or 43.4%. The highest proportion of respondents in this study, based on educational level, holds a high school or equivalent degree, with 72 respondents or 72.2%.

The outer loading values for each statement are greater than 0.5 [34]. This implies that the indicators used in this study are valid and have met convergent validity. It also indicates that the research instrument used has measured according to what should be measured.

The results show that all research variables, namely Budget Participation, Spirit at Work, Work Ability, Work Motivation, and Performance, have met discriminant validity as the Average Variance Extracted (AVE) values are greater than 0.5, thus declared valid. The composite reliability values for the variables Budget Participation, Spirit at Work, Work Ability, Work Motivation, and Performance are greater than 0.70; hence, it can be concluded that all variables have good reliability.

TABLE 2. R-SQUARE VALUE

Variable	R-Square
Work motivation (Z)	0,433
Spirit at Work (Y)	0,401

Source: output warp-PLS (2023)

Table 2 shows that work ability, budget participation, and spirit at work can explain the variance in work motivation by 43.3%. The remaining 56.7% is explained by other variables not included in the model, as well as errors. Table 4 also indicates that work ability, budget participation, spirit at work, and work motivation can explain 40.1% of the variance in consumer performance. The remaining 59.9% is explained by other variables not included in the model, as well as errors. From the R-Square value, a Q-Square value of 0.66 is obtained, indicating a predictive relevance of the ability model at 66%, with the remaining 34% explained by variables outside the scope of this research model. A Q-Square value of 0.66 is categorized as a strong model, making this research model suitable for hypothesis testing.

TABLE 3. HYPOTHESIS TESTING

No	Relationship Between Variables	Path Coefficient	P-Value	Description
1	Work Ability -> Performance	0,244	0,009	Significant
2	Budget Participation -> Performance	0,091	0,442	Not Significant
3	Spirit at Work -> Performance	0,244	0,023	Significant
4	Work Ability -> Work Motivation -> Performance	0,063	0,121	Not Significant
5	Budget Participation -> Work Motivation -> Performance	0,108	0,022	Significant
6	Spirit at Work -> Work Motivation -> Performance	0,063	0,083	Not Significant

Source: output warp-PLS (2023)

Table 3 shows that variables significantly influencing performance are work ability and spirit at work, as they have p-values smaller than 0.05. On the other hand, budget participation does not have a significant influence on performance as it has a p-

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value greater than 0.05. Table 5 also indicates the hypothesis testing for indirect influence, revealing that the variable budget participation with the work motivation variable as a mediator has a significant effect on the performance variable. Meanwhile, the variables work ability and spirit at work with the work motivation variable as a mediating variable do not have a significant influence on the performance variable.

DISCUSSION

The hypothesis testing results indicate that work ability significantly influences the performance of food providers. Good work ability encourages performance, as evidenced by increased productivity, better quality of work, and improved self-confidence. It is essential for the Surabaya city organization to ensure alignment between the providers' abilities and assigned tasks to enhance their performance. This alignment is crucial in delivering food services according to established standards, providing better services, and ensuring user satisfaction.

Budget participation does not affect the performance of food providers. Directly providing budget participation to providers is not feasible to avoid increasing the workload assigned by the Surabaya city government as a user of food provider services. Budget participation in the performance of providers is a proposal process to demonstrate their ability to provide services to registered and adequately funded individuals.

High work spirit can assist providers in carrying out their tasks more effectively and efficiently, thereby enhancing their performance. Providers with high work spirit are also more motivated to achieve organizational goals and contribute to the success of their tasks. This indicates that high work spirit can improve the performance of food providers in providing quality food that meets the nutritional needs of the recipient community.

In the food assistance program in Surabaya city, work ability is a crucial factor that can influence the work motivation of providers. The trust given by the Surabaya city government generates pride and responsibility. Work ability can be interpreted as the capacity or proficiency of providers, prompting them to strive for excellence by continually enhancing their capabilities. Consequently, the role of motivation as a mediator contributes less to the performance of providers. In the work ability measurement, most respondents have already demonstrated that food providers are capable of performing their assigned tasks and responsibilities.

Budget participation has proven to enhance the work motivation of food providers. Providers feel a sense of responsibility and involvement in the planning and budgeting process. The Surabaya city government acts as a supervisor, assisting providers in formulating and planning their business budgets with economic precision. Budget participation for providers is offered with opportunities, but there are limitations on direct budget proposals.

Motivation does not play a mediating role in the influence of work spirit on performance. This implies that, although work motivation is a crucial factor in performance improvement, in this research context, work spirit has a direct impact on performance without needing to be mediated by work motivation. However, for the SMEs supported by the Surabaya city government, this program is highly beneficial for the residents to stimulate economic turnover in the surrounding areas of districts and sub-districts. The motivation provided by the Surabaya city government includes incentives related to varying daily food portions, which are not overly burdensome for providers and the government.

V. CONCLUSIONS

Firstly, work ability contributes to the improvement of performance in food providers. Secondly, budget participation does not contribute to performance improvement. Thirdly, high work spirit can contribute to performance improvement. Fourthly, work ability cannot enhance performance through mediation, indicating that high work ability cannot contribute with the existence of work motivation as a mediator. Fifthly, increased opportunities to participate in budget determination will significantly enhance work motivation and impact the improvement of provider performance. Sixthly, work spirit cannot increase performance through mediation; therefore, work spirit and work motivation are interrelated and cannot influence employee performance.

The Surabaya city government should pay special attention to enhancing the work ability of food providers. The government can provide periodic training and skill development, ensuring continuous improvement in the work ability of food providers, positively impacting their work motivation and the quality of food assistance program services. Future research should expand the study area, involving all food providers in the districts of Surabaya, to obtain comprehensive results.

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Law Enforcement Effectiveness on Copyright Piracy: Case of Indonesia



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ABSTRACT: Piracy, which is still a phenomenon in society, has even grown so rapidly that it has become a trend to produce and enjoy your own pirated films. learn how Indonesian law addresses cyber piracy of national films and how national film copyright protection works. The research method used in this article is doctrinal legal research. The legal rules used to reduce copyright piracy are in the form of the Copyright Law, Information and Electronic Transactions Law, Regulations of the Ministry of Law and Human Rights, and Regulations of the Minister of Communication and Information which are repressive, namely civil, administrative and criminal as well as preventive in nature. Law enforcement in Indonesia is still not effective because the level of public awareness and legal compliance is still not optimal, which is the main factor in the success of legal regulations.

KEYWORDS: Law Enforcement, effectiveness, copyright piracy

INTRODUCTION

Indonesia received the worst score, namely 8.5 out of 10 points, compared to 11 other Asian countries regarding copyright protection in a survey conducted by the Hong Kong-based Political and Economic Risk Consultancy (PERC). A score of 0 (zero) is the best score, which is occupied in first place by Singapore with a score of 1.5, followed by Japan with a score of 2.1, Hong Kong with a score of 2.8, Taiwan with a score of 3.8, and South Korea with a score of 4.1. At the other end of the scale, Vietnam ranked second worst after Indonesia with a score of 8.4, China with a score of 7.9, the Philippines with a score of 6.8, India with a score of 6.5, Thailand with a score of 6.1, and Malaysia with a score of 5.8 ("Perlindungan Hak Cipta, Indonesia Terburuk Di Asia," 2010). Copyright protection relates to the crime of digital piracy, which refers to the illegal copying, downloading, or sharing of digital products, such as music, software, computer games, films, electronic books, and other copyrighted materials (Koay et al., 2020). Although only viewed as a legal issue, digital piracy has proven to be an important source of technological and strategic innovation for both existing industry players and new entrants (Choi & Perez, 2007).

Although several authors discuss film piracy and sales movements in two consumer samples in China (Bai & Waldfogel, 2012), they do not discuss law enforcement. Apart from that, some authors discuss the study of the process by which technology and the piracy community have stimulated innovation and the creation of pirate business models as well as legitimate business models (Choi & Perez, 2007), which is different from writing this article because this article focuses on law enforcement and its effectiveness against copyright piracy.

Before discussing further about law enforcement, we should know in advance about what work is. Work is the result of creation or human intellectual thought that must be protected. Protection of someone's work is the protection of intangible objects such as inventions, literary, artistic works, names, and so on which are used in trade. Originally, copyright protection began in the United Kingdom in the 16th to 17th centuries by protecting the rights of book authors. Through the British Empire, book printing in England must obtain the author's permission before being reproduced and sold. This concept gives creators the legitimacy to manage the licensing of their works. In Intellectual Property, Lindsey (2003) introduces four principles in protecting a person's interests and the interests of society, namely:

1. Principle of Justice. A creator who produces a work based on his intellectual ability deserves to receive compensation in the form of material or non-material, such as a sense of security because he is protected and recognized for his work. The law

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protects creators in the form of a power to act in the context of their interests, which is called a right. The reason for attaching rights to intellectual property is creation based on intellectual ability.

2. **Economic Principles.** Intellectual Property expressed to the general public in various forms has benefits and economic value and is useful for human life. The existence of economic value in intellectual property is a form of wealth for its owner. Creators gain benefits from ownership of their work, for example in the form of royalty payments for playing the music and songs they create.
3. **Cultural Principles.** The growth and development of science, art, and literature are very significant for the improvement of the standard of living, civilization, and human dignity. Apart from that, it will provide benefits, for society, nation, and state. Recognition of human creations, works, and initiatives carried out within the Intellectual Property system is expected to be able to generate enthusiasm and interest to encourage the birth of new creations.
4. **Social Principles.** The law does not regulate human interests as individuals who stand alone apart from other human beings, but the law regulates human interests as members of society. So, humans with other humans are bound in the bonds of one society. The intellectual property system in protecting creators, should not be solely bound by the bonds of one society. The intellectual property system in protecting creators, may not be given solely to fulfill the interests of the individual or association or unit, but based on the balance of individual and community interests. This form of balance can be seen in the provisions on social functions and mandatory licenses in the Indonesian Copyright Law.

Then, these principles are supported by reward theory which argues that creators or inventors must be protected as appreciation for their efforts. This is a form of public appreciation for personal achievements. A thinker, writer, musician, or inventor should be rewarded, especially those who enjoy the benefits of what is produced. This award is an encouragement for everyone to excel in creating creative works that are beneficial to society. Meanwhile, the recovery theory says that without sacrifice in the form of hard work, time, and money, one creator or one inventor cannot possibly create a work of art. Therefore, it can be justified if the creator can restore the situation as it was before he created a work of art (Arifardhani, 2020).

Currently, Indonesia has a legal umbrella for copyright protection in the form of Law Number 28 of 2014 concerning Copyright (Copyright Law) which defines copyright as the exclusive right of the creator that arises automatically based on the declarative principle after a creation is realized in real form without reduce the restrictions by the provisions of the legislation. According to (Freddy Haris et al., 2020) the exclusive rights of the creator can be interpreted as arising when the following conditions are met:

1. *Fixed*, Ideas must be realized first in a real form that can be captured by the five senses.
2. *Form*, requires a certain form of creation.
3. *Original*, requires that the creation be something original, not plagiarized, and has never existed before.

Copyright does not protect ideas but rather the form of those ideas. This is because everyone may have the same idea but the realization of the idea is different. Juridically, this is regulated in Article 41 of the Copyright Law which states that works that are not protected include:

1. Works that have not been realized in a tangible form;
2. Any ideas, procedures, systems, methods, concepts, principles, findings, or data even if expressed, stated, depicted, explained, or incorporated in a Work; And
3. Tools, objects, or products created to solve technical problems or whose form is only intended for functional needs.

The creator as the creator of a work has exclusive rights in the form of moral rights and economic rights. Moral rights are the rights of creators to be involved in all the management of their creations. Meanwhile, economic rights are the rights to commercialize or utilize a work, such as publishing, duplicating, translating, adapting, distributing, renting, and so on.

One work that is classified as having copyright is an audiovisual work. Audiovisual works are creations in the form of moving images with sound, such as films, television media broadcasts, video recordings, and so on. Films are one of the works whose copyrights are often violated in the cyber world. In this context, the violations of film works that will be discussed are violations committed by illegal Indonesian websites against films made in Indonesia. Based on data from Tempo media, there were around 2,300 pirated film sites in 2020 (Nurhayati, 2020).

The large number of film piracy sites has certainly affected the country's film industry. The moral rights and economic rights of the film creator are not fulfilled due to online film piracy. Indeed, these illegal sites have been suppressed by the government through the Ministry of Communication and Information of the Republic of Indonesia, but the fact is that today there are still many pirated film sites circulating and providing Indonesian films. Of course, the effectiveness of copyright protection still needs to be optimized to create a conducive climate for film creators.

Apart from violating the Copyright Law, Law Number 11 of 2008 in conjunction with Law Number 19 of 2016 concerning Information and Electronic Transactions, hereinafter referred to as the ITE Law, also plays an important role. Article 25 of the ITE

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Law provides reasons for intellectual works in the form of digital documents or digital transmissions as objects that are also protected by the rules of the Copyright Law. Apart from that, this regulation also provides more specific detailed rules regarding rights and obligations for sending/distributing and receiving information in the form of digital data via the internet network. The existence of copyright in the digital era makes the Copyright Law interrelated with the ITE Law.

Copyright infringement has two main characteristics. The first feature is that there is an element of intent without the right to make an announcement, copy it, or give permission for that matter. Second, there is an element of intentionality in exhibiting, distributing, or selling to the general public a copyrighted work that is still protected by the author's copyright. The existence of the Copyright Law and ITE Law as the basis for protecting copyright, especially in the current digital era, has not been able to completely eradicate piracy activities in Indonesia. Piracy activity continues to be a phenomenon in society and is even increasing to the point where it has become a trend in itself for producing and enjoying pirated films. A series of irresponsible film piracy activities may arise as a result of pressure from economic factors that promise profits for several related parties and may also be caused by a legal culture in society that has not yet run optimally.

Based on this background, the author will focus on the legal regulations in Indonesia regarding copyright piracy in the cyber sphere and how the effectiveness of law enforcement for copyrights of national film works.

DISCUSSION

Legal Rules in Indonesia Concerning Copyright Piracy in Cyberspace

The act of duplicating, downloading data containing film works, and then spreading them is very easy to do through internet access. This is the development of national film piracy. The development of crime needs to be accompanied by the development of national law as an effort to protect society and combat crime. Legal protection can be interpreted as an effort bestowed on a particular legal subject by the state through the establishment of a series of statutory regulations which will be enforced as state law complete with the existence of sanctions that function as threats and are expected to be able to bring about a "deterrence effect" for the perpetrators. Legal protection in the form of positive law will guarantee certainty, usefulness, and legal justice as intended by the law. In general, the legal protection provided by the government through legal shields in the form of regulations will have two functions at once, namely repressive and preventive.

Criminal law policy, which comprises reasoned efforts to combat crime to attain national goals, primarily community protection and community welfare, is a crucial component of social policy, law enforcement policy, and criminal policy. According to Sudarto, the goal of legal politics, also known as legal policy, is to create sound laws that are appropriate for the time, the situation, and the state's policies. The laws created by these bodies are then expected to be used to express what is contained in society and to accomplish what is desired (Rayan Al Qabooli & Setiyono, 2022).

It is hoped that the criminal sanctions contained in the Copyright Law and these regulations will provide a deterrent effect for perpetrators of film piracy via the internet. This is expected to reduce cases of piracy committed by the people of Indonesia. Apart from that, the government has also taken preventive steps by establishing Regulation of the Minister of Law and Human Rights Number 14 of 2015 concerning the Implementation of Closure of Content and/or User Access Rights for Violations of Copyright and/or Related Rights in Electronic Systems as well as Regulation of the Minister of Communications and Information Technology Number 26 of 2015 concerning Implementation of Closing Content and/or User Access Rights Violations of Copyright and/or Related Rights in Electronic Systems. The regulation aims to provide more optimal protection of copyrights and/or related rights in electronic systems. In Article 15, it is explained that content and/or user access rights that violate copyright and/or related rights will be closed and announced on the official website of the ministry that handles government affairs in the field of communications and information technology. It is hoped that the threat of criminal sanctions contained in these regulations will provide a deterrent effect for potential perpetrators of film piracy via the Internet. Thus, it is expected to reduce piracy cases committed by Indonesian people.

In addition to these two rules, because the media used is internet-based or applications that use the internet, the ITE Law also poses a threat to perpetrators of film piracy through digital media. Law Number 11 of 2008 concerning Electronic Information and Transactions protects creators or copyright holders in this matter precisely in the provisions contained in Article 32 Paragraph (1). This article is aimed at someone with an intentional intention to take action to change, add, reduce, destroy, delete, hide, and send data from a data source to data recipients of electronic information in the form of one or a set of electronic data, including but not limited to voice writing, pictures, maps, plans, photos, electronic data interchange, electronic mail, telegrams, text and others and/or personal documents in the form of electronic information that is created, forwarded, sent, received or stored in analog, digital, electromagnetic, optical form or the like, private property or public property.

Some of the regulations explained above were deliberately formed by the government with various provisions in them that do not only contain preventive measures. The existence of the regulations as explained above of course also brings repressive

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efforts in the form of enforcing sanctions provisions which are regulated as the final protection for copyright holders by actually imposing penalties on perpetrators who have been proven to have committed copyright violations based on the decisions of Commercial Court judges. In more detail, repressive measures for violators of copyright law provisions can be taken through three types of law, namely civil, administrative, and criminal law..

Administrative efforts can be taken by copyright holders through reporting to the Director General of Intellectual Property. Before submitting a complaint/report to the Directorate General of Intellectual Property, creators or copyright holders should first give a subpoena/warning to the perpetrators who are suspected of committing copyright infringement. The violation referred to here is a violation with the aim of commercialization to obtain economic rights from a work that is not the copyright, but the copyright belongs to the copyright holder which is still legal and valid. Reports are submitted in writing using good and correct Indonesian to the Director General of Intellectual Property. The report must contain at least the identity of the complainant, proof of copyright, the address of the violating site/account, the type of infringing content, and the type of violation. Attached with a photocopy of the reporter's identity, a photocopy of proof of copyright ownership or related documents, and the report must be provided in hardcopy non-electronic form addressed to the Directorate General of Intellectual Property Rights. Administrative sanctions that will be imposed on copyright violators, especially in film piracy activities, usually refer to applicable laws and regulations, which can be in the form of fines, suspensions up to revocation of certificates and/or business licenses, temporary suspension of administrative services, and possibly closing sites, or closing perpetrator's social media account (Daniel et al., 2016).

Apart from the explanation above, there is a branch of forensic science that is relevant to proving cyber crimes, namely computer forensics. Computer forensics has a significant role in criminal acts of illegal access to electronic devices because it is one of the tools in criminal procedural law where information can be used to guarantee the authenticity of an electronic document or electronic document so that it can be detected. accepted as evidence in court (Hardianto et al., 2023). If the perpetrator of the crime is proven in court, repressive measures can be taken, namely by punishing the perpetrator. Punishment is the last option that is expected to be used as a law enforcement tool and create a deterrent effect on other actors

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Sociologically, Law Number 11 of 2008 Concerning Information and Electronic Transactions as amended by Law Number 19 of 2016 Concerning Amendments to Law Number 11 of 2008 Concerning Information and Electronic Transactions is needed by the public to control the various activities they engage in while interacting in cyberspace. A guideline to safeguard net users' interests in accessing different types of information is necessary given the dynamics of information globalization. The provisions of Law Number 11 of 2008 concerning Information and Electronic Transactions, as amended by Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Information and Electronic Transactions, are consistent with universally accepted religious, moral, and ethical ideals, enabling the information society to recognize, accept, and apply cyber law (including the international legal instruments that regulate it). The fundamental legal issue that frequently presents a practical barrier to law enforcement in the fight against global crime, including cybercrime, is a matter of jurisdiction. The issue of ambiguity surrounding the decision of jurisdiction in cyberspace is one that even legal professionals themselves admit to. According to Tien S. Saefullah, whereas communication and multimedia information are of a worldwide nature, a country's jurisdiction that is recognized by international law in the traditional sense is based on geographical and temporal bounds (Mansur, 2005).

Measuring the efficiency of a law cannot be separated from people's behavior toward awareness and compliance with the law (Heryani, 2012). The two factors of people's behavior are often put together in a wrong understanding, even though both have different meanings. Legal awareness refers to the awareness or values a person has regarding the existence of law, the function of law in society, and the importance of law. However, legal awareness does not guarantee that people will always obey the law.

These are some of the opinions of legal sociologists in understanding what is meant by legal awareness. Furthermore, the meaning of legal obedience and its difference from legal awareness that has been discussed previously is as follows. Legal obedience based on quantity can be categorized into three types, namely (Heryani, 2012, p. 192): a. Obedience is Compliance, obedience to a rule based on fear of being sanctioned if you violate the rule in question; b. Obedience is identification, and obedience to a rule that is based on fear of damaging good relationships with other people if you do not comply with the rule. c. Obedience is internalization, obedience to a rule is based on conformity between the internal values one believes in and the rule.

These are some of the opinions of legal sociology experts in understanding what is meant by legal awareness. Furthermore, the meaning of legal obedience and its differences with legal awareness which was discussed previously is as follows. Legal

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compliance based on quantity can be categorized into three types, namely: a. Obedience is Compliance, obedience to a rule based on fear of being sanctioned if you violate the relevant rule; b. Obedience is identification, and obedience to a rule that is based on fear of damaging good relationships with other people if you do not comply with the rule. c. Obedience is internalization, obedience to a rule is based on conformity between the internal values one believes in and the rule.

So it can be concluded that the difference between legal awareness and legal obedience lies in the difference in the meaning of the two. Legal awareness refers to people's knowledge of applicable legal rules and individual decisions to comply or not comply with regulations. Meanwhile, legal compliance refers to people's behavior in following regulations as a result of various social and individual factors that influence their behavior. These factors may include fear of sanctions, fear of damaging good relationships with others, or the belief that obeying regulations is the right thing to do.

A large number of film piracy occurs not only in Indonesia but also in China and the United States, where students in China are similar to those in the United States, the consumption of paid films is replaced by unpaid films, this happens because most of it occurs due to the large number of pirated literature (Bai & Waldfogel, 2012). The low efficiency of policies related to law enforcement can be influenced by several factors, including relatively small fines imposed on perpetrators, lengthy court processes, and the small possibility of the perpetrator being caught (Seror & Portnov, 2020).

Apart from this, according to Lowry (2017) there are internal factors related to individual motivation in stealing various digital content, namely: 1) outcome expectations (consideration of rewards, perceived risks, and perceived sanctions), (2) social learning (positive and negative social influences and piracy habits), (3) self-efficacy and self-regulation (perceived behavioral control and low self-control), and (4) moral disengagement (morality, immorality, and neutralization).

To be a valid law, an element of coercion must exist in a rule. Therefore, the existence of an element of coercion is always related to the effectiveness of a provision in a statutory regulation. Many questions regarding the effectiveness of legal regulations highlight the threat of sanctions provided for in these regulations. So, it can be concluded that one of the factors that causes the ineffectiveness of legal regulations is the threat of coercion is not severe enough or because of other factors such as lack of socialization and communication about sanctions in these rules to the community (Heryani, 2012).

Due to limited infrastructure and facilities, law enforcement efforts to combat cybercrime are not yet at their best. Tools are a necessity for law enforcement in the fight against cybercrime because these crimes are characterized by the employment of both material and virtual tools in their commission. When the technology is used effectively, the time and location of cybercrimes can be determined; consequently, telematics analysis is required to find this crime. Onno W. Purbo noted that the approach truly depends on the application and network topology utilized to investigate, detect, and address this crime. Certain applications are available in backtrack and gnacktrack. This demonstrates the significance of having proper tools and resources for the pursuit of justice. The smooth operation of law enforcement is impossible without specific equipment or resources. These resources or facilities include among other things, qualified and educated human resources, effective management, enough tools and resources, and so forth. Law enforcement cannot succeed in its objectives if these conditions are not met (Rayan Al Qabooli & Setiyono, 2022).

Finally, the role of the community in choosing the attitudes of everyday behavior is very important in shaping the habits, trends, and patterns of social behavior in society. There is no effective legal regulation without support and efforts from society to enforce it. Legal awareness and obedience for every individual in society is a very important element in achieving the desired legal effectiveness.

On the other hand, legal regulations that do not follow the spirit of the nation, culture, or values that develop in society will not be effective, regardless of the purpose of their formation and the content of the articles. This can happen in the implementation of the Copyright Law in Indonesia. Even in the scope of the Internet of Things, it is assisted by the existence of the ITE Law, and Regulation of the Minister of Law and Human Rights Number 14 of 2015 concerning the Implementation of Closure of Content and/or User Access Rights for Violations of Copyright and/or Related Rights in Electronic Systems as well as Regulation of the Minister of Communication and Informatics Number 26 of 2015 concerning the Implementation of Closing Content and/or User Access Rights for Violations of Copyright and/or Related Rights in Electronic Systems regarding closing/blocking access rights and/or content that is suspected of violating Copyright. Even though the articles accommodate the need for copyright protection in Indonesia, piracy behavior is still widespread in society. Sociological factors of society, such as culture, social norms, values, and behavioral habits, play an important role in this matter. Legal norms have not been able to carry out their purpose as a tool of social engineering, as stated by Roscoe Pound and Mochtar Kusumaatmadja. Substantially good legal regulations will not be effective if they are not following the spirit of the nation, culture, or values that grow and develop in society.

Piracy is a problem that has been rooted for a long time, even before the presence of the Copyright Law in society. The presence of the Copyright Law by the government may be intended to overcome this problem. This is because the creative

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works sector, which also includes film creation, really requires the role of the state to intervene to create a balance between the interests of copyright holders and the interests of society (Supramono, 2010, p. 3). However, the Copyright Law, which is relatively new to the routine of Indonesian society, requires extra effort so that its existence can be optimally and effectively useful. Apart from strengthening law enforcement, the government also needs to build public awareness and legal compliance. The synergy between the existence of good legal rules and community behavior plays an important role in creating effective legal protection for copyright of film literary works

Efforts that can be made to change people's behavior can be carried out through persuasive steps such as providing education to the public through advertisements on television, social media that invites the public to watch legally, or by conducting campaigns with Indonesian filmmakers to make films. short stories that insert values capable of instilling an anti-piracy spirit, as well as a culture of respecting the works of the nation's children (Noviandy, 2016, p. 7). These efforts are made to build a synergy between the existence of existing legal regulations and people's behavior. So that legal protection for the copyrights of national film literary works can be realized logically and will not become a mere utopian legal ideal. In addition to this, the law that lives in society or moral norms (living law) is very influential on people's behavior in reducing criminal acts related to copyright piracy (Christianto, 2020).

CONCLUSION

The legal protection system for copyright owners, especially for copyright owners of film and literary works in Indonesia, has been guaranteed by a set of regulations which are a tool for the government to make efforts to prevent and take action against perpetrators of copyright violations in the world of Indonesian cinema. Law Number 28 of 2014 concerning Copyright, Law Number 11 of 2008 Juncto Law Number 19 of 2016 concerning Information and Electronic Transactions, Regulation of the Minister of Law and Human Rights Number 14 of 2015 concerning Implementation of Closure of Content and/or User Access Rights Violations of Copyright and/or Related Rights in Electronic Systems as well as Regulation of the Minister of Communication and Informatics Number 26 of 2015 concerning the Implementation of Closure of Content and/or User Access Rights for Violations of Copyright and/or Related Rights in Electronic Systems, provides a preventive role with the threat of sanctions stated in the provisions of the applicable legal regulations. It is hoped that this system will be able to provide a deterrent effect for potential perpetrators of copyright infringement and prevent copyright infringement from occurring in the world of Indonesian cinema..

To date, copyright regulations for Indonesian films have not been effective in dealing with piracy activities which continue to increase throughout the country, even with the development of increasingly sophisticated modes and media for film distribution, including through social media platforms and private messaging service provider applications. Community awareness and obedience to law are the main factors in the success of legal regulations. People must choose to behave appropriately so that existing habits, trends, and patterns of social behavior can be formed. Even though the existing legal regulations are very good, without support and efforts from the community, they will not be effective in enforcing legal compliance. Legal regulations that do not follow the spirit of the nation, culture, or values that exist in society will not be effective, even though their aims are very good. However, adaptation must take into account the original values that have long been rooted in Indonesia. The government must strengthen law enforcement and build public awareness and legal compliance with persuasive steps, such as involving Indonesian filmmakers to socialize the anti-piracy spirit and appreciate the work of the nation's children. With synergy between existing legal regulations and appropriate community behavior, copyright protection for national literary and film works is not impossible to achieve..

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Exploring Risk Factors Involved in The Progression of Chronic Kidney Disease: A Prospective Study in A Quaternary Care Hospital - Chennai.



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ABSTRACT

Purpose: The study investigates the rising prevalence of chronic kidney disease (CKD) and its associated challenges, including comorbidities and uncertain prognosis. Patients often face disease progression without clear identification of those at high risk for rapid advancement to end-stage renal disease. Conducted in a hospital setting, the research examines a cohort of adults with CKD to determine the rate of progression from early to advanced stages and identify predictors of rapid advancement.

Methods: Patients meeting inclusion/exclusion criteria provided written consent before screening. The Modification of Diet in Renal Disease (MDRD-4) equation determined eGFR, and staging was based on admission results. Data were categorized into early and advanced stages according to eGFR values. Demographic details, clinical features, risk factors, comorbidities, laboratory results, and other supportive care information were extracted from hospital records. The collected data were analyzed to identify risk factors influencing CKD progression.

Results: A comparative analysis of baseline characteristics revealed that age, gender, and BMI significantly contributed to the development of end-stage kidney disease. Key factors such as serum creatinine, serum uric acid, eGFR, random blood sugar, and fluid intake showed statistical significance in the progression of kidney disease. The risk of end-stage CKD was notably elevated with smoking, alcohol consumption, and increased fluid intake.

Conclusion: The study demonstrated a significant association between CKD progression and parameters such as age, BMI, habits like alcohol intake and smoking, as well as clinical factors including serum creatinine, serum uric acid, eGFR, and random blood sugar. Patients with diabetes, coronary artery disease (CAD), and anemia exhibited a more accelerated decline in renal function. These factors can be modified through appropriate treatment.

KEYWORDS: Chronic kidney disease, estimated glomerular filtration rate, end-stage renal disease, Modification of Diet in Renal Disease, CKD progression, Risk factors.

INTRODUCTION

Chronic Kidney Disease (CKD) poses a substantial global public health challenge, entailing considerable medical and financial burdens. The estimated global prevalence of CKD stands at 13.4%, with projections indicating that 4.902 to 7.083 million individuals may require renal replacement therapy for End-Stage Kidney Disease (ESKD) [1]. Between 1990 and 2017, CKD prevalence increased by 29.3%, accompanied by a corresponding 41.5% rise in the death rate. In 2020, CKD accounted for 1.2 million deaths worldwide, ranking as the 10th leading cause of death. In India, kidney failure-related mortality increased by 38% from 2001–2003 to 2010–2013 [2]. Chronic kidney disease is a multifaceted condition [3], with its progression influenced by diverse and individual-specific risk factors. The pace of advancement is also shaped by the presence of underlying CKD risk factors and the cause of renal failure. Recent research has identified certain factors contributing to CKD progression, leading to morbidity and

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mortality across different ethnic and racial groups. These factors fall into two categories: initiating and perpetuating. Nephron loss initiation is prompted by factors like diabetes, old age, or male sex, while disease progression is fueled by factors such as proteinuria, hypertension, or hyperuricemia [4]. This study aims to explore the prevalence of chronic kidney disease (CKD) in a diverse population within a hospital setting. The focus is on determining the prevalence of risk factors that contribute to CKD progression and identifying key elements that lead to rapid progression in patients initially diagnosed with CKD at a multispecialty hospital. The study's findings will highlight the crucial risk factors that should be addressed to either prevent or slow down CKD progression in patients.

METHODOLOGY

Study subjects' recruitment:

The study utilized a prospective cohort design and took place at Hindu Mission Hospital in West Tambaram, Chennai, spanning a duration of 6 months. The study cohort comprised 147 hospitalized individuals diagnosed with chronic kidney disease. Participants, ranging in age from 18 to 80, were included regardless of gender, and they were admitted to the hospital. The study received ethical approval from the Institutional Ethics Committee of the hospital in May 2022 (HMH/IEC/2022/STEA23). All procedures carried out during the study strictly adhered to the guidelines set forth in the declaration of Helsinki. Before participating, each patient provided written informed consent. This consent was obtained after a thorough explanation of the study's objectives and procedures, ensuring that participants had a comprehensive understanding before agreeing to take part.

Data collection:

The study conducted an extensive data collection process, encompassing various datasets that included socio-demographic details, anthropometric measurements, blood pressure readings, medical histories, lifestyle patterns, and dietary habits. Biochemical parameters, such as hemoglobin, blood urea, serum creatinine, sodium, potassium, chloride, bicarbonate, serum uric acid, calcium, phosphorus, random blood sugar, SGOT, and SGPT, were meticulously recorded both at the beginning and conclusion of the study period. Furthermore, the study thoroughly evaluated treatment regimens, prescribed medications, and the presence of comorbidities for all participants throughout the entire study duration. This comprehensive approach to data collection aimed to capture a holistic understanding of the patients' health profiles, allowing for the tracking of any changes or developments over the course of the study period.

Staging of CKD:

The staging of chronic kidney disease (CKD) was determined using the modification of diet in renal disease (MDRD-4) equation to calculate the estimated glomerular filtration rate (eGFR) and categorize individuals into different stages:

- Stage 1 CKD: eGFR of 90 ml/min/1.73m² or more
- Stage 2 CKD: eGFR between 60 ml/min/1.73m² to 89 ml/min/1.73m²
- Stage 3a and 3b CKD: eGFR between 30 ml/min/1.73m² to 59 ml/min/1.73m²
- Stage 4 CKD: eGFR between 15 ml/min/1.73m² to 29 ml/min/1.73m²
- Stage 5 CKD: eGFR greater than 15 ml/min/1.73m²

For the study's analysis, stages 1 to 4 were collectively grouped as the early stage of CKD, while patients in stage 5 were categorized as having advanced CKD. Comparisons and analyses were conducted between these two groups to investigate differences and potential associations between the early and advanced stages of CKD.

Statistical analysis:

The data were presented as Mean \pm SD, median with inter-quartile range, or frequency with percentage, depending on their distribution. Normality of the data was evaluated using a Q-Q plot. To determine significant differences in means or medians, an independent t-test or Mann-Whitney test was employed. The Chi-square test was utilized to assess significant differences between groups. All calculations were executed using a statistical software program (SPSS v.16.0, Chicago, IL).

RESULTS

As per the findings in Table 1, several baseline characteristics, including age, gender, BMI, and pulse rate, have been identified as significant factors contributing to the development of end-stage kidney disease. The study also reveals that alcohol consumption and chronic smoking emerged as significant risk factors for the progression of chronic kidney disease. However, the association of non-steroidal anti-inflammatory drugs (NSAIDs) and herbal supplement intake with CKD progression did not reach statistical significance.

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Table 2 provides an overview of the differences in various laboratory parameters between patients in the early and advanced stages of chronic kidney disease. Noteworthy factors contributing to the progression of kidney disease, such as serum creatinine ($p < 0.01$), serum uric acid ($p < 0.04$), estimated glomerular filtration rate (eGFR) ($p < 0.01$), random blood sugar ($p < 0.01$), and fluid intake ($p = 0.01$), were found to be statistically significant. Table 3 outlines the co-morbidities observed among subjects with chronic kidney disease (CKD). There was a notable increase in co-morbidity rates in CKD patients. In our study population, the prevalence of diabetes and hypertension appeared higher in the advanced CKD stage, with diabetes being statistically significant. Anemia was more frequent in the advanced stage (81.2%), demonstrating a significant p -value of 0.001. Surprisingly, only 1% of individuals in the advanced CKD stage had cardiovascular disease (CVD) compared to the early stage. In contrast, the frequency of coronary artery disease (CAD) was higher in the early stage, and this difference was statistically significant. These findings shed light on the varying prevalence of co-morbidities across different stages of CKD.

Table 4 details the utilization of anti-hypertensive drugs among different groups, with no statistically significant differences observed. The predominant class of drugs prescribed throughout the study sample was related to Calcium Channel Blockers (CCB), with Statins following closely behind. This indicates that there was a uniformity in the usage of anti-hypertensive medications across the groups, and the prevalent classes were Calcium Channel Blockers and Statins. The lack of statistical significance suggests similar patterns of drug utilization in the context of hypertension management among the study participants.

Table 5 summarizes the precipitating causes of chronic kidney disease (CKD) across different groups. In our study population, diabetes and hypertension emerged as the most prevalent causes, with a relatively equal distribution among the groups. Notably, the advanced stage group exhibited a statistically significant increase in the frequency of unknown factors and a family history of CKD. This finding underscores the importance of recognizing these factors, as their significance was more pronounced in the advanced CKD stage.

DISCUSSION

CKD has emerged as a significant global health concern, marked by its increasing occurrence, link to cardiovascular disease (CVD) mortality, unfavorable outcomes, and serious complications. These factors contribute substantially to healthcare expenses and pose a considerable burden on healthcare systems. In 2016, CKD accounted for 1.2 million deaths worldwide, ranking as the 12th leading cause of death and the 14th risk factor for disability-adjusted life years (DALYs) among 79 identified risk factors in 2013. By 2019, the prevalence of CKD globally had reached 13.4%. Over the past decade, there has been considerable focus on identifying predictive factors for the progression of CKD due to its escalating prevalence on a global scale.

The frequency of declining renal function tends to be higher among older individuals. Age plays a significant role in CKD outcomes, primarily by showcasing a continuous decline in the glomerular filtration rate (GFR) as people grow older [7]. While older age appears to trigger this decline, it may not actively sustain the process, as renal function gradually diminishes with age. Several studies have delved into this association between age and reduced renal function, elucidating how aging correlates with a decline in estimated GFR (eGFR) [23-29]. In a subpopulation analysis encompassing 15,625 individuals from the third National Health and Nutrition Examination Survey (NHANES III), age emerged as a pivotal predictor of CKD prevalence. Our study echoes these findings, showing statistically significant evidence linking age to the progressive decline of eGFR.

Gender-based differences in CKD are well-documented, showcasing distinct disparities. Although men exhibit a higher prevalence of CKD, data from the United States Renal Data System highlights that they are more prone to developing kidney failure compared to women [17]. This observation might suggest that women either experience a slower loss of kidney function or are more likely to pass away before reaching kidney failure. Despite extensive adjustments for socio-demographic, clinical, and laboratory factors, regression analysis demonstrated that women had a 28% lower incidence of kidney failure than men [18]. One proposed explanation for these distinctions revolves around the potential protective role of endogenous estrogens [19]. Gender emerged as a statistically significant factor in our own sample study, further emphasizing its relevance in understanding CKD patterns.

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There's a notable contrast in the prevalence of diabetes mellitus (DM) between the early and advanced stages of CKD. Alan S. et al. conducted a study investigating the correlation between DM presence and CKD progression. Their findings indicated that 23.0% of patients with diabetes experienced rapid CKD progression compared to 15.3% of those without diabetes. Factors such as proteinuria, age exceeding 80 years, heart failure, anemia, and higher systolic blood pressure were identified as multivariable predictors for fast CKD progression, with consistency across both diabetic and non-diabetic groups [6]. Additionally, elevated systemic blood pressure has long been acknowledged as a significant contributor to CKD progression [9].

In the MDRD study, the primary analysis did not show a significant disparity in CKD progression rates over a 2.2-year follow-up period between patients with low target blood pressure and those receiving standard treatment. However, a secondary analysis indicated a noteworthy reduction in the risk of progressing to end-stage renal disease (ESRD) specifically in patients with high proteinuria and low target blood pressure. This suggests that proteinuria, rather than hypertension, may be the more crucial risk factor [10].

The correlation between elevated systemic blood pressure and the advancement of CKD has long been acknowledged [9]. In a study by Anderson et al., the connection between time-updated systolic blood pressure and CKD progression was examined through marginal structural analysis [20]. The findings indicated an increased risk of kidney failure with a systolic blood pressure of 130 mmHg, aligning with the AHA's suggestion that individuals with CKD should strive for a blood pressure goal of 130/80 mmHg [30]. However, our study did not yield similar results, as there was no statistically significant difference in systolic blood pressure between the two groups.

The breakdown of smoking habits in our study is intriguing, revealing that 74.1% of participants were non-smokers, 25.2% were former smokers, and only 0.7% were current smokers. A notable statistical difference in smoking behavior emerges when comparing individuals in the early and advanced stages of chronic kidney disease (CKD). This observation aligns with Yacoub, R., Habib, H., Lahdo, A., et al.'s investigation, which also indicates a link between heavy cigarette smoking and an elevated risk of CKD. Moreover, our study supports Bundy et al.'s findings, emphasizing an increased risk of CKD progression in individuals using both tobacco and alcohol compared to non-users [16]. Notably, our study reveals a statistically significant difference in alcohol consumption between the two groups, despite previous research suggesting a lower risk of all-cause mortality among CKD patients who consume alcohol. These observations add depth to the understanding of the complex relationship between smoking, alcohol use, and their impact on the progression of CKD.

Chang, Wen-Xiu, et al. conducted a study to investigate the time-dependent risk factors associated with the decline of estimated GFR. Proteinuria, blood pressure, and anaemia are the three major risk factors of CKD. Uric acid and phosphorus are emerging risk factors in the clinical course of CKD, indicating that the appropriate intervention may retard the progression of CKD. In our study, uric acid is statistically significant between the two groups ($p = 0.043$), and phosphorus does not show any statistical significance ($p = 0.090$). Srivastava et al. conducted a study to find the association between the increased uric acid level and the increased risk of kidney failure, and it shows that uric acid is an independent risk factor for kidney failure in earlier stages of CKD [15].

Due to the increased risk for CKD, increased risk for a progressive decline in renal function, and related mortality, there is an urgent need to improve public awareness of the identification of risk factors for CKD. This knowledge about risk factors may provide important evidence-based information for policymakers and healthcare professionals regarding strategies for risk factor modification, CKD prevention, and healthcare planning.

LIMITATIONS

The study has limitations, including a relatively short duration and a limited number of subjects, potentially affecting the generalizability of findings. To address CKD progression variability, patients were categorized into early and advanced stages, recognizing potential nuances within each stage. The 6-month follow-up period may be insufficient for a comprehensive assessment. Additionally, self-reported tobacco and alcohol data may be influenced by social desirability bias, introducing uncertainty. While the study provides valuable insights, these limitations should be considered, and future research with extended follow-up and a larger, diverse sample is recommended for a more comprehensive understanding of CKD progression and associated risk factors.

CONCLUSION

This hospital-based study has been instrumental in uncovering pivotal risk factors associated with the progression of chronic kidney disease. The research highlights a robust association between CKD progression and a spectrum of parameters, including

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demographic aspects like age, physiological indicators such as BMI, and lifestyle habits like alcohol intake and smoking. Furthermore, clinical factors like serum creatinine, serum uric acid, eGFR, and random blood sugar were identified as significant contributors to CKD progression. Notably, patients with concurrent conditions such as diabetes, coronary artery disease (CAD), and anemia exhibited a more pronounced decline in renal function. This underscores the urgency of early detection and tailored management of these risk factors.

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Table 1: Comparison of Baseline and Sociodemographic Characteristics between Early Stage and Advanced Stage CKD Patients

Parameters		Early Stage (n=51)	Advanced Stage (n=96)	p value
Age		66.55±10.271	56.30±14.48	0.032
Gender	Male	39(76.5)	57(59.4)	0.038
	Female	12(23.5)	39(40.6)	
BMI (kg/m ²)		23.29±3.25	22.413±4.46	0.021
Systolic BP (mmhg)		137.04±23.24	145.02±27.54	0.122
Diastolic BP (mmhg)		80±15.23	80.10±12.52	0.852
Pulse rate (bpm)		87.06±15.12	82.78±10	0.001
Alcohol	Never	33(64.7)	77(80.2)	0.039
	Former	18(35.3)	19(19.8)	
Smoking	Never	32(62.7)	77(80.2)	0.040
	Former	19(37.3)	19(19.8)	
NSAIDS	Never	45(88.2)	69(71.9)	0.074
	Often	0	5(5.2)	
	Once a week	6(11.8)	18(18.8)	
	Once a month	0	4(4.2)	
Herbal	Never	49(96.1)	83(86.5)	0.086
	Often	0	7(7.3)	
	Once a week	0	4(4.2)	
	Once a month	2(3.9)	2(2.1)	
Salt Intake		3.56±1.19	2.75±1.34	0.670

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Table 2: Comparison of Laboratory Parameters between Early Stage and Advanced Stage Chronic Kidney Disease (CKD) Patients

Parameters	Early Stage (n=51)	Advanced Stage(n=96)	p value
Haemoglobin (g/dl)	9.94±1.63	10.98±14.35	0.304
Serum creatinine (mg/dl)	2.51±1.06	7.69±2.87	0.001
Sodium (mEq/L)	135.76±3.28	136.48±3.23	0.913
Potassium (mmol/L)	4.47±0.65	4.97±0.59	0.168
Chloride (mEq/L)	100.11±1.86	100.30±4.25	0.406
Bicarbonate (mmol/L)	22.12±1.32	21.87±1.45	0.876
Serum uric acid (mg/dL)	5.32±2.79	5.61±2.10	0.043
Calcium (mg/dl)	7.44±2.90	8.78±4.01	0.429
Phosphorus (mg/dl)	4.09±2.11	4.86±1.63	0.090
Random blood sugar (mg/dl)	195.94±101.19	159.12±75.64	0.017
AST (unit/litre)	22.97±20.39	20.11±8.86	0.088
ALT (unit/litre)	20.23±11.26	19.11±7.85	0.137
eGFR (ml/min)	34.04±12.53	9.92±7.80	0.001

Table 3: Status of Co-morbidity in the Progression of Chronic Kidney Disease

Parameters	Early Stage (n=51)	Advanced Stage (n=96)	p value
T2DM	37(72.5)	36(37.5)	0.001
Hypertension	40(78.4)	71(74)	0.548
CAD	19(37.3)	5(5.2)	0.001
CVD	0	1(1)	0.465
Anemia	30(58.8)	78(81.2)	0.003

***Note: CAD-Coronary Artery disease, CVD- Cardio Vascular Disease**

Table 4: Distribution of Anti-Hypertensive Drugs Between Groups

Medications	Early Stage (n=51)	Advanced Stage (n=96)	p value
Diuretics	15(29.4)	35(36.5)	0.475
Alpha-blockers	13(25.5)	21(21.9)	0.423
Beta-blockers	14(27.5)	31(32.3)	0.462
CCB	21(41.2)	61(63.5)	0.498
ARB	0	2(2.1)	0.116
Statin	25(49)	40(41.7)	0.498

***Note: CCB-Calcium Channel Blockers, ARB- Angiotensin Receptor 2 Blocker**

Table 5: The Precipitating Causes of Chronic Kidney Disease between Groups

Parameters	Early stage(n=51)	Advanced stage(n=96)	p value
Unknown	16(31.4)	61(63.5)	0.001
HTN	23(45.1)	23(24)	0.001
DM	12(23.5)	12(12.5)	0.001
Family history of CKD	1(2)	11(11.5)	0.045

***Note: HTN-Hypertension, DM-Diabetes mellitus, CKD- chronic kidney disease**



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The Effect of Population, HDI, Poverty, and PMDN Investment on Economic Growth in NTB Province



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ABSTRACT: Growth in the economy is a measure of the degree to which a nation is developing. The purpose of this study is to ascertain the degree to which the population, HDI, poverty, PMDN investment impact economic growth in NTB Province. The variable data used is for 10 regencies/cities in NTB for the period 2010 – 2022. This kind of quantitative research employing panel data regression analysis approaches is conducted utilizing skunder data from the NTB province's Central Statistics Agency (BPS). The findings demonstrated that economic growth is unaffected by the population and HDI, while economic growth is negatively affected and significantly by poverty, and economic growth is influenced positively and significantly by PMDN investment.

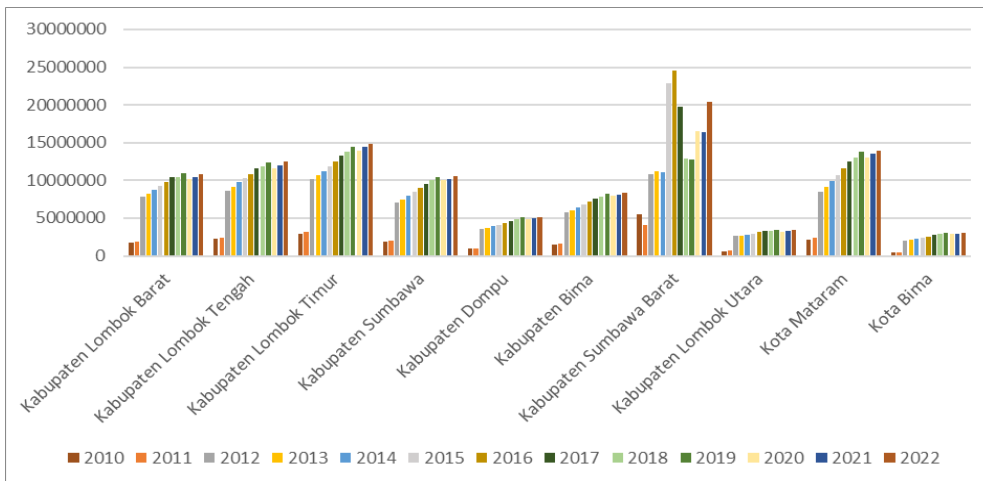
KEYWORDS: Number of Population, HDI, Poverty, PMDN Investment, Economic Growth

I. INTRODUCTION

Economic growth is one indicator of how well economic development is working in people's lives. Economic growth is a term used to describe how a region's economic activity is reflected in the manufacturing of product and services has increased over a certain period. The prospect of regional development is getting better due to the rapid process of increasing regional output as a result of the high rate of economic growth. By knowing the sources of economic growth, we can determine which sectors should be development priorities (Magdalena & Suhatman, 2020).

A nation's economy is growing when its output and income both rise. The Gross Domestic Product (GDP) produced annually in a nation can be used to measure national income and output, while the Gross Regional Domestic Product (GRGP) produced annually in a region can be used to measure regional income (Rizky, Agustin, & Mukhlis, 2016). GRDP is the amount of value added generated by all businesses operating within a given area (Hayet, 2016).

Figure 1. GRDP Based on Constant Prices by District/City in NTB Province (Million rupiah)



Source: BPS West Nusa Tenggara Province in Figures 2011 - 2023

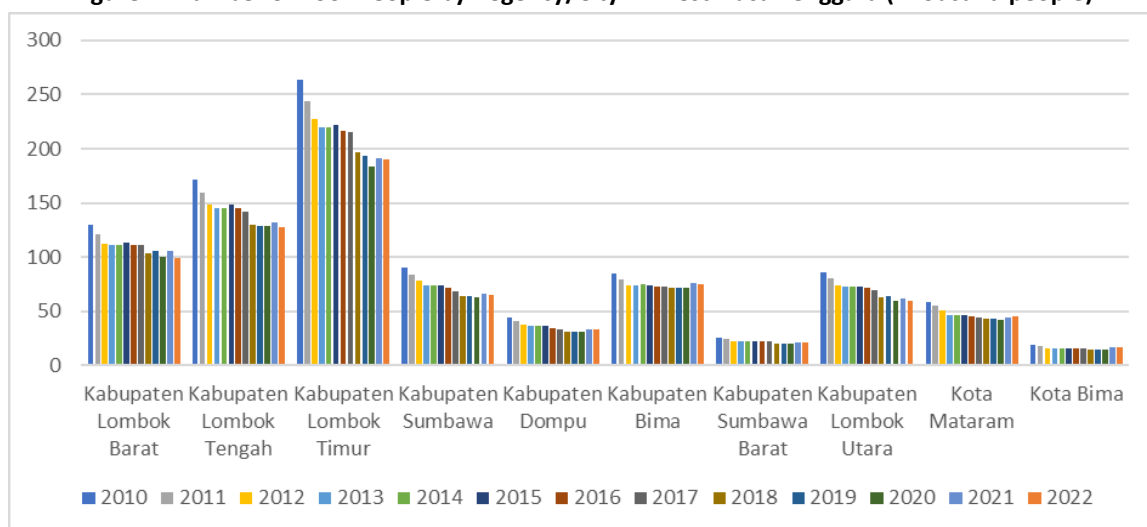
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Based on the GRDP data above, the economic growth in the District/City of NTB Province in 2010-2022 fluctuates every year. In 2020, economic growth decreased in almost all districts/cities. This decrease is the impact of large-scale social restriction policies (PSBB) in various cities in Indonesia, including NTB. Then in 2021-2022, the economic growth of NTB Province increased again. Economic growth is seen as a macroeconomic problem in the long run, therefore NTB's economic growth must be maintained or find solutions on what actions can be taken as an effort to prevent a decline in economic growth.

The population has two impacts on the economy, namely an increase in population can increase economic turnover and can also cause losses to the area concerned (Malida & Marselina, 2023). Based on data from BPS West Nusa Tenggara, the population of NTB in 2010-2022 has increased every year. In 2022, the population of NTB is 5,473,970 people.

Theoretically, human development and economic growth are closely related and the development target is high economic growth (Iskandar, 2017). The Human Development Index (HDI) was first published by the United Nations Development Programme (UNDP) in 1996 through the Human Development Report and then applied annually. This publication defines human development as " a process of enlarging people's choices" or the process of improving aspects of people's lives. Adequate education, a decent standard of living, and a long and healthy life are important components of this life (Setiawan & Hakim, 2013). Based on data from BPS West Nusa Tenggara, the Human Development Index of NTB Province for the 2010-2022 time period continues to show an increase.

Figure 2. Number of Poor People by Regency/City in West Nusa Tenggara (Thousand people)

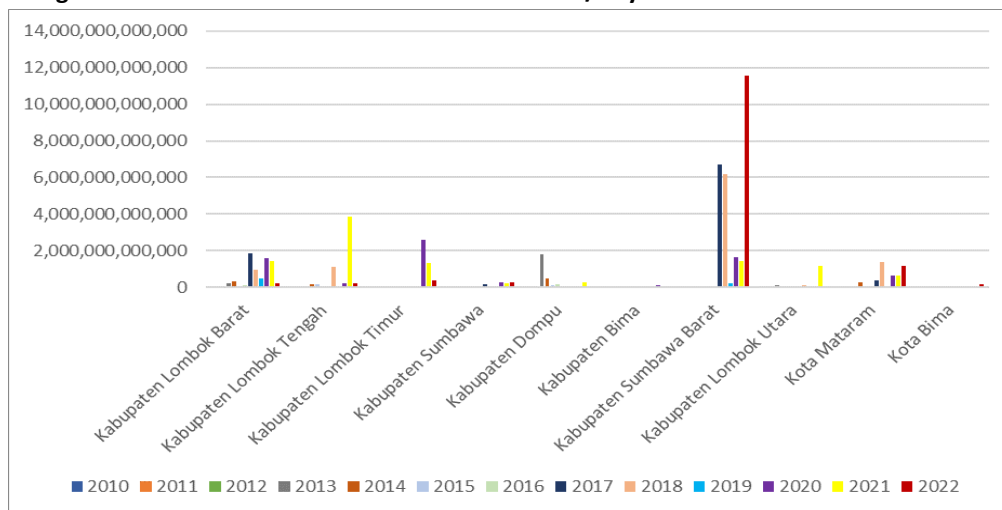


Source: BPS West Nusa Tenggara Province in Figures 2011 - 2023

Being unable to maintain a minimal quality of living is a sign of poverty. Improved people's welfare and standard of living are directly correlated with better economic growth rates, which in turn decreases poverty rates in society. The higher the level of economic growth rate, the higher the standard of living of the community and welfare will increase which has an impact on reducing the level of poverty in society (Wibowo, 2014). In fact, the highest economic growth data occurred in West Sumbawa Regency in 2017 amounting to Rp. 19,773,720 million and followed by low poverty of 22.33 thousand people.

Adnan explained that one factor that contributes significantly to economic growth is investment. Investment has always been a buzzword in any discussion of economic concepts, and is an important component in economic growth and national income. Wati's opinion that Investment can help a country develop valuable goods and services, which in turn can create jobs. With the increase in people's incomes, people can get access to education and health services, so the development of investment is said to reduce the amount of individuals that are living in poverty (Lestari, Marhaeni, & Yasa, 2021).

Figure 3. Investment Realization of PMDN District/City of NTB Province in 2010 - 2022



Source: BPS West Nusa Tenggara Province in Figures 2011 - 2023

Based on the graph above, it is known that the development of PMDN investment in NTB Province fluctuates, the highest investment occurs in 2022 in West Sumbawa Regency of Rp. 11,577,027,797,735 and is followed by increased economic growth, namely RP. 20,379,440 million rupiah. This fact is interesting to study, whether investment has a positive effect on the economic growth of districts / cities in NTB Province.

Given the foregoing context, the author is motivated to carry out a study named "The Effect of Population, HDI, Poverty, and PMDN Investment on Economic Growth in NTB Province.

II. LITERARY REVIEW

A. Theory

1. Economic Growth

According to Simon Kuznets in Agustini & Kurniasih (2017), Economic growth refers to a country's capacity to offer an increasing variety of economic commodities to its citizens. This capacity develops with economic progress and necessary institutional and ideological changes. There are three main concepts included in this definition, namely the increasing supply of goods which shows the economic growth of a country. Furthermore, because modern technology plays an important role in economic growth, the level of public acceptance of various products is determined by this technology. Lastly, so that technology can be used widely and effectively and scientific progress can be exploited, changes are needed in the institutional and ideological fields.

Saad in Iskandar (2017) emphasized that the sustainable development approach would be based on economic expansion, so that the nation's leader could improve people's welfare by encouraging economic expansion. To achieve this goal, the nation's leader must prioritize infrastructure, health care and education. The nation's leader must also the construction of provides that attract domestic and foreign investment, offer affordable housing, and the need to strengthen and improve the environment in the agricultural industry.

2. Population

Adam Smith's theory that if there is an increase in population, a financial system can increase and thrive. Population size is able to expand the market and can encourage specialization which ultimately drives economic growth. While on David Ricardo's theory, that the labor force is becoming more and more plentiful if the population grows. this will be oriented towards the non-development of the economy as a result of wages that have decreased as a result of the abundant labor force (Malida & Marselina, 2023).

3. The index of human development (HDI)

The indeks of human development is one of the indicators to see the development of human resources that can run the conditions for successful development (Iskandar, 2017). The composite index measured based on income, literacy rate, life expectancy and other factors in several countries is the indeks of human development (Hoa, Liem, & Phuoc, 2016). The indeks of human development is used as a basis for evaluation, comparison of the degree to which a nation has developed. The theory that rapid indeks of human development will boost economic progress by enabling the society to make more contributions to raising productivity and creativity (Lestari et al., 2021).

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4. Poverty

Poverty is the condition of a population or part of the population that maintains a minimum level of living by only being able to meet the necessary food, clothing, and housing needs. Opinion by Poerwadarminta that poverty comes from the word poor literally which means "having no other property". Poverty can be said to be a condition that is vulnerable to the emergence of other social problems due to a condition of incompetence of individuals, groups, and families (Hidayat, Madris, & Anwar, 2023). Theory that says a rise in economic growth can affect how much more people make than they did the year before, and if it happens, it can be predicted that a population is going to not experiencing poverty (Wibowo, 2014).

5. PMDN Investment

Sukirno's opinion in Agustini & Kurniasih (2017) that the cost incurred by investors or businesses to purchase capital products as well as production machinery in order to boost the output of products and services offered to the market is referred to as investment. The Harrod-Domar theory states that investment is crucial to the expansion of the economy. Revenue may be generated as demand changes. Additionally, by raising capital stock as a result of supply, it can raise the economy's potential for production (Rizky et al., 2016).

B. Review of Empirical Evidence

Agustini & Kurniasih (2017) investigated how workers absorption, FDI, and PMDN investment affected the Kalimantan Province of West Province's economic growth as well as the number of impoverished cities and districts. Research discovered that employment, foreign and domestic investment, all significantly and favorably affect the economy's expansion. then the number of impoverished individuals in West Kalimantan's regions and cities is negatively and significantly impacted by economic expansion.

The impact of foreign direct and local investment inflows on Turkey's economic growth from 1980 to 2012. Researchers found that although domestic investment has long-term and short-term positive impacts on economic growth, foreign direct investment inflows have a negative impact (Bayar, 2014).

Investment and economic growth in provinces in Indonesia. It was found that FDI cannot increase economic growth but PMDN can increase it, while HDI has no effect on it (Hapsari & Prakoso, 2016).

The impact of poverty, economic growth, level of education, and financing for education in Central Java. The findings indicated that poverty rates are negatively impacted by financing for education, level of education, and economic growth (Wibowo, 2014).

Research on South Sulawesi's economic growth and its impacts such as poverty, unemployment and population. In fact, the population and unemployment rate have a negative and significant effect on South Sulawesi's economic growth. Meanwhile, poverty affects economic growth negatively and is not significant (Hidayat et al., 2023).

Malida & Marselina (2023) The impact of population, exports, and regulatory quality on the economic growth of ASEAN developing countries. Based on this analysis, population has a significant negative influence on the economic growth of ASEAN countries between 2015 and 2020, while exports have a significant and positive influence. Meanwhile, the quality of regulations is not significant but has a positive influence. In addition, exports, population and regulatory quality together have a significant influence on the economic growth of ASEAN countries.

III. RESEARCH METHODS

A. Type and Location of Study

Quantitative study is a type of study used and aims to explain the influence of independent variables, namely population, HDI, poverty, and PMDN investment on the dependent variable, namely economic growth. NTB Province was the location for this study.

B. Data Types and Sources

In this investigation, secondary data were employed. Data gathered by indirect means such as media, can be referred to as secondary data. This secondary data is time series data for the 2010-2022 period which was acquired from NTB province's Central Statistics Agency (BPS).

C. Method for Gathering Data

Using a documentation approach, researchers document and collect information about the topic the researcher is working on from various documents, notes and archives.

D. Data Analysis Techniques

Regression analysis of panel data was employed in this study to ascertain whether one or more independent (free) variables had a substantial impact on the variable that was dependent (bound) partially or simultaneously. Gujarati's opinion in Abrar et

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al., (2022), CEM (Common Effect Model), FEM (Fixed Effect Model), and REM (Random Effect Model) are three models that can be used to estimate panel data. To choose which model is appropriate, the chow test and hausman test are carried out.

Furthermore, according to Ghazali, statistical tests need to be carried out, including the t test, F test and coefficient of determination test. By using the T test, one can find out to what extent the free variable impact the bound variable. In conclusion, the following hypothesis is used: H_a indicates that the bound variable is significantly influenced by the free variable, while H_0 indicates that the bound variable is not significantly influenced by the free variable. The characteristics used for testing are as follows, namely if the significance threshold is greater than alpha 5%, then H_0 is accepted. If the significance threshold is less than 5% alpha, then H_a is accepted. By using significant values, the F test attempts to ascertain how the free variables in the model impact the bound variable as a whole. Measuring the model's ability to explain variations in the bound variable is the purpose of the coefficient of determination. If the free variable is small, then it can tell us only a little about how the bound variable, whereas if the number is close to one, then it can tell us almost everything we need to know to predict how the bound variable (Salsabila, Imaningsih, & Wijaya, 2021).

IV. RESULTS AND DISCUSSION

A. Model Selection Test

Model selection tests are carried out to select which model is appropriate for estimating panel data.

1. Chow Test

This test is performed to choose between a CEM model or a FEM model that is more suitable for estimating panel data. Here are the estimated results:

H_0 : CEM model

H_1 : FEM model

H_1 is the hypothesis that is acknowledged and rejects H_0 if the probability is below 0.05. Conversely, if the probability is above 0.05 then the hypothesis is accepted H_0 and rejected H_1 .

Figure 4. Chow Test

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	40.754137	(9,116)	0.0000
Cross-section Chi-square	185.378162	9	0.0000

A value of 0.0000 below 0.05 is a cross section Chi-square cross section value in accordance with the findings of the Chow test regression carried out. So that H_0 is rejected, the FEM model is the most appropriate to use.

2. Hausman Test

The Hausman test is performed to show that the most suitable REM model or FEM model is used. Here are the estimated results:

H_0 : REM model

H_1 : FEM model

The accepted hypothesis is H_1 and reject H_0 if the probability is less than 0.05. Conversely, H_0 is accepted and H_1 is rejected if the probability is greater than 0.05.

Figure 5. Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	33.684319	4	0.0000

Since the probability of 0.0000 is below 0.05, H_0 is rejected according to the results of the Hausman test. Therefore, it is better to use the FEM model rather than the REM model.

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B. Statistical Test

Statistical tests such as the t test, F test, and determination coefficient test are then performed after the optimal model for panel data estimation has been chosen. The regression data from the FEM model are shown in the following manner.

Figure 6. Regression Results

Dependent Variable: Y
 Method: Panel Least Squares
 Date: 11/24/23 Time: 13:08
 Sample: 2010 2022
 Periods included: 13
 Cross-sections included: 10
 Total panel (balanced) observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.27783	11.20853	2.701319	0.0079
X1	-0.986516	0.865845	-1.139369	0.2569
X2	3.559625	1.962127	1.814166	0.0722
X3	-4.162555	0.665115	-6.258398	0.0000
X4	0.009020	0.004060	2.221775	0.0282

Effects Specification

Cross-section fixed (dummy variables)			
R-squared	0.851745	Mean dependent var	15.59623
Adjusted R-squared	0.835130	S.D. dependent var	0.829739
S.E. of regression	0.336909	Akaike info criterion	0.763432
Sum squared resid	13.16688	Schwarz criterion	1.072243
Log likelihood	-35.62307	Hannan-Quinn criter.	0.888912
F-statistic	51.26419	Durbin-Watson stat	1.154699
Prob(F-statistic)	0.000000		

Based on the test results above, the regression equation is obtained as follows:

$$Y = 30.27783 - 0.986516 X_1 + 3.559625 X_2 - 4.162555 X_3 + 0.009020 X_4$$

These results can be explained as follows:

- Growth in the economy is unaffected by population.
- Growth in the economy is unaffected by HDI.
- The Poverty regression coefficient is -4.162555 meaning that assuming all other variables remain constant, every 1% increase in poverty will result in a decrease in economic growth of 4.162555%, and vice versa
- The PMDN investment regression coefficient of 0.009020, indicating that a 1% rise in PMDN investment will result in a 0.009020% improvement in economic growth, assuming that all other variables remain constant, and vice versa.

1. t Test

Following panel data regression with the FEM model, can be ascertained:

- a) From the estimation results, the probability of the Population variable is 0.2569. variable Y (Economic Growth) is not significantly influenced by variable X1 (Population) because the probability value is more than 5% or $0.2569 > 0.05$.
- b) The estimation results show that the HDI is 0.0722. has a variable probability of 0.0722. Because the probability value is less than 5% or $0.0722 > 0.05$, it can be concluded that the variable Y (Economic Growth) is not significantly influenced by the variable X2 (HDI).
- c) The value 0.0000 is the probability of the Poverty variable based on the estimation findings. because $0.0000 > 0.05$ or the probability value is less than 5%, it can be concluded that the variable Y (Economic Growth) is significantly influenced by variable X3 (Poverty).
- d) The value 0.00282 is the probability of the PMDN Investment variable based on the estimation findings. Because $0.00282 > 0.05$ or the probability value is less than 5% it can be concluded that the variable Y (Economic Growth) is significantly influenced by variable X4 (PMDN Investment).

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2. F Test

Using the FEM model, the panel data regression results show an F-statistic value of 51.26419 with a probability of 0.00000 which is lower than the confidence level of $\alpha = 5\%$ ($0.0000 < 0.05$). This means that the independent variables, namely population, HDI, poverty, and PMDN investment collectively impact the economic growth of NTB in a significantly way in the calculation year 2010–2022.

3. Coefficient of Determination (Adjusted R2)

As shown, 0.835130 or 83.51 is the coefficient of determination. This demonstrates that the population's variables, HDI, poverty, and PMDN investment can all be used to explain together 83.51% of economic growth in NTB Province. Other variables not included in this analysis contributed 16.49%.

C. Discussion

1. Population Variables' Impact on Economic Growth

Economic growth is unaffected by the population. This indicates that the population will not be a major factor in driving growth in the economy. Economic growth is not only determined by population, but to increase economic growth can be done by increasing labor productivity.

2. HDI Variables' Impact on Economic Growth

Economic growth is unaffected by the HDI. This indicates that HDI will not be a major factor in driving growth in the economy. In the perspective of income, one of the composite indicators for the formation of HDI is people's purchasing power. In this case, people's consumption patterns that increase purchasing power do not cause economic expansion. The findings of this investigation are consistent with those of Hapsari & Prakoso (2016) showing that HDI in Indonesia is not too high compared to other countries, so there is no optimal technology transfer or no development of workers in Indonesia. Therefore, HDI has no effect on the provincial economy.

3. Poverty Variables' Impact on Economic Growth

Economic growth is negatively affected and significantly by poverty. The findings of this investigation are consistent with those of Wibowo (2014) research which resulted that economic growth negatively affects the poverty rate. This is also in accordance with Budiono's theory in Wibowo (2014) that the increase in output or per capita income of a region is growth in the economy. Increases in output and total economic activity that result in higher incomes for individuals compared to the previous year are referred to as economic growth. With higher incomes, people have the opportunity to meet basic needs and improve high welfare, so people are free from poverty. So when economic growth increases, there can be a decrease in poverty levels.

4. PMDN Investment Variables' Impact on Economic Growth

Economic growth is influenced positively and significantly by PMDN investment. The findings of this investigation are consistent with those of Agustini & Kurniasih (2017) demonstrating the favorable and significantly impact of PMDN investment on economic growth.

This result is in accordance with Harrod-Dommar's theory in Rizky et al., (2016) that the importance of investment as the key to economic growth that can create income and increase production capacity. The existence of natural resources or energy potential in NTB Province that can be utilized for economic activities can raise investor appeal or encourage investment in connected industries to contribute to higher economic growth.

V. CONCLUSIONS

Based on the following testing and analysis, conclusions can be made about this study: a) Economic growth in West Nusa Tenggara Province is unaffected by the population. b) Economic growth in is unaffected by the HDI. c) Economic growth is negatively affected and significantly by poverty. d) Economic growth is influenced positively and significantly by PMDN investment.

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Evaluation of the Implementation of Physical Education Learning Sports and Health Madrasah Tsanawiyah Negeri 1 Baubau



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ABSTRACT: Shaping the character and motor development of students is the main goal of physical education learning. This study aims to evaluate: (1) Evaluation of the context of the Penjas learning program at MTS Negeri 1 Baubau, Southeast Sulawesi, Indonesia; (2) arrangement of Penjas learning program inputs at MTS Negeri 1 Baubau, Southeast Sulawesi, Indonesia; (3) implementation of the Penjas learning program at MTS Negeri 1 Baubau, Southeast Sulawesi, Indonesia; and (4) the results of the Penjas learning program at MTS Negeri 1 Baubau, Southeast Sulawesi, Indonesia. The evaluation model of this research is CIPP (Context, Input, Process, Product). The place where this evaluation research was carried out was at MTS Negeri 1 Baubau, Southeast Sulawesi and was carried out on September 18-25, 2023. The research sample used a non-probability sampling technique through a purposive sampling approach, namely 1 school principal, 1 PJOK teacher, and 33 MTs Negeri 1 BauBau students in Southeast Sulawesi. Data collection techniques use observation, questionnaires, and documentation. Descriptive quantitative data analysis by processing acquisition data is then categorized into four categories, namely very good, good, good enough, and not good. The results showed that: (1) the program planning component with indicators of the relevance of the 2013 curriculum to learning in schools at very good category standards; (2) program structuring components with indicators of Penjas teacher background and student involvement, Penjas facilities and infrastructure, and Teacher Competency Standards in the good category standards; (3) program implementation components with indicators of preparation and implementation of Penjas learning in the good category standards; and (4) program outcome component student achievement achievement indicators on good category standards.

KEYWORDS: Evaluation, Learning, CIPP, Students.

I. INTRODUCTION

Physical Education, Sports and Health (PJOK) is a compulsory subject in an education system. Achieving all areas of competence that have been formulated, students are expected to develop their potential, especially to be able to master basic techniques from various sports taught [1]. Therefore learners are the central point in education, so it is considered necessary to formulate learning programs that consider the circumstances of the learners themselves. PJOK is not only an important part of human life. PJOK is also an important part of the educational process. That is, through well-directed physical education, children will develop skills that are useful for leisure time, engage in activities conducive to developing a healthy life, develop socially, and contribute to their physical and mental health [2]. Physical activity is the main and dominant thing in PJOK learning [3]. The purpose of PJOK in general is not only to develop in the psychomotor realm but also in the affective and cognitive domains.

Physical activity is the main and dominant thing in PJOK learning. In addition, another uniqueness of PJOK is that it can improve the physical fitness and health of students, improve the mastery of physical skills, and increase students' understanding of the principles of motion and how to apply them in practice [4]. Active learners, in a positive sense, will be able to follow the learning process well, so that the achievement of PJOK learning whose indicator is fitness is achieved. Vice versa, if students are lazy in following learning, then indicators in the form of fitness will be difficult to achieve [5].

Various obstacles and learning problems are experienced at MTS Negeri 1 Baubau. Based on observations through interviews with observations with 1 PJOK teacher at MTS Negeri 1 Baubau in May 2023, the problem that occurs is that learning is still value-oriented. Game activities are less developed in the learning process, so they are less able to explore the movements of

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students. The facilities and infrastructure owned by each school are not the same, there are several schools that have limitations in terms of PJOK facilities and infrastructure. When learning, not all material on the syllabus can be carried out properly. This material that cannot be carried out is due to several reasons such as lack of facilities and infrastructure, so that teachers can only deliver material in theory.

Based on field notes conducted by researchers that PJOK teachers have not fully understood and have difficulties in implementing PJOK learning implementation. Teachers in general still equate the perception between PJOK and sports. The importance of the quality of educators and supporting infrastructure to realize educational goals, especially PJOK which has an important role in the growth and development of students must be really considered. The quality of teachers can be seen from the success rate of a teacher in teaching. A teacher is required to have a goal to bring children or students in a better direction in achieving joint efforts. A teacher not only provides material and provides assessment to his students, but teachers must be as smart as possible in choosing the method to be used to deliver the material that students are expected to be able to understand and be able to receive material clearly.

The implementation of PJOK learning must be adjusted to the abilities of each child and the implementation given must be systematic, in accordance with the characteristics of the child and managed through physical development effectively and efficiently towards the formation of a whole person. Therefore, to measure the extent of achievement of learning objectives, a process called evaluation is needed. Evaluation is closely related to the learning process. Evaluation is useful as a way to obtain learning development and to find out how far the learning objectives that have been formulated are met. There are many evaluation models with their respective formats and systems, although sometimes found in the same number of models as other evaluation models, one of which is the Context, Input, Process, Product (CIPP) evaluation model. This evaluation model developed by Stufflebeam is decision-oriented.

The CIPP model is a model for providing information to decision makers, so the purpose of this evaluation is to make decisions. [6] states that the CIPP evaluation model intends to compare the performance of various program dimensions with a number of specific criteria, to finally arrive at a description and judgment about the strengths and weaknesses of the program being evaluated. Learning activities as a system consist of component components of teachers, learners, objectives, materials, facilities, strategies and assessments. All of these components cannot stand alone, one component with another component is interconnected. Teachers cannot be separated from students who are targeted in the learning process. The learning process carried out by teachers must have clear goals, with various material materials that must be met to achieve the planned goals. Learning activities as a system consist of component components of teachers, learners, objectives, materials, facilities, strategies and assessments. All of these components cannot stand alone, one component with another component is interconnected. Teachers cannot be separated from students who are targeted in the learning process. The learning process carried out by teachers must have clear goals, with various material materials that must be met to achieve the planned goals.

Several studies conducted by Kaloka & Kurniawan (2021) show the results of (1) Context Evaluation, the relevance of the syllabus used by teachers regarding content standards and graduate competency standards. (2) Input Evaluation: Students who belong to the good category in terms of school origin, parents' work, interests, teacher qualifications seen from the last education, teaching experience, training learning requirements and learning facilities are very good. (3) Process Evaluation, the learning plan has referred to the syllabus but has not been maximized, teacher activities include sufficient (average 36), student activities are sufficient category (average 28.5), and teaching and learning activities are sufficient (average 1.38); (4) Product Evaluation, in evaluating the results of good category report cards, this competency includes the value of health assessment and character in students in the good category.

A study conducted by Raibowo & Nopoyanto (2021) shows that the evaluation results of the PJOK learning program in public junior high schools throughout Mukomuko Regency, the average assessment shows (1) the context component is in the "poor" category, where the learning objectives are not well formulated (44.50%); (2) input component in the "good enough" category, there are still teachers who do not have learning tools and infrastructure and lack of the principal's role in supervision (59%); (3) process components in the "good enough" category, namely ineffective learning implementation time and the learning process is still teacher-centered as the main learning source and lack of student participation in physical activity (58.15%); (4) The product component is in the "not good" category, namely low student interest in physical education, sports and health (45.1%). Furthermore, a study conducted by Pratama & Fauzen (2021) showed that for the achievement of context evaluation results in the implementation of PJOK learning, a percentage of 74.16% was obtained. Then the achievement of input evaluation results obtained a percentage of 73.55%. The achievement of the process evaluation results obtained a percentage of 86.52%. Meanwhile, for the achievement of product evaluation results, a percentage of 71.87% was obtained. From the data above, it can be concluded that (1) context evaluation obtained the predicate of "good" evaluation results, (2) input evaluation obtained

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the predicate of "good" evaluation results, (3) process evaluation obtained the predicate of "very good" evaluation results, (4) product evaluation obtained the predicate of "good" evaluation results.

II. METHOD

This type of research is an evaluation research that uses a mixture of quantitative and qualitative methods that aim to measure the success of an activity / program and determine the success of a program and whether it is as expected. The evaluation model that will be used in this study is the CIPP model because the CIPP model is an evaluation carried out in a complex manner which includes Context, Input, Process, and Product.

The population and sample used in this study are using purposive sampling techniques, so that the informants who will be used as research sources are physical education teachers, principals, parents and students. Data collection techniques refer to a method, the form of which is shown in its use in collecting data using observation, interviews, and questionnaires. And the data analysis techniques used in this study are quantitative and qualitative data analysis.

III. RESULT

This study was used to determine the Learning Evaluation of Physical Education, Sports and Health MTs Negeri 1 Bau Bau. The data from this study is in the form of quantitative data from questionnaire sheet instruments filled in by the principal, observation sheets filled in by Penjas, and parents, as well as documentation obtained from the results of student achievement in Penjas subjects.

The evaluation of Physical Education Learning Sports and Health MTs Negeri 1 Bau Bau is carried out by presenting the results of evaluation data which are divided into four categories, including: (1) Evaluation in context: The relevance of the 2013 Curriculum to learning in schools, (2) Evaluation in inputs consisting of Penjas educator graduates and Student Engagement, infrastructure and facilities, and Teacher Competency Standards, (3) Evaluation in process: The process of preparation and implementation of physical education teaching, and (4) Evaluation in the product: Student Learning Achievement Results. The results of the study are described as follows.

1. Context Evaluation

Context evaluation is evaluating the context of the 2013 curriculum relevance indicators to learning in schools, especially Penjas subjects in MTs Negeri 1 Bau Bau. Based on the results of the observation sheet filled in by the Penjas teacher about the indicators of the Relevance of the 2013 Curriculum to learning in schools, descriptive statistical data were obtained as follows:

Table 1. Descriptive statistical data, evaluation of context on relevance indicators

Min.	Max.	Average	Median	Modus	Std. Deviation
63,85	100,00	79,20	82,00	83,86	9,75

Context evaluation data on indicators of the relevance of the 2013 curriculum to learning in schools, then categorized based on value intervals as follows.

Table 2. Context evaluation data categories on relevance indicators

No.	Value Interval	Frequency	Information
1.	76% to 100%	10	Good Very
2.	56% to 75%	8	Good Standard
3.	40% to 55%	0	Enough categories
4.	<40%	0	Less

The categorization of context evaluation data on indicators of the relevance of the 2013 curriculum to learning in schools is dominant Very Good with a frequency of 10 schools. The result of the category value interval is "Very Good".

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2. Input Evaluation

The evaluation of the input of the Penjas learning program at MTS Negeri 1 BauBau is divided into three indicators, namely: 1) Penjas teacher background and student involvement, 2) Penjas facilities and infrastructure, 3) Teacher competency standards.

Table 3. Descriptive statistical data evaluation of input input

Category	Min.	Max.	Average	Median	Modus	Std. Deviation
Penjas teacher background	66,72	100,00	82,87	82,43	81,00	8,28
Facilities and Infrastructure	37,45	78,47	59,66	63,15	37,96	14,83
Teacher Competence	60,75	90,00	77,31	75,73	75,00	7,66

Input evaluation data about the indicators of each category, then categorized based on the value interval as follows.

Table 4. Categories of input evaluation data on relevance indicators

No.	Value Interval	Frequency	Information
Background of the Physical Education Teacher			
1.	76% to 100%	16	Good Very
2.	56% to 75%	2	Good Standard
3.	40% to 55%	0	Enough categories
4.	<40%	0	Less
Facilities and Infrastructure			
1.	76% to 100%	4	Good Very
2.	56% to 75%	7	Good Standard
3.	40% to 55%	4	Enough categories
4.	<40%	3	Less
Teacher Competence			
1.	76% to 100%	9	Good Very
2.	56% to 75%	9	Good Standard
3.	40% to 55%	0	Enough categories
4.	<40%	0	Less

3. Process Evaluation

Process evaluation is evaluating the process of indicators of the preparation process and implementation of PE learning, especially PE subjects at MTS Negeri 1 BauBau. Based on the results of the observation sheet filled in by the Penjas teacher about the indicators of the preparation process and implementation of Penjas learning, descriptive statistical data were obtained as follows:

Table 5. Descriptive statistical data, evaluation of context on relevance indicators

Min.	Max.	Average	Median	Modus	Std. Deviation
67,40	99,12	82,76	78,30	78,60	8,53

Context evaluation data on indicators of the PJOK learning preparation and implementation process are then categorized based on value intervals as follows.

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Table 6. Context evaluation data categories on relevance indicators

No.	Value Interval	Frequency	Information
1.	76% to 100%	15	Good Very
2.	56% to 75%	3	Good Standard
3.	40% to 55%	0	Enough categories
4.	<40%	0	Less

4. Product Evaluation

Product evaluation is evaluating the context of the indicators of average school student achievement outcomes, especially Penjas subjects at MTS Negeri 1 BauBau. Based on the results of documentation data by Penjas teachers, namely the average value of PJOK subjects of each school regarding product evaluation, indicators of student achievement outcomes, the average school obtained descriptive statistical data such as the following table:

Table 7. Data statistik deskriptif evaluasi konteks tentang indikator

Min.	Max.	Average	Median	Modus	Std. Deviation
76,11	86,50	82,07	82,12	76,05	2,48

Context evaluation data on indicators of school average student achievement outcomes, then categorized based on grade intervals as follows.

Table 8. Context evaluation data categories on relevance indicators

No.	Interval Nilai	Frekuensi	Keterangan
1.	91 – 100	0	Good Very
2.	81 – 90	14	Good Standard
3.	71 – 80	4	Enough categories
4.	<70	0	Less

IV. DISCUSSIONS

Learning Penjas subjects at MTS Negeri 1 BauBau should have design, implement, and support from supporting components so that optimal learning outcomes can be achieved. Penjas learning needs to pay attention to supporting elements in learning activities [6]. This is as stated by [7] learning physical education subjects can be carried out smoothly and successfully, very determined by elements including: students, teachers, methods, supporting environment, sarpras, curriculum, goals, and assessment. The success criteria, the results of this research evaluation were grouped into four categories, namely: Very Good, Good, Sufficient Category, and Less. Results in the evaluation are ideal, able to achieve standard interval values in good categories for each component. The detailed discussion of the evaluation in these components is further described as follows.

The research findings conclude the teaching implementation plan and materials according to use with the 2013 Curriculum. Penjas learning is made and developed based on curriculum references [8]. The observations show that there is conformity with core competencies, compatibility with basic competencies, and the availability of sports learning books and modules for improving physical learning learning. The results of observations show that in MTS Negeri 1 BauBau it is known that the relevance of the 2013 curriculum to learning in schools is included in the Very Good category. These results show that the learning material is in accordance with the 2013 curriculum, so that students can learn teaching materials for the achievement of basic Penjas' abilities. This statement is in accordance with what is explained by [9] that teaching material is important for students to achieve for the level of achievement of fundamental abilities that are evaluated using an instrument on assessment based on learning outcomes.

Based on the results, it can be seen that all Penjas teachers have Strata 1 (S1) education graduates of Sports Education Study Programs from various universities that have been accredited so that they are relevant to Penjas subjects at MTS Negeri 1

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Baubau. This is in accordance with the regulation of the Minister of National Education Regulation Number 16 in 2007 concerning teacher education background, it is said that teachers at the primary and secondary level are required to have a qualification with a minimum education of Diploma-4 (D-4) or Strata-1 (S1) according to the study program based on subjects during the study process, and come from a credentialed study program. So that overall Penjas teachers at MTS Negeri 1 Baubau have the appropriate background. Judging from student involvement, the results of the study found that students are actively involved in Penjas learning activities and have a good interest in participating in Penjas learning.

There are still observations that do not meet the minimum standard percentage of >56% (good category) in terms of the level of suitability of Penjas facilities and infrastructure at MTS Negeri 1 Baubau. There are still infrastructure facilities that are not yet available including volleyball courts, basketball courts, the suitability of the number of tools with the number of students, futsal courts, handball courts, badminton courts, long jump tracks and tubs, and javelin throwing courts. Infrastructure is indispensable in learning Penjas. According to [10] that means are necessary to achieve educational goals effectively, efficiently, smoothly, and regularly. Furthermore [11] also explained that the function of Penjas infrastructure is for the continuity of Penjas learning. According to [12] explained that the fulfillment of Penjas infrastructure in schools will contribute to students to make it easier to understand learning materials. Overall, Penjas facilities and infrastructure at MTS Negeri 1 Baubau are included in the good category, but there are still quite a lot of schools that still need improvement in the indicators of Penjas infrastructure facilities.

Based on the results of the questionnaire sheet filled out by the principal to provide an assessment of the standard indicators of competency of PE teachers. The results show that the competency standards of Penjas teachers at MTS Negeri 1 Baubau are included in the Good category in terms of the average results of the acquisition scores. The results show that Penjas teachers have four very good competencies, namely pedagogic competence, professional competence, personality competence, and social competence. According to [13] explained that teachers are said to be professionals mastering in-depth knowledge competencies in accordance with the field occupied. Therefore, it is concluded that Penjas teachers at MTS Negeri 1 Baubau have competence that is more than the minimum indicator standard.

Process evaluation in Penjas learning at MTS Negeri 1 Baubau includes indicators of the preparation process and implementation of teaching. The results of collecting data on the preparation process and implementation are known to be included in the Very Good category value interval. According to [14] Penjas teachers pay attention to teaching preparation through the completeness of learning administration, pay attention when teaching starting from the introduction activities of core and closing activities, and student activities are also well considered during learning. So it is important to pay attention so that the learning process of Penjas is carried out properly. According to [15] provides an opinion that the learning process will be more directed with a clear strategy so that the objectives of learning can be achieved optimally.

The results of documentation data by Penjas teachers are the average value of PE subjects on product evaluation, indicators of student learning achievement. Product evaluation of student Penjas documentation data obtained an average score of 82.07 with a set value interval category, then the value was included in the good category. These results are in line with the results of observations at MTS Negeri 1 Baubau, it is known that students pay attention to explanations and those exemplified by teachers, are active in practicing movements, ask subject matter that has not been understood, and have good discipline along with other affective domains. The affective realm is important to have because Penjas has a relationship between aspects of the social component of students to their self-development [16] The results of learning achievement are generally divided into two factors, namely internal and external. Such as the opinion [15] that the factors that affect the results of learning achievement are divided into two groups, namely internal factors and external factors, internal factors refer to students and external factors refer to external influences such as infrastructure and so on including students' readiness to participate during learning.

V. CONCLUSION

The results of this study concluded that the evaluation of the planning, structuring, implementation, and results of the Penjas learning program at MTS Negeri 1 Baubau, Southeast Sulawesi was good. However, there are still components that need improvement, namely input components on infrastructure indicators that still need attention and improvement to achieve the minimum standards set. The implication is that teachers are more innovative, varied, and creative in using techniques, methods, learning approaches and in an effort to improve student management in teaching and learning activities. The implication is that students are able to gain knowledge and skills in physical education so that there are changes in the affective side and the emergence of healthy living behaviors in everyday life.

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The Role of E-WOM Usefulness and Social Media towards Revisit Intention for Tourist through Destination Image in Jatim Park 2 Batu City



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ABSTRACT: This research investigates the influence of E-WOM usefulness and social media on revisit intention for tourists through destination image at Jatim Park 2 in Batu City. This type of research adopts a quantitative approach with a population of 150 tourists. The sampling technique used is the non-probability sampling method. The data collection technique employs a questionnaire. The data analysis techniques utilized are descriptive analysis and multiple linear analysis. The research findings indicate that the direct influence of E-WOM usefulness on destination image is significant, social media on destination image is significant, E-WOM usefulness on revisit intention is significant, destination image on revisit intention is significant, while the direct influence of social media on revisit intention is not significant. The indirect influence of E-WOM usefulness on destination image through revisit intention yields a result of 0.307. This implies that the direct influence of E-WOM usefulness on revisit intention (0.289) is smaller than the indirect influence (0.307). Thus, indirectly, E-WOM usefulness significantly affects revisit intention through destination image, indicating partial mediation. As for the indirect influence of social media on destination image through revisit intention, the result is 0.072. However, due to the insignificant direct influence of social media on revisit intention, full mediation occurs.

KEYWORDS: e-WOM Usefulness, Social Media, Destination Image, Revisit Intention, Jatim Park 2

I. INTRODUCTION

More than 17.000 islands form Indonesia, one of the East Asian archipelagos, with a rich historical heritage, diverse culture, and natural beauty that can be compared with other countries. If managed well and appropriately, these various potentials can increase the competitiveness of Indonesian tourism in the ASEAN. Some ways to achieve this are increasing infrastructure, reducing the government rule, increasing the marketing of Indonesian tourism online and offline, and also creating excellent policies that support investment in the tourism industry (Salsabila, 2021)

Tourism also one of the sources of foreign exchange in Indonesia. Foreign exchange is the source of developing new economies and competitiveness tourism in the future, including sustainable tourism (Yakup, 2019). Batu City is one city with much potential for tourism development. Badan Pariwisata Kota Batu claims that tourism can support the economy of Batu City and its people (BPS, 2022) and will further develop.

According to BPS Batu City data (2019) and Databooks (2022), the number of tourists who came to Batu City after the COVID-19 pandemic has not matched the number of tourists who came before the pandemic. For example, the number of international tourists in 2019 was 4.622 people, while after the pandemic, the number of international tourists continuously went down. Even in 2022, there are no international tourists that come.

The Role of E-WOM Usefulness and Social Media towards Revisit Intention for Tourist through Destination Image in Jatim Park 2 Batu City

Table 1: Tourist Visit in Batu City

Keterangan	2018	2019	2020	2021	2022
JTP.1	403.960,00	453.873,00	119.465,00	170.345,00	723.187,00
JTP.2	572.076,00	757.928,00	319.963,00	311.094,00	720.891,00
JTP.3	604.190,00	807.755,00	232.738,00	254.630,00	604.107,00
EGP	144.218,00	174.754,00	151.033,00	190.881,00	485.720,00
MA+	479.084,00	661.689,00	198.217,00	156.429,00	460.580,00
Baloga	-	-	3.958,00	134.413,00	153.454,00
Glow	-	5.044,00	68.141,00	155.039,00	304.253,00
Predator	165.327,00	188.344,00	73.858,00	76.238,00	170.183,00
TOTAL	2.368.855,00	3.049.387,00	1.167.373,00	1.449.069,00	3.622.375,00

This condition shows the importance of increasing marketing for the tourist destination in Batu City to attract more tourists. Not only pretty natural tourism but also heritage tourism and artificial tourism. In Malang Raya, almost all areas depend on natural tourism; only Batu City offers artificial tourism; in this case, it can attract more tourists to different destinations.

To attract more tourists, not only for the new tourists but also for the revisit tourists. According to Abbasi et al. (2021), some factors to revisit are destination image, service quality, characteristics, and travel activities that significantly affect destination image in revisiting Penang, Malaysia. On the other side, Liang and Xue (2021) stated that destination image is a mediation variable to know how the perceived risk of haze influences the intention to revisit. This case shows that destination image plays a vital role in creating the post-travel behavior of tourists.

In tourism, there is a term "revisit intention" that shows how tourists choose to revisit a place they have already visited (Sari et al., 2020). It also found that social media have a significant effect on revisiting. In Rather (2021), social media positively impacts customer engagement, brand co-creation, and return intention during the COVID-19 pandemic. In line with Putri and Yasri (2020), social media, word of mouth, and destination image are related and greatly influence tourists' decision to visit Padang City as a tourism destination.

One variable that affects tourists' willingness to revisit Batu City is e-WOM (Electronic Word of Mouth), or we know it as a conversation that spreads on the internet. In the most recent discussion, respondents are more interested in travel platforms such as Traveloka, Trip Advisor, and Pegi-Pegi because of the destination image created by the tourists who visited Jatim Park 2.

According to Mahaputra and Setiawan (2019), e-WOM influences tourists to revisit. This aligns with Harahap and Dwita (2020), who said revisit intention comes from tourists' beliefs about what other tourists think about a destination after skimming the factual reviews they receive. Farrukh et al. (2022) said that e-WOM can be essential to revisit intention.

Therefore, this research discusses the influence of e-WOM and social media on revisit intentions. Destination image becomes a central point because it results from various information tourists accept. Destination image also plays a vital role in creating perception, decision, and tourist intention to revisit.

II. METHODS

This research uses a positive paradigm as a line of thought that uses deductive reasoning and quantitative methods to obtain the truth. The research sample uses a non-probability sampling method for 150 tourists who have already visited Jatim Park 2 once or more and got information from e-WOM, especially from travel platform applications, such as Traveloka, before visiting Jatim Park 2.

To analyze the data using descriptive analysis for each variable and using inferential analysis. Showing relationship patterns involves path analysis using mediation. Direct and indirect effects from variables can be identified using path analysis. Then, a linear and multiple analysis consisted of a normality test, heteroscedasticity test, multicollinearity test, and autocorrelation test.

III. RESULTS

a. Respondent Characteristics.

Initially, the questionnaire was distributed to 150 respondents who had visited Jatim Park 2 once or more. Furthermore, the characteristics are summarized as presented in Table 2.

The Role of E-WOM Usefulness and Social Media towards Revisit Intention for Tourist through Destination Image in Jatim Park 2 Batu City

Table 2: Respondent Characteristics

Characteristics	Category	N	Percentage
Gender	Female	52	34.67%
	Male	98	65.33%
Age	<30	31	20.67%
	30-39	60	40%
	40-49	25	16.67%
	>50	34	22.67%
Education	High School	28	18.67%
	Diploma (D3)	11	7.33%
	Bachelor (S1)	104	69.33%
	Master (S2)	7	4.67%
Number of Visit	1 time	53	35.33%
	2 times	47	31.33%
	3 times	23	15.33%
	>3 times	27	18%

Table 2 shows that most of the tourists are male, 30-39 years old, and have a bachelor's as their last education; most of them visit Jatim Park 2 once.

b. Validity and Reliability

To achieve the results of this study, first, researchers need to conduct validity and reliability tests of online questionnaires to 150 respondents, with 39 questions. All the r counts are greater than the r table (0,134), so all the questions are valid. As for the reliability test for four variables, it was found that all the values were greater than 0,60, so all of the variables were consistent and stable so that the data could be used for research.

c. Classic Assumption Test

This study had three classic assumption tests. First, the multicollinearity test result shows no multicollinearity in this study, whether in the first or second regression. Second, the normality test result found that the distributed data aligned with the diagonal line, so the data is normal. Last is the heteroscedasticity test, which also uses a scatter plot with no apparent pattern. Also, the dots are spreading, so there is no heteroscedasticity problem.

d. The Result of Direct and Indirect Effect

This research uses a significant value level α 5%. If a significant value is smaller than 0.05, the effect is significant, and vice versa. The summary of direct and indirect effects is explained in Table 3.

Table 3: Direct and Indirect Effects

Variable	Direct Effect	Sig.	Indirect Effect	Total Effect	Conclusion
E-WOM usefulness (X ₁) → Destination Image (Y ₁)	0,357	0,000	-	-	Significant
Social Media (X ₂) → Destination Image (Y ₁)	0,270	0,007	-	-	Significant
E-WOM usefulness (X ₁) → Revisit Intention (Y ₂)	0,289	0,003	-	-	Significant
Social Media (X ₂) → Revisit Intention (Y ₂)	-0,063	0,504	-	-	Insignificant
Destination Image (Y ₁) → Revisit Intention (Y ₂)	0,501	0,000	-	-	Significant
E-WOM usefulness (X ₁) → Destination Image (Y ₁) → Revisit Intention (Y ₂)	-	-	0,357 x 0,501 = 0,179	0,289 + 0,0179 = 0,307	Partial Mediation

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Variable	Direct Effect	Sig.	Indirect Effect	Total Effect	Conclusion
Revisit Intention (Y ₂)					
Social Media (X ₂) → Destination Image (Y ₁) → Revisit Intention (Y ₂)	-	-	0,270 x 0,501 = 0,135	-0,072	Full Mediation

Based on Table 3, it shows that the direct effect of social media on revisit intention has a significant value bigger than 0.05, so they are insignificant. Meanwhile, if it is through the destination image, it becomes significant and has a 0.072 score, so it becomes a full meditation. Next, e-WOM usefulness significantly affects revisiting intention directly or indirectly through destination image, so it becomes partial mediation. Meanwhile.

IV. DISCUSSION

a. The effect of e-WOM Usefulness towards revisit intention.

E-WOM Usefulness covers concern for others, expressing positive feelings, and helping the company significantly influence revisit intention. Just like the reviews and recommendations on the internet from tourists can help in decision-making to visit Jatim Park 2. The relevance of information conveyed through e-WOM is more relevant to the needs and preferences of potential future tourists. In this case, Jatim Park 2 management also needs to collaborate on a good marketing strategy, an excellent online reputation, and developing services and facilities that can be seen through e-WOM on the internet because it significantly affects tourists' revisit intention.

b. The effect of social media towards revisit intention

Social media did not significantly influence revisit intention. According to Sharita (2022), there are other factors that influence tourists to revisit compared to just looking at or reading reviews on social media. Social media should be a platform for tourists to tell their experiences after visiting Jatim Park 2, but this research found that it did not significantly influence revisit intention.

c. The effect of e-WOM usefulness towards destination image

E-WOM's usefulness and influence on destination image is complex and can deeply create a perception of future tourist potential. Understanding how the information circulates on the internet can be important for Jatim Park 2 management to build their marketing strategy because what people say about the destination can influence their image and online reputation. In this research, the importance of e-WOM is highlighted in creating the destination image.

d. The effect of social media towards destination image

The influence of social media on destination image can be shown from seen through its ability to shape the cognitive, affective, and conative dimensions of the destination image. High-quality social media content can increase the audience's knowledge and enhance a positive destination image, thus stimulating interest in visiting the destination.

e. The effect of destination image towards revisit intention

A positive destination image increases a person's intention to visit again. If tourists have a positive experience and feel satisfied, they create a positive perception of the destination. The perception covers aspects such as the beautiful nature, cultural diversity, service quality, and overall impression of the tourist experience.

f. The effect of e-WOM usefulness and social media towards revisit intention through destination image

This research found that e-WOM (Electronic Word of Mouth) influences destination image and revisit intention; meanwhile, the direct effect of e-WOM on revisit intention is also significant and becomes partial mediation. Therefore, social media directly influences destination image but does not influence revisit intention. Nevertheless, if it is through destination image, social media can influence revisit intention that the destination image becomes a full mediation.

V. CONCLUSIONS

Based on the result of research on the role of e-WOM usefulness and social media towards revisiting intention through destination image at Jatim Park 2 Batu, the following conclusions are drawn:

- a. E-WOM usefulness able to increase revisit intention in tourists visiting Jatim Park 2, Batu City

The Role of E-WOM Usefulness and Social Media towards Revisit Intention for Tourist through Destination Image in Jatim Park 2 Batu City

- b. Social media do not significantly affect revisit intention in tourists visiting Jatim Park 2, Batu City
- c. E-WOM usefulness able to give a positive destination image in Jatim Park 2, Batu City.
- d. Social media able to give positive destination image in Jatim Park 2, Batu City.
- e. E-WOM usefulness has an influence on destination image and also influences revisit intention, so it becomes partial mediation. Meanwhile, social media influences destination image but doesn't directly influence revisit intention. So, it has to go through the destination image to become full mediation.

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Comparative Study of the Crushing Strengths of Recycled Coarse Aggregates Concretes and Natural Aggregates Concretes



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ABSTRACT: Recycled Coarse Aggregate (RCA) is a recycled concrete material from construction sites, which is being reused for fresh concrete production. The use of this material reduces quarrying of Natural Coarse Aggregate (NCA). Properties of RCA are variable depending on the properties of parent concrete. In a fast-growing economy, the generation of construction waste has increased considerably, and social and environmental concerns on recycling the waste have accordingly increased. Construction Engineers have resorted to recycling these demolition wastes to maintain a friendly green environment. This study compared the crushing strengths of Recycled Coarse Aggregate concrete with Natural Aggregate concretes. The RCA was obtained from demolished drains and culverts while the Natural Coarse Granite Aggregate was from Akamkpa, Cross River State, Nigeria. Using RCA and NCA of maximum size 20mm, concrete cubes were prepared for compressive strength tests. Other properties of the aggregates were determined. Three mix proportions of 1:1½:3, 1:2:4 and 1:3:6 at water cement ratio of 0.6 were utilized and the specimens were tested at curing ages of 7, 14, 21 and 28 days. Results indicated that RCA produced concretes with strengths lower than those using NCA. RCA concretes also had slumps lower than those of NCA concretes.

KEYWORDS: Recycled Coarse Aggregate (RCA), Natural Coarse Aggregate (NCA), Compressive strength, Recycling and workability.

1.0 INTRODUCTION

Concrete remains a basic construction material used across the world and plays an important role in the development of a country. It is used in many Civil Engineering and building infrastructures, low and high-rise buildings, defense installations, environment protection and local/domestic developments.

Concrete is essentially composed of cement, coarse and fine aggregates, water and admixture(s). Aggregates, such as sand, crushed stone or gravel form the major part constituting about 75% of the volume of concrete.

Natural Coarse Aggregates (NCA) is a natural quarried crushed stone or gravel from a source known to produce satisfactory aggregate for concrete and is chemically inert, strong, hard, durable against weathering, of limited porosity and free from deleterious materials that may cause corrosion of the reinforcement or may impair the strength and/or durability of concrete. Traditionally, Natural Coarse Aggregates have been readily available at economic price but recently there has been a decline in the quality and quantity of the aggregates due to over utilization on the account of rapid industrial developments in different Countries. This has led to the search for readily available alternatives; Recycled Concrete Aggregate (RCA) being the immediate substitute.

Recycled Concrete Aggregate (RCA) is a construction material produced by demolishing and crushing previously cast concrete into desirable sizes. The products of this crushing can then be used as a granular fill-type material or as a graded replacement of aggregate in the production of new concrete. Most of the waste materials produced by demolishing structures are disposed by dumping them as landfill or for reclaiming land. Reuse of demolition waste appears to be an effective solution and the most appropriate and large-scale use would be to use it as aggregates to produce concrete for new construction.

RCA is commonly divided into two primary components based on particle size: fine RCA and coarse RCA. This research considered only the coarse type of RCA, which is defined as being composed of particles that would be retained on a 4.80 mm sieve.

For increasing the GDP (Gross Domestic Product) rate of a nation smaller and older structures are being demolished and new and gigantic structures are being built. This results in the accumulation of huge concrete wastes. The waste also creates problem

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for municipal authorities as it occupies a considerable volume and makes it difficult to collect and transport. This study focused on the use of Recycled Coarse Aggregates in the production of concrete and compares the properties of such concretes with the properties of concrete prepared with natural coarse granite aggregates.

The proper utilization of this old concrete waste as aggregate in concrete would help in reducing the problem of disposal while at the same time reducing the cost of concrete production.

Recently, the use of RCA for concrete production has gained acceptance. Many are quarrying the demolished concrete into acceptable sizes for utilization in concrete while at the same time enriching their pockets from the sales. The strength and other properties of RCA concretes are still doubtful. This study attempts to determine the crushing strength and other properties of concrete using RCA wholly as the coarse aggregate. Attempts are also made to compare these properties with those of concretes prepared with the conventional natural granite coarse aggregate.

1.1 Objectives of the Study: The specific objectives of the study included the following:

1. To determine the Specific gravity, bulk density, and grading of the aggregates.
2. To determine the workability of fresh RCA and NCA concretes of different mix proportions.
3. To determine and compare the compressive strengths of RCA and NCA concretes.
4. Determine and compare the densities of both concretes

Concrete mix proportions of 1:1½:3, 1:2:4 and 1:3:6 were utilized for the study.

2.0 REVIEW OF RELATED LITERATURE

2.1 Recycled Coarse Aggregate (RCA)

Buck (1977) cites the beginning of RCA use to the end of World War II, when there was excessive demolition of buildings and roads and a high need to both get rid of the waste material and rebuild Europe. In the 1970s, the United States began to reintroduce the use of RCA in non-structural uses, such as fill material, foundations, and base course material (Buck 1977). In Nigeria, another possible solution to concrete waste management problem is to recycle demolished concrete waste and produce an alternative aggregate for concrete (Dosho, 2007).

The physical properties of RCA influence the mix proportion and properties of concrete. The basic characteristics such as shape and texture, specific gravity, bulk density, pore volume, and absorption of RCA are generally worse than those of NCA due to the presence of residual cement paste/mortar and impurities (Sagoe-Crentsil et al. 2001; Tu et al. 2006). The magnitude of the effects varies with the nature and quantity of reclaimed cement paste/mortar that is present in RCA (ACPA, 2009).

RCA tends to be very angular and rough due to the crushing of old concrete and because of the presence of hardened cement paste/mortar adhered to the surfaces of original coarse aggregate. Typically, RCA particles contain 30 to 60% old cement paste/mortar, depending on the aggregate size (ECCO, 1999). RCA is similar to crushed rock in particle shape, but the type of crushing equipment influences the gradation and other characteristics of crushed concrete.

The specific gravity of RCA is usually lower than that of NCA (Hansen, 1992; Yong and Teo 2009). The lower specific gravity of RCA is due to the presence of old cement paste/mortar on the aggregate particles that makes it less dense than NCA because of greater porosity and entrained air structure (Anderson et al. 2009). The typical values of specific gravity of RCA range from 2.1 to 2.5 in the saturated surface-dry condition.

According to Yong and Teo (2009), the bulk density of RCA has been found to be 9.8% lower than that of natural gravel aggregate. This is mostly due to the higher porosity of RCA in the presence of adhered cement paste/mortar.

The pore volume of RCA is substantially higher than that of NCA (González- Fonteboa and Martínez-Abella 2008; Safiuddin et al. 2011a). The higher pore volume of RCA makes it weak and less dense, as compared to NCA.

Adhered mortar content is an aggregate property unique to recycled aggregates. The term refers to the amount of original cement matrix, which constitutes the particles of RCA. The content is expressed as a percent (by mass) of the overall RCA's oven-dry mass

3.0 MATERIALS AND METHODS

The materials used for the study were cement, sand, recycled coarse aggregate (RCA), natural coarse aggregate (NCA) and portable water.

3.1 Cement: The cement used for the study was the Dangote brand of Portland Limestone Cement grade 42.5. It was sourced from a cement depot in Uyo and transported to the laboratory. The cement complied with the specifications of NIS 444-1: 2014 and ENV 197 – 1: 1992.

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3.2 Sand (fine aggregate): Sharp sand fine aggregate was used in this investigation. It was obtained from Odiok Itam River, Itam, Akwa Ibom State and transported in bags to the laboratory. The sand was treated in accordance with BS 882:1992.

3.3 Coarse Aggregate: Two different coarse aggregates were used for this study for comparison purposes. They were Recycled Coarse Aggregate (RCA) and Natural Coarse Aggregate (NCA)

3.3.1 Recycled Coarse Aggregate (RCA): Recycled coarse aggregate was obtained from demolished drains and culverts at Ekom Iman, Uyo, Akwa Ibom State. The materials were treated in accordance with BS 410-1962, and the maximum coarse aggregate size was 20mm. The method stipulated by Butler et al., (2013a) was used for removing adhered mortar content on RCA.

3.3.2 Natural Coarse Aggregate (NCA): Crushed granite stone aggregate of maximum size 20mm from Akamkpa Local Government Area, Cross River State was used. The crushed stones were irregular/angular, rough with fractured planes shaped by crushing.

3.4 Water: Ordinary clean portable water free from suspended particles and chemical substances in conformity with the specifications of British Standards Institution (1980) BS 3148:1980 was used for both mixing and curing of concrete.

3.5 Concrete Mix Proportions used: Three different mix proportions were used for the study 1:1½:3, 1:2:4 and 1:3:6 at water cement ratio of 0.6 and Absolute Volume Method was used to acquire the mix design.

3.6 Methodology: The following experiments were performed in the cause of the analysis: Aggregates sieve analysis, Moisture content test, Bulk relative density determination, Specific gravities of aggregates, Slump test on fresh concrete, and Compressive strength test.

3.6.1 Batching and Mixing: Batching of the concrete was done by weight for each of the concrete mix ratios of 1:1½:3, 1:2:4 and 1:3:6 at 0.6 water/cement ratio. The constituent ingredients were thoroughly mixed manually before potable water was added to produce fresh concrete. The mixing was in accordance with BS 8110-1:1997.

3.6.2 Concrete Workability Test

The slump test was utilized to ascertain the consistency and workability of all the fresh concretes in accordance with BS 1881: Part 102:1983 requirements. This is demonstrated in Figure 3.1. The height difference between the height of slumped concrete and the cone mould was measured to the nearest 5mm.

3.6.3 Preparation of Concrete Cubes

The 150 mm steel cube moulds were used to prepare the concrete cubes in accordance with BS 1881: Part 108:1983. The cube moulds after being oiled internally were filled with concrete in three approximately equal layers. Each layer was compacted using electric concrete compacting vibrator and the top surface was troweled smooth after compaction of the last layer. The prepared cubes are shown in Figures 3.2.

3.6.4 Curing: After 24 hours, the concrete cubes and cylinders were demoulded and cured in water tanks until they were tested at age 7, 14, 21, and 28 days of curing.



Figure 3.1: Slump test

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Figure 3.2 Preparation of cubes

3.2.6 Testing of Cubes for Compressive Strength: A hydraulic compressive testing machine was used to conduct the compressive strength test in accordance with BS 1881-116:1983. The load was applied gradually at the rate of 140 kg/cm² per minute till the specimen failed. The compressive strength was calculated using equation 6.

$$f_c = \frac{P}{A} \quad [6]$$

Where

- P = maximum load at failure (N)
- A = Cross sectional area (mm²)
- f_c = Compressive strength specimen (N/mm²)

3.2.7 Density: The cubes were weighed using an electronic weigh balance and with the volume the densities of the concretes were calculated using equation (8) below. The results are presented in Table 4.

$$\rho = \frac{M}{V} \quad [8]$$

Where,

- ρ = density (kg/m³)
- M = mass of the cube (kg)
- V = Volume of the cube (m³)

4.0 RESULTS AND DISCUSSION

4.1 PROPERTIES OF MATERIALS

The physical properties of materials used in this research work are summarized in the table 4.1.

Table 4.1: Properties of Materials

Materials	Properties	Values
Sharp sand	Specific gravity	2.66
	Coefficient of curvature, C _c	1.14
	Coefficient of uniformity, C _u	3.5
	Bulk relative density	1602 kg/m ³
	Moisture content	4 %
Natural coarse aggregate	Specific gravity	2.71
	Bulk relative density	1550 kg/m ³
	Size range	11mm - 20mm
Recycled coarse aggregate	Specific gravity	2.2
	Bulk relative density	1255 kg/m ³
	Size range	11mm - 20mm
Cement	Specific gravity	3.15

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	Initial setting time	148 minutes
	Final setting time	215 minutes
	Bulk relative density	1440kg/m ³
	Consistency	32%
	Soundness	0.58mm

4.2 Sieve Analysis Results: The sieve analysis results for the fine aggregate, natural coarse aggregate and recycled coarse aggregates are presented in Tables 4.1, 4.2 and 4.3 respectively. The results are also presented in Figures 4.1, 4.2 and 4.3 respectively. The result showed that the sharp sand had a range of particle sizes from 0.08mm to 4.75mm with 2.08% retained on 4.75mm and 1.02% on 0.08mm. The Natural Coarse Aggregate particles ranged between 15mm and 25mm. Moreover, the recycled coarse aggregate particle size had the same range as Natural Coarse Aggregate from 16mm to 25mm.

Table 4.2: Sieve Analysis Results for Sharp Sand Used

BS Sieves (mm)	Weight Retained (g)	Percentage retained (%)	Percentage passing (%)
4.75	20.8	2.08	97.92
3.35	7.8	0.78	97.14
2.36	22.4	2.24	94.9
1.18	107.7	10.77	84.13
0.600	298.3	29.83	54.3
0.43	231.2	23.12	31.18
0.25	211.0	21.1	10.08
0.15	85.2	8.52	1.56
0.08	10.2	1.02	0.54
Pan	0.8	0.08	

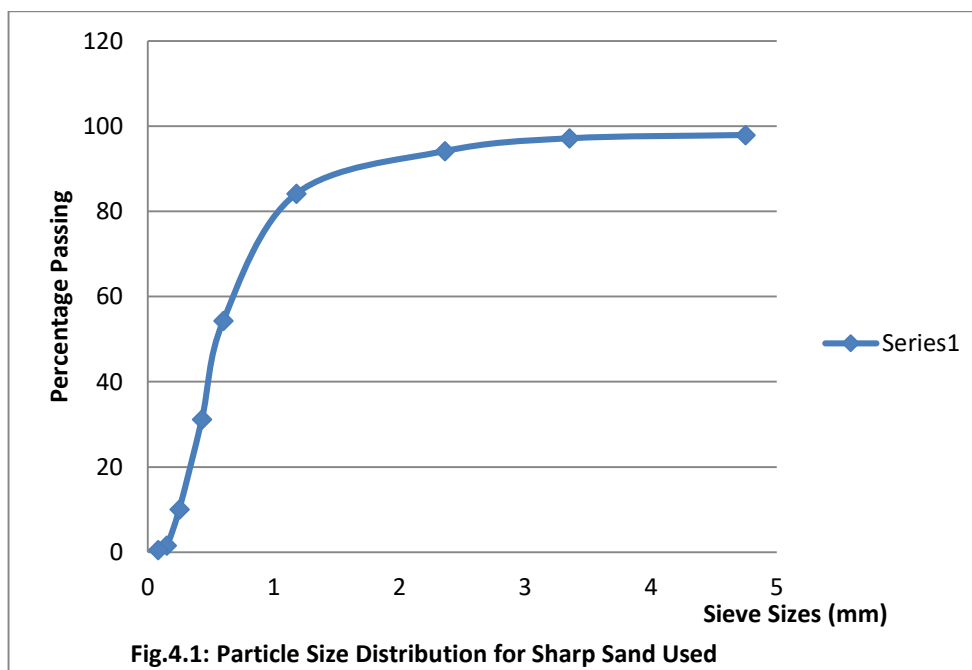


Table 4.3: Sieve Analysis for Natural Coarse Aggregate (Mass of Sample =1000g)

BS Sieves (mm)	Weight Retained (g)	Percentage retained (%)	Percentage passing (%)
25.0	175.2	17.52	82.48
19.0	347.0	34.7	47.78
16.0	264.2	26.42	21.36
Pan	213.2	21.32	

Comparative Study of the Crushing Strengths of Recycled Coarse Aggregates Concretes and Natural Aggregates Concretes

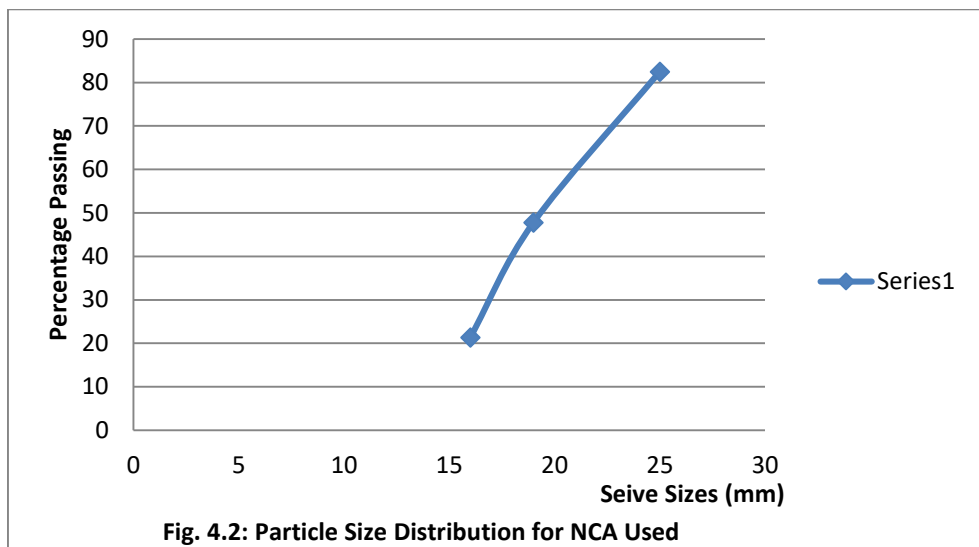
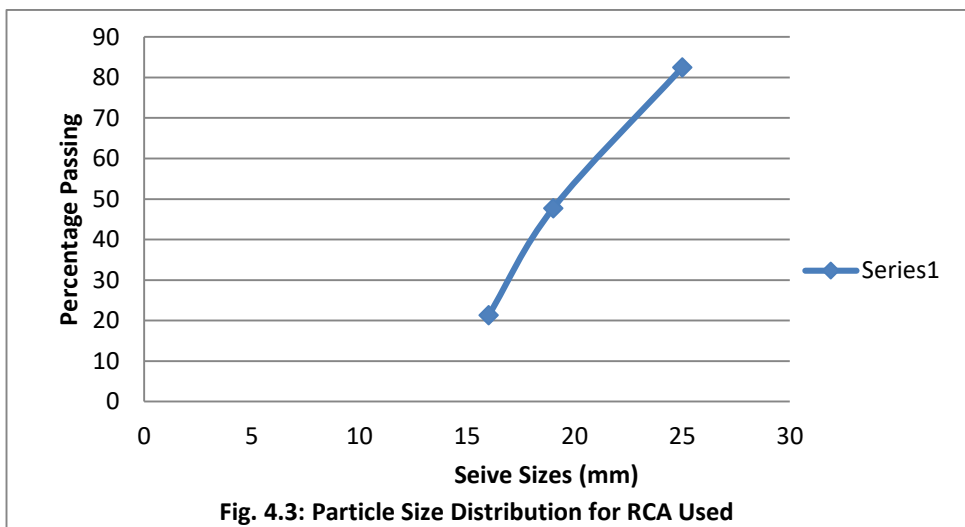


Table 4.4: Sieve Analysis for Recycled Coarse Aggregate (Mass of Sample = 1000g)

BS Sieves (mm)	Weight Retained (g)	Percentage retained (%)	Percentage passing (%)
25.0	175.2	17.52	82.48
19.0	347.0	34.7	47.78
16.0	264.2	26.42	21.36
Pan	213.2	21.32	



4.3 Workability (Slump Test): The results of the workability test using the slump experiments are shown on Table 4.4 and Figure 4.4. RCA concretes had slumps lower than those of NCA concretes. For 1:1½:3 concretes the slump stood at 28mm and 35mm for RCA and NCA concretes respectively while for 1:2:4 concretes the slump stood at 22mm and 27mm respectively. The same trend was followed for 1:3:6 concretes.

Table 4.4: Slump of RCA and NCA Concretes

Mix Ratios	Slump (mm)	
	RCAC	NCAC
1:1½:3	28	35
1:2:4	22	27
1:3:6	15	20

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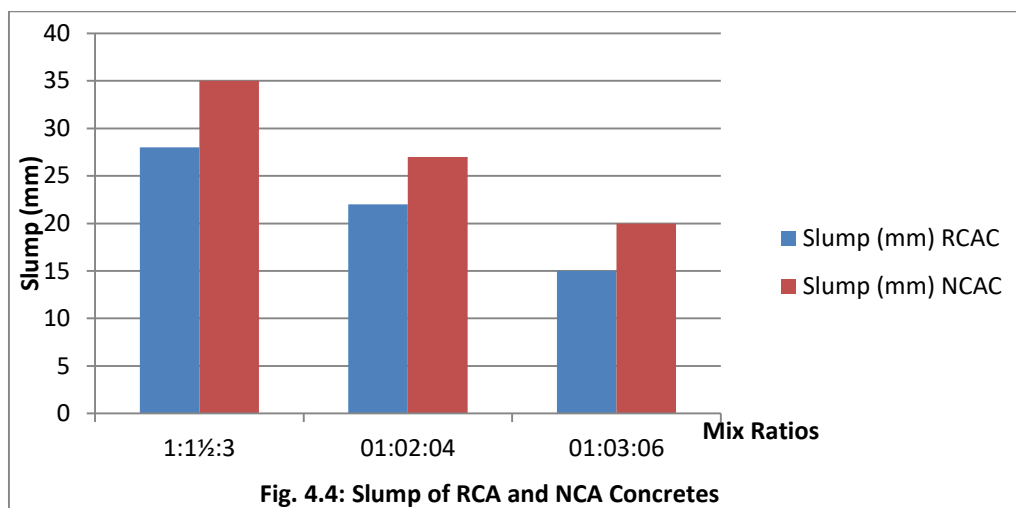


Fig. 4.4: Slump of RCA and NCA Concretes

4.2 Compressive Strength: The Compressive Strengths of NCA and RCA concretes are presented in Table 4.5 and Figures 4.5, 4.6 and 4.7. From Table 4.5, it could be seen that the compressive strength of 1:3:6 RCA concretes is 13% lower than that of NCA concretes; that of 1:1½:3 RCA concretes is 27.7% lower than that of NCA concretes and that of 1:2:4 RCA concretes is 18.7% lower than that of NCA concretes.

Table 4.5: Summary of the Compressive Strengths of concretes

Mix Proportions	Days/Strength (N/mm ²)			
	7 days	14 days	21 days	28 days
1:3:6				
RCA	16.61±0.45	17.36±0.51	17.96±0.44	18.27±0.32
NCA	19.10±0.15	21.23±0.23	20.98±0.25	21.41±0.44
% difference	13.0%	18.2%	14.4%	14.7%
1:1½:3				
RCA	18.07±0.34	21.54±0.44	22.72±0.43	22.98±0.32
NCA	24.98±0.72	25.84±0.12	26.46±0.31	29.79±0.68
% Difference	27.7%	16.6%	14.1%	22.8%
1:2:4				
RCA	17.47±0.03	17.82±0.05	18.02±0.17	19.61±0.21
NCA	21.49±0.48	22.20±0.15	24.01±0.02	24.27±0.26
% Difference	18.7%	19.7%	24.9%	19.2%

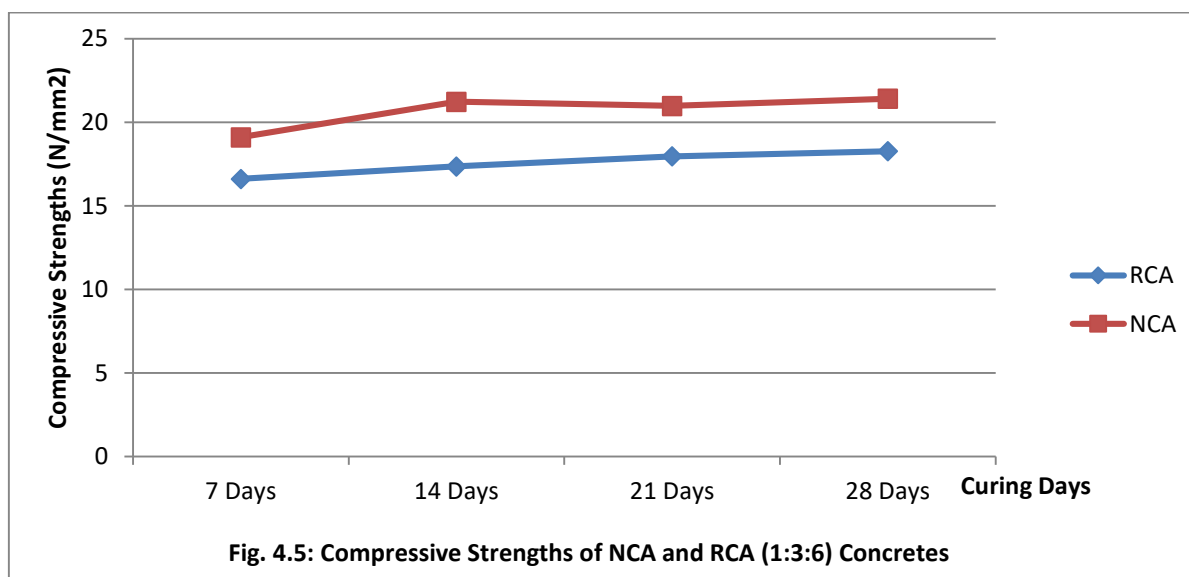
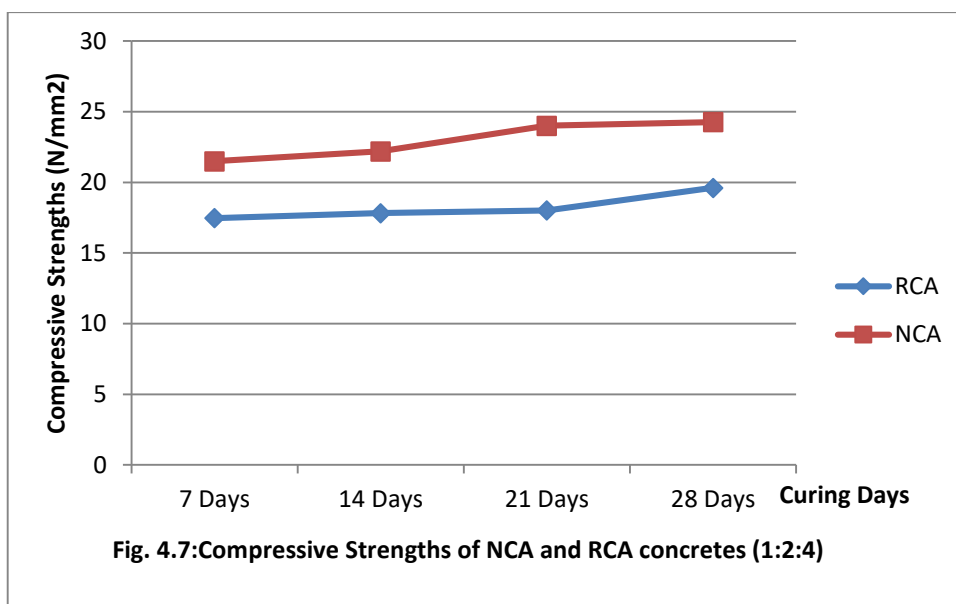
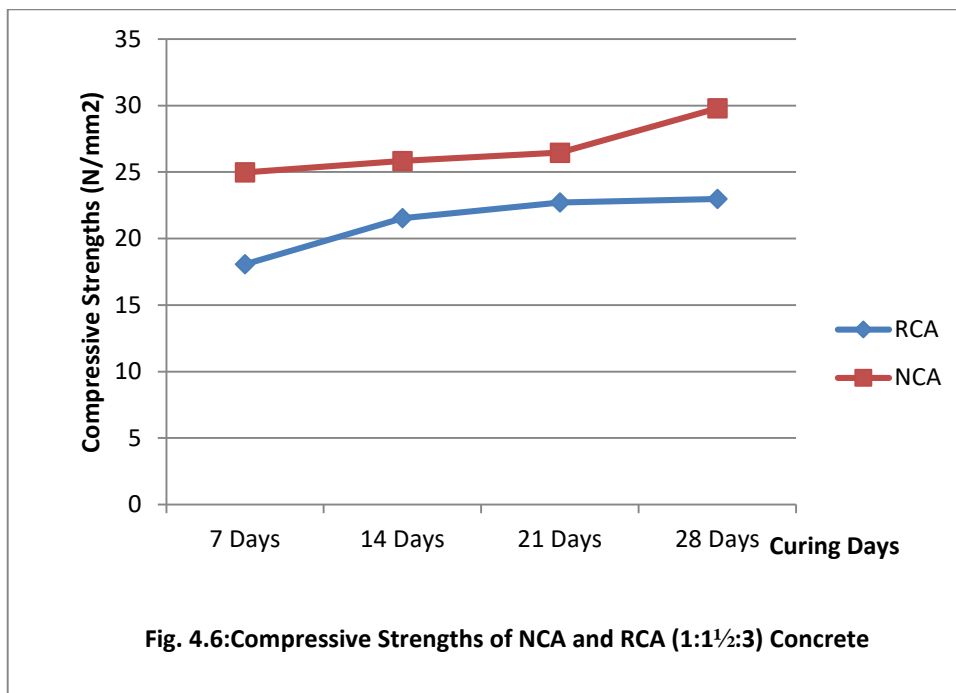


Fig. 4.5: Compressive Strengths of NCA and RCA (1:3:6) Concretes

Comparative Study of the Crushing Strengths of Recycled Coarse Aggregates Concretes and Natural Aggregates Concretes



5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1: Conclusions

1. At all mix proportions, the crushing strengths of RCA concretes were lower than those of NCA concretes.
2. RCA concretes of 1:2:4 mix and 1:1½:3 have crushing strengths comparable with those of normal weight concretes.
3. Even though the crushing strengths of RCA concretes are lower than those of NCA concretes, the strengths of RCA concretes are still within the range for structural concretes.
4. RCA concretes have reduced workabilities.

5.2 Recommendation

RCA should be used in structural concrete production when considering 1:1½:3 mix proportions.

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Subjective Well-Being of Faculty and Students of Psychology and Education Departments of Pamantasan Ng Cabuyao during Covid-19 Pandemic



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ABSTRACT: Before the pandemic, teachers were comfortable with the educational system. The pandemic has lowered teacher's perceptions of well-being in the face of their work, raising fears about their future careers. During this time of pandemic, sex, length of service, well-being, sense of teaching challenges, and outlook have proven to be predictors of professional well-being. The study's findings will be used by the researchers to develop an action plan for the university to increase and sustain faculty members' professional and social well-being, as well as improve emotional management among Selected Psychology and Education students. For this reason, the researchers aimed to learn about the subjective well-being of Pamantasan ng Cabuyao Psychology and Education faculty members and students during the Covid-19 Pandemic. Specifically, attempts to assess the demographic profile of the respondent, the subjective well-being of the faculty members and the students as well as the significant difference between the subjective well-being as perceived by the faculty members and the students of Psychology and Education Departments of Pamantasan ng Cabuyao, and proposed an action plan to provide personal, social well-being and emotional management support for them during Covid-19 Pandemic. The study was anchored with Ed Diener's research as he devised a three-part model of happiness, which he describes how people experience the quality of their lives and includes both emotional reactions and cognitive judgements. The researchers adapted Ed Diener's questionnaires which posit three distinct but often components of wellbeing: frequent positive affect, infrequent negative affect, and cognitive evaluations such as life satisfaction. The researchers employed the descriptive approach by collecting the data from the faculty members and students of Psychology and the importance of the support system, sustain and improve faculty members' enthusiasm to serve the institution, improve the self-worth as part of the institution, recognize them as valuable as other staffs if the university as assets and their existence are valued and recognized. In addition, the university, specifically the departments the students and faculty members should enjoy to provide activities and programs that will instill positivity and overall life satisfaction, such as assistantships, parent-teacher interaction that will also improve the child's well-being and offer opportunities for measuring relationships with other people, get involved in some physical activities such as sports, meditations, yoga and exercises that can improve their subjective well-being.

KEYWORDS: subjective well-being, life satisfaction, positive affect, negative affect

INTRODUCTION

Who would not want to be contented? It is self-evident that the majority of people, including ourselves, wish to feel happiness through a higher salary or more prestigious work, collecting various items, purchasing a car, living near the seaside or on a farm, owning a home, and many other means. People perform such activities primarily for the purpose of happiness and they are willing to give up a lot to achieve their desired happiness. Most individuals nowadays connect happiness with celebrity, earthly things, and power. Having all these things makes their life joyful and fulfilled. On the other side, there are still those who do not base their life fulfillment on fame, money, or power because these only give temporary happiness. Good physical, mental, emotional, and spiritual health, as well as positive interpersonal relationships, provide satisfaction in their lives. Since people have various perspectives on happiness, defining it may appear difficult. For example, a family living below the poverty line can be happy just by purchasing food for their family to consume during the day. However, when compared to wealthy families, it appears

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that they are having difficulty finding happiness, despite having all they desire, they seem to be unsatisfied and yearn more. People's pleasure is not only limited to financial possessions; but also includes developing positive relationships with others, such as fellow coworkers, peers, and members of their community. Subjective well-being refers to how people feel about their lives, including both emotional and cognitive responses. It is the sum of people's perceptions of their life, including happiness, contentment, and positive and negative affect.

METHODS

Research Design

The researchers employed the descriptive approach to collect data, analyze, and interpret the findings. This study looked at the subjective well-being of teachers and students from the Departments of Psychology and Education, as well as the Departments of Arts and Science of Pamantasan ng Cabuyao, Cabuyao, Laguna during Covid-19 Pandemic. The descriptive technique of research is simply defined as the gathering of data in order to test hypotheses and answer questions about the study's current situation. Calmorin-Calmorin 2006 as cited by Comiso et.al (2015). Descriptive studies are useful for providing information on which to make decisions. This method was used to determine the subjective well-being of faculty members as well as selected students from Pamantasan ng Cabuyao's departments of Psychology and Education, as well as Arts and Sciences during Covid-19 Pandemic.

Participants of the Study

The researchers engaged two groups of respondents: Pamantasan ng Cabuyao faculty members who are currently teaching full-time and part-time, as well as chosen enrolled Psychology and Education students in the current 2nd semester of Academic Year 2020-2021. The researchers utilized simple random sampling a total of 1014 respondents, fifty-one (51) full-time and part-time faculty members and nine hundred forty-three (943) selected students from the Education and Psychology departments. Participants were advised that the survey was optional and anonymous, that they could opt out at any moment, and that those who agreed were thanked for their time and effort. Because the survey was voluntary, the actual number of respondents for teachers and students was based on the overall number of participants who answered the survey questionnaire.

Data Analysis

For data processing, the following statistical tools were used, Frequency and percentage distribution were used to determine the distribution of the respondents according to the demographic profile: weighted mean was used to determine the level subjective well-being of the faculty members and the students, and t-test was used to determine the difference between the perceived level of subjective well-being of the faculty and students when grouped according to their demographic profile during the Covid-19 pandemic.

Through in-depth literature and related study readings, verification and validation were used to build links that support the findings of this paper.

RESULTS AND DISCUSSION

The following were deemed the summary drawn from the result of the data gathering and analysis. (1) On the demographic profile of the respondents, it has been shown that the majority of the respondents belong to the age bracket between ages of 20 and 29, male, single, earned Php11,000 and below. (2) In terms of Subjective well-being, the faculty members assessed their life satisfaction as satisfying, positive affect as high, and negative affect as average, however the students perceived their well-being in terms of life satisfaction as slightly satisfied, positive affect as high, and negative affect as average.(3) On the difference on the level of subjective well-being as perceived by the faculty members and students with the computed value of .001 which is less than.005, it was revealed that there is a significant difference in the level of subjective well-being in terms of life satisfaction, positive affect and negative affect.

Table 1. Frequency and Percentage Distribution of the Respondents According to Age

Age	Frequency	Percentage
19 and below	364	35.9%
20-29	609	60.1%
30-39	17	1.7%
40-49	12	1.2%

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50-59	10	1.0%
60 and above	2	.2%
Total	1014	100%

This shows the frequency and percentage distribution of the respondents according to age. The majority of respondents (60 percent) are between the ages of 20 and 29, followed by those aged 19 and under (35.9%), 30-39 years old (1.7 percent), 40-49 years old (1.2 percent), 50-59 years old (1.0 percent), and those aged 60 and over (1.0 percent) (.2 percent).

The bulk of the responders were between the ages of 20 and 29, according to the report, the lowest age is from 60 to 80 years old. Young individuals were among the respondents who were tested to establish their subjective well-being, and those aged 60 and up are considered to be more resilient.

This supports the study of Genc et.al 2021, that young adults in Turkey were studied especially college students since stress has negative impact on the hope and optimism of these individuals especially due to the closure of schools, isolations, and lockdowns. However, in the study conducted by San Roman et.al (2017), that in the global context of aging, promoting subjective well-being of older adults through social support, with a view to enhance their life satisfaction, has presented a challenge not only for public policy makers but also for health professionals.

Table 2. Frequency and Percentage Distribution of the Respondents According to Gender

Gender	Frequency	Percentage
Male	793	78.2%
Female	221	21.8%
Total	1014	100 %

As shown from the table above, most of the respondents are male, 793 out of 1014 respondents or 78.2 % out of 100%, and 221 respondents are female which is 21.8%. The result implies that majority of the teaching personnel and students in Pamantasan ng Cabuyao are male both from the Departments of Psychology and Education and the teaching profession and Careers in Psychology are male dominated career in the future.

The findings of the study contradicted the findings of Greganda (2011), which more females are interested and willing to be in the teaching profession rather than the males. Furthermore, the same results on the study conducted by Del Mundo (2009), which stated that there is greater number of female professional faculty members than male professional faculty members.

Table 3. Frequency and Percentage Distribution of the Respondents According to Civil Status

Civil Status	Frequency	Percentage
Single	981	96.7%
Married	29	2.9%
In Domestic Partnership	3	.3%
Widowed	1	.1%
Total	1014	100%

As shown from the table above, majority of the respondents are single, nine hundred eight one (981) or 96.7 % out of 100%. Followed by, married twenty-nine (29), or 2.9%, while there three (3) or .3% in domestic partnership and lastly, one is widowed, or .1%. This shows that there are more respondents who are willing to be in the teaching profession and willing to finish their school before getting into a serious relationship.

Table 4. Frequency and Percentage Distribution of the Respondents According to Socioeconomic Status

Socioeconomic Status	Frequency	Percentage
P11,000 and below	616	60.7%
P11,001 to P22,000	235	23.2%
P22,001 to P44,000	123	12.1%

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P44,001 to P77,000	28	2.8%
P77,001 to P131,500	5	.5%
P131,501 to P219,000	4	.4%
P219,001 and above	3	.3%
Total	1014	100%

As shown from the table above, majority of the respondents earned P11,000 and below which are 616, or 60.7% out of 100%, followed by P11,001 to P22,000 235 or 23.2%. One hundred twenty-three earned P22,001 to P44,000 or 12.1%, twenty-eight (28) or 2.8% earned P44,001 to P77,000

Table 5. Level of the Subjective Well-being of the Faculty Members in terms of Life Satisfaction

Indicators	Mean	Verbal Interpretation
Q1. In most ways my life is close to my ideal.	5.22	Satisfied
Q2. The conditions of my life are excellent.	5.22	Satisfied
Q3. I am satisfied with my life.	5.37	Satisfied
Q4. So far I have gotten the important things I want in life.	4.98	Slightly Satisfied
Q5. If I could live my life over, I would change almost nothing.	5.02	Satisfied
Overall Mean	5.16	Satisfied

As shown from the table above majority of the faculty members in terms of life satisfaction is satisfied which has the overall mean of 5.16 which implies that despite of the struggles and challenges, they are experiencing still perceived life as satisfying. This supports the study of San Ramon et.al (2017), that in the global context of aging, promoting the subjective well-being of older adults through social support. They also mentioned that there are different factors that can contribute to a better well-being and how older adults perceived. Furthermore, education, degree of social integrations, support network and professional activities of teachers are clearly related with perceived well-being.

Table 6. Level of the Subjective of Well-being of the Faculty Members in terms of Positive Affect (Life Optimism)

Indicators	Mean	Verbal Interpretation
Q1. Positive	3.82	High
Q3. Good	4.04	High
Q5. Pleasant	3.98	High
Q7. Happy	3.92	High
Q10. Joyful	3.98	High
Q12. Contented	3.96	High
Overall Mean	3.95	High

As shown from the table above many of the faculty members perceived that their subjective well-being in terms of happiness is high which means they see their lives in a very positive way and optimistic manner that they obtain satisfaction and happiness despite of negative experiences. This supports the study of OECD, (2013) that the presence of positive effects does not imply the absence of negative experiences. In addition, it was mentioned in the study of Comiso, et.al (2015) that individuals can retain happy memories from the past by reminiscing, savoring the moment and anticipating what would be instore in the future.

Table 7. Level of the Subjective Well-being of the Faculty Members in terms of Negative Affect

Indicators	Mean	Verbal Interpretation
Q2. Negative	2.73	Average
Q4. Bad	2.55	Average

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Q6. Unpleasant	.47	Low
Q8. Sad	2.71	Average
Q9. Afraid	2.94	Average
Q11. Angry	2.63	Average
Overall Mean	2.67	Average

As shown from the table above, the faculty members assessed their level of subjective well-being in terms of negative affect as average with the overall mean of 2.67. This means that they do not see their subjective well-being too negatively, in addition, they accept that life is not always a bed of roses, which means that if there are happy moments, there are also challenges and unpleasant times. This study supports the study of Ferguson, et.al (2017), that many teachers have been expected to transition, their classes shifted from face to face to fully online, as many work environments are being hostile to their well-being and despite of the situation, they still thought that this form of emergency schooling will not last forever. Such reactive activities that focus on the now will give them hope there is something positive on every negative situation,

Table 8. Level of the Subjective Well- being of the students in terms of Life Satisfaction

Indicators	Mean	Verbal Interpretation
Q1. In most ways my life is close to my ideal.	4.26	Slightly Satisfied
Q2. The conditions of my life are excellent.	4.37	Slightly Satisfied
Q3. I am satisfied with my life.	4.69	Slightly Satisfied
Q4. So far, I have gotten the important things I want in life.	4.41	Slightly Satisfied
Q5. If I could live my life over, I would change almost nothing.	4.32	Slightly Satisfied
Overall Mean	4.41	Slightly Satisfied

As shown from the table above, the students assessed their level of Life satisfaction as slightly satisfied with an overall mean of 4.41. This means that they are not fully satisfied with their lives as of the moment since pandemic, the education sector has been one of the most affected and students were not allowed to go out and the shift from face- to -face delivery of the lessons affected them tremendously. In addition, because of long period of lockdowns, teenagers limit their activities outside their homes This supports the study of Comiso et. al (2015), Heady and Wearing, Understanding Happiness: A Theory of Subjective Well-Being (1992), that life satisfaction is linked to happiness with friends and leisure, level of living, and health.

Table 9. Level of the Subjective Well- being of the Students in Terms of Positive Affect (Life Optimism)

Indicators	Mean	Verbal Interpretation
Q1. Positive	3.41	Average
Q3. Good	3.53	High
Q5. Pleasant	3.47	Average
Q7. Happy	3.64	High
Q10. Joyful	3.55	High
Q12. Contented	3.65	High
Overall Mean	3.54	High

As shown from the table above on the level of subjective well-being of the respondents in terms of positive affect is high which has the overall mean of 3.54 which implies that despite of long periods of lockdowns and extreme isolations of the students since most of them were not allowed to go out with their friends like the usual way, they still find their lives happy and positive. They were contented and joyful despite of the situation.

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However, on the study of Genc, E. et.al (2021) however, revealed that young adults like the college students with a high level of stress due to Pandemic have a lower optimism and hope. Moreover, that pandemic stress was negatively correlated with the college students' sense of hope and optimism.

Table 10. Level of the Subjective Well- being of the Students in Terms of Negative Affect

Indicators	Mean	Verbal Interpretation
Q2. Negative	3.18	Average
Q4. Bad	2.90	Average
Q6. Unpleasant	2.82	Average
Q8. Sad	3.23	Average
Q9. Afraid	3.39	Average
Q11. Angry	2.94	Average
Overall Mean	3.10	Average

The table above shows the assessment of the students on their level of subjective well-being in terms of negative affects which is average with an overall mean of **3.10** which implies that similarly with the teachers that there are ups and downs on the lives of the students. That based on the study of Al Nima, et.al (2020) that the subjective well- being has been conceptualized as comprising of affective and cognitive evaluations of one's own life. In addition, the presence of negative feelings among the students could be one of the reasons why as of May 2020, due to the closure of schools, 1.2 billion students were not able to attend the school, UNESCO (2020)

Table 11. Difference on the Level of the Subjective Well-Being as Perceived by the Faculty Members and Students

Variable	Mean Difference	t	df	p-value	Decision	Interpretation
Subjective Well-being	.25210	3.319	1012	.001	Reject Ho	Significant

Decision Rule: If the computed p- value is less than 0.05, $p < 0.05$, reject Ho.

Table 4 shows that there is a significant difference in the level of subjective well-being perceived by faculty and students ($p = .001$). This implies that there is a significant difference in the subjective well-being of faculty members and students, and teachers are found to be more adaptable to challenges in life because they are more matured. According to Benevene, P. et al. (2020), teachers' well-being has started to receive more interest over the past decades as a result of a dramatic rise in sick leave along with job trying to quit among educators across different countries and cultures.

Furthermore, it was revealed that as a result of the pandemic, teachers were more deeply challenged due to the abrupt change in instructional structures and delivery of the lesson to their students, leaving them more vulnerable to stress and burnout. According to the students, on the basis of the Genc, E et al. (2021), the study also revealed that young adults with an anxiety due to corona virus have lower hope and optimism, which leads to lower subjective well-being. As a result, pandemic stress was found to be negatively associated with college students' feelings of hope and optimism. Furthermore, the corona virus had an indirect impact on subjective well-being via optimism and hope.

Finally, on a related study by Benevene, P., et al. (2020) discovered that students' well-being is linked to positive relationships with peers, colleagues, and families, as well as higher academic performance.

CONCLUSIONS

That a typical faculty and student respondent from the Departments of Education and Psychology are 20- 29 years of age, male, single, earned Php11,000 and below. More specifically, that the faculty members from the Education and Psychology departments perceived their lives as satisfying despite the struggles and challenges. perceived their lives in a positive way, they are optimistic, happy, contented, and satisfied despite of the negative experiences. In addition, they perceived those negative feelings are part of their lives that life is not always a bed of roses. There will be times that they may experience happy moments

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and sad moments, challenges, and problems. However, the students from the Education and Psychology departments perceived their lives as slightly satisfying due to the long periods of isolation, limited time to be with friends and abrupt change to the delivery of the instructions, that despite their limited movements outside their homes, the students perceived their lives positively. Regardless of the circumstances of the pandemic, they live happily, and they are contented. Moreover, they also perceived their lives to be similar to the lives of adults in that there are ups and downs in the lives of college students despite being positive most of the time.

Finally, regardless of the situation, irrespective of age, gender, civil status, or socioeconomic background, everyone has a unique approach and perception of their subjective well-being. We all face difficulties and challenges, whether we are emotionally stable or young, and our power to cope with them varies.

That the faculty of all local university experienced high level of stressed both related to pandemic and job-related stress due to current situation brought by many uncertainties of Covid-19 as well as the fear of getting infected by the deadly virus and the attitudes of students during online due to intermittent internet signals. They were techno-pedagogically proficient since they had the ability to express various strategies and techniques about the course being taught, their expertise helped them develop their deep understanding of the corresponding curriculum, they have had very high level of specialized knowledge displayed for effective learning environments to diverse students. Lastly, they were technologically proficient in understanding the basic computer functions, operations and other online platforms.

FUTURE DIRECTIONS

The investigation, however, has some limitations, most notably the sample size, which was limited to the faculty and students of two departments of Pamantasan ng Cabuyao during the Academic Year 2021-2022. It is proposed that future researchers conduct a similar study with such a larger number of respondents to optimize generalization. Other employees of the local university, as well as other variables, may be considered for a more comprehensive picture of the interplay of the variables. On a practical level, the study's findings have important impacts for faculty and students at the university, particularly in terms of subjective well-being as well as degree of life satisfaction. The knowledge of the significant difference between the faculty members and students' subjective well-being was determined to assist both in managing and sustaining the subjective well-being. Thus, skills, programs and seminars will assist faculty and students at Pamantasan ng Cabuyao in becoming more content and satisfied with many aspects of quality of life.

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Use of Online Resources for Teaching Learning Process in NEP



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ABSTRACT: An effective teaching and learning process is the key to the dissemination of knowledge. In this age of abundance of information, effective teaching is developmental and dynamic. Teaching learning process is no longer passive in nature, on the other hand, it is very interactive and it is growing continuously as it construct new knowledge and change the beliefs and levels of comprehension of the learners. The New Education Policy (NEP, 2020) emphasises heavily on inclusive learning. Driven by the principles of social justice and democracy, equality and inclusion interventions aim to ensure that background characteristics, and should not impinge on one's access to and success in higher education (Malish, 2022). In the present age, the creation of an inclusive learning environment can be enabled by the use of modern Information and Communication Technology (ICT). The ICT supported variety of online learning resources (learning content and learning tools) encompasses the inclusive education in a meaningful way and facilitates the students to create the learning environment that is most appropriate for their personal learning needs and preference. The aim of the study is to analyse the importance and use of Online Resources for teaching learning process.

KEYWORDS: NEP 2020, Teaching Learning, E-learning, Online Learning Resources, ICT

I. INTRODUCTION

Teaching is the art of integration of knowledge and wisdom and it can be regarded as a skill which values in real-world learning, exchange of best practices and a lifelong love of learning. It is the process of paying attention to people's needs, experiences, and feelings and intervening in order for them to learn particular topics. The primary purpose of teaching is to make learning useful and meaningful. Learning takes place when the process would get completed as an outcome of teaching. That is why; teaching and learning process can be defined as a transformation process of knowledge from teachers to students. It is a combined process where a teacher assesses understanding needs, establishes particular learning objectives, formulates teaching and memorizing strategies, enforces a plan of work, and assesses the outcomes of the instruction.

II. TEACHING AND LEARNING PROCESS

Learning is a part of the human condition to crave for knowledge. It is the acquisition of knowledge, ability to understand, procurement of skills, attainment of cognitive ideas, etc. People are wondering how learning takes place, how a learner's first-ever learning starts in an active environment and what conditions facilitates learning. Consequently, many scientists, psychologists have developed the following learning theories:

Theory	Explanation
Humanism	A "learner-centric approach" in which the potential is the focus rather than the method or materials {Maslow, Rogers & Bugental (1900)}
Behaviourism	Behaviourism is only concerned with observable stimulus-response behaviours, as they can be studied in a systematic and observable manner {Watson & Skinner (1930)}
Cognitivism	Learning relies on both external factors (like information or data) and the internal thought process {Piaget (1936)}
Constructivism	The learner builds upon his or her previous experience and understanding to "construct" a new understanding {Piaget (1936)}

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Connectivism

Informed by the digital age, connectivism departs from constructivism by identifying and remediating gaps in knowledge {Siemens & Downes (2004)}

Despite the fact that, learning theories range in lots of ways, including their standard assumptions and guiding principles, many rest not on a common basis. Those theories vary in how they predict that gaining of knowledge occurs. "Just as no two people are the same, no two students learn in the exact the same way or at the exact same rate. Effective educators need to be able to pivot and craft instruction that meets the needs of the individual student to address the needs of the 'whole child.' Sound knowledge in multiple learning theories is a first step to this and another reason why great teachers work their entire careers to master both the *art and the science* of teaching." (Roggeman, 2021). So the role of the teacher becomes pivotal for the learning process. Teachers can act as a catalyst to give momentum to the process of learning. Their function now includes counselling students, mentoring students, being a facilitator and more importantly teaching them a way to use and follow knowledge in their lives. Vygotsky's Zone of Proximal Development which has become the foundation of much research and theory in cognitive development has advocates the space between what a learner can do without assistance and what a learner can do with adult guidance or in collaboration with more capable peers (Vygotsky, 1934).

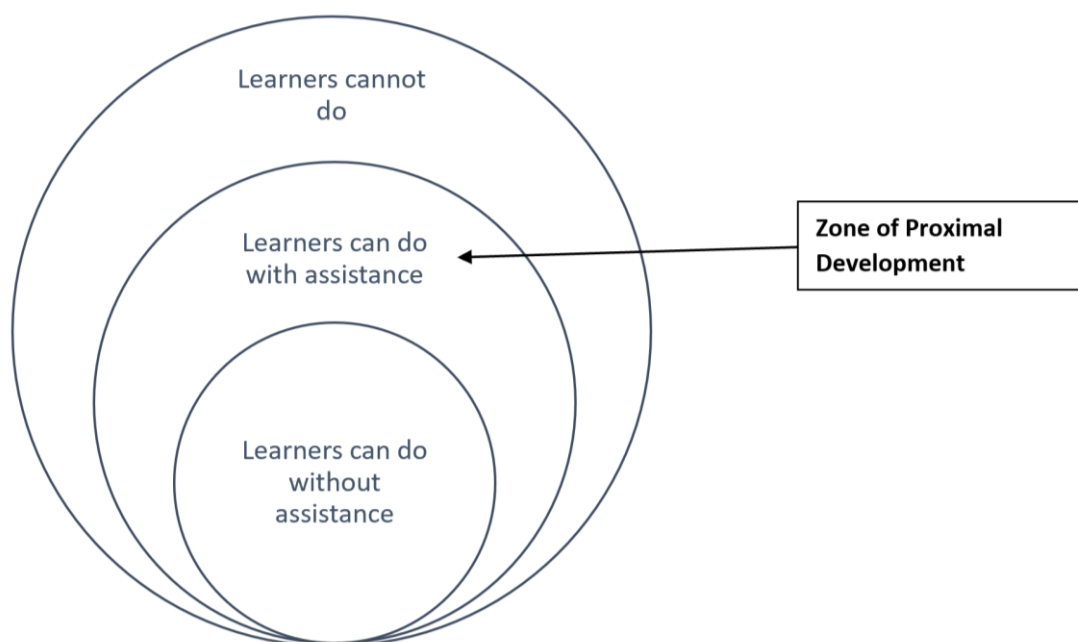


Fig.1 The Zone of Proximal Development (ZPD)

Source: Encyclopaedic dictionary of psychology. Retrieved from Credo Reference database

One must acknowledge that learning can be challenging, and hence teachers need to offer a helping hand to students to develop the mind-set and self-efficacy that will support students' diligence towards learning. Learning involves a change in attitude or behaviour. This change does not necessarily have to be an improvement always. Learning can be considered as change that is permanent in nature because change is brought into students by a teacher through techniques like developing special skills, changing some attitudes, or understanding specific scientific law operating behind a learning environment (Sequeira, 2012).

III. NATIONAL EDUCATION POLICY (NEP) 2020

National Education Policy (NEP) 2020 is a comprehensive and radical plan intended at restructuring and renewing India's higher education sector in the global education scenario. The policy is wide-ranging and based on the solid foundational principles. The aim of the policy is universalizing quality higher education by restructuring and consolidating Higher Education Institutions (HEI) to become multidisciplinary, equipping the educated with 21st century knowledge and skills. As a result the students will have well rounded personality and well prepared to cope with the fast changing world. The policy demands a sweeping change in the curriculum and pedagogical structure in the multidisciplinary framework as well as providing an optimal learning environment and support to students, ensuring

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equity and inclusion, granting faculty and institutions freedom and autonomy in pursuing high quality research over and above world class education.

NEP 2020 envisions a complete overhaul and re-energising of the higher education system to overcome these challenges and thereby deliver high-quality higher education, with equity and inclusion. One of the policy's visions emphasises "increased access, equity, and inclusion through a range of measures, including greater opportunities for outstanding public education; scholarships by private/philanthropic universities for disadvantaged and underprivileged students; online education, and Open Distance Learning (ODL); and all infrastructure and learning materials accessible and available to learners with disabilities" (Clause 9.3, NEP 2020). To achieve the vision of 'increased access' and 'inclusion through a range of measures' is possible through Open Educational Resources (OER). Recent developments and advancements in hardware and software have augmented adoption of technology-enabled learning in the institutions in varied manner. Both formal and open and distance education institutions have incorporated technology in teaching and learning transactions (Sharma, 2023).

IV. OBJECTIVE OF THE STUDY

The objective of the study is to analyse the use of Online Resources for teaching learning process and availability of such online learning platforms at different institutions.

V. LITERATURE REVIEW

The review of literature part consists of two parts. One part delve into to find out literatures about understanding the teaching learning process and other part tries to find out the use of online resources for teaching learning process in the context of NEP.

(Sequeira, 2012) gives insight into a few concepts of teaching and learning, especially at the higher levels of education. Many countries make it mandatory for teachers to undergo formal course on education principles where the concepts of teaching and learning are taught. However, this exposure to teachers is non-existent for professional teachers who enter into teaching profession without any exposure to formal training in education. This sometimes may act as a constraint in the process of effective teaching and learning process.

(Lumpkin, 2020) describes "An effective teaching and learning process requires five sequential steps. Teachers who care about the learning of students first preview how the course's disciplinary content is organized. Teachers then convince students how and why listening and learning will personally benefit them. Next teachers lead interactive classes utilizing a variety of instructional approaches interspersed with engaging learning activities. Through learning assessments, teachers reinforce and reward student learning. In enacting their action plans, students actively use new knowledge and skills learned. Educationally sound course design, instructional strategies characterized by interactive lecturing and active learning, and use of a variety of assessments facilitate student learning, but only when students perceive personally beneficial outcomes and realize how knowledge learned can be used. Engaged students are more likely to think critically and build on prior knowledge and experiences to construct new knowledge. Evidence of learning documented through use of a variety of assessments prepares students to use what they have learned. Assessments evaluate students' understanding, growth in critical thinking, development of skills in problem solving, while strengthening their application and analytical abilities". (McTighe & Wiggins, 2013) summed up the essence of a well-designed, delivered, and assessed course, "...an educator's job is not to simply cover content. Our role is to cause learning, not merely mention things...". This is most successful when students feel they personally benefit from and can actually use content they learn. In combination, five steps converge resulting in more effective teaching and learning.

(Eisner, 1991) suggested that content and pedagogy are the systole and diastole of teaching. He added that "No curriculum teaches itself, it always must be mediated, and teaching is the fundamental mediator". This highlights the criticality of teacher agency. Material making, apart from being an end in itself, can also be instrumental for strengthening teacher development and agency. As teachers and teacher educators engage with materials/content and the complexities of marrying educational aims, contexts, and diverse learner communities, they will need to think of creative approaches to develop rich and contextual materials (Kasinathan, 2022).

(Munna & Kalam, 2021) argue that the teaching and learning process can be defined as a transformation process of knowledge from teachers to students. It can also be referred as the combination of various elements within the process where an educator identifies and establishes the learning objectives and develops teaching resources and implements the teaching and learning strategy. They tried to assess the teaching effectiveness in a higher education setting. In their study they have evaluated various academic journals, pedagogy, and inclusive practices to assess the teaching effectiveness within the higher education setting. The research findings suggested that providing positive and adequate formative and developmental feedback, introduction of role-play have a profound positive impact on the students' confidence and self-esteem. It was also revealed that, active learning

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environment promotes inclusivity and improve the faculty and student academic performances. These findings will enable the educators to help create and implement an inclusive teaching and learning environment to improve the learner's expectation and academic performance.

However, in order to be an active learner in higher education, each student expects to be treated as an adult learner who has some right over the learning ambience in the form of asking questions and clearing of doubts (Michael & Modell, 2003).

(Lebenicnik et al., 2015) have opined that the learning resources that were used in the education of university students were often available online. The nature of new technologies caused an interweaving of formal and informal learning, with the result that a more active role was expected from students with regard to the use of ICT for their learning. The variety of online learning resources (learning content and learning tools) facilitated informed use and enables students to create the learning environment that was most appropriate for their personal learning needs and preferences. In contemporary society, the creation of an inclusive learning environment supported by ICT is pervasive. The model of Universal Design for Learning is becoming increasingly significant in responding to the need for inclusive learning environments. In this article, authors categorized different online learning activities into the principles of Universal Design for Learning. The findings indicate that among all students, activities with lower demands for engagement were most common. The categorization of activities revealed that student teachers are less likely to undertake activities that involve interaction with others. Among the sample of student teachers, they have found that personal innovativeness was correlated with diversity of activities. The results also showed that student teachers should be encouraged to perform more advanced activities, especially activities involving interaction with others, collaborative learning and use of ICT to plan and organize their own learning processes.

(Ullah, 2022) in his research has stated that one of the key tenets of the NEP 2020 has been the acceptance of Open and Distance Learning (ODL) as a mainstream delivery mechanism. The transition from traditional to digital learning has been witnessed as a smooth one. With the help of social media and other technologies, students and teachers have able to grasp online education. It has also been observed that ODL will remain an important element of present and future education and training system. ODL has its place, especially for students who could not otherwise attend college and given the health risks. In the upcoming future, with the help of new technologies, the government needs to reach out to every student and provide them with the necessities of water, shelter, and education. As per the Regulation 22 of the UGC (Open and Distance learning Programmes and Online Programmes) Regulations, the degrees at the undergraduate, the postgraduate and, the post graduate diplomas awarded through ODL or Online mode by Higher Educational Institutions, shall be treated as equivalent to the corresponding degrees and post graduate diplomas offered through conventional mode. He further pointed that as ODL provides a more flexible and dynamic environment for the students, ODL delivers a more practical approach to learning, unlike the traditional norm.

(Sheergugri & Malkeet Raj, 2022) have briefed that a well-defined, visionary and futuristic education policy is a must for every country because education is the key driver of economic and social progress. Taking into account their respective traditions and culture, different countries have adopted varied education systems, how New Education Policy 2020 (NEP 2020) intended to transform our nation sustainably into an equitable and vibrant knowledge society, by providing high quality education to all. They also stated that this policy will bring about a paradigm shift India's education system and will transform it into a modern, progressive, and equitable one. They discussed the importance of alternative modes of quality education whenever and wherever traditional and in-person modes of education are not possible. In this regard, the National Education Policy's vision of leveraging the advantages of technology while acknowledging its potential risks and dangers are also being highlighted.

(Mir, n.d.2023)'s study is based on secondary data and highlights technology's scope and significance in NEP 2020. How the use of technology in educational institutions will help enhance pedagogical methods and student learning has been discussed thoroughly. The study also found that NEP 2020 recommends the creation of the National Educational Technology Forum (NETF) to facilitate open dialogue about how to use technology in school and higher education.

VI. RESEARCH METHODOLOGY

In this paper the researcher tried to analyse the use of Online Resources for teaching learning process through a qualitative research design. Qualitative research is a type of research that explores and provides deeper insights into real-world problems. Here, the problem is to assess how the online resources, various e-learning platforms along with the aid of ICT help teaching learning in a more effective way. Researcher also wanted to find the availability of such online learning platforms at different institutions and how these are going to support to achieve the mission of NEP 2020's equitable and inclusive education for all. The qualitative research method was adopted to understand different aspects of NEP 2020 and conclusions drawn from critical analysis of secondary sources, viz. journals, articles, books and e contents.

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VII. ONLINE RESOURCES

In general, web pages and documents on the internet that provide useful information are known as online resources (Kumar, 2009). Whereas e-learning refers to “the use of information and communications technology (ICT) to enhance and/or support learning in tertiary education” (Sharma, 2022). These online courses have benefits, like, **purpose-driven learning, power of imagination, building a growth mindset, boosting student motivation and shared leadership in a team environment (Bechard, 2020)**. Due to the numerous benefits of online information, online learning resources represent one of the most common sources for learning among students. Students nowadays can access an abundance of online learning resources themselves. This increases the importance of informal learning environment.

One of the thrust areas of the National Education Policy (NEP 2020) is Equity and Inclusion:

- Policies aimed to minimize disparities in access to online education.
- Efforts were made to support marginalized students, students with disabilities, and those in remote areas to ensure they could participate fully in online learning.

The emphasis on online education is possible with the rapid and improved Internet coverage, extensive use of mobile telephones and the launching of 5G networks. As a result these help the students to easily access the online learning empowerment tools. In the meantime, there is a need for relevant digital skills to be developed like effective search techniques, fact checking, spell-check and grammar tools, judicious use of social media and learning from digital media.

VIII. USE OF ONLINE LEARNING RESOURCES FOR TEACHING LEARNING PROCESS

The National Education Policy-2020 (NEP-2020) includes broad and detailed mandates for integrating technology into all levels of education. So that various technological tools allow education systems to collect, process, incorporate, store, maintain and distribute data. Moreover, the NEP-2020’s mission of “Access, Equity and Inclusion in Higher Education” seems to be impossible without integration of technology as means of online learning resources. Inequality in access to higher education may lead to inequality in other domains and intra- as well as inter-generational inequalities (Malish, 2022).

The adoption of technology enabled learning management system (LMS) by the higher educational institutions paved the way for online learning resources available to students of all walks of life. These online learning resources can be regarded as a source of infinite learning opportunities. To name a few:

- (i) IITBombayX is an online platform developed by IIT Bombay, to offer Massive Open Online Courses (MOOCs) for individuals from varying backgrounds. Specialits in Hybrid MOOCs which captures the benefits of flipped classrooms, online lectures, and live interactions with the IITBombayX course instructors. They Offers Edu MOOCS, Skill MOOCS, Teach MOOCS, Life MOOCS.
Source: <https://www.iitbombayx.in/>
- (ii) eVIDYA@IITD is an outreach initiative of IIT Delhi for delivering knowledge using Virtual and Interactive platform for Driving Youth Advancement.
Source: <https://evidya.iitd.ac.in/>
- (iii) IIT Madras’s Centre of Excellence on Virtual Reality and Haptics: <https://opengovasia.com/indian-institute-of-madras-launches-virtual-reality-course/> Set up under the Institute of Eminence initiative, this centre will create learning experiences in virtual reality, augmented reality, mixed reality and haptic technologies.
Source: <https://www.classcentral.com/university/iitm>
- (iv) DIKSHA (Digital Infrastructure for Knowledge Sharing) Portal for teachers. This portal, by the Ministry of Education and National Council for Education Research and Training (NCERT), provides lesson plans, teaching tools, explanation content, practice and homework, question banks and assessment to millions of learners and teachers all over the country.
Source: <https://www.india.gov.in/spotlight/diksha-national-digital-infrastructure-teachers>
- (v) eBidya: LMS of KKHSOU Moodle is one of the most popular open source software adopted in many universities including IGNOU and state open universities as well as in formal education universities. Moodle LMS is based on the socio-constructionist pedagogy which integrates constructivism, constructionism, social constructivism, and connectivism. Source: <http://www.lmskkhsou.in/web/>
- (vi) Platforms for Divyangs: There is a greater role of technology in facilitating Divyangs. Assistive Technology is a big boon for them. Many types of software are developed to cater the needs of Divyangs. Softwares like screen readers, text-to-speech systems using Optical Character Recognition (OCR), braille screen and display magnifiers allow divyangs to listen to content on the screen or it makes the font or information on the screen in big size for

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easy reading. Technology giants like Microsoft, Google, Facebook, etc have created tools which are being used by Divyangs.

Source: [How thousands of people with disabilities shape the technology you probably use every day - Source \(microsoft.com\)](#)

E-learning is rapidly gaining importance and momentum with the advent of technology. With the government's 'Digital India' initiative aiming to digitize India, educational institutions are also working in tandem to help meet the goal. Massive Open Online Courses (MOOC) among students and working professionals are quickly gaining popularity as they help them to study at their convenience and time. One of the best key characteristics of MOOC is that these online MOOC courses allow students to access some of the top educator's content across the globe from the comfort of their own rooms, in a remote manner (<http://careers360.com>). The NEP also recommends that digital technologies should be extensively used for teaching-learning in the form of e-content, audio and video resources, e-library, etc. Apart from using digital technologies to support teachers' in "creating and learning", these technologies can also support teacher development through "Connecting and Learning". 'Creating and Learning', in Digital Platforms.

Further, the NEP suggests the substantial expansion in the use of technology platforms such as SWAYAM and DIKSHA for online training of college and university teachers as a part of their in-service continuing professional development. It recommends that teachers should be given continuous opportunities for development, including learning recent advances in their profession. Such development should be offered in blended mode, combining workshops and online courses (Kasinathan, 2022).

IX. CONCLUSION

Technology can be a powerful tool for transforming learning. With the diminishing gap between teachers and learners, collaborative learning, blended mode of learning through the use of technology, learning experiences able to meet learners' need to a great extent. However, to actualise these, teachers have to use technology effectively. It is recommended that teachers should be given continuous opportunities for development, including learning recent advances in their profession. Such development should be offered in collaborative mode, combining workshops and online courses. If all the above are planned and executed properly then one of the main aspects of NEP which asserts the focus of integration of digital technologies for improving teaching-learning, evaluation processes, and support teachers' professional development will definitely meet. This will streamline educational planning and administration as well as will enhance educational access means equitable and inclusive education: *Learning for All*.

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Determinants of Generation Z's Interest in Using Gopay, Ovo, and Dana (Application of UTAUT2 Model) in Mataram City



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ABSTRACT: This study aims to analyze the variables in UTAUT 2 which are factors for generation Z in using E-wallets on the Gopay, OVO, and Dana platforms in Mataram City. The sampling technique used was purposive sampling and data collection using online and offline questionnaires. Data analysis using Structural Equation Modeling (SEM) based on Partial Least Square (PLS) with the SmartPLS application. Based on the results of the study, it is known that the variables of performance expectancy, social influence, facilitating conditions and habit have a positive and significant effect on behavioral intention, while effort expectancy, perceived trust, perceived risk, hedonic motivation and price value have no significant effect on behavioral intention. In addition, behavioral intention also has a positive and significant effect on use behavior.

KEYWORDS: Financial Technology; E-wallet; UTAUT2; Generation Z; Behavioral Intention; Use Behavior

INTRODUCTION

The rapid development of technology plays an important role in changing the payment system from cash to non-cash. The non-cash payment system is a payment method whose use is carried out through an electronic payment system. One example of such electronic payment is e-wallet. E-wallet is one example of financial technology (fintech) that uses online media as an additional option in conducting financial transactions. (Jatmiko & Imronudin, 2023). E-wallet is e-money served based which is currently better known as digital wallet because it can store money. (Nawawi, 2020). In other words, an e-wallet is a service from a technology system used by consumers to conduct various types of transactions and store money digitally.

According to research conducted by Insight Asia, (2022) titled 'Consistency That Leads: 2023 E-Wallet Industry Outlook' shows the results that people prefer e-wallets as a payment method compared to cash payments and bank transfers. The research involved 1,300 people who participated in various major cities in Indonesia, where 74% of respondents actively used e-wallets in making transactions. In addition, the results show that over the past five years, Gopay has become a popular e-wallet platform among customers with 71% of all respondents, followed by OVO with 70%, and Dana with 61%.

Research conducted by Visa, (2022), entitled 'Consumer Payment Attitudes Study 2022' states that generation Z is the group with the highest percentage using e-wallets in digital payment methods by reaching up to 89%. Generation Z is the youngest generation that is a transition from the millennial generation and has just entered the workforce with a birth year of 1997 to 2012. (Oktafani & Sisilia, 2020). Despite their young age, generation Z has a high level of experience in applying e-wallets. (Indriyani & Sartika, 2022).

The determinants of user acceptance of the system need to be measured using an instrument. (Mahoney & Chan, 2002). This needs to be done in order to obtain accurate information in helping service providers to make further decisions in improving the quality of their services. There are several research models to identify factors that influence desires and actions in utilizing technology systems. One model that is useful for measuring how technology is accepted by consumers is the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2) model. UTAUT2 was proposed by Venkatesh et al in 2012. This model is an update of the previous model, namely the Unified Theory of Acceptance and Use of Technology (UTAUT), which focuses on the organizational context. (Audina *et al.*, 2021). UTAUT developed into UTAUT2 due to the limitations of UTAUT which only explains 4 variables, including performance expectancy, effort expectancy, social influence, and facilitating conditions so that some variables cannot be seen from UTAUT. These variables are still insufficient in explaining the factors that determine the behavioral intention of using technology by consumers. Therefore, UTAUT was modified into UTAUT2 with three additional variables, namely price value, hedonic motivation, and habit. UTAUT2, which is a modification of UTAUT, focuses on the usefulness of technology

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and the factors that determine consumer intention and technology use behavior.

The focus of this study is to analyze the determinants of generation Z's interest in adopting Gopay, OVO, and Dana in Mataram City. This is important to do because it can help policy makers in increasing the use of e-wallets so that economic growth increases and the level of welfare is higher. This study uses the UTAUT2 model with the variables used are performance expectancy, effort expectancy, social influence, facilitating conditions, price value, hedonic motivation, habit, behavioral intention and use behavior as well as two additional variables, namely perceived trust and perceived risk. The object of research is generation Z who uses the Gopay, OVO, and Dana platforms in Mataram City.

LITERATURE REVIEW

Performance expectancy is how far the use of a technology can be useful for improving consumer performance when carrying out an activity. (Venkatesh et al., 2003). The design of a system has benefits for its users, including perceived usefulness, external motivation, job satisfaction, and relative advantage. (Christiono & Brahmana, 2018). With an e-wallet, individuals will feel that payment transactions run faster and more efficiently. (Rahmawati & Sari, 2023). Consumers who feel that a technology provides benefits in improving performance will be committed to using the technology on an ongoing basis. (Putri & Suardikha, 2020). Proven by research from (Christiono & Brahmana, 2018; Nindya, 2017; Onibala et al., 2021; Rahi et al., 2018; Shafly, 2020) which shows that behavioral intentions are positively and significantly influenced by performance expectations.

H1: Performance Expectancy has a positive and significant effect on Behavioral Intention

Effort Expectancy is the level of ease of operating a system that can help users save time when doing certain activities. (Venkatesh et al., 2003). According to Hidayat et al., (2020) effort expectancy is the amount of effort spent in using an e-wallet. In addition, according to Sampat & Sabat, (2020) effort expectation is the belief held by a person that the use of technology is very easy and require less effort. If someone believes that using a technology system can be easier and reduce the effort required to carry out certain activities, it can affect their desire to use it. (Venkatesh et al., 2012). Audriyani & Meiranto, (2023) also confirmed this opinion that when users benefit from using the system, it will make users have the intention to continue using it. Research conducted by (Heryanto & Tjokrosaputro, 2021; Hoque & Sorwar, 2017; Suntara et al., 2023; Wardani & Masdiantini, 2022) states that behavioral intentions are positively and significantly influenced by effort expectations.

H2: Effort Expectancy has a positive and significant effect on Behavioral Intention

Social Influence is when an individual uses a technology system because of the influence of the individual's environment. (Venkatesh et al., 2012). In other words, social influence relates to how much social networks, such as family, influence each other in using technology systems. Individuals can use social influence to consider several factors when making a decision to use a technology system. (Umiyati et al., 2021). This is evidenced by research conducted by (Audina et al., 2021; Cahyani & Dewi, 2022; Hammouri et al., 2023; Kumala, 2020) that behavioral intentions are positively and significantly influenced by social influence.

H3: Social Influence has a positive and significant effect on Behavioral Intention

Perceived Trust is a state when individuals feel safe when making payments online and is important for suppressing concerns regarding the use of technological systems when making transactions. (Salisbury et al., 2003). According to Hidayat et al., (2020) because security is very important to feel when making financial transactions via the internet, it is important to analyze the trust factor. Trust affects behavioral intentions positively and significantly. (Adelia & Indah, 2023; Hammouri et al., 2023; Hidayat et al., 2020; Prasetyo et al., 2022).

H4: Perceived Trust has a positive and significant effect on Behavioral Intention

Perceived Risk is a state when individuals feel that they might get consequences from the services used. (Zhang et al., 2012). According to Hidayat et al., (2020) risk variables are very important to gain individual understanding of the potential undesirable results of a technology system. It is proven that risk affects individual behavioral intentions positively and significantly. (Hidayat et al., 2020; Melinda & Setiawati, 2022; Oktaviana & Jauharry, 2023).

H5: Perceived Risk has a positive and significant effect on Behavioral Intention

Facilitating Conditions are individual beliefs related to the availability of infrastructure that will support the use of an information technology system (Venkatesh et al., 2003). According to Diana, (2018) facilitating conditions are also referred to as the level of confidence possessed by individuals in the infrastructure provided by the organization that allows the use of technology, so that people can easily use the system. Behavioral interest is positively and significantly influenced by facilitating conditions. (Cahyani & Dewi, 2022; Mayanti, 2020; Rahi et al., 2018; Sedana & Wijaya, 2009)

H6: Facilitating Conditions has a positive and significant effect on Behavioral Intention

Hedonic Motivation can be interpreted as the extent to which the use of technology systems can provide happiness to

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its users. (Heijden & Hans, 2004). According to Venkatesh et al., (2012) hedonic motivation is a feeling that arises because of the joy obtained from using a technology system. The higher the level of hedonic motivation, the desire for someone to use an e-wallet will appear. (Prasetya & Purnamwati, 2020). It is proven by research conducted by (Audina et al., 2021; Damayanti et al., 2022; Nugraha, 2020; Wardani & Masdiantini, 2022) that behavioral intentions are positively and significantly influenced by hedonic motivation.

H7: Hedonic Motivation has a positive and significant effect on Behavioral Intention

Price Value is a comparison between the price offered to someone and the benefits that will be obtained from using technology. (Venkatesh et al., 2012). Price value is the correlation between the price given to users and the benefits that users will receive. (Azis & Kamal, 2016). The more benefits consumers will get from the technology system compared to the cost of use, the stronger the consumer's desire to use it. (Venkatesh et al., 2012). Individual behavioral interest is positively and significantly influenced by price value. (Hammouri et al., 2023; Melinda & Setiawati, 2022; Prasetya & Purnamwati, 2020; Shafly, 2020)

H8: Price Value has a positive and significant effect on Behavioral Intention

Habit is the extent to which individuals are fond of carrying out automatically repeated behaviors. (Limayem et al., 2007). According to Venkatesh et al., (2012) habit is when someone acts impulsively due to the experience, knowledge, and advantages possessed by that person. Habit is an important component in determining a person's desire to use a technology system. (Alfansi & Daulay, 2021). This opinion is in accordance with research conducted by (Cahyani & Dewi, 2022; Hidayat et al., 2020; Onibala et al., 2021; Saragih & Rikumahu, 2022) that habits have a strong and positive correlation with the intention to use an e-wallet.

H9: Habit has a positive and significant effect on Behavioral Intention

Behavioral Intention is an intention that allows a person to take specific actions. (Islam et al., 2013). Behavioral intentions will encourage individuals to adopt technology. (Alalwan et al., 2016). Behavioral intention affects the use of behavior or positively and significantly (Armansyah, 2021; Damayanti et al., 2022; Hoque & Sorwar, 2017; Mayanti, 2020; Saragih & Rikumahu, 2022)

H10: Behavioral Intention has a positive and significant effect on Use Behavior

Use Behavior is a measure of the amount of technology used by consumers. (Venkatesh et al., 2012). In other words, usage behavior shows how often individuals use their technology systems. The behavior shown when using technology depends heavily on how the user views the system, so good system usage can show how well the system is accepted. (Shafly, 2020)

This study aims to analyze the variables in UTAUT2 which are factors for generation Z in using E-wallets on the Gopay, OVO, and DANA platforms in Mataram City.

The framework of this research is described as follows:

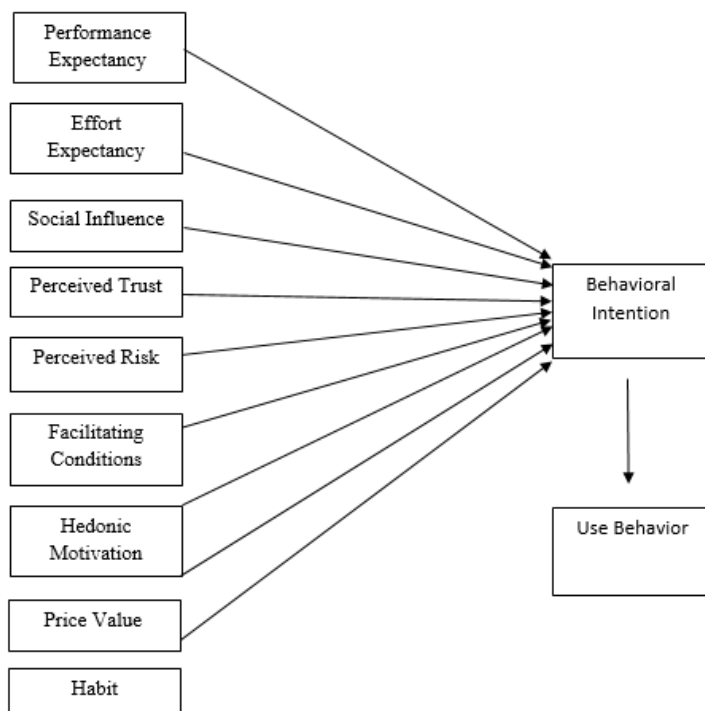


Figure 1. Research Model

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METHOD

This quantitative research uses the UTAUT2 model in understanding consumer intentions and behavior in using e-wallets by examining the influence of independent variables, namely performance expectancy, effort expectancy, social influence, hedonic motivation, price value, facilitating conditions, habit, perceived trust and perceived risk on the dependent variable, namely behavioral intention and use behavior.

The location of this research is in Mataram City, West Nusa Tenggara with a sampling technique using purposive sampling. The population in this study is generation Z, which is the generation with the birth year 1997-2012, which means that they are currently 11-26 years old. Generation Z studied are individuals who use Gopay, OVO, and Dana e-wallets.

In this study, the total sample size for the population was unknown. The unknown population formula is used to determine the minimum sample size required with an unknown population. (Riduwan, 2004)

$$n = \frac{z^2}{4\mu^2} = \frac{(1,96)^2}{4(0,1)^2} = 96,04$$

n is the minimum number of samples required, z is 1,96 and μ is the margin of error with a value of 10%. The minimum number of samples for this study is 96,04.

The data collection method in this study is an online questionnaire technique using google form and offline by visiting each sub-district directly. There are five Likert scales used to measure the variables tested: 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, and 5= strongly agree. The data analysis technique used is Structural Equation Modeling (SEM) based on Partial Least Square (PLS) with the SmartPLS version 4.9.8 application.

Variable	Indicator	Source
Performance Expectancy (H1)	- Perceived usefulness - Relative advantage - Job suitability	(Venkatesh et al., 2003)
Effort Expectancy (H2)	- Perceived ease of use - Complexity - Ease of use	(Venkatesh et al., 2003)
Social Influence (H3)	- Subjective Norms - Social Factors - Status	(Ajzen, 1991) (Thompson et al., 1991)
Perceived Trust (H4)	- Capability - Policy - Integrity	(Moore & Benbasat, 1991) (Rofiq, 2007)
Perceived Risk (H5)	- Financial risk - Performance risk - Overall perceived risk	(Jacoby & Kaplan, 1972)
Facilitating Conditions (H6)	- Perceived behavioral control - Facilitating conditions - Compatibility	(Ajzen, 1991) (Thompson et al., 1991)
Hedonic Motivation (H7)	- Entertainment - Fun - Interests	(Moore & Benbasat, 1991) (Venkatesh et al., 2012)
Price Value (H8)	- Quality - Price - Value	(Venkatesh et al., 2012) (Putra, 2018)

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Habit (H9)	- Previous use - Addiction - Behavior becomes automatic	(Venkatesh et al., 2012)
Behavioral Intention (H10)	- Repurchase intention - Subjective norms about behavior	(Venkatesh et al., 2003) (Venkatesh et al., 2012)
Use Behavior (H11)	- Usage time - Frequency of use - Variety of use	(Venkatesh et al., 2012)

RESULTS AND DISCUSSION

This study collected data using purposive sampling techniques by distributing questionnaires online and offline and the respondent data that was successfully obtained was 150 respondents. The characteristics of respondents in this study include district, gender, age, education, occupation, e-wallet used, length of e-wallet use, number of e-wallet uses a week, nominal money spent in a week and the function of using e-wallet.

The data in table 1 below shows that the study was dominated by Mataram sub-district with 37.4%, followed by Ampenan and Sekarbela sub-districts with 24% each, then Selaparang sub-district with 18% and the last two sub-districts, Cakranegara and Sandubaya with 9.3% each. The study was dominated by females at 70% and the remaining 30% by males. The study was dominated by 19-26 years old with 98% and 11-18 years old with only 2%. Furthermore, in educational characteristics, S1 dominates as much as 76% followed by SMA / SMK 20.7% and D3 only 3.3%. In this study, most of them are still students with a total of 93.35, and employees as much as 4.6%, as well as entrepreneurs, police officers, and research assistants with 0.7% each. This research is dominated by e-wallet funds by reaching 59.5%, followed by ovo as much as 21% and gopay 19.5%. Respondents on average use e-wallets for 1-3 years with a percentage of 36.7%, and 6 months - 1 year as much as 28%, 3-6 months 22% and above 3 years as much as 13.3%. In a week, respondents mostly use e-wallets only about 1-3 times with a percentage reaching 68%, 4-6 times only 22.65 and 6 to above 10 times only 4.7%. As for the nominal spent, it is dominated by less than Rp.500,000, which is as much as 90.7%, followed by Rp.500,000-Rp1,000,000 as much as 6.7% and Rp.100,000 to above Rp. 2,000,000 only 1.3%. for the last characteristic, e-wallets are more often used for online shopping with a percentage of 36.4%, send money 31.7%, pay in stores 22.1%, and the rest for online transportation 9.8%.

Table 1: Identity of Respondents

Information	Percentage
District	
Ampenan	16
Mataram	37,4
Selaparang	12
Sekarbela	16
Cakranegara	9,3
Sandubaya	9,3
Education	
SMA/SMK	20,7
D3	3,3
S1	76
Age	
11 - 18 years	2
19 - 26 years	98
Length of time using e-wallet	
3- 6 months	22
6 months - 1 year	28

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1 - 3 years	36,7
> 3 years	13,3
Nominal spending in a week	
< Rp.500.000	90,7
Rp.500.000 - Rp.1.000.000	6,7
Rp.1.000.000 - Rp.2.000.000	1,3
> Rp.2.000.000	1,3
Jobs	
Student	93,3
Employee	4,6
Entrepreneur	0,7
Police	0,7
Research Assistant	0,7
Gender	
Male	30
Female	70
E-wallet used	
Gopay	19,5
Ovo	21
Dana	59,5
E-wallet usage in a week	
1 - 3 times	68
4 - 6 times	22,6
6 - 10 times	4,7
> 10 times	4,7
Function of using e-wallet	
Online transportation	9,8
Online shopping	36,4
Pay in store	22,1
Send money	31,7

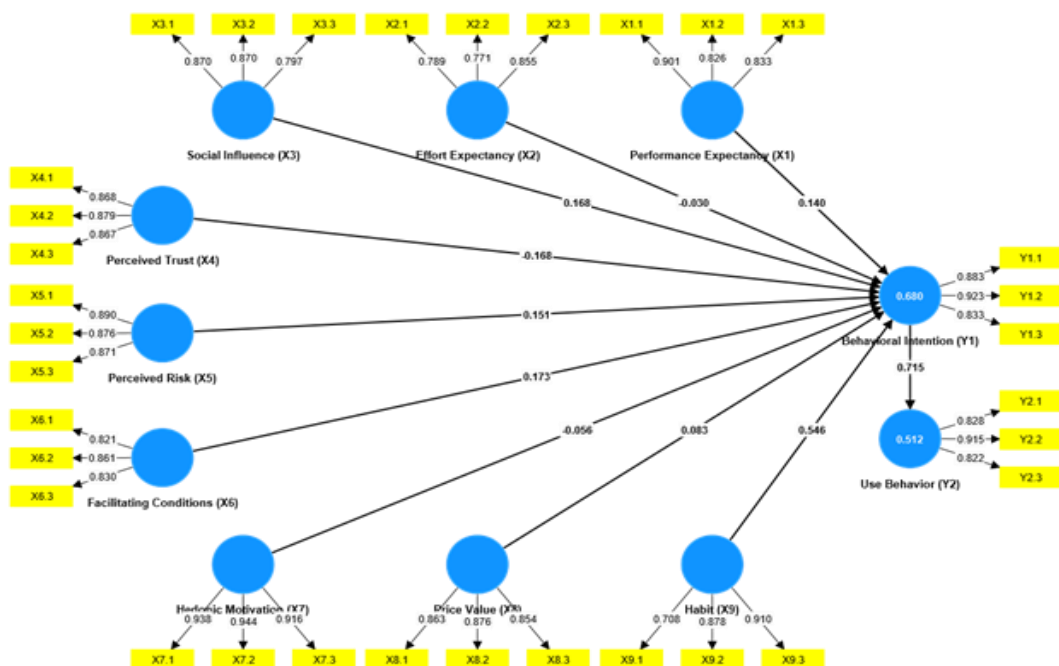


Figure 2. Outer Model

Source: Data processed (2023)

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From the values in the outer model, it can be seen that performance expectancy, social influence perceived risk, facilitating conditions, price value and habit have a positive relationship direction towards behavioral intention. In addition, behavioral intention also has a positive influence on use behavior. Meanwhile, effort expectancy, perceived trust, and hedonic motivation have a negative direction of relationship to behavioral intention.

Table 2. Average Variance Extracted (AVE)

Variable	AVE
Behavioral Intention (Y1)	0.776
Effort Expectancy (X2)	0.649
Facilitating Conditions (X6)	0.702
Habit (X9)	0.700
Hedonic Motivation (X7)	0.870
Perceived Risk (X5)	0.773
Perceived Trust (X4)	0.759
Performance Expectancy (X1)	0.729
Price Value (X8)	0.747
Social Influence (X3)	0.716
Use Behavior (Y2)	0.733

The accuracy of a measuring instrument in carrying out its function can be known from the validity test. The Average Variance Extracted (AVE) value can be used to measure the variance owned by each latent variable with the limit of the accepted value being above 0.5. When viewed from Table 2, the AVE value of all variables has a value above 0.5, which means that the AVE test has met the requirements.

Table 3. Composite Reliability

Variable	Composite Reliability	Cronbach's alpha
Behavioral Intention (Y1)	0.912	0.855
Effort Expectancy (X2)	0.847	0.737
Facilitating Conditions (X6)	0.876	0.787
Habit (X9)	0.874	0.779
Hedonic Motivation (X7)	0.953	0.926
Perceived Risk (X5)	0.911	0.853
Perceived Trust (X4)	0.900	0.843
Performance Expectancy (X1)	0.890	0.814
Price Value (X8)	0.898	0.831
Social Influence (X3)	0.883	0.802
Use Behavior (Y2)	0.891	0.817

Reliability test is used to test whether a statement is reliable or in accordance with existing data in the field. The reliability test can be seen by the value of composite reliability and Cronbach's alpha. Composite reliability is a measurement taken to measure the reliability of an indicator with an acceptable value limit of above 0.7, and Cronbach's alpha is a measure of the internal consistency of a variable measurement with a minimum value of 0.7. The data in Table 3 shows that all variables have composite reliability and cronbach's alpha values above 0.7, so they can be declared reliable and acceptable.

Table 4. R-Square

Variable	R-square
Behavioral Intention (Y1)	0.680
Use Behavior (Y2)	0.512

Evaluation of the structural model (inner model) can be seen from the R-Square value which shows the relationship

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between latent variables. Table 4 shows the R-square value of the behavioral intention variable (Y1) of 0.680 or 68%, and the use behavior variable (Y2) of 0.512 or 51.2%. In other words, it is considered that exogenous variables have a considerable influence on endogenous variables. This is indicated by a value of 68% of the ability of exogenous variables to explain the endogenous behavioral intention variable, and the remaining 32% is explained by other variables outside the research model. In addition, exogenous variables are considered to have a moderate influence in explaining the endogenous variable use behavior with a value of 51.2% and other variables not used in this study contributed 48.8%.

Table 5. Path Coefficient

Variabel	Original sample	T statistics	Information
BI (Y1) -> UB (Y2)	0.715	16.563	Accepted
EE (X2) -> BI (Y1)	-0.030	0.464	Rejected
FC (X6) -> BI (Y1)	0.173	2.115	Accepted
HB(X9) -> BI(Y1)	0.546	8.248	Accepted
HM (X7) -> BI (Y1)	-0.056	0.659	Rejected
PR (X5) -> BI (Y1)	0.151	1.562	Rejected
PT (X4) -> BI (Y1)	-0.168	1.582	Rejected
PE (X1) -> BI (Y1)	0.140	1.985	Accepted
PV (X8) -> BI (Y1)	0.083	0.905	Rejected
SI (X3) -> BI (Y1)	0.168	2.114	Accepted

Hypothesis testing is carried out in order to show the direction of the variable relationship. The T test is used to measure the significance level of hypothesis testing with an acceptable value limit of 1.96. Table 5 shows the results of hypothesis testing. The original sample column shows the direction of the variable relationship and the T-statistic column shows the significance level of the relationship between variables.

Based on the results of hypothesis testing, it is known that performance expectancy has a positive and significant effect on behavioral intention so that H1 is accepted. This means that individuals feel that e-wallets are useful for their daily lives because they can help complete payment transactions faster and improve performance efficiency so that this affects individual intentions in using e-wallets. This is in line with previous research which shows that behavioral intention is positively and significantly influenced by performance expectancy. (Christiono & Brahmana, 2018; Nindya, 2017)

Based on the results of the path coefficient, it is known that effort expectancy has a negative and insignificant effect on behavioral intention so that H2 is rejected. This means that even though there is convenience from the features provided by e-wallets, it still does not affect individuals to have the intention of using e-wallets. Individuals tend to be accustomed to using cash which is considered simpler because internet access is not required in its use. This is in line with previous research which states that effort expectancy has no significant effect on behavioral intention. (Putri & Suardikha, 2020)

Based on the results of the path coefficient, it is known that social influence has a positive and significant effect on behavioral intention so that H3 is accepted. This shows that there is an influence from the surrounding environment that uses a lot and suggests influencing individual intentions in using e-wallets. This is in line with previous research which shows that behavioral intention is positively and significantly influenced by social influence. (Tak & Panwar, 2017)

Based on the results of the path coefficient, it is known that perceived trust has a negative and insignificant effect on behavioral intention so that H4 is rejected. This means that the security provided by e-wallets does not make individuals fully trust this. So that even though e-wallets have tried to provide the services their users want, it does not make individuals have the intention to continue using e-wallets. This research is in line with previous research which shows that perceived trust has a negative and insignificant effect on behavioral intention. (Koswara et al., 2022)

Based on the results of the path coefficient, it is known that hedonic motivation has a positive but insignificant effect on behavioral intention so that H5 is rejected. This means that when using an e-wallet there are perceived barriers and risks, it does not affect a person's desire to use an e-wallet. This is in line with previous research which states that perceived risk has no significant effect on behavioral intention. (Dimas et al., 2023)

Based on the results of the path coefficient, it is known that facilitating conditions have a positive and significant effect on behavioral intention so that H6 is accepted. This means that the availability of adequate resources and infrastructure in assisting

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the use of technology, so that it affects individual intentions in using e-wallets. This is in line with previous research which shows that behavioral intention is positively and significantly influenced by facilitating conditions. (Sedana & Wijaya, 2009)

Based on the results of the path coefficient, it is known that hedonic motivation has a negative and insignificant effect on behavioral intention so that H7 is rejected. This means that the pleasure, comfort and satisfaction obtained from e-wallets do not affect individual intentions in using e-wallets. This is in line with previous research which states that hedonic motivation has no significant effect on behavioral intention. (Hidayat et al., 2020)

Based on the results of the path coefficient, it is known that price value has a positive but insignificant effect on behavioral intention so that H8 is rejected. This means that even though the price offered by the e-wallet is in accordance with the services provided, it does not affect the intention to use the e-wallet. This is in line with previous research which states that price value has no significant effect on behavioral intention. (Hidayat et al., 2020)

Based on the results of the path coefficient, it is known that habit has a positive and significant effect on behavioral intention so that H9 is accepted. This means that habit drives individuals to use e-wallets. When individuals are accustomed to doing something repeatedly, it will affect individual usage intentions. This is in line with previous research which states that behavioral intention is positively and significantly influenced by habit. (Prasetyo et al., 2022)

Based on the path coefficient results, it is known that behavioral intention has a positive and significant effect on use behavior so that H10 is accepted. This means that generation z has the intention or plan to use e-wallet. This intention will encourage generation z to use e-wallets continuously so that the frequency of using e-wallets increases. This is in line with previous research which states that use behavior is positively and significantly influenced by behavioral intention. (Hoque & Sorwar, 2017)

CONCLUSIONS

This study concludes that five out of ten hypotheses are accepted. This study proves that there is a positive and significant effect of performance expectancy, social influence, facilitating conditions and habit on behavioral intention. In addition, behavioral intention also has a positive and significant effect on use behavior. However, this study did not show any effect of effort expectancy, perceived trust, perceived risk, hedonic motivation, and price value on behavioral intention. This study shows that the habit variable has the strongest influence on behavioral intention. In addition, the type of e-wallet most widely used by respondents is Dana, followed by Gopay and OVO in the last position.

This study produces several suggestions, namely, based on performance expectancy factors, service providers must put more effort in strengthening individual beliefs that using e-wallets will be useful in helping certain activities. Based on social influence factors, service providers can partner with influencers so that they can help introduce services in e-wallets. Based on the facilitating conditions factor, service providers are expected to be able to improve resources and infrastructure in order to support the use of technology systems. Based on the habit factor, service providers must be able to create conditions where individuals are accustomed to using e-wallets to make transactions. In addition, for several other factors, namely social influence, perceived trust, perceived risk, hedonic motivation, and price value, which in this study have no effect on behavioral intention, but may have an influence in other studies, so service providers must continue to increase innovation so that people are interested in using e-wallets.

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Cytotoxic and Genotoxic Potentials of *Datura innoxia* Leaves Aqueous Extract on *Allium cepa* Meristemic Cells



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ABSTRACT: Medicinal plants are still vitally important in the preparation of pharmaceutical products. Plants have been used both for their prophylactic effects and for the treatment of illnesses and diseases. According to the World Health Organization (WHO) about 80% of developing countries use traditional folk medicines, 85% of which are plant extracts. *Datura* plant was used medicinally over the world in historical times for treatment of colds, nervous conditions, and as ointment for cuts or wounds and to relieve pain during the setting of bones. The present study aimed to investigate the mutagenic potential of *Datura innoxia* water extract using *Allium cepa* root tip cells as biological systems they were used to find out the effect of *Datura* extract on chromosomal structure and behavior during cell division. Therefore, the mitotic index and chromosome aberration in treated cells were recorded. The root meristem cells were treated with different concentrations of *D. innoxia* at different times, cytological analysis revealed significant depression in cell division, this was seen noticeably in all used concentrations especially at high ones. The interaction of *D. innoxia* extract with the genetic material led to DNA damage and decreased cell number depending concentration and time.

KEYWORDS: *D. innoxia*, mitotic index, chromosome aberration, DNA damage

INTRODUCTION

Today, plants continue to be a major source of medicines as they have been throughout human history. Medicinal plants contain one or more, endogenous substances which can be used directly for medicinal purposes or in semisynthesis of preparation. The medicinal plants contain a large kinds of natural chemical products, these chemicals exhibit diverse biological activities including antimutagenic, anticarcinogenic, antitumor, antimicrobial and others. However, natural chemicals of such activities are alkaloids, glycosides, steroids saponins and flavonoids insecticidal. (Gocze, 2000; Gananamani *et al*, 2004; Uzun *et al*, 2004 and Pramod *et al* 2009).

Medicinal plants, species of the genus *Datura*, family solanaceae, were popularly used in folk medicine to relief pain and for treated of skin disease, mental disease and organophosphorus toxicity (Abnea *et al*, 2003; Kuete, 2014). *Datura* leaves were smoked as cigarettes to relives asthma. (Hussen, 1985). *Datura* plant was used medicinally over the world in historical times; the Chinese used *Datura* to treat colds and nervous conditions. Whereas, Zuni Indians and Mexican people used *Datura* as ointment for cuts or wounds and to relieve pain during the setting of bones. Plants produce variety of substances that can induce alterations in genetic materials. Therefore, toxic compounds in these plants may favor mutational events in somatic or germ cells, such events possibly leading to developing of diseases or teratogenic and carcinogenic effects. Accordingly, some substances produced by medicinal plants have been studied, but insufficient toxicological, genotoxicological studies have been done, although it is very reasonable to direct the focus on possible genotoxic, cytological effects of those plants which used therapeutically. This paper aimed to investigate the cytological and the mutagenic potentialities of *Datura innoxia* leaves aqueous crude extract using *Allium*

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cepa root tip cells to underline the mechanism of its genotoxicity action, and to find out the effect of *Datura* extract on chromosomal structure and behavior during cell division.

MATERIALS AND METHODS

Experimental Models

Datura innoxia Plants

D. innoxia leaves were collected from botany area and in waste area nearby Benghazi city.

Onion seeds

Dry healthy onion seeds (*Allium cepa* –Texas Grano 502 PRR, Enkhuizen, Holand).

Preparation of the Extract

Normally looking leaves were collected, washed, dried. 20 g of *D. innoxia* tiny cuts was added to 200 ml distilled water in 500 ml flask, the content of the flask was shaken and left at room temperature overnight and filtrated with Whatman No.1 filter paper. The filtrate was, then reduced in volume by mean of thin film evaporator (Gallen Kamp, Germany) with water bath temperature within a range of 40-45°C. The aqueous crude extract was transferred in to a stopped glass container and its volume was adjusted to 20ml before stored in freezer at -18°C. At this step, any specific volume of the extract represented a crude aqueous extract of a specific weight of the dry leaves. The water extract now is ready to be used as a stock solution and four different concentrations (0.1, 0.01, 0.001, and 0.0001mg/ml) were prepared by serial dilution method (El-torki *et al*, 2005 and Iranbakhsh *et al*, 2010).

Procedure of Plant Chromosomes Technique

The preparation of plant chromosome was done as per standard methods described in (Grant, 1982 and Soltan & Ata 2008).

Onion Seeds Germination

Dry *Allium cepa* seeds were grown on wet filter paper in Petri dishes and distilled water was added. Germination was carried out at constant temperature of 20±2°C in darkness for 2-3 days. When the primary root tips are 0.5-1.5 cm long, they were treated with different concentrations of *D. innoxia* water extract (0.1, 0.01, 0.001 and 0.0001 mg/ml) for 4, 12, 24 and 48 hours, while control roots were treated with distilled water only. Nine root tips were examined for each treatment.

Fixation and Slide Preparation

For cytological preparation, the root tips were fixed in 95% ethanol / glacial acetic acid 3:1 (v/v) for 1-24 hrs. (root tips can be stored in 70% ethanol in the refrigerator until the procedure resumed). Slides were prepared using the aceto-orcein squash technique, by hydrolyzing the root tips in 1N HCL at 60C for 12 min and stained with aceto orcein stain for 45min. The meristematic region of the root was removed and squashed with flattened glass rod in 45% acetic acid and mounted with cover slip and temporary sealed with clear finger nail polish. Slides from each treatment and control were examined by light microscope under 40x and 100x (oil immersion lens) to find out the mitotic aberrations, then photographed by install video camera on the microscope and transfer the picture to the computer. The mitotic index MI was calculated as the percentage of dividing cells to the total number of cells examined, and the same slides were analyzed for the percentage and type of the chromosomal abnormalities in dividing cells.

RESULTS

1-The effect of *D. innoxia* leaves aqueous extract on Mitotic Index of *A. cepa* meristematic cells.

The obtained data in **table (1)** and **figure (1)**, showed highly significant differences within treatments and with the control ($p < 0.001$). In short hours' treatments (4 hours), the mitotic index values were concentration depending, its values were decreased (6.923, 4.726, 3.764 and 2.423 %) as concentrations of *D. innoxia* extract were increased (0.0001, 0.001, 0.01 and 0.1 mg/ml, respectively), comparing to the control which was 8.668 %. After 12-hour exposure time, MI which increased by decrease the concentration at same time (12 hours), they were 0.755, 3.05, 4.374 and 5.55 % in samples treated with 0.1, 0.01, 0.001 and 0.0001 mg/ml respectively where the control was (8.922 %).

At 24 hours, there was more cell death and MI value was 0.32% at highest concentration. After 48-hours, a slightly increase in MI values was observed in cells treated with the low concentration (0.0001) to 5.123 % then decreased by increasing concentration. Then strongly decreased to 0% at high concentration (0.1), compared with control (6.916 %). The statistical analysis of variance test showed that there were highly significant effects of concentrations and times ($p < 0.001$). There were also significant differences in effect of concentrations with times ($p < 0.05$). Least Significant Differences (LSD) test showed there were highly significant differences ($p < 0.001$) between the concentrations including the control. There were also high significant differences between the effect of 4-hours treatment with all other treatments ($p < 0.01$), and between 48-hours and other times of treatments. **Fig. (2)**, showed there is an interaction between the time and concentrations (0.01 and 0.001 mg/ml).

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2-The effect of *D. innoxia* water extract on the mitotic aberrations.

The resulted data were presented in **table (2)** and illustrated in **figure (3)**. All treatments induced highly significant ($p < 0.001$) percentage of abnormal dividing cells compared to the control. Its values increased with increase of concentration and time of treatment. They increased from 28.603 (0.0001mg/ml at 4 hrs. treatment) to 51.795 and 45.736 (0.1 at 12 hrs. and 24 hrs. respectively). At control treatment samples no abnormal cells were observed at all applied times. At 48 hrs. showed, a decline in cell abnormalities to zero was observed at 48 hr. treatment as the result of cell death or inactivation (no mitotic cells).

Types of chromosomal abnormalities induced by *D. innoxia* were classified into physiological and clastogenic type of aberration. The first class of abnormalities such as early condensation chromosome in prophase, lagging chromosome in metaphase, anaphase and telophase and binucleate cells. The second class includes a chromosomal fragmentation and bridges in anaphase and telophase and micronuclei formation (**Fig. 4**).

The physiological type of aberration was the dominant type of mitotic cell abnormality in all treated samples at short and long treated time. The maximum percentage value is (88.04%) was observed in samples treated with 0.1 mg/ml for 12 hrs. exposure time, Clastogenic type occur in all treated samples with lower level than physiological type of aberration, its maximum value was observed at 0.001mg/ml for 48 hours' treatment and the lowest value was recorded at 0.1 mg/ml for 48 hours also. The total percentages of abnormalities were decreased by increase the time of treatment and decrease *D. innoxia* extract concentration.

Statistical analysis of variance showed highly significant effects of concentration, times and concentration with times ($p < 0.001$). However, LSD test showed highly significant differences between the effect of 0.01mg/ml with other concentrations, and between concentrations 0.001mg/ml with 0.0001mg/ml. LSD test also showed highly significant differences between the long time treatment (48 hrs) with all times that were applied, and no significant different between the 4 and 12 hours of treatments. **Figure (5)** showed there is an interaction between the time and concentrations (0.01 ,0.001 and 0.000).

Table 1: Mitotic Index (MI) in *A. cepa* root tip cells treated with different concentrations of *D.innoxia* leaves aqueous extract for different exposure times.

Concentration mg/ml	4 hours			12 hours			24 hours			48 hours		
	T.C.E	M.C	M.I±SD	T.C.E	M.C	M.I±SD	T.C.E	M.C.	M.I±SD	T.C.E	M.C.	M.I±SD
C	6058	525	8.666 (0.471 6)	7157	641	8.955 (0.334 3)	7090	638	9.012 (0.3075)	7070	490	6.93 (0.624)
0.1	4427	100	2.423 (0.560 4)	6832	55	0.805 (0.429 1)	4637	15	0.323 (0.5007)	0	0	0
0.01	7598	286	3.764 (0.325 3)	8351	270	3.233 (0.717 2)	12183	534	4.383 (0.5259)	11420	406	3.555 (0.9 825)
0.001	7887	378	4.805 (0.87)	8766	388	4.425 (0.071 3)	10033	415	4.136 (0.9796)	9933	398	4.006 (0.719 2)
0.0001	7763	533	6.865 (0.805 3)	10283	576	5.601 (0.746 5)	10866	279	4.845 (0.5457)	11066	569	5.141 (0.597)

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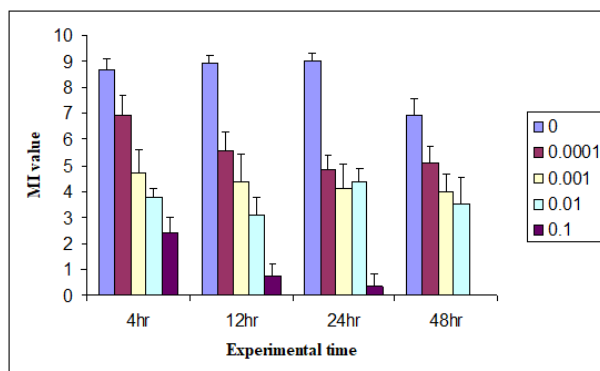


Figure (1): Mitotic index (M.I) in *Allium cepa* root tip cells treated with different concentrations.

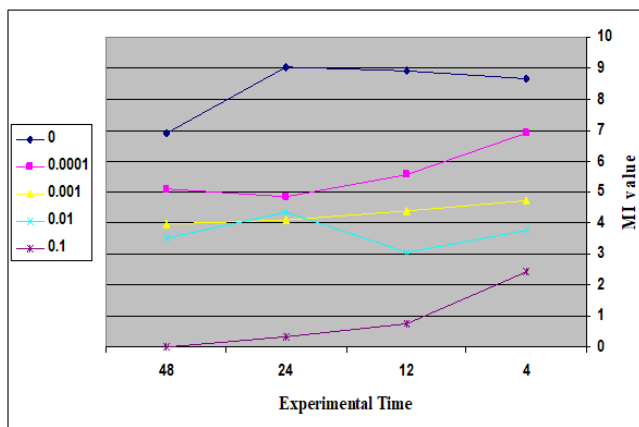


Figure (2): Mitotic index (MI) considering time and concentration interaction

Table 2: Types and percentage of abnormalities in *A. cepa* root tip cells treated with different concentrations of *D. innoxia* leaves aqueous extract for different exposure times.

Concentration mg/ml	4 hours			12 hours			24 hours			48 hours		
	(Sd) AB%	AB Type (%)		(Sd) AB%	AB Type (%)		(Sd) AB%	AB Type (%)		(Sd) AB%	AB Type (%)	
		P	Clst		Ph	Clst		Ph	Clst		Ph	Cl
		hys.	og.		ys.	og.		ys.	og.		ys.	stog.
C	0	0	0	0	0	0	0	0	0	0	0	0
0.0001	28.60 (0.368)	81.7 13	18. 287	29.443 (2.06)	76.719 23.	281	22.266 (1.076)	71.502	28.498	30.026 (0.317)	73.743	26.25 7
0.001	33.62 (1.836)	74.5 61	25. 439	30.714 (1.88)	78.282	21.718	27.29 (2.113)	74.90	25.10	28.971 (0.67)	67.419	32.58 1
0.01	40.392 (2.862)	69.3 84	30.616	28.147 (4.464)	81.402	18.598	26.65 (1.296)	73.424	26.576	28.214 (7.747)	79.134	20.86 6
0.1	38.603 (5.795)	81.5 82	18.148	51.759 (15.345)	88.041	11.959	45.736 (7.384)	60.416	39.584	0	0	0

AB: Abnormality AB%: Percentage of abnormalities Pys.: physiological Clastog.: clastogenic C: control

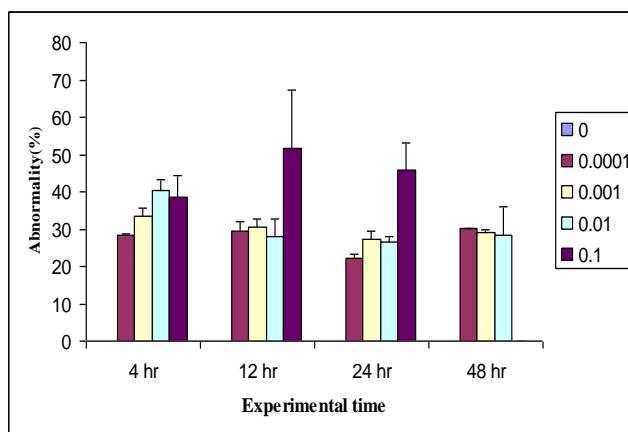


Figure (3): Percentage of abnormalities (AB%) in *Allium cepa* root tip cells treated with different concentrations of *D. innoxia* water extract for different exposure times.

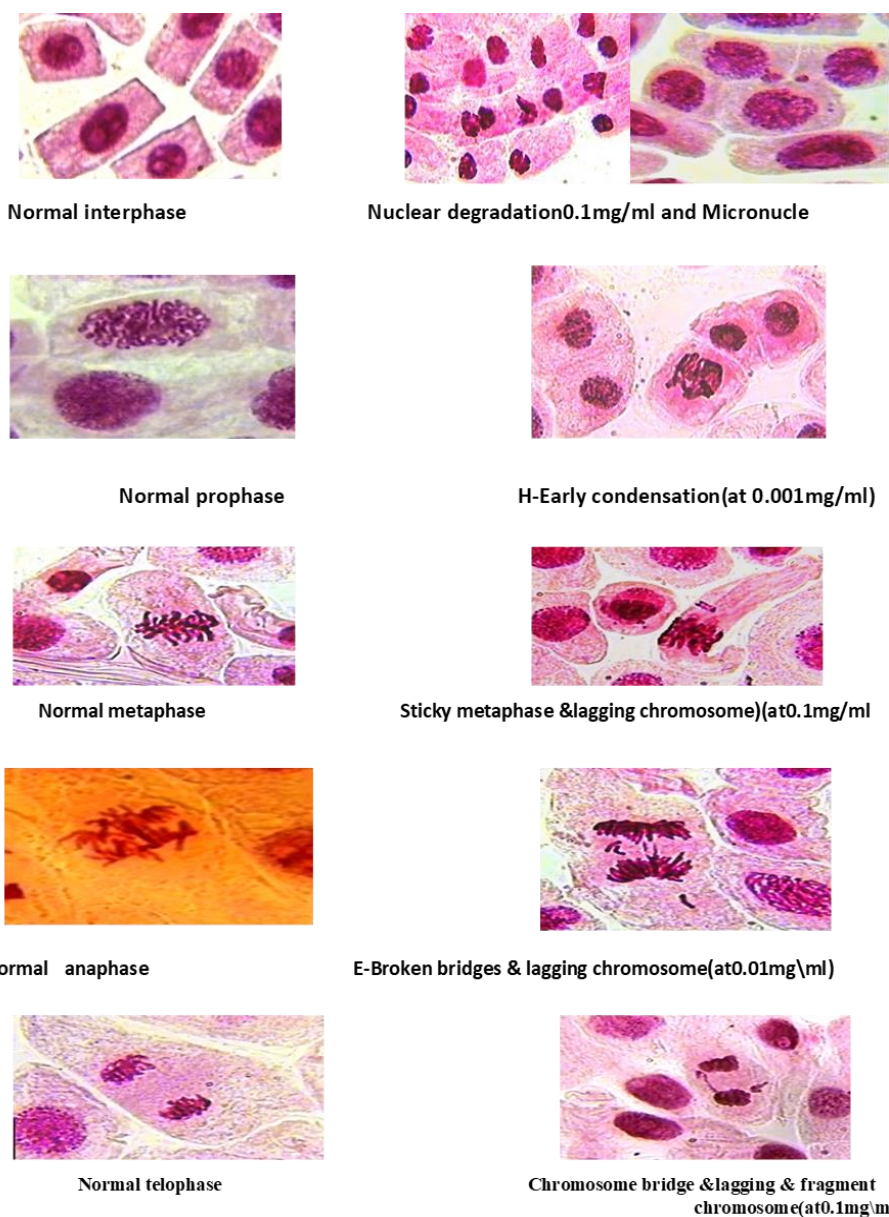


Figure (4): Abnormal mitotic phases of *A. cepa* root tip cells after different treatments of *Datura innoxia* water extract comparing to normal cells.

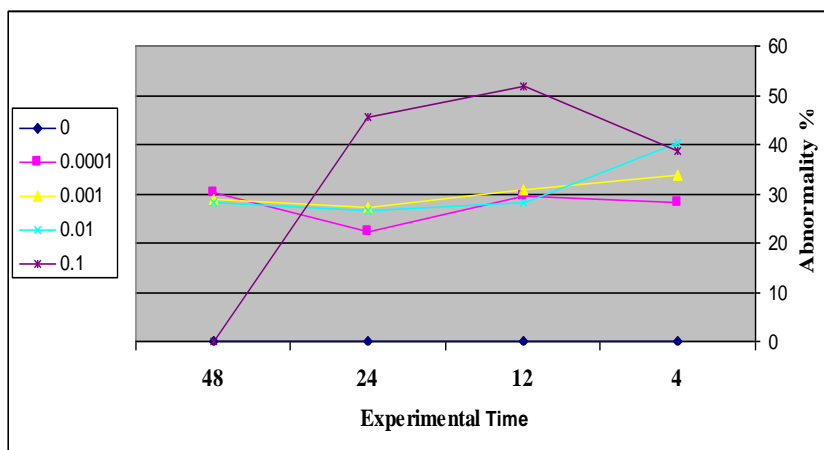


Figure (5): Percentage of abnormalities according to time concentration interaction

DISCUSSION

1- Effect of *D. innoxia* Leaves Aqueous Extract on Mitotic Index of *Allium cepa* Meristemic Cell

The data revealed that the mitodepressive effect of *D.innoxia* water was concentration and time dependent. The inhibition of cell division was observed in *Allium cepa* root tips treated with highest concentration (0.1 mg/ml) at (4, 12, 24 and 48 hr). However, the same effect was observed in samples treated with (0.01, 0.001 and 0.0001) at (12, 24 and 48 hours) that was attributed to a number of factors interrupted the cell cycle. and may be due to interference of *D. innoxia* ingredients in the normal process of mitosis by reducing the number of dividing cells (Shobana, & Nandhin, 2022 and Carballo et al; 2006). Such mitotic inhibition could result of the inhibition of DNA synthesis which is considered as one of major prerequisites for a cell to divide. However, the reduction of mitotic activity after treatment could be associated with a reduction in the amount of both DNA and RNA (Solanke et al ,2008 and Soliman and Ghonium, 2004). Many other investigators attributed the depression in mitotic index values to the inhibition of protein synthesis, or due to inhibition of certain types of nuclear proteins essential in mitotic cycle (EL-Nahas, 2000 and El-Garabulli & Bashasha, 2006)

Mitotic index values were decreased with increase of *D. innoxia* concentration and exposure times, especially at high concentration (0.1 mg/ml). However, the complete inhibition in cell division was observed at 48 hrs. of exposure time. This inhibition of cell division was due to reduction in DNA and RNA or due to a deficiency of DNA in nucleus as a result of inhibition of DNA synthesis (Solanke et al, 2008). The inhibition of DNA and RNA synthesis were associated with reduction of oxidative phosphorylation in plant (Uzun 2004). The obtained results is in agreement with Adam and Farah (1989) who reported that *D. innoxia* water extract proved had a mitodepressive effect on *A. cepa* meristemic cells, that significantly reduced mitotic index after 24 and 48 hours of treatment that may be ascribed to partial blockage of DNA synthesis, thus minimizing the number of cells entering mitosis rather than hindering spindle formation. Other investigations attributed the mitodepressive effect on cell division to the disturbance and interaction with microtubules and tubulin which lead to blocking in mitosis and induced cell death by apoptosis (Akinboro & Bakare, 2007). The rate of cell division (MI) decreased with the increased of *D. innoxia* extract concentration. This result is in agreement with action of other plant extract proved to be mitodepressive such as (Soltan & Ata 2008; Mondakl et al, 2006; Abderrhman, 1997; Saggoo ,1991 and Solanke et al, 2008). Similar negative effect on MI has been found by other chemical treatments (El-Garabulli & Bashasha, 2006 and Gantayat et al, 2017). The mitodepressive was visible in roots treated with higher concentrations of *D. innoxia* extract Whereas, mitoactivation and increased MI were observed in roots treated with lower doses comparing with higher doses. These phenomena may be due to induction of cell division in the differentiated cells. According to Saggoo et al, 1991, the substances which induce cell division in lower concentrations cause mitotic depression at higher concentrations by extending S phase and impairing the G1 cells from entering in to S phase. The decreased cell number was evidence in most treated samples which was concentration and time dependent. Our data also indicated the interaction of *D. innoxia* extract with the genetic material which led to DNA damage. This interaction may explain the accumulation of treated cells in interphase, and depression of MI in the treated root tip cells. The decrease in MI can be also explained by the induced accumulation of chromosomal abnormality during mitotic phases of treated cells which led to mitodepressive effect on the rate of cell division. This data may reflect the expected genotoxicity of *D. innoxia* and suggested that *D. innoxia* extract contains phytochemical compounds that act as inhibitor agent to mitotic index (Adam and Farah, 1989 and Eleyowo, 2018)

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2- Effect of *D. innoxia* Leaves Aqueous Extract on Frequency and Types of Mitotic Aberrations.

The present experiment showed that all doses (0.1, 0.01, 0.001 and 0.0001 mg/ml) of leaf extract induced mitotic abnormalities. The percentage of chromosomal anomalies was decreased at lower extract concentrations but it found to be increase with increase of the concentration. The highest value (51.76%) for chromosomal anomalies was observed at 0.1 mg/ml and the lowest 22.26% one was found in the least dilution (0.0001 mg/ml). Such results agree with those obtained by Ige *et al* (2022), who tested water extract of *D. stramonium* on *A. cepa* root tip cells. They found that the mitodepressive effect of plant extract on the rate of cell division and chromosome abnormalities were increased with increase the concentration and exposure time. The highest concentration (0.1 mg/ml) had more deleterious effect on cell division and induced more mitotic abnormalities with increase of treatment duration. In contrast with high concentration, low concentration induced less percentage of abnormalities at the same time of treatment. However, prolonged exposure time (48 hrs.), at same concentration there were no mitotic abnormality. This observation may be due to mitodepressive effect of *D. innoxia* extract lead to complete inhibition of cell division. The ability to stop cell division by mitodepressive agent present in leaves extract was suggested in this work. The action of these agents increased with increase of extract concentration. These results are in agreement with the finding of Adam and Farah (1989). *D. innoxia* extract clastogenicity was dose and time dependent, it exhibited significant clastogenic action at higher concentrations (0.1 and 0.01 mg/ml) that may lead to observed decline in MI. Similar results have been reported by other workers such as Mondal *et al*, 2006 and Eleyowo *et al*, 2018.

The presence of the chromosomal aberration might be induced by the following ways: First, chemical compounds directly affect DNA and lead to chromosomal aberration. Second, chemical compounds could disturb the synthesis of DNA and protein, or the translation of RNA, so that no materials relating to the chromosomal movement could be formed, and the chromosomal aberration occurred eventually. Third, prevent the re-establishment of the chromosome under normal conditions through interfering with normal repairing of damages, such as rearrangement of chromosomal bridge, loops and fragments (Xiao-wei, 2004). The treatment of *A. cepa* root tip cells with different doses of *D. innoxia* water extract induced clastogenic as well as physiological types of chromosomal abnormalities. The percentage of physiological aberration was increased by increasing of *D. innoxia* extract concentrations and exposure times, these observations agreed with other reports (Gantayat *et al*, 2017 and Solanke *et al*, 2008). However, the presence of high percentage of laggard chromosome, stickiness and c-metaphase were recorded in high frequency and they are evidence of spindle microtubules poisoning. Thus the primary mechanism of genotoxic action of *D. innoxia* at the protein level was suggested (Mondal *et al*, 2006). Early chromosomal condensation at prophase was also appeared frequently at all concentration of *D. innoxia* which support the action of *D. innoxia* on the protein level (Hallak *et al*, 1999). The most common type of physiological abnormality observed in all the concentrations and periods of treatment was, chromosomal stickiness at metaphase, this even may be due to alteration of chromosomal proteins resulting in change in surface nucleoprotein configuration or improper folding in chromosome fiber (Saggoo *et al*, 1991). Chromosomal stickiness was appeared due to adhesion or clumping of chromosome. In addition, stickiness could be due to depolarization of nucleic acid caused by mutagenic treatment which lead to partial dissociation and altered pattern of organization of nucleoprotein (Juchimiuk *et al*, 2006). Chromosomal stickiness that covers all chromosome complement leading to the appearance of chromatin masses were the general appearance of chromosome is lost in treated cells (Ige *et al*, 2022 and Iranbakhsh, *et al*, 2010). Stickiness interpreted as a result of improper folding of chromosome fibers in to chromatids and there is an intermingling of the fibers so that chromosomes become attached to each other by sub chromatid bridges. Among aberrations that appeared frequently in *A. cepa* root tip cells after treatment with *D. innoxia* extract were lagging chromosomes at metaphase, anaphase and telophase. The induction of laggard could be to the failure of the spindle apparatus to organize and function in a normal way rather than inhibition of these spindle fibers and this lead to irregular orientation of chromosomes (Cai, 2012). The reasons responsible for lagging chromosomes or failure to reach the equatorial plane probably lay in the formation of spindle fiber and destruction of its function by *D. innoxia* extract or the movement regulations of chromosomes per second are interfered so that it can not reach the equatorial plane on time (Soliman and Ghoneam, 2004). Similar physiological aberrations have been reported to be induced by medicinal plant and chemical agents (Saggoo *et al*, 1991 and Adam and Farah, 1989 and El-Garabulli, & Bashasha, 2006). At c-metaphase, chromosomes are appearing scattered in the cytoplasm. The metaphase chromosomes are shorter, thick and show no equator orientation. The presence of such type of anomalies is an indication of the action of *D. innoxia* contents on the inhibition of spindle fiber formation. Inhibition of ATPases might be the cause of spindle disorganization (Carballo, *et al* 2006 and Gocze & Freeman, 2000). The presence of colchicines metaphases indicate that *Datura* probably has effect similar to colchicines, depolymerizing the micro tubular proteins and blocking fiber formation during the mitotic state (Hallak *et al*, 1999). However, the induction of physiological aberrations may arrest cell cycle at c-metaphase and lead to MI inhibition (Soltan, & Ata, 2008) which observed in treated cells. The clastogenic effects were noticed in the form of chromatin bridges at anaphase and telophase and chromosomal fragmentation. Bridges observed at anaphase may be formed due to stickiness of chromosomes or due to formation of dicentric

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chromosome as a result of breakage and reunion (Adam and Farah, 1989). Bridges may be due to breakage and reunion of chromatid or sub chromatid (Solanke *et al*, 2008). The stickiness makes their separation and free movement incomplete and thus may remain connected by bridges. This may also due to defective formation of spindle apparatus (Ashiru *et al*, 2020). Induction of chromosomal and chromatin bridges at anaphase and telophase stages were also observed after treatment of *D.innoxia* extract, which may result from chromosome stickiness. Due to such stickiness the separation of daughter chromosomes becomes incomplete even in the presence of spindle fibers and thus they remain connected by chromatin bridges (Soliman and Ghonium, 2004). Fragmentation of chromosomes might have arisen due to stickiness of chromosomes and consequent failure of separation of chromatids to poles. Fragments may be acentric chromosome that is formed as a result of inversion or chromosome deletion (Ashiru *et al*, 2020). In addition to the different type of chromosomal abnormalities induces in divided cells, micronuclei were also observed in the interphase cells as well as different mitotic stages. Micronuclei formed as result of exclusion of a centric fragment of chromosomes out of the nuclear envelope during the completion of mitosis (Hallak *et al*, 1999). Micronuclei forms in two ways: one is, the chromosomal fragments found in the last G2 could not act in phase with normal chromosomes, and are rejected to the outside of nuclei in interphase. The other is the occurrence of various forms of lagged chromosome, and the chromosomal grouping (Xiao-wei, 2004). The induction of micronuclei is usually caused by chromosome breaks or fragment or spindle poisoning, which is an anomalous disjunction of chromosomes during anaphase (Ige *et al*, 2022). Bi and multinucleated cells were recorded in few percentages; that may be result of a preceding of multipolar mitosis the failure of cell plate formation following mitosis. *D.innoxia* extract recorded as inducer of cytokinesis abnormalities due to presence of the binucleated cells in the treated samples, which suggested the cytoskeleton proteins could be a cell target for *D.innoxia* content (Carballo *et al*, 2006). Different types of chromosomal abnormalities such laggards, bridges, stickiness and c-mitaphase were observed in all *A.cepa* root tip cells after treatment with *D.innoxia* water extract in this investigation (plates 2,3,4 and 5), these results indicated the potentiality of the *D.innoxia* constituents to induce mitotic irregularities, that agree with the finding of (Soltan & Ata 2008 and Eleyowo *et al*, 2018). The accumulation of chromosomal abnormalities inhibition the cell division and decreased the MI were observed in cells treated with high concentration (0.1mg/ml) and with prolonged time of treatment (48 hrs.) such results agreed with that mentioned by Keshaw (2000).

CONCLUSION

The negative influences of *D. innoxia* extract on the cell division of *Allium cepa* cells was evidenced. The present results revealed mitodepressive action led to decrease in cell number. Therefore, inhibition mitotic index of *Allium cepa* cells. The appearance of abnormalities at low and high concentrations at different exposure time indicates the genotoxicity of *Datura innoxia* leaves water extract.

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Before Death Takes the Main Character of the Horror Novel (Urban Legend) by Risa Saraswati: Literary Psychology Study



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ABSTRACT: This research departs from the novel Peter and Janshen written by Risa Saraswati which tells the story of the lives of two boys as the main characters for each novel when they were still humans, not ghost figures (astral creatures) as they are now. This research aims to describe: (1) the main character's interpersonal conflict with other characters in the novel, (2) the main character's intrapsychic conflict, and (3) the conflict resolution carried out by the main characters in each identified conflict.

This research is a qualitative descriptive study analyzed using Karen Horney's psychoanalytic theory. Karen Horney's psychoanalytic approach intended to study the horror novel (urban legend) by Risa Saraswati is to use non-literary texts as a foundation for seeking understanding from the literary texts to be analyzed. The data collection techniques used in this research were reading, listening and note-taking techniques. The research instrument is the researcher himself using the unit of analysis, namely story facts and literary means. The validity of the data used in this research is intrarater and interreter data reliability.

The results of the research found 3 forms of self-aspects of the basic anxiety of a main character depicted in the horror novel (urban legend) entitled Peter and Janshen by Risa Saraswati when they were still human, namely (a) the form of interpersonal conflict in the form of conflict or disagreement with other people because of differences, experienced by the characters Peter and Janshen, namely: (1) Conflict over lack of affection and acceptance, (2) Conflict over having strong and reliable partners, (3) Conflict over gaining social recognition, (4) Conflict due to personal ambition, (5) Conflict to have power, (6) Conflict to become a person who is admired, (7) Conflict to respect one's privacy. (b) The manifestation of intrapsychic conflict in the form of an individual's actions, beliefs and emotions which cause anxiety for him, namely: (1) Neurotic Ambition, (2) Excessive Attitude to Become Perfect, (3) Drive for Revenge, (4) Demand for treated special, (5) arrogant attitude, (6) self-blame, (7) self-deprecation. Furthermore, (c) Conflict Resolution, in the form of actions that the main characters tend to take based on Karen Horney's theory in dealing with interpersonal conflicts with other people, namely: (1) Conflict Resolution with a Tendency to Resist, (b) Conflict Resolution with a Tendency to Approach, (c) Conflict Resolution with a Tendency to Approach, (c) Conflict Resolution Distant Tendency. Events from the real lives of the main characters through Risa Saraswati's supernatural ability as a writer to interact with astral beings, are contextualized in the novel entitled Peter and Janshen. In Karen Horney's psychoanalytic perspective, childhood life experiences are enough to determine a person's personality criteria.

KEYWORDS: Urban Legend, forms of conflict, Karen Horney's psychoanalysis

INTRODUCTION

In 2012, Risa published a book entitled Gerbong Dialog Danur and then several of the characters told in Gerbong Dialog Danur were discussed in more detail in her other novels. For example, Risa Saraswati, who has the ability to communicate with ghosts, has had astral friends since childhood. One of them is Peter, who is featured in the book Carrong Dialog Danur, which was developed for a special novel about Peter's life before his death. Same with several of Risa's other astral friends, such as Janshen. Apart from that, this novel about Peter and Jansen is an interesting novel by Risa Saraswati for writers to study. Because Peter is described as a child who is quite dominant at the beginning of his friendship with Risa Saraswati in the Danuri Dialogue Carriage, and the consideration of choosing a novel about Janshen as Risa Saraswati's novel is interesting for researchers because Janshen is the youngest friend, and Risa's favorite ghost because of his sweet attitude.

The first character who is told is Peter about how his life was before he died from his school story, the mother he loved, the father figure who was his idol and Peter's best friend when he was still alive. Even though he idolized his father, Peter was often scolded by his father and considered him a stupid child because he had difficulty learning Dutch. Apart from that, during his

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life Peter had difficulty mingling with the children at HIS school, because his friends made fun of him as a child who was short and couldn't speak Dutch. Hearing Peter's complaint about this, his mother became emotional and decided to only invite a private teacher to the house to taught Peter. Meanwhile, when compared with the life story of Janshen, a 6 year old child, a child with an abundance of love from his parents throughout his life. Having died tragically when Japan occupied Indonesian territory, during his lifetime Janshen was known as a cheerful, obedient, kind child who respected everyone. Risa's sharp character depiction in each novel about her invisible friend makes these novels more interesting with the background of life in the past during the Dutch colonial period in Indonesia.

The second character who is the object of research is Janshen, Risa's friend who is the youngest among the others. In the novel by Risa Saraswati, a book entitled Janshen which was published in 2017 (via Bukune: 2017)

"Risa once thought that Janshen's life was always fun, she thought that the little boy's days were always filled with jokes and laughter. It turns out that Risa's thoughts were wrong. A child as cute and small as Janshen turns out to have to face many problems until the end of his life. "Welcome to the life of Risa's favorite toothless ghost (Saraswati, 2017: 1)."

The past life of the character Janshen while he was still alive, as was beyond Risa's expectations, the character Janshen as the last character to be made into a novel with the theme of the journey while still alive of Risa Saraswati's magical friends is an interesting part to analyze, whether there are differences or similarities that can be found about The main characters in the first Peter novel are told with the main characters in the last novel with the same story theme.

It is hoped that this research will find something unique about Risa Saraswati's depiction of the main character in her novel by comparing the characters of the main character who tends to appear dominant with the main character who is depicted as having the youngest age and is portrayed as Risa Saraswati's most beloved little friend. This research analyzes the psychological studies of the main characters in the novel entitled Peter and Janshen. This novel discusses the lives of these two characters when they were still living as humans, not seen from the time after they became astral creatures like they are now.

METHOD

The meaningfulness of the lives of the main characters Peter and Janshen in the novel Peter and Janshen by Risa Saraswati is understood using descriptive qualitative research using Karen Horney's psychoanalytic study. The qualitative descriptive approach in this research is a research procedure that utilizes the results of presenting descriptive data in the form of the character and psychological conflict of the main characters Peter and Janshen in the novel entitled Peter and Janshen by Risa Saraswati. This descriptive research design was chosen because it is able to describe in detail the character and psychological conflict Peter and Janshen characters. The data collection techniques used in this research were reading, listening and note-taking techniques. This research data could not be found without going through the reading process (Ratna, 2010: 245). So the first step in this research is to read the novel Peter and Janshen by Risa Saraswati.

Qualitative research as a human instrument, the researcher himself determines the focus of the research, selects informants as data sources, assesses the quality of the data, analyzes the data, interprets the data and draws conclusions from the results (Sugiyono, 2017). Informants in qualitative methods continue to grow (snowball) until the data collected is satisfactory or deemed unnecessary. Researchers are key instruments for data collection, and researchers must actively participate in the field (Gunawan, 2013).

This study procedure includes: (1) parallel reading technique, namely a technique carried out by reading literary texts (novels) with non-literary texts in the form of history books, articles, scientific journals, and information from the internet related to (2) the analysis used includes data presentation and discussion; and (3) presenting conclusions from the results of conflict analysis found in the novel Peter and Janshen by Risa Saraswati to provide an overview of the characters of the main characters in the novel when they were still human. As well as the form of resolving the psychological conflict of each main character in the 2 novels, namely Peter and Janshen.

ANALYSIS AND DISCUSSION

Literary works in Indonesia, especially those in the horror or urban legend genre, have quite a strong attraction, especially for fans of horror fiction stories, like magnets ready to attract the ideas of horror novel writers in Indonesia and the types of horror stories that are popular with readers today. , in this way it is able to produce horror stories that are able to hypnotize fans so that they become more integrated with the fabric of the stories presented by the author of these horror stories. Like a life that is interconnected, this is how writers sometimes create their works, including Risa Saraswati who wrote the novels Peter and Janshen and her other friends in different novels, each novel specifically discusses in detail the description of the lives of the main characters in the story. in each novel he is still a human, not a ghost or astral creature like now.

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The fans of Risa Saraswati believe that every novel about Risa Saraswati's friends is the result of a real dialogue between Risa Saraswati as a writer and the main characters, including the novel titled *Peter and Janshen* which was first published in 2016 and 2017 through the publisher PT. Bukune Kreatif Citra (via Bukune.com, on July 27, 2017). Risa Saraswati is not only known as a writer who likes to write novels with the horror genre only, through the website <https://id.wikipedia.org/>, Risa Saraswati is also a singer and songwriter. Although, the news more highlighted his supernatural abilities that are able to communicate with astral beings or Ghosts which later became the main story for every novel he published.

"I never force people to believe what I write (Risa Saraswati, detik.com, 2017)".

The results of research in the novel *Peter and Janshen* found 3 aspects of a person's self-anxiety in the form of interpersonal conflict, intrapsychic conflict and conflict resolution tendencies. Following are the research results. a) Peter and Janshen's Interpersonal Conflict

Interpersonal Conflict Needs for Affection and Acceptance

Interpersonal conflict manifests as a form of Peter's neurotic needs for his father, Edward Van Gils, in the form of a need for love and acceptance. Here's the quote:

"At the end of his life, his relationship with Albert was not very good. Even though he often praised Albert, Peter never expected that the man would pick him up. "Papa always hates me, he always thinks I'm stupid and an idiot," he complained wearily (Saraswati, 2016:169)."

"Peter! Probeer aan mij over Nederland uit te leggen (try explaining to Papa about the Netherlands)!" Albert's orders to his son at that time (Saraswati, 2016:17)"

Albert glared at the child, there was a hint of disappointment in his gaze. "Beatrice! Geef hem over Nederlands leren! After all, he is a Dutchman, not an Inlander. He must be able to speak Dutch!" (Saraswati, 2016:18)"

The first stage of the Vicious Circle or Satanic circle is in the form of needs for love and affection that are not sufficiently fulfilled, the second stage is an emotional response from not fulfilling these needs, the third stage is the individual's reaction in restraining his emotional response so that the expected feeling of affection and security does not disappear completely, the fourth stage of basic anxiety and anger continues to be strengthened if the action of suppressing emotional responses continues, the fifth stage as a result of this results in increased demands for affection and love, the sixth stage becomes increasingly angry because the needs for affection and love that the individual should receive are increasingly unfulfilled, the seventh stage, feelings of hostility become stronger, the eighth stage suppresses hostility in order to maintain feelings of affection even if only a little, the ninth stage the tension of anger becomes increasingly chaotic (via Rumondor, 2019. Psychology.binus.ac.id).

Interpersonal Conflict The Need for Strong Peers

Interpersonal conflict manifests as Peter's neurotic need for his mother, Beatrice Van Gils, in the form of the need for a strong partner. Here's the quote:

"Mama is leaving again today ?" Peter pulled up the skirt his mother was wearing that afternoon.

"Mama , just for a moment, drink tea at Anna's house," answered Beatrice with a smile.

"Not inviting me? ", asked the child, frowning.

"Lauren is coming in a minute, have you forgotten?" Beatrice was now holding her son's face gently.

"Oh, Lauren. The old woman was very grumpy. I don't like studying with him, Mama." Peter started to sulk.

(Saraswati, 2016: 62-61)

According to Sutcliffe (via Ervika, 2005) most children have formed an attachment to the primary care giver at the age of around eight months with a proportion of 50% to the mother, 33% to the father and the rest to other people. A series of processes that make this attachment possible do not just happen scientifically without cause. Another factor that triggers Peter to be very attached to his mother is because his father's strict and fierce figure often makes him feel afraid at home.

Interpersonal conflict manifests as a neurotic need for the presence of a strong partner also experienced by Janshen. The presence of her mother, who usually accompanies her to sleep, made Jantje feel uncomfortable when she was in a situation where her mother was not with her and chose to accompany her older sister who was seriously ill. Jantje's annoyance emerged and was shown by whining with her mother. This form of whining was an effort to resolve the conflict. Jantje so that his demands for something he needs can be fulfilled, namely the presence of Mama's figure when sleeping. Here's the quote:

"Little Jantje suddenly started whining at his mother, asking to be carried because he was sleepy. Martha didn't pay any attention at all . Not that she didn't care, but Martha was still lost in reverie, thinking about Reina. Garrelt shook his wife's shoulder,

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telling her that their youngest son was sulking and asked to be carried. Martha was surprised, but shook her head quickly. "Your sister is sick, don't be fussy!" (Saraswati, 2017:51)".

"Jantje looked annoyed, but stopped whining. "The child left Reina's room, followed by Annabele, who was told by Garrelt to follow Jantje (Saraswati, 2017:51)."

Based on the quote above, helplessness in one's own abilities and lack of self-confidence are one of the reasons a person has a neurotic need for the presence of a figure who has influence and is important to him, so that it is not uncommon for them to take an approach to resolving this interpersonal conflict with a colleague or someone they love. need it (Boeree, 2013:166). First, the character Janshen had an interpersonal conflict with his mother because at that time Janshen, who was used to sleeping with him, was already sleepy and was whining to his mother to ask to be carried, the attachment that emerged between Janshen and his mother did not appear suddenly, there were several reasons for this attachment to arise.

Interpersonal Conflict Need for Power

Interpersonal conflict in the form of Peter's neurotic need for his mother, Beatrice Van Gils, takes the form of a need for power. Here's the quote:

"Have you done my assignment?" Lauren asked that afternoon.

"Noeg niet," answered Peter casually.

Lauren looked surprised to hear her student's answer. "Why have not yet?" he asked again.

"I don't know," answered Peter, glancing here and there.

"What's wrong with you?" Lauren sounded really annoyed.

"Don't know." Peter this time answered while yawning.

"Now what do you want ?" Lauren's patience was running out.

(Saraswati, 2016: 63) After that, it continued with Peter's very bad behavior towards Lauren, he suddenly stood on the table, stepped on the books and shouted that he didn't want to study, this suddenly made Lauren very shocked and felt disrespected. A moment later, Lauren cried and left Peter's house, saying beforehand that she would not forgive this child's behavior. According to Risa, I don't know what made Peter seem to really dislike his teacher, and this incident was an accumulation of Peter's incompatibility with Lauren (Saraswati, 2016: 63). The interpersonal conflict that occurs in the character Peter is related to the neurotic need to control and control other people (power). This was done with the aim that no teacher would feel comfortable teaching him at home, so that Mama Beatrice herself would take his place.

Peter's next interpersonal conflict is still related to the need for power and occurs between him and the teacher who was asked to teach him at home, named Nafiah. Here's the quote:

"Goede middag, wat is uw naam (good afternoon, what is your name)?" Nafiah asked Peter.

"Peter Van Gils," he answered curtly.

"Waarom ziet je boos?" Nafiah asked again.

Peter snorted in annoyance, "You 're an Inlander, so don't pretend to speak Native language. I'm annoyed because you keep using my people's language!" said Peter in a high voice.

...

(Saraswati, 2016:133) Peter presented himself as a child who was tough and invincible, in fact he felt there was nothing wrong with his attitude when in front of Nafiah he spoke harshly to her and Siti (the nanny). Based on Peter's interpersonal conflict with Lauren and Nafiah, it was found that Peter was a child who had the potential to become a leader, who was arrogant and spoiled. The form of resistance mechanism that Peter uses in resolving his interpersonal conflicts is part of an aggressive personality according to Karen Horney. This behavior is the result of parents who tend to pamper their children too much, resulting in an arrogant attitude. interpersonal conflict over the need for power. Janshen experiences conflict with Joshua, a man who is close to Anna's older brother. When they visited his family's shop according to their agenda, Janshen discovered Joshua's presence in his family's shop. Seeing this, Janshen felt very angry. It is depicted that Janshen feels that his family's personal affairs are being disturbed by someone who is no one to him. The lack of effective communication and emotional bond between Janshen and Joshua from the beginning of their acquaintance exacerbated this interpersonal conflict situation. The interpersonal conflict situation is described like this.

"However, to my surprise, Joshua suddenly appeared in the shop, joining Anna and Jantje. "You can imagine how angry Jantje was when he saw the man appear (Saraswati, 2017: 110)."

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"From the window, he peeked in. Joshua seemed to be organizing everything beside Annabele. And strangely, Anna looked very happy. Jantje clenched his fists in anger. 'Why did he have to come here, anyway?' he kept asking questions in his heart (Saraswati, 2017:110)".

According to Horney, someone who experiences interpersonal conflict over power does not want him to appear unable to control something, especially something that is his ownership. The feeling of wanting to be appreciated is also closely related to this neurotic need for power. Janshen felt uncomfortable with the presence of Joshua because of Joshua's attitude in managing the affairs of their family shop. With the feeling of discomfort that emerged from the beginning of their acquaintance, Janshen increasingly showed a negative attitude towards Joshua, Anna, who was the mediator between Janshen and Joshua's interpersonal conflicts, did not take the initiative to find a way to reduce their conflict. He thought that Janshen's attitude was just the normal attitude of a child who was jealous of the presence of a new person in the life of someone who was close to him emotionally and in family terms.

Interpersonal Conflict Need for Social Recognition

The interpersonal conflict regarding the need for social recognition first occurred when Peter and his parents visited Batavia, which is now known as the city of Jakarta with the aim of visiting the house of his friend Edward Vern, they have 3 daughters, one of them is named Corie, he is the eldest child. with the age of around 16 years. At the beginning of Peter's introduction to the children from the Vern family, the eldest child really seemed to dislike Peter for unclear reasons (Saraswati, 2016: 95). This is the beginning of Peter's interpersonal conflict with Corie Vern, who is 6 years older than him. Recorded in the following quotes.

"Ten," Peter answered, keeping his head down. One of the little girls giggled when she heard Peter answer Sophia's question. Instantly Peter looked up.

"Wat?" ten years? I think you're the same age as Renee, seven years old. Hahahahaha!" How dare Corie taunt her, even in front of her mother.

(Saraswati, 2016:84-85) The quote above is Peter's first interpersonal conflict with Corie Vern at the beginning of their acquaintance. Peter was very upset and angry when he heard Corie's teasing, but his mother tried to calm Peter down at that time. As social creatures, of course we want to be appreciated by others, to feel respected. Corie's actions reflect a disrespectful attitude towards someone she just met even though Peter is younger than her. From the case of interpersonal conflict that occurs above, Peter's basic anxiety is in the form of feeling unappreciated because Corie considers his small body to be inappropriate for his age, as well as other conflicts in the form of fear that arises due to being afraid of ghosts in the buildings they visit. At first glance, we can imagine that little Peter's personality is like that of most other small children, namely being timid.

The next interpersonal conflict arises from Janshen's feelings of discomfort with the name given by his parents. Janshen or Jantje is often called first, Jantje is a name for a girl. He started whining and asked Papa to immediately change his name to a name that better reflects the figure of a boy, here is the quote.

"Little Jantje was whining in his papa's lap that morning, the others laughed at the child's ridiculous behavior.

The father narrowed his eyes. "What are you going to change your name to, kid?" Garrelt asked, curious.

"Hmmm... Asep, Papa! There are lots of Asep in this house, Papa! they have strong bodies, tall and big!" he shouted while pointing at several servants who were tending to the Janshen family's garden ." "You guys, from now on call me Janshen !.

I won't respond anymore if I'm called Jantje! Okay ?!.

(Saraswati, 2017:31-33).

In connection with the quote above, the case of Jantje or Janshen who experienced anxiety about his nickname, this gave rise to interpersonal conflict between Janshen and his surrounding environment who often called him by that title. The dominant conflict occurred between Janshen and Papa, because he questioned and asked Papa to immediately changed his name, along with other family members to stop calling him Jantje. Anxiety about being recognized as a boy from a nickname makes Janshen experience interpersonal conflict.

Interpersonal Conflict Ambition and Personal Achievement

The following is a picture of the conflict that occurred between Peter and Michael, the son of his father's boss in Bandung. This conflict began with the unpleasant treatment that Peter received from Michael.

"You can't order me around as you please! I am a future leader!" Peter was very upset, and he started to hate the Greef family boy (Saraswati, 2016:158)."

"What? what did you say? hahahahahahahahaha! once again, what did you say?" Michael now looked amused (Saraswati, 2016:158).

"I am a future leader!" Peter shouted loudly (Saraswati, 2016:158).

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Michael thought that what Peter said that he would become a Leader was a very ridiculous joke, because for Michael Peter was just from an ordinary family, and he knew that Peter was not good at using Native language from his mother's stories. Suddenly this made Peter even more furious with the boy, his face became very red from holding back his anger, he really wanted to get revenge for Michael's bad treatment, but he remembered his father, if Peter did something bad he was worried he would get severe punishment from Papa. Michael still orders Peter as he pleases even though he knows that Peter is really fed up with his treatment.

"You're very mean, Michael." Peter walked irritably towards the pile of books and brought some fruit to hand over to Michael (Saraswati, 2016:158).

Michael continued to test Peter's patience in various ways, ordering Peter to go get things as he pleased, insulting Peter's family and even laughing at Peter's desire to become a leader, to the point where his anger could no longer be contained, Peter had a physical fight with the child.

From the several quotes above, the trigger for the interpersonal conflict between Peter and the child from the Greef family was based on Michael's attitude of continuously mocking Peter. This triggered Peter's discomfort and anger, which resulted in resolving the conflict by fighting Michael. Peter's act of resistance was a form of self-protection mechanism against the feelings of anxiety that arose, the expectation that Peter had that Michael should be able to respect himself and even his family, but in fact the opposite happened, which really triggered anger. The need for ambition and achievement to become a leader worthy of being recognized by others is in him, undermined by Michael's arbitrary attitude and lack of respect for other people. This ended in physical violence from Michael, the arrogant child. In this case, Peter actually just needs to be appreciated more.

Admired Personal Interpersonal Conflict

One day, Janshen asked about the condition of his eldest sister, Lizbeth, who had had a congenital heart disease since childhood. Here's the quote.

"Anna, why is Lizbeth sick? Why can't I just be sick?" That was Jantje's strange question to his second brother that day. Reina looked at her brother and sister, waiting for Anna's answer (Saraswati, 2017:13).

"You know, Lizbeth isn't sick. He is struggling, fighting evil creatures that are not only attacking his body, but are preparing to attack all of us (Saraswati, 2017:13)."

Jantje frowned, trying hard to digest Anna's words. 'Why can't I just fight him? I'm a man, I have to be stronger than Anna!' his lips groaned (Saraswati, 2017:13)".

The influence of the emotional and personality development of a child under 6 years old also influences Janshen's attitude towards this interpersonal conflict. Janshen's character's way of resolving conflict by fighting is still very childish in direct proportion to his age, as illustrated in the quote below.

Jentje's brow furrowed, increasingly confused as he digested the words of his two older sisters. For a moment he was silent. Suddenly he stood up, then grabbed Anna and Reina's hair. Ah, you two confuse me! (Saraswati, 2017:14)".

"Catch me!!!! You guys are not fun to talk to ! Hihhi ! (Saraswati, 2017:14)".

Even though in an interpersonal conflict with his older sister, Janshen still resolves the conflict well, a child's social interactions cannot be separated from the interpersonal dimensions that govern his social interactions and how he resolves conflicts. Janshen has a very good primary foundation because he is in a family who are harmonious and love each other (Saraswati, 2017: 6), as the smallest and first social unit he discovered, this greatly influences his emotional development in dealing with interpersonal conflict according to Santrock, 2007 (in Dwiyantri, 2013). The personality that can be concluded from the description of this interpersonal conflict is that Janshen is a loving child because he hopes that his older brother's illness can be transferred to him alone.

Interpersonal Conflict Independence Tendencies

The conflict arose because Janshen felt very disturbed and became angry when his older sister, Anna, woke him from sleep. Here's the quote.

"Jantje scowled, asking Anna to let him sleep again. But, the more annoyed he got, the more excited Anna laughed and tried to wake him up. "Now, Annabele tickled his feet so the little boy woke up and got angry (Saraswati, 2017:91)."

"You're so mean, Anna. What do you want, anyway? he asked while rubbing his eyes. "Sometimes the child yawns with a frown on his face (Saraswati, 2017:91)."

This interpersonal conflict occurred because Janshen felt uncomfortable having his sleep disturbed by Anna who kept waking him up, he tried to fight back by asking Anna not to bother him again. For someone who experiences a conflict with this

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independent tendency, they take a stand so that other people who are in conflict with them are successfully shunned. b) Peter and Janshen's Intrapyschic Conflict

Intrapyschic Conflict Ideal Self Neurotic Ambition

Intrapyschic conflict arises as a result of interpersonal conflict that is present in the character's life which then becomes part of the belief system, the intrapyschic process develops its own existence separately from interpersonal conflict (Alwisol, 2014: 137).

Peter turned away, staring out the window. 'My time is up for studying. But, I'm not smart. "I wasn't born to be a smart person..." he said doubtfully (Saraswati, 2016:61).

"So?" Beatrice lured him (Saraswati, 2016:61).

"I will be strong! Peter answered with a smile (Saraswati, 2016:61)."

The belief that grows in Peter's mind about the ideal self-image he desires becomes what underlies Peter's attitude in every action, when Peter is involved in an interpersonal conflict with Michael, a son of his father's boss. Peter felt very insulted by Michael's treatment which was very inappropriate in his opinion, not only because the treatment was very bad, but also based on Peter's belief that a strong leader like him did not deserve such treatment (Saraswati, 2016: 159).

Meanwhile, Janshen has an intrapyschic self-conflict, a neurotic ideal of greatness in the form of ambition, Janshen hopes that the surrounding environment will treat him like the ideal self-image that he believes in in his imagination. Janshen, who feels he is a boy, should be considered a physically strong figure, this is in contrast to the fact that he is indeed a man but Janshen is still a child, he cannot be said to be strong enough, when this happens said by his older sister Anna when they were arguing, Janshen showed an unhappy reaction by frowning. The following is an overview of the conflict.

Jantje frowned, trying hard to digest Anna's words. 'Why can't I just fight him? '. I 'm a man, I have to be stronger than Anna! (Saraswati, 2017:13)".

"Reina spontaneously responded to Jantje's words. 'Look at your body, darling. You are still too small to fight it, what you have to do now is eat a lot, exercise diligently, and always pray to God so that you grow up quickly and be strong (Saraswati, 2017:13)."

Intrapyschic Conflict Ideal Self Need for Perfection

"Little Janshen once admitted to me that he was actually a bit afraid of facing Peter. He said 'I'm afraid when I see Peter angry, it's very scary! I 'd better just obey his wishes," he said wearily (Saraswati, 2016:3)."

"This child is ordinary, but he acts like he is very special. "This child does not have a strong body, but he acts as if he has the most robust body among the other children (Saraswati, 2016:2)."

"If no one pays attention, he will act as he pleases, be ignorant, or even tend to be evil (Saraswati, 2016:3)."

From the quote above, it can be seen that Peter's personal tendency is to recognize a perfect self-image, this is closely related to his ambition to become a leader.

Furthermore, the intrapyschic conflict of the ideal self regarding the need for perfection is also owned by the character Janshen. Janshen feels very objected to his nickname, namely Jantje, because according to him it tends to sound like a nickname for a girl, Janshen's ideal self or Jantje creates an image of a tough male figure. and should always be able to be relied on compared to his sisters, making Janshen urge his father to change his nickname to Janshen, here is the quote:

"Papa, can I change my name (Saraswati, 2017:31)."

The papa narrowed his eyes. 'What are you going to change your name to, son?' Garrelt asked, curious (Saraswati, 2017:31)".

Jantje was lost in thought for a moment. Actually, he was confused about what to change his name to. 'Hmmm.... Asep, Papa! There are lots of Asep in this house, Papa! They have strong bodies, tall and big! (Saraswati, 2017:31)".

Due to Janshen's insistence that his father change his nickname , the name Janshen emerged, which is actually Papa's family name. In fact, Janshen threatened his brother and everyone at home to stop calling him by the nickname Jantje, because he would never answer again.

Intrapyschic Conflict of the Ideal Self The Drive for Revenge

The neurotic need for revenge is included in the category of intrapyschic conflict, someone who has a need for perfection as their ideal self-image, they make this image their goal in life. Peter's behavior, which can only act as he pleases and even be rude in front of his nanny Siti, can be interpreted as a form of revenge for his false obedience to Papa's anger when he was involved in conflict with him. Peter's behavior, which can only act as he pleases and even be rude in front of his nanny Siti, can be interpreted as a form of revenge for his false obedience to Papa's anger when he was involved in conflict with him. Peter acts as if he is superior

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and in control of everything over his nanny Siti even though in reality he is still a small child who depends on Siti to help him every day.

"Peter Van Gils looked very arrogant in front of Siti, who he asked to accompany him during the process of getting to know the new teacher. And of course... in front of the native teacher who came to his house today. With his chin raised and his tone of voice curt, he seemed very arrogant (Saraswati, 2016: 131)."

"Don't be like that, little master. Mr. Nafiah asked you politely. Siti also chimed in (Saraswati, 2016:132)."

The child's eyes glared at his nanny. "Do you know about politeness? That's it, so babu, don't talk too much (Saraswati, 2016: 133)."

Intrapsychic Conflict of the Neurotic Claimant's Ideal Self

Someone with intrapsychic conflict as a neurotic claimant will feel very disturbed and have the effect of showing anger when other people do not treat them according to the ideal self-imagination they have created. In general, a neurotic claimant is closely related to the intrapsychic conflict about the ideal self, the neurotic need for ambition or perfection. Here are some quotes from the Neurotic Prosecutor's intrapsychic conflict experienced by Peter and Janshen:

A neurotic's view of himself is based on something unrealistic or imagined.

"This child is ordinary, but he acts like he is very special. "This child does not have a strong body, but he acts as if he has the most robust body among the other children (Saraswati, 2016:2)."

"He is now ten years old, but Peter Van Gils' physique is not much different from four years earlier if measured, his body has only grown ten centimeters taller. Peter doesn't look like a ten year old child, he is always thought to be seven or eight years old (Saraswati, 2016:60)."

"He could get very angry just because I accidentally called him short, even though previously we were joking, kept laughing, until we burst out laughing (Saraswati, 2016:56)."

From the several quotes above, Peter's ambitions related to an authoritative leader figure with an ideal stature are broken by the fact that Peter is even a child with a short physical appearance and a very ordinary body.

Meanwhile, the neurotic claimant's intrapsychic conflict occurs with Janshen. Janshen, who is actually not yet 6 years old, feels that he should no longer be treated like a child, this is due to his imaginary image of himself as a man who is old enough to be treated like a child. With a picture of the conflict as follows:

"Finally, Jantje walked down the stairs slowly. Jantje's question was greeted by a relieved smile from Satirah, who stretched out her arms, preparing to carry the small child (Saraswati, 2017:201)."

"I'm not a kid". Suddenly, Jantje brushed Satirah's arm away. His innocent and cute expression made Satirah unable to hold back her tears. This little child, who doesn't know anything yet, has to face the truly difficult realities of life (Saraswati, 2017:201)."

When they demand that other people be able to understand the false image of their ideal self, and apparently get a discrepancy with the response they expected, then someone with a neurotic claimant intrapsychic conflict will feel very uncomfortable and even angry, and will not be able to realize their ideal self. what they describe is not a form of self-description that other individuals can find.

Intrapsychic Conflict Ideal Self Neurotic Pride

The feeling of pride in the ideal self that he created in his imagination is a manifestation of this intrapsychic conflict. In Peter's case, he felt he had better abilities than other children. This impression of pride can be seen from quotes such as the following:

"Until now, Peter, the arrogant child, was not very fluent in Dutch (Saraswati, 2016:55)."

"Peter Van Gils looked very arrogant in front of Siti, who he asked to accompany him during the process of getting to know the new teacher (Saraswati, 2016: 131)."

"You can't order me around as you please! I'm a future leader! (Saraswati, 2016: 158)".

This false form of self-pride towards the ideal self in the imagination has a behavioral impact in the form of being overconfident and arrogant and even tends not to be based on one's actual situation. The pride in question is the false pride possessed by neurotic people which is not based on a realistic view of the true self (Semium, 2013: 161). The intrapsychic conflict that became Peter's belief about the ideal self-image he created developed into a form of interpersonal conflict with several other individuals around him, ultimately forming Peter's personality.

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Intrapsychic Conflict Lower Self Self-Blame

Inability to face the environment makes individuals feel useless and frustrated. This was experienced by the character Peter. The following is an overview of the conflict:

"Sir, it's not wrong, maybe the big master is having a headache because of work. "So I had to get angry at home," answered Siti with a smile (Saraswati, 2016:23).

"But, Papa said earlier that I was stupid and spoiled, I was very sad, Siti. Why is Papa mean to me?" He shed tears again (Saraswati, 2016:23).

Self-blame occurs in the character Peter as a result of interpersonal conflict with Papa, communication that is not good enough between the two makes a child's perspective about himself grow negative, as the character Papa often says when he is angry that it is his inability to meet Papa's expectations that makes him Papa and Mama often fight, and Papa doesn't like him. One of the forms of torture by parents towards their children is in the form of very high expectations placed on children, too demanding of perfection, whereas each individual has their own strengths and weaknesses, this makes children stressed which results in psychological disorders, one of which is that children become tired quickly and become emotional. (Dewantari, 2022). This is related to the personality description presented by Risa Saraswati in her novel entitled Peter, that one of the main characters has an angry character. Here's the quote.

"He could get very angry, just because I accidentally called him short, even though previously we were joking, kept laughing, until we burst out laughing (Saraswati, 2016:56)."

In the novel, we find a quote about Peter who became sad because of what his father said. This is related to the intrapsychic conflict of blaming himself.

"Sir, it's not wrong, maybe the big master is having a headache because of work. "So I had to get angry at home," answered Siti with a smile (Saraswati, 2016:23).

Intrapsychic Conflict Lower Self Self-Deprecation

Peter insulted his ability, which was very difficult to understand lessons even though he had studied and received guidance from his teacher who was brought to his house to teach him. He felt that the time spent was wasted because of his weak ability to study, here is the quote:

"Peter turned away, staring out the window. 'My time is up for studying. But, I'm not smart. I wasn't born to be a smart person...' he said doubtfully (Saraswati, 2016:61).

"Beatrice laughed hearing that, then hugged Peter tightly. 'My son, you don't need to study, you are already strong. You have to be smart to be successful someday. Your father is also strong, but he has to be smart in strategy. If he only relied on his strength, he wouldn't be here.' Beatrice kissed her son's forehead with great affection (Saraswati, 2016:61)."

The quote above illustrates how worried Peter is about his abilities. He has studied but has not gotten the results he wanted and this has made his enthusiasm for learning decrease. It is implied from the two quotes above that his mother tried to encourage Peter by giving an example of Peter's role model, namely Papa. With a loving way of conveying it, Beatrice is depicted as a mother who loves and cares about her child and is gentle. **c) Peter and Janshen Conflict Resolution**

Conflict Resolution Tendencies to Approach

Peter uses a conflict resolution mechanism with a tendency to approach when he has interpersonal conflicts with his Mama and Papa. Peter implemented an approach mechanism so that Mama could have lots of free time with him. The need for a partner who dominates or is strong is the cause of interpersonal conflict between Peter and his mother, in line with Karen Horney's opinion (via Feist, 2017: 180). In her presentation, Karen stated that Peter's attempts to approach her were a form of excessive dependence. When compared with Adler's theory (via Boeree, 2013: 166), approaching attitudes as conflict resolution is a form of phlegmatic personality. Here's the quote: "Mama is leaving again today ?" Peter pulled up the skirt his mother was wearing that afternoon.

"Mama , just for a moment, have a drink at Anna's house," answered Beatrice with a smile.

"Not inviting me? ", asked the child, frowning.

"Lauren is coming in a minute, have you forgotten?" Beatrice was now holding her son's face gently.

"Oh, Lauren. The old woman was very grumpy. I don't like studying with him, Mama." Peter started to sulk.

(Saraswati, 2016: 62-61)

Furthermore, Janshen used the tendency to resolve conflicts using approaching mechanisms to resolve several of his interpersonal conflicts. First, when Janshen asked his father to change his nickname .

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The papa narrowed his eyes. 'What are you going to change your name to, son?' Garrelt asked, curious (Saraswati, 2017:31)".

"Hmmm... Asep, Papa! There are lots of Asep in this house, Papa! They have strong, tall and big bodies! (Saraswati, 2017:31)".

"You guys, from now on call me Janshen! I won't respond anymore if I'm called Jantje! Okay?!" (Saraswati, 2017:33)".

The interpersonal conflict of the need for social recognition as a strong man was perfected by Janshen's request to change his nickname from Jantje to Janshen. He even urged everyone to get used to calling him by his nickname Janshen.

Apart from that, Janshen's conflict resolution with a tendency to approach is when he has an interpersonal conflict with his mother, here is the description:

"Little Jantje suddenly started whining at his mother, asking to be carried because he was sleepy. Martha didn't pay any attention at all. Not that she didn't care, but Martha was still lost in reverie, thinking about Reina. Garrelt shook his wife's shoulder, telling her that their youngest son was sulking and asked to be carried. Martha was surprised, but shook her head quickly. 'Your sister is sick, don't be fussy!' (Saraswati, 2017:51)".

"Jantje looked annoyed, but stopped whining. "The child left Reina's room, followed by Annabele, who was told by Garrelt to follow Jantje (Saraswati, 2017:51)."

He was sleepy and whined to his mother to ask to be carried, the attachment that arose between Janshen and his mother did not appear suddenly, there were several reasons for this attachment to arise. Resolving interpersonal conflicts that occur by whining to get closer to his mother, in this case a form of attachment as part of the conflict resolution that Janshen tries to get him to get his usual wish of being accompanied while sleeping.

Conflict Resolution Fighting Tendencies

Conflict resolution with a tendency to fight is found in the lives of the characters Peter and Janshen, below is the review. There are 4 interpersonal conflicts in Peter which illustrate the tendency to resolve this conflict, namely, 1) interpersonal conflicts that occur between Peter and the teachers who teach him at home, namely Lauren and Nafiah.

"Have you done my assignment?" Lauren asked that afternoon.

"Noeg niet," answered Peter casually.

Lauren looked surprised to hear her student's answer. "Why have not yet?" he asked again.

"I don't know," answered Peter, glancing here and there.

"What's wrong with you?" Lauren sounded really annoyed.

"Don't know." Peter this time answered while yawning.

"Now what do you want?" Lauren's patience was running out.

(Saraswati, 2016: 63) Peter's form of conflict resolution took the form of resistance, by standing on the table while saying things that were very impolite for a student to do to his teacher. Peter said that Lauren's Dutch could not be understood, and Lauren was even considered too old to continue teaching (Saraswati, 2016:64). Apart from committing bad actions towards his teacher named Lauren. 2) Peter also tried to get rid of a new teacher that Edward had brought in to teach him, this teacher was named Nafiah (Saraswati, 2016: 131).

"Goede middag, wat is uw naam (good afternoon, what is your name)?" Nafiah asked Peter.

"Peter Van Gils," he answered curtly.

"Waarom ziet je boos?" Nafiah asked again.

Peter snorted in annoyance, "You're an Inlander, so don't pretend to speak Native language. I'm annoyed because you keep using my people's language!" said Peter in a high voice.

...

(Saraswati, 2016:133)

The hostility that Peter tries to create is ammunition for him in his interpersonal conflict with Nafiah, although in the end Peter turns to liking Nafiah as his mother's substitute teacher. The form of resistance mechanism that Peter uses in resolving his interpersonal conflicts is part of an aggressive personality according to Karen Horney. This behavior is the result of parents who tend to pamper their children too much, resulting in an arrogant attitude. 3) Peter's interpersonal conflict with Corie Vern, one of the children of Peter's best friend's father. This happened when Peter and his family visited Corie Vern's house.

"Peter was absolutely terrified, his eyes flashed with terror. "Corie!" please don't do like this! you're so mean! I'll complain to Papa and Mama!" Peter shouted loudly (Saraswati, 2016:105)."

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The resolution of Peter and Corie Vern's interpersonal conflict takes the form of a fight mechanism. Corie Vern showed his unfriendliness from the first time he met Peter, this made Peter feel dislike for Corie from the start, which continued to make him feel annoyed and angry with all his bad treatment towards Peter. 4) interpersonal conflict which was motivated by an unpleasant incident that Peter received from a son of his father's boss named Michael.

"Your mother is beautiful too... darling, her dignity dropped because she married Albertus Van Gils, who came from an ordinary family (Saraswati, 2016: 157)."

Apart from saying impolite words, Peter also had to face Michael's careless attitude, some of which seemed as if Michael was deliberately playing with him.

"Take the books, I want to play the piano (Saraswati, 2016:158)."

"You can't order me around as you please! I'm a future leader! Peter was very upset, and he started to hate the Greef family boy (Saraswati, 2016:158)."

Peter's anger arose, to the point that he carried out his conflict resolution mechanism by fighting, with motives that emerged from the need for social recognition and ambition, as Feist mentioned that one of the motives for an interpersonal conflict arises in the form of recognition, appreciation and power which is interpreted as internal ambition. Peter and Michael's conflict, in line with his statement, will form a form of resistance tendency in resolving the conflict.

Furthermore, interpersonal conflict with a tendency to resolve conflict by fighting was also found in Janshen. 1) Margarethie Reina Janshen or who is usually called Reina, is the third of four children in the Janshen family. He was involved in an interpersonal conflict with his youngest sister Janshen in the form of a conflict of need for social recognition, with the condition of the conflict Janshen felt strong and tough enough to be able to bear all the pain experienced by their eldest sister, Maria Elizabeth or known as Lizbeth, because of the congenital heart disease she suffered from.

"Why can't I just fight him? I'm a man, I have to be stronger than Anna (Saraswati, 2017:13)." "You are still too small to fight him (Saraswati, 2017:13)".

After a little debate about Janshen's existence as a man he imagined as a tough and strong figure. Janshen suddenly stood up and grabbed Anna and Reina's hair playfully (Saraswati, 2017:14).

Resistance by pulling his older brother's hair is described as a conflict resolution mechanism for Janshen, who at the time of the incident was still not even 6 years old. In fact, in her book, Risa Saraswati describes Janshen as if he was confused by his older brothers' explanation that for now he was still too small and his duties at that time were only fixed. be healthy and exercise diligently to grow up quickly (Saraswati, 2017:14).

2) Janshen tends to resolve conflicts by fighting when he is involved in an interpersonal conflict with Anna, his sister. Here's the quote:

"Jantje scowled, asking Anna to let him sleep again. But, the more annoyed he got, the more excited Anna laughed and tried to wake him up. "Now, Annabele tickled his feet so the little boy woke up and got angry (Saraswati, 2017:91)."

"You're so mean, Anna. What do you want , anyway? he asked while rubbing his eyes. "Sometimes the child yawns with a frown on his face (Saraswati, 2017:91)."

This interpersonal conflict occurred because Janshen felt uncomfortable having his sleep disturbed by Anna who kept waking him up, he tried to fight back by asking Anna not to bother him again. The emotional influence of a child who is still in the developmental stage greatly influences how he responds to every interpersonal conflict that arises in his life. Janshen was able to resolve the conflict which ended positively because of Anna's positive attitude, which did not make her even more annoyed. Anna cheerfully stood in front of Janshen, twirling around and showing the pink dress she was wearing, while continuing to persuade her sister. The positive feedback that Anna presented in their interactions when experiencing conflict made Janshen, who was still small, get carried away and seemed to forget his annoyance (Saraswati, 2017:91-92). Effective communication with his trusted people makes Janshen subside quickly, emotional stability that is still developing at an early age like Janshen makes this interpersonal problem feel easy to deal with (Kusuma, 2018: 200). Finally, Janshen, with the typical expressive attitude of children, Janshen joined in the fun and danced with his older sister Anna, who had been showing a cheerful attitude.

Conflict Resolution Tendency to Distant

First, the tendency for distant conflict was found in Peter's interpersonal conflict in the form of Peter's distant attitude towards his father, triggered by the emotional distance that existed between them, Peter's feeling of helplessness at his father's judgment towards him gave rise to anxiety and feelings of discomfort when he was close to his father. According to Karen Horney, conflict resolution with a tendency to stay away is a way to resolve the basic conflict of isolation (via Boeree, 2013: 166). Although in its development the tendency to resolve conflict by walking away is a form of expression of a person's neurotic need for

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independence, perfection and the need for his or her "privacy". With several quotes as an illustration of the conflict as follows: "At the end of his life, his relationship with Albert was not very good. Even though he often praised Albert, Peter never expected that the man would pick him up. "Papa always hates me, he always thinks I'm stupid and an idiot," he complained wearily (Saraswati, 2016:169)."

"Albert's violent attitude towards his only son has widened the distance between the two of them (Saraswati, 2016:18)."

"The relationship between father and son is increasingly strained. Peter has become very quiet since that day (Saraswati, 2016:25)."

"Peter! Probeer aan mij over Nederland uit te leggen (try explaining to Papa about the Netherlands)!" Albert's orders to his son at that time (Saraswati, 2016:17)"

Albert glared at the child, there was a hint of disappointment in his gaze. "Beatrice! Geef hem over Nederlands leren! After all, he is a Dutchman, not an Inlander. He must be able to speak Dutch!" (Saraswati, 2016:18)".

"This kid is stupid! what a fool, Beatrice! I never asked God for a stupid and weak child! and I'm cursed now for being given a stupid child like him!" Albert was furious, his index finger kept pointing at Peter. Peter's crying got louder, Beatrice hugged him very tightly now (Saraswati, 2016:21)."

Interpersonal conflict with conflict resolution, a tendency to move away, was found in the background of conflicts such as Peter and his father, even though the form of expression of distance should be the need for independence and superiority towards himself. Peter resolves the dominant conflict away from his father, but in fact he tries to create conducive conditions between the two of them by behaving the way his father likes him. This is related to the need for affection and acceptance for someone who experiences basic anxiety in their social relationships with the person concerned. In line with Horney's statement (1945. Pg. 45 via Feist, 2017: 180) however, in another case, Peter is someone with a tendency to resolve conflicts closer to his father which is a complex strategy, they are willing to subordinate themselves to other people, views the person as smarter and better and judges himself based on that person's judgment of himself. The following is an excerpt from Peter's efforts to be well received by his father, who is always firm and strict.

"And one unique thing, according to them, Peter is like a robot, depending on who the child is near. When he is next to his mother, he will behave very well. Meanwhile, when he is not far from his father, he can be very mean to the natives who work in the house (Saraswati, 2016: 138)."

Second, the tendency to resolve conflict by walking away was found in the case of Janshen's interpersonal conflict with a man named Joshua, a man who was close to Anna's older sister. When they visited his family's shop according to their agenda, Janshen discovered Joshua's presence in his family's shop. Seeing this, Janshen felt very angry. It is depicted that Janshen feels that his family's personal affairs are being disturbed by someone who is no one to him. The lack of effective communication and emotional bond between Janshen and Joshua from the beginning of their acquaintance exacerbated this interpersonal conflict situation. The interpersonal conflict situation is described like this.

"However, to my surprise, Joshua suddenly appeared in the shop, joining Anna and Jantje. "You can imagine how angry Jantje was when he saw the man appear (Saraswati, 2017: 110)."

"From the window, he peeked in. Joshua seemed to be organizing everything beside Annabele. And strangely, Anna looked very happy. Jantje clenched his fists in anger. 'Why did he have to come here, anyway?' he kept asking questions in his heart (Saraswati, 2017:110)".

Janshen resolved the conflict by staying away from Joshua. He felt very uncomfortable being with this man. Jealousy is a normal reaction to the real or imagined loss of affection, or the threat of loss of affection. But feelings of jealousy arise from yesterday which cause annoyance and are shown to other people. The feeling of jealousy that arose in Janshen was a normal reaction to the thought of losing Anna's love, which was the only one he had at that time, so that Janshen became irritated with Joshua because he considered their closeness, making Anna tend to share his attention and affection. again solely belongs to Janshen but also Joshua (Arifiyanti, 2021).

Janshen felt uncomfortable with the presence of Joshua because of Joshua's attitude in managing the affairs of their family shop. With the feeling of discomfort that emerged from the beginning of their acquaintance, Janshen increasingly showed a negative attitude towards Joshua, Anna, who was the mediator between Janshen and Joshua's interpersonal conflicts, did not take the initiative to find a way to reduce their conflict. He thought that Janshen's attitude was just the normal attitude of a child who was jealous of the presence of a new person in the life of someone who was close to him emotionally and in family terms.

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CONCLUSION

Based on the data that has been described theoretically above, the following conclusions can be drawn. Firstly, the dominant form of character of the main characters of the novel Peter and Janshen by Risa Saraswati was found based on the form of conflict resolution that can be found in each novel which turns out to have similarities, namely (1) Peter has a dominant choleric and phlegmatic character (2) Janshen has a dominant choleric character and phlegmatic.

Second, the form of interpersonal conflict experienced by the character Peter includes interpersonal conflict regarding the need for affection and acceptance, strong colleagues, power, social recognition/prestige, and ambition for personal achievement, while the interpersonal conflict of the character Janshen consists of interpersonal conflict regarding the personal need to be admired, social recognition/prestige, strong colleagues, independence/independence tendencies, and power. Meanwhile, the form of intrapsychic conflict of the character Peter is in the form of an ideal self-tendency which takes the form of a neurotic search for glory, and a neurotic claimant, while the form of intrapsychic conflict of the lower self is in the form of self-blame, while the intrapsychic conflict that occurs in the character Janshen in another novel by Risa Saraswati with the title Janshen is in the form of Neurotic claimant's ideal self-conflict. No form of intrapsychic conflict was found in the form of lower self in the character Janshen. Interpersonal conflict occurs when one person's needs and ideas are perceived to conflict with the needs and ideas of another person. Karen Horney believes neurotic attitudes arise from the accumulation of basic anxiety due to interpersonal relationships. Divided into 9 types of interpersonal conflict based on neurotic needs, namely the need for affection and acceptance, strong colleagues, limiting life to a narrow domain, power, exploiting others, social recognition/prestige, being a person who is admired, personal ambition and achievement, independence/ independence and perfection or irreproachability. In relation to interpersonal conflict, a conflict within the individual concerned is called intrapsychic conflict, namely conflict caused by actions, emotions, beliefs that develop within a person, giving rise to feelings of anxiety, intrapsychic conflict tends to manifest from the concept of interpersonal relationships which create a self-image, divided into two, namely ideal self-image and selfhatred. The ideal self-image includes 3 aspects, a person with a neurotic pursuit of greatness, a neurotic claimant or a neurotic pride. Aspects of self-hate are divided into six forms of self-expression, namely demanding needs from oneself without measure, blaming oneself, insulting oneself, frustrating oneself, torturing oneself and destroying oneself.

Third, the form of conflict resolution carried out by the main characters of the novel entitled Peter and Janshen is the tendency to approach, move away and fight, the dominant method of conflict resolution is the action of approaching and fighting. In Karen Horney's personality theory, conflict resolution is a form of self-protection mechanism from an individual's basic anxiety and discomfort regarding the interpersonal and intrapsychic conflicts he or she faces. is closely related to the choleric personality trait, while conflict accompanied by distant resolution is a characteristic of someone with a melancholic personality type. In the novel Peter and Janshen, the personality description during their lives can be analyzed through Karen Horney's personality theory which is closely related to mental development, especially for children, with the involvement of the first social environment, namely the family.

RECOMMENDATIONS

The novel by Risa Saraswati entitled Peter and Janshen presents learning about the role of parents which is very important in forming a child's character, being affectionate, caring for and protecting each other among family members and an attitude of forgiveness that must continue to be present. From Peter and Janshen's story, there are many attitudes from a human's childhood that often conflict with the mindset of adults. The emotional development of children who are still in the process of learning must be accompanied by good, positive and as wise attitudes as possible from each parent. On the other hand, every value in life for the good that parents teach their children will always be one of the main weapons that can protect the child in their social life interactions outside the family environment so that they remain positive and can be well accepted by the environment.

- a. Other researchers are advised to read other literature that goes more deeply into the theory used in this research, namely Karen Horney's psychoanalysis, and can explore other sources related to horror genre literary works, especially from Indonesia. So that the specific characteristics of Indonesian horror works can be found.
- b. Literature lovers are advised to read other literary works and compare and prove the personality description of each character in the literary work based on the conflict presented in the story.

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Students' Motivation and Academic Engagement in Alternative Learning System



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ABSTRACT: Examining the factors that might have led students to continue the ALS program in spite of the difficulties they encountered is worth noting. This study sought to determine the level of motivation of ALS students in terms of intrinsic and extrinsic, the extent of academic engagement of ALS students in terms of timeliness of submission and quality of the output, and the significant relationship between the level of motivation and academic engagement. This was conducted among the one hundred fifteen (115) respondents from the ten (10) ALS Community Learning Centers (CLC) in West II District, Gingoog City, for the School Year 2022-2023. A researcher-made questionnaire, which was pilot-tested to establish internal consistency and reliability, was used. The study utilized statistical measures such as the mean, standard deviation, and Pearson Product Moment Correlation Coefficient (r) to determine the significant relationship between academic engagement and motivation level. Because it directly benefits them and they inspire others to be ambitious and competitive, the study discovered that the respondents had very high levels of both intrinsic and extrinsic motivation. The respondents' high levels of academic engagement were also shown by the results, indicating a significant correlation between academic engagement and motivation. It is concluded that the students have strong internal fulfillment and willingness to engage in learning activities driven by external goals. Continuous guidance and inspiration from the learning facilitator are recommended.

KEYWORDS: Academic Engagement, Motivation, Timeliness, Output

I. INTRODUCTION

Through the Alternative Learning System (ALS), a parallel learning system, the Philippines can offer a workable alternative to the current official education system. If someone is unable to receive formal education in a school setting, ALS is an option. The system only requires learners to attend learning sessions based on the agreed schedule between the learners and the learning facilitators.

The program has two different schematics for conducting instruction: school-based and community-based. Instructions in the school-based program are conducted on school campuses, while in the community-based program, formal instruction is conducted in community halls or private places. Aside from schematics, the program has two levels: elementary and secondary. Students have to start from the elementary level and then proceed to the high school level. If a student is a graduate of elementary under a formal classroom system, the student is automatically admitted to the secondary levels depending on which year level the student stopped schooling.

The program covers mostly dropouts in elementary and secondary schools, out-of-school youths, non-readers, working people and even senior citizens wanting to read and write. The 1987 Philippine Constitution recognizes and supports non-formal education in addition to formal education. Article XIV, Section 2, Paragraph 1 states that the State shall create, maintain, and assist a comprehensive, sufficient, and integrated education system suited to the demands of the people and society. Indigenous, non-formal, and informal learning systems; self-study; independent learning; and after-school study programs—especially those that cater to community needs—are all urged in paragraph four. Republic Act 9155, also known as the Governance Act for Basic Education, requires the establishment of an Alternative Learning System (ALS) to offer fundamental instruction to groups of kids, teenagers, and adults who are not enrolled in school.

Strong literacy abilities are essential in today's competitive environment for children, young people, and adults to obtain a respectable career, respectable income, and access to high-quality educational possibilities. Due to a lack of educational

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opportunities, a large proportion of Filipinos in the Philippines are Out-of-School Children (OSC), Out-of-School Youth (OSYs), and Out-of-School Adults (OSAs), who are the group most affected by this threat. As revealed in the Country Profile for the EFA Global Monitoring Report 2018, Education for All 2018, sixteen million two hundred eighty-two thousand three hundred forty-three (16, 282, 343) out-of-school Filipino citizens, who comprised 20% of the 82 million total Philippine Population (2020) are Out-of-School youth. Executive Order No. 356, which is the representative of the Philippine Department of Education, thus signifies the implementation of the Alternative Learning System: "Renaming Non-formal Education to ALS According to the 2018 Philippine Plan of Action for Education for All (EFA), this program is deemed essential to Philippine education in order to give every person access to high-quality basic education, with a specific focus on lowering the illiteracy rate. Moreover, records show that the ALS program has been implemented in the entire country for almost 18 years now since it started in 1999. Many studies also revealed that there are many problems that both ALS students and mobile teachers encounter. Specifically, in the study of Mercado (2019), students suffered issues in instruction, assessment, and evaluation. He also discovered that facilities like classrooms and instructional materials like textbooks, manuals, etc., are lacking.

Several challenges can also be listed when students are asked based on the experiences of ALS teachers. Hence, it is noteworthy to explore what could have caused them to continue the program despite the challenges faced by students. It is in this context that this study will explore the motivation of ALS students. Nevertheless, a limited number of studies still investigated diverse motivational constructs concerning students' academic achievement (Kriegbaum et al., 2019).

In particular, the Gingoog City ALS program emphasizes that the current formal education curriculum, which integrates both informal and nonformal This parallel learning strategy can successfully replace existing knowledge and skill sources. Additionally, it implies that ALS provides a means for OSY and individuals to acquire not just fundamental life skills but also, and maybe more significantly, 21st-century skills that will enable them to deal with and readily adapt to changes in their surroundings. Thus, it is clear that ALS program participants already possess the minimal set of 21st-century competencies required for their career and personal development. However, along the way, challenges arise, and the motivation to continue and finish the program becomes vital.

It follows that the vanguard of educational innovations is student involvement with 21st-century skills. But not much has been done to evaluate this kind of involvement, particularly with non-formal students like ALS. Based on the recent situation of West 2, Community Learning Center (CLC), the majority of the ALS learners are experiencing different situations to acquire high learning performance. With the foregoing studies, this study sought to find out the ALS learners' motivation and academic engagement at West 2, CLC, Gingoog City.

The foundation of this research is the Self-Efficacy Theory of Motivation by Albert Bandura. According to him, self-efficacy is the conviction that one can manage one's actions and the circumstances that impact one's life. Self-efficacy is the cornerstone for motivation, wellbeing, and individual success. Motivation pushes someone to work toward a specific objective or result. Because a person's beliefs form the basis of their goals, Bandura's theory of self-efficacy and motivation are closely related concepts. As a result, self-efficacy explains a person's trajectory in various domains, including academics (Lopez-Garrido, 2023). Learning is significantly impacted by both intrinsic and extrinsic motivation. Experts contend that any innate motivation kids may have is undermined by the conventional emphasis on external rewards in education, such as grades, report cards, and gold stars. Certain scholars assert that extrinsic motivators boost pupils' self-motivation by elevating their perception of their own abilities within the classroom. According to some, extrinsic motivators boost students' intrinsic drive by making them feel more capable in the classroom. A person's interest often survives when a reward is used neither to bribe nor to control but to signal a job well done, as in a most improved player award. If a reward boosts a feeling of competence after doing good work, the enjoyment of the task may increase.

Accordingly, intrinsic versus extrinsic motivation is distinguished. Intrinsic motivation means that the person regards behavior as being performed for the sake of itself and that the behavior is in line with basic needs, while extrinsic motivation refers to behavior that is seen as externally controlled and tied to reaching some end. Rather than dichotomizing between intrinsic and extrinsic motivation, self-determination theory subdivides motivation into qualitatively different types of behavior regulation, which stand on a continuum from autonomous to controlled regulation of behavior. Schurmann et al. (2021) mentioned that external behavior regulation is at the controlled end of the continuum, where motivation comes from external pressures, while intrinsically motivated behavior is the prototype of self-regulated motivation. Contrarily, human conduct is driven by both intrinsic and external reward. By knowing more about how different types of motivation work and when they are likely to be useful, we can help people finish tasks—even when they do not want to—and improve their learning. In the context of this study, the behavior is the academic engagement of learners.

In addition to formal education, non-formal education is acknowledged and encouraged under the 1987 Philippine Constitution. As stated in paragraph 1 of Article XIV, Section 2, the establishment, upkeep, and provision of a comprehensive,

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adequate, and integrated education system that meets the needs of the populace and society falls under the purview of the State. Just as paragraph 4 encourages independent study, self-study, non-formal, informal, and indigenous learning systems in addition to after-school study programs, especially those that address community needs. Republic Act 9155, often referred to as the Governance Act for Basic Education, demands the creation of the Alternative Learning System (ALS) in order to give its residents access to a basic education. Academic engagement refers to the effort the learner makes to promote their psychological commitment to stay engaged in the learning process to acquire knowledge and build their critical thinking (Dixon, 2018). There are different models to measure learner engagement in the learning contexts. Lauría et al. (2019) supported the fact that the number of submitted assignments, posts in forums, and completion of online quizzes can quantify learner's regularity.

Hence, this study explored students' academic engagement in terms of timeliness and quality of output submitted. Since the ALS program mode of learning includes giving modules and outputs to be done. Particularly with self-directed activities, students are expected to display their skills. They were resulting in quality output. Given that most of them are working or have other responsibilities to attend, their timeliness in submission could indicate their commitment to finishing the ALS program.

II. METHODOLOGY

The study utilized the descriptive-correlational method, which is appropriate for a quantitative research design that determines the extent of the motivation and engagement of ALS students. The research design provided an outline of actual thoughts, emotions, and actions within a certain category of individuals in the context of the newest study. It figures out the variables and the relationships that occur naturally between and among them. It is a non-experimental research approach, which implies that the researchers do not need to change the variables; rather, the researchers use the natural pattern of the variables to reach a conclusion (Rodrigo et al., 2021). The method involved description, recording, analysis, and interpretation of prevailing conditions. The investigation of the context of the study, motivation and academic engagement of Alternative Learning System students at West 2, CLC, Gingoog City, School Year 2022-2023 served as the focus of this study.

The respondents of this study were the ten (10) ALS community learning centers, namely: Lunao Central A has eleven (11) students, Lunao Purok 6 has thirteen (13) students, Lunao Purok 4 has twelve (12) students, Lunao Central Bay-bay has fifteen (15) students, Lunao Central highway has sixteen (16) students. Brgy Mindulian has twelve (12) students, Brgy. Tinulongan has eleven (11) students, Brgy. Murallon Tabon-tabon has six (6) students, Brgy. Bakid-bakid has 11 students, and Balay Pangandoy has seven (7) students. There were one hundred fifteen (115) students for the School Year 2022-2023. The researcher used the universal sampling method.

Descriptive statistics were employed by the researcher to ascertain students' motivation and level of academic involvement. The mean and standard deviation were applied to Problems 1 and 2. For Problem 3, the Pearson r Moment Correlation was employed. There is a strong correlation between the ALS students' academic engagement and motivation. at West 2, CLC, Gingoog City, was determined using this inferential statistical treatment.

III. RESULTS AND DISCUSSION

Problem 1. What is the level of motivation of ALS students in terms of:

- 1.1 intrinsic; and
- 1.2 extrinsic?

Table 1. Intrinsic motivation of ALS students

Indicators	Mean	SD	Description	Interpretation
1. I am doing something because it is personally rewarding to me.	3.53	0.68	Strongly Agree	Very High Motivation
2. I am doing an activity for its inherent satisfaction rather than for some separable consequence.	3.21	0.66	Agree	High Motivation
3. I am highly motivated on engaging and completing a task	3.30	0.85	Agree	Very High Motivation
4. I act for the fun or challenge entailed rather than because of external products, pressures, or rewards.	3.17	0.67	Agree	High Motivation

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5. I am doing something not because I want to earn a reward or avoid punishment.	3.12	0.80	Agree	High Motivation
6. I am engaging in the task or adhering to the activity for fun, enjoyment, and satisfaction.	3.13	0.84	Agree	High Motivation
7. I am motivated by my personal interests, satisfaction, and enjoyment.	3.36	0.76	Strongly Agree	Very High Motivation
8. I am setting goals and investigating my interests and curiosities.	3.29	0.71	Strongly Agree	Very High Motivation
9. I am completing tasks and achieving goals in a way that makes me feel fulfilled.	3.35	0.74	Strongly Agree	Very High Motivation
10. I am motivated to include things like recognition, challenging work, purposeful work, achievement, and opportunities for personal growth.	3.31	0.85	Strongly Agree	Very High Motivation
Overall	3.28	0.76	Strongly Agree	Very High Motivation

Note: 3.26-4.00 Very High Motivation, 2.51=3.25 High Motivation, 1.76-2.50 Low Motivation, 1.00-1.75 Very Low Motivation

Table 1 on the next page presents the level of motivation of ALS students on Intrinsic aspect. It has an overall Mean of 3.28 with SD= 0.76, which is described as Strongly Agree and interpreted as Very High Motivation. Moreover, the majority of the indicators were rated with a Very High Motivation. This implies that the ALS students have achieved the highest level of motivation in their intrinsic aspect. Intrinsic motivation is very important for a student or an individual as a whole. It gives the person the drive to continue reaching goals and aspirations despite circumstances or challenges being experienced. It helps the person find positive things rather than focusing on the negative ones.

In the same table, the highest rated indicator, *I am doing something because it is personally rewarding to me* with a Mean of 3.53 with SD=0.68, which is described as Strongly Agree and interpreted as Very High Motivation. This implies that the ALS students realized that in everything they do, there is a corresponding consequence. So, they decided to focus on preparing themselves for the future by studying to equip themselves with the necessary knowledge and skills that can be utilized in their future endeavor. Cherry (2023) claimed that in doing something, the person must consider their own happiness and satisfaction before thinking for others. This will give them the motivation and inspiration to continue what they are doing, and later on, it will also benefit the others. Doing things that are without hesitation and with no hidden agenda is more fulfilling, satisfying, and motivating.

Meanwhile, the lowest indicator is *I am doing something not because I want to earn a reward or avoid punishment* with a Mean of 3.12 with SD=0.80 described as Agree and interpreted as High Motivation. This implies that the ALS students need more motivation to do what they are doing, not just for the sake of reward or punishment. Students need to realize that no one will be the first one to benefit from what they are doing but themselves. Teachers and their parents can play a part in this situation by reminding them of why they need to study and its benefits in the future. According to Harmer (2017), a person might be motivated by the enjoyment of the learning process itself or by the desire to make themselves feel better. People do certain activities because they give them pleasure and develop a particular skill based on their internal desire. Intrinsically motivated students are bound to do much better in classroom activities because they are willing and eager to learn new material. Their learning experience is more meaningful, and they go deeper into the subject to fully understand it.

Table 2. Extrinsic motivation of ALS students

Indicators	Mean	SD	Description	Interpretation
1. I am gaining an external tangible reward.	3.03	0.66	Agree	High Motivation
2. I am participating in an activity based on meeting an external goal.	3.09	0.82	Agree	High Motivation
3. I get motivated by external factors	3.03	0.61	Agree	High Motivation
4. I need to feel competent on the scale of expenditure and performance.	3.03	0.75	Agree	High Motivation
5. I am doing an activity for instrumental reasons	2.96	0.74	Agree	High Motivation
6. I engage in an activity to gain a tangible or social	2.98	0.70	Agree	High Motivation

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reward				
7. I am receiving external rewards or consequences that can often prompt individuals to exhibit certain advantageous behaviors.	2.97	0.74	Agree	High Motivation
8. I help others become driven and competitive	3.23	0.68	Agree	High Motivation
9. My motivation come from outside oneself	2.97	0.80	Agree	High Motivation
Overall	3.03	0.72	Agree	High Motivation

Note: 3.26-4.00 Very High Motivation, 2.51=3.25 High Motivation, 1.76-2.50 Low Motivation, 1.00-1.75 Very Low Motivation

Table 2 displays the extrinsic motivation of ALS students. It has an overall Mean of 3.03 with an SD = 0.72, which is described as Agree and interpreted as High Motivation. Additionally, all of the indicators are appraised as High Motivation. These results indicate a strong propensity among ALS students to be motivated by external rewards and goals. Apart from the fact that students with ALS are typically motivated by personal motives and objectives, extrinsic motivation is also crucial to uplift the students' spirits and maintain their concentration on their goals. Students complete the tasks given to them because they want to succeed and because they anticipate the positive results of their work. It's also possible that they are afraid of failing this time because they are enrolled in the ALS Program, and it is assumed that they have failed in formal schooling before. Benabou and Tirole (2019) believe that extrinsic motivation is a positive reinforcer of desired behavior that drives effort and performance. Compared to intrinsic motivation, extrinsic motivation usually yields faster outcomes and involves less work (Ryan & Deci, 2019).

Among the assessed items, the highest Mean of 3.23 with SD = 0.68, which is described as Agree and interpreted as High Motivation and was observed from the indicator, *I help others become driven and competitive*. This indicates that students are willing to engage in activities to support and motivate others, reflecting a cooperative and supportive learning environment. It is apparent that ALS students does not only focus on their personal achievement, but they are also taking responsibility of the success of their classmates. Because they face similar obstacles and problems while striving for academic success, it is evident that they have strong group ties. It is also evident that in the process of helping others to become driven and competitive, they are also helping themselves become what they want others to be. Borah (2021) stressed that a motivated activity is maintained, directed, and energized. The instillation and enhancement of learners' interest in the learning activities is the focus of motivation.

On the other hand, the indicator, *I am doing an activity for instrumental reasons*, got the lowest Mean of 2.96 with an SD = 0.74, which is described as Agree and interpreted as High Motivation. This indicates that the students are motivated to do the work given to them not just because they would benefit from it but also because they like completing it in the absence of external pressure. Though this indicator is the lowest among others, it cannot be denied that students are also motivated by external factors. This is clear evidence that students stay in the ALS program because of external rewards, but what keeps them going is their self-determination. The drawback of this is that pupils are frequently diverted from genuine independent learning by extrinsic motivators. The fact that extrinsic motivators usually don't last is another issue with them. Students become disinterested when the incentives are taken away (Adamma et al., 2018). Extrinsic motivational elements, according to Biehler and Snowman (2018), might reduce students' intrinsic motivation since extrinsically driven students typically concentrate on getting better marks and obtaining incentives.

Bain (2018) also noted this phenomenon and came to the conclusion that extrinsic rewards have a detrimental effect on intrinsic motivation. Over the past ten years, there has been a lot of interest in the disparities between genders' motivations for learning science (Eccles & Blumenfield, 2018). There is conflicting evidence about gender differences in motivation that has been gathered thus far. The students claimed that they completed the tasks because they enjoyed them and that the benefits they would receive from them were only extras.

Several other indicators also received the highest Mean, such as *I am gaining an external tangible reward* with an agreed upon mean of 3.03 and a standard deviation of 0.66, indicating High motivation. and *I am participating in an activity based on meeting an external goal* with a Mean of 3.09 with SD = .082, described as Agreed and interpreted as High Motivation, highlighting the influence of external factors on motivating ALS students. Harmer (2017) states that extrinsic motivation is the result of any number of outside factors, for example, the need to pass an exam, the hope of financial reward, or the possibility of future travel. Extrinsic motivation is that which derives from the influence of some kind of external incentive, as distinct from the wish to learn for its own sake or interest in a task. Many sources of extrinsic motivation are inaccessible to the influence of

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the teacher: for example, the desire of students to please some other authority figures such as parents, their wish to succeed in an internal exam, or peer group influences.

Table 3

Type of Motivation	Mean	SD	Description	Interpretation
1. Intrinsic	3.28	0.76	Strongly Agree	Very High Motivation
2. Extrinsic	3.03	0.72	Agree	High Motivation
Overall	3.16	0.74	Agree	High Motivation

Note: 3.26-4.00 Very High Motivation, 2.51=3.25 High Motivation, 1.76-2.50 Low Motivation, 1.00-1.75 Very Low Motivation

Table 3 demonstrates the results of intrinsic and extrinsic motivation. It has an overall Mean of 3.16 with SD = 0.74 which is described as Agree and interpreted as High Motivation. This signifies that the respondents have a strong degree of motivation, which may enable them to persevere through whatever difficulties they may face while pursuing their education. Motivation has a major role in academic learning and accomplishment (Elliot & Dweck, 2019). Early academic motivation development and strengthening is important, and parents and educators should make an effort to convey this to their children, according to Khan et al. (2019), as motivation plays a role in academic performance.

Lauzon and Green-Demers (2002) stated that motivation is the process that starts, leads, and keeps actions going in order to meet psychological or physiological needs. Feldman (2018) defines motivation as variables that direct and energize the behavior of humans and other species. According to Sarin (2019), motivation can also be defined as the force that initiates, maintains, and guides an individual's course of action.

Intrinsic motivation got an overall Mean of 3.28 with SD = 0.76, which is described as Strongly Agree and interpreted as Very High Motivation. This denotes a strong self-determination among the students. They do not need others to push them to keep going to school because they have an innate desire and convection to pursue their goals. Students who are motivated to participate in academic activities by their own interest in learning and enjoyment of the learning process are said to possess intrinsic motivation (Schiefele, 2018).

Furthermore, intrinsic motivation refers to the genuine human nature that propels people to seek out and take on novel tasks. Their skills are challenged, and even in the absence of material gain, they have a strong desire to learn. According to Walker (2019), students who aspire to master science information and skills via understanding are considered genuinely motivated. The traits of intrinsically motivated people include: they participate in both physical and mental activities holistically; they maintain a laser-like focus on these pursuits with clear objectives; they are self-critical and honestly evaluate their own performance; and they are typically laid-back and unafraid of failure when learning (Nakamura, 2019). According to Stipek's (2018) research, pupils that are intrinsically motivated learn on their own and consistently opt for difficult assignments. They put forth the necessary effort to finish the duties they have started.

On the contrary, *extrinsic motivation*, which acquired the lowest Mean of 3.03 with SD=0.72, which is described as Agree and interpreted as High Motivation. This shows that student-respondents are more driven by internal factors than by external ones. Even while external variables still have an impact on their academic endeavors, self-determination has a greater effect on them.

Extrinsic motivation, in contrast to intrinsic motivation, encourages pupils to work on academic assignments for outside causes. Parental expectations, the expectations of other reliable role models, the possibility of winning a spot in a course later on, and good marks are examples of extrinsic motivators. Benabou and Tirole (2019) believe that extrinsic motivation is a positive reinforcer of desired behavior that drives effort and performance. When compared to intrinsic drive, extrinsic motivation usually yields quicker outcomes and involves less work (Ryan & Deci, 2019)

Problem 2. What is the extent of academic engagement of ALS students in terms of:

- 2.1 timeliness of submission; and
- 2.2 quality of the output?

Table 4. Academic engagement of ALS students in terms of timeliness and submission

Indicators	Mean	SD	Description	Interpretation
1. I am submitting assignments on time	3.32	0.82	Strongly Agree	Very High Engaged
2. I work and submit before the deadline.	3.33	0.67	Strongly Agree	Very High Engaged

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3. I prioritize my tasks.	3.30	0.83	Strongly Agree	Very High Engaged
4. I turn in complete assignments on time.	3.28	0.79	Strongly Agree	Very High Engaged
5. I organize my output-on time.	3.25	0.75	Agree	Highly Engaged
6. I submit my work exactly at the specified time.	3.25	0.75	Agree	Highly Engaged
7. I develop an attitude of timeliness on passing output.	3.23	0.64	Agree	Highly Engaged
8. I attend classes regularly and they are on time.	3.39	0.75	Strongly Agree	Very High Engaged
9. I start doing my tasks early.	3.43	0.73	Strongly Agree	Very High Engaged
10. I schedule my tasks and set deadlines.	3.34	0.63	Strongly Agree	Very High Engaged
Overall	3.31	0.74	Strongly Agree	Very High Engaged

Note: 3.26-4.00 Very High Engaged, 2.51=3.25 High Engaged, 1.76-2.50 Low Engaged, 1.00-1.75 Very Low Engaged.

Table 4 shows the academic engagement of ALS students in terms of timeliness of submission with an overall Mean of 3.31 with SD = 0.74, which is described as Strongly Agree and interpreted as Very Highly Engaged. This indicates a strong commitment among ALS students to submit assignments and complete tasks punctually. This would also mean that students perform their tasks on time because they enjoy what they are doing and are determined to do it even with minimal supervision. Engagement is crucial to student learning and satisfaction in online courses. The definition of engagement has been extensively explored in distance and online learning literature for decades. Hence, it is essential to create multiple opportunities for student engagement in the online environment. The need for engagement has resulted in the development of guidelines for designing effective online courses (Ekhaml, 2019). Engagement strategies are aimed at providing positive learner experiences, including active learning opportunities, such as participating in collaborative group work, having students facilitate presentations and discussions, sharing resources actively, creating course assignments with hands-on components, and integrating case studies and reflections.

Moreover, the indicator, *I start doing my task early*, recorded the highest Mean of 3.43 with SD = 0.73, which is described as Strongly Agree and interpreted as Very Highly Engaged. This highlights the students' proactive approach to academic engagement and their dedication to beginning tasks well in advance, which emphasizes their will-power to pursue their goals in life. It has been discovered that actively learning students perform better academically and are less likely to drop out of school. It was shown that they have an innate desire to learn, attend lessons, and engage in study sessions (Bakker et al., 2018). Given the general belief that student engagement is flexible, it is vital to investigate the characteristics that predict school engagement as well as those that may be encouraged to have a beneficial impact. In light of the benefits of student involvement that have been reported, the current study intends to add to the expanding body of research by investigating the mechanisms that drive student engagement.

Meanwhile, the indicator, *I developed an attitude of timeliness on passing output*, got the lowest Mean of 3.23 with SD = 0.64, which is described as Agree and interpreted as Highly Engaged. This implies that there is still work to be done in developing students' attitudes on turning in their work. Even with a strong desire and dedication, attitude-building takes time. To become proficient, one must practice continuously and put forth steady effort. In order to do this, the combined efforts of the teachers and students are crucial. Lear, Ansoorge, and Stackelberg (2019) say that interactions with content, peers, and teachers help students become active and more engaged in their courses. Interactivity and a sense of community result in high-quality instruction and more effective learning outcomes.

Numerous elements of the learning environment, including peers, Student participation in the classroom is influenced by particular learner traits, the teacher, and the instructional methodology. Many elements, such as those pertaining to cognition, metacognition, mood, social interaction, tasks, communication, and foreign languages, might have an impact on academic engagement. The elements influencing a person's academic engagement are not discrete; rather, they interact and overlap. Academic engagement occurs when students immerse themselves in the material, become emotionally and mentally engrossed in it, and frequently engage in peer interaction. It extends beyond superficial learning (Hattie, 2018), such as memorizing material and meeting prerequisites to pass a course. It engages pupils in critical thinking exercises such as comprehending and analyzing concepts, justifying actions, and inferring meaning. It entails social engagement in the form of sharing knowledge, experiences, opinions, and support with classmates and the teacher.

Furthermore, a few of these sectors heavily emphasize the interactions that students develop with one another. Good interpersonal connections increase people's motivation to study (Mercer & Dörnyei, 2020), which boosts confidence and long-term learning success. Students' interest in academic endeavors appears to be significantly influenced by their impressions of their teachers and the interactions they have with them. Students participate in real-world problem-solving processes through

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problem-based learning, an instructional strategy that is especially well-suited for postsecondary education. It also helps students develop their collaboration and self-control. Building relationships intensively is a crucial part of our student-centered methodology (Amerstorfer, 2020).

The next page's Table 5 illustrates ALS students' academic participation in terms of the caliber of their work. It got an overall Mean of 3.20 with SD = 0.67, which is described as Agree and interpreted as Highly Engaged. This underscores the students' strong commitment to delivering output that meets high standards.

The indicator, *I make quality output for positive feedback*, got the highest Mean of 3.35 with SD = 0.69, which is described as Strongly Agree and interpreted as Very Highly Engaged. This highlights the students' dedication to producing work that receives positive recognition and feedback. Students who scored well on overall perceptions of social presence also scored highly on perceived learning and teacher satisfaction, according to Richardson and Swan (2018). They recommended that we pay close attention to the interactions that occur between teachers and students. For this reason, greater student learning and, eventually, retention depend heavily on active learning and student participation. Swan (2018) found that active conversation among course participants, teacher contact, and design clarity all had a substantial impact on students' reported learning and level of satisfaction.

Table 5. Academic engagement of ALS students in terms of the quality of the output

Indicators	Mean	SD	Description	Remarks
1. I make quality output for positive feedback.	3.35	0.69	Strongly Agree	Very High Engaged
2. I ensure the activity output with the standards.	3.17	0.62	Agree	Highly Engaged
3. I make sure that a high-class output is being produced.	3.17	0.69	Agree	Highly Engaged
4. I create and develop an output which is highly desired.	3.23	0.64	Agree	Highly Engaged
5. I pass output with quality standards.	3.11	0.73	Agree	Highly Engaged
6. I show the end product with outstanding remarks.	3.09	0.68	Agree	Highly Engaged
7. I produce high quality output of tasks.	3.13	0.72	Agree	Highly Engaged
8. I establish output with quality goals.	3.23	0.63	Agree	Highly Engaged
9. I ask for positive feedback on the output.	3.27	0.64	Strongly Agree	Very High Engaged
10. I ensure that the output looks at evidence-based quality.	3.24	0.66	Agree	Highly Engaged
Overall	3.20	0.67	Agree	Highly Engaged

Note: 3.60-4.00 Very High Engaged, 2.51-3.25 High Engaged, 1.76-2.50 Low Engaged, 1.00-1.75 Very Low Engaged.

The indicator, *I show the end product with outstanding remarks*, obtained the lowest Mean of 3.09 with SD = 0.68, which is described as Agree and interpreted as Highly Engaged. This demonstrates the students' commitment to producing outputs that align with quality standards and meet desired criteria. However, the end product does not always show outstanding remarks since the registered mean score got the lowest. This reveals that some of the outputs that were generated were not of the expected quality, possibly due to the fact that the individuals were pressed for time or had other responsibilities at home, such as taking care of their young children, or they were preoccupied with making ends meet.

Because metacognitive and task engagement greatly overlap when deciding how to approach and accomplish a task, the various components of academic engagement should not be considered as distinct from one another. Unlike other engagement models that have influenced the model, the elements of academic engagement in postsecondary education are closely related to and influenced by students' subject-matter knowledge, knowledge of cultural norms, skills (like strategic planning; writing an academic text); and abilities (like being able to empathize with others; linguistic abilities) (Zimmer, 2018).

Teachers generally want their students to participate fully in study activities because they have a positive effect on learning progress and achievement. (Mercer & Dörnyei, 2020). Teachers have the power to influence students' participation by fostering a supportive and inspiring learning environment. For example, Mercer and Dörnyei (2020) suggest the Socratic approach of teaching, which involves posing questions to encourage critical thinking and having students prepare questions for one another in order to produce learning outcomes that are both transferable and sustainable.

Additionally, a discovery strategy that fosters curiosity by allowing students to solve issues and find answers on their own for the sheer joy of learning more is another way to raise academic engagement (Mercer & Dörnyei, 2020). Through these kinds of exercises, students engage in deep, meaningful thought processes that generate knowledge through information analysis, comparison, reflection, and contrast as opposed to passively absorbing it from books or teachers.

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Enhancing academic engagement can also be achieved through an appealing task design. If a task's design is visually beautiful and the students find the activity and its material engaging, then it is emotionally compelling (Mercer & Dörnyei, 2020). During the learning process, the latter should elicit good feelings in the pupils by being significant, valuable, and engaging. Furthermore, assignments must have a distinct goal so that pupils may comprehend precisely what is anticipated of them (Mercer & Dörnyei, 2020). Giving precise instructions is also crucial; this is a teaching act that requires careful planning and fluid speech and writing.

Table 6. Overall academic engagement of ALS students

Type of Academic Engagement	Mean	SD	Description	Interpretation
1. Timeliness of submission	3.31	0.74	Strongly Agree	Very Highly Engaged
2. Quality of Output	3.20	0.67	Agree	Highly Engaged
Overall	3.26	0.71	Strongly Agree	Very High Motivation

Note: 3.26-4.00 Very High Academic Engagement, 2.51-3.25 High Academic Engagement, 1.76-2.50 low Academic Engagement
1.00-1.75 Very Low Academic Engagement

Table 6 presents the overall academic engagement of ALS students with a Mean of 3.26 with SD = 0.71, which is described as Strongly Agree and interpreted as Very High Motivation. This shows a robust dedication of the respondents towards their studies. This also implies that students are making every effort to turn in work that satisfies requirements on time.

In particular, *timeliness of submission* got the highest Mean of 3.31 with SD = 0.74, which is described as Strongly Agree and interpreted as Very Highly Engaged. This shows the respondents' diligence in submitting their work on time because they understood the importance of prompt submission.

On the other hand, *the quality of output* got the lowest Mean of 3.20 with SD = 0.67, which is described as Agree and interpreted as Highly Engaged. This represents that the students eagerness to provide a high-quality output, but they might not be able to do so due to other equally important tasks they have to do. The results of their work are also impacted by other factors, such as their poor understanding of how the duties should be completed, their lack of resources, and their insufficient support. Based on the questions on the National Survey of Student Involvement questionnaire, Hu and Kuh (2019) further explored the results of student engagement, including students' self-reported learning gains, enhanced social skills, and increased involvement in the learning process. Duderstadt (2019) posits that when students are required to collaborate more with their peers, they perceive a greater level of involvement and participation in the course.

Problem 3. Is there a significant relationship between the level of motivation and academic engagement between ALS students?

Table 7. Correlation between students' motivation and academic engagement

	Timeliness of Submission			Quality of Output		
	r	p-value	Decision	r	p-value	Decision
1. Intrinsic	.663**	.000	Reject Ho	.454**	.000	Reject Ho
2. Extrinsic	.616**	.000	Reject Ho	.468**	.000	Reject Ho

Note: *significant at 0.05 level **significant at 0.01 level

Table 7 presents the correlation test between students' motivation and academic engagement. The independent variable was the student motivation in terms of intrinsic and extrinsic motivation, while the dependent variable was the academic engagement in terms of the timeliness of submission and quality of output.

Intrinsic motivation, registered a computed r-value of 0.663 with p-value=0.000 for timeliness of submission and a computed r-value of 0.454 with p-value of 0.000 for quality of output. The computed p-values are lower than the critical p-value at a 0.05 level of significance. This implies that a significant relationship was registered between student motivation and academic engagement. The null hypothesis is thus disproved. The activities related to a student's participation in the classroom require intrinsic motivation. It will help them deal with their stress and upcoming difficulties. Students' motivation and academic engagement are related, according to Maranan (2018). Moreover, it also showed that students with high motivation will also have high academic engagement level resulting to obtaining high academic grades as well. Thus, teachers and school authorities may look into programs and activities that can enhance student level of motivation.

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On the contrary, *extrinsic motivation*, registered a computed r-value of 0.616 with p-value=0.000 for timeliness of submission and a computed r-value of 0.468 with p-value of 0.000 for quality of output. The computed p-values are lower than the critical p-value at a 0.05 level of significance. This implies that a significant relationship was registered between student motivation and academic engagement. Thus, the null hypothesis is rejected. Extrinsic motivation can also become a great factor in the students' academic engagement. The system of reward and even punishment is something that can motivate the students, knowing that the outcomes of their actions and decisions are tangible. According to Datu (2017), students' high motivation cultivates a positive outlook in life and positive academic achievement and performance. Students must identify the things that motivate them so that they can make it as an anchor or the main reason why they are studying hard and wanting to reach and achieve their goals and aspirations in life.

Table 8. Overall correlation between students' motivation and academic engagement

	Academic Engagement		
	r	p-value	Decision
Motivation	.654**	.000	Reject Ho

Note: *significant at 0.05 level **significant at 0.01 level

The overall relationship between students' motivation and academic involvement is seen in Table 8. It was evident that academic engagement was positively correlated with motivation with an $r = .654$ and a $p\text{-value} = .000$. Since the p-value was lower than the level of significance set at 0.05, hence the null hypothesis was disproved. This indicates that there is a noteworthy connection between Motivation and Academic Engagement. Additionally, motivation, whether intrinsic or extrinsic, significantly affects the students' academic engagement.

Achievement motivation is not a single construct; rather, it is a collection of various constructions that include task values, objectives, ability self-concepts, and achievement motives. The few studies that have been done on a range of motivational constructs as predictors of school students' academic achievement above and beyond cognitive abilities and prior achievement indicate that most motivational constructs predicted academic achievement beyond intelligence and that achievement motives and goals are less effective in predicting students' achievement than ability self-concepts and task values.

Additionally, in educational fields other than medicine, motivation has been demonstrated to have a favorable impact on students' study habits, academic achievement, adaptability, and general well-being (Vansteenkiste et al. 2018). Examining motivation, especially in medical students, is crucial because medical education differs from general education in a number of ways, including the intense study load, the necessity of completing clinical work in addition to coursework, and the requirement to adhere to a very strict path in order to become a licensed physician.

A study of the literature revealed that the relationship between motivation and performance has not been well-established in medical education, with conflicting results from various studies (Kusurkar et al. 2019). The study's goal was to investigate the connections between medical students' academic achievement and their motivation, study approach, and effort. There are various theories of motivation; some emphasize motivation's quantity while others emphasize its quality. There are two possible levels of motivation: high and low. Whether an external or internal source of motivation is used determines this. The self-determination theory of motivation outlines a continuum for motivational quality and prioritizes motivational quality above motivational quantity (Ryan & Deci 2020).

IV. CONCLUSIONS

The following conclusions were made in light of the data already presented:

1. The students' motivation is Very High, especially on the indicator that the respondents are doing something because it is personally rewarding. This highlights the students' strong sense of personal fulfillment and reward from their academic endeavors. The students are highly committed to turning in assignments on time and completing projects to a high degree.
2. Academic engagement is a Very especially in terms of timeliness of submission on the indicator that the students started doing their task early points out the students' convection to finish their work on or before the specified time. It is apparent that the students are committed to doing their tasks early with the outputs that meet standards.
3. Students' motivation and academic engagement are significantly correlated.

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V. RECOMMENDATIONS

The following is a list of recommendations based on the study's findings:

1. To keep their pupils engaged and motivated throughout each lesson, ALS specialists could establish a friendly, encouraging learning environment for them. They can also offer a range of engaging exercises.
2. Students' motivation and academic engagement can be improved by ALS teachers by consistently implementing efficient teaching practices that offer prompt, accurate, and critical feedback. In order to meet the needs and learning objectives of 21st-century students, it is also advised that teachers properly plan, choose, create, arrange, and employ pertinent teaching and learning materials. ALS teachers may have the chance to raise students' spirits by offering encouraging remarks and helpful critiques.
3. Teachers have a major impact on students' morale, which preserves their intrinsic desire while enhancing their extrinsic drive. With this, teachers may consistently use proactive teaching methods that help students reach their full potential and stay on course for their objectives.

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Ancillary Functions and Teachers' Well-Being

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ABSTRACT: Teachers have diverse roles. They also carry out non-teaching but nonetheless necessary tasks for the school's operations in addition to teaching. This study was undertaken to identify the ancillary functions in which the teachers are involved, determine the level of the teachers' well-being in terms of emotional well-being, find the significant relationship between teachers' profile on ancillary functions and emotional well-being, and create an intervention plan that will enhance teacher's perceptions on ancillary functions and their emotional well-being. The study was conducted at East I District, Division of Cagayan de Oro, with one hundred seventy-seven (177) teachers as actual respondents through a simple random sampling. The study used a descriptive correlational research design and used frequency and percentage distribution, mean and standard deviation. Pearson Product-Moment Correlation Coefficient (r) was also used to find the relationships among the variables. Results showed that the most ancillary function of teachers is being a class adviser. The teachers' emotional well-being was at a Very High Level. A significant relationship between ancillary functions and emotional well-being was also established. Programs, activities and pieces of training be created to improve teachers' knowledge and understanding of ancillary functions as well as of well-being. The researcher recommended that the intervention plan must be implemented to enhance teachers' knowledge and understanding on ancillary services as well as to maintain their level of well-being.

KEYWORDS: Teachers, Ancillary Functions, Well-being

I. INTRODUCTION

Teachers have diverse roles. They also carry out non-teaching but nonetheless necessary tasks for the School's operations in addition to teaching. In order to assess how well a teacher is performing in the classroom, performance indicators are based on the learning outcomes of the students and how well they comprehended the lesson. It guarantees that crucial performance factors, such as how the outcomes are accomplished, which go beyond measured results, are also taken into account. It focuses on performance factors that are most likely under the control of the employee, such as their behavior in the classroom, which aids teachers in understanding the relationship between their classroom performance and their compensation and promotion.

Ancillary duties are described as commitments that offer essential services and assistance for an organization's or system's main functions or activities. Ancillary functions is the phrase used to the roles that teachers perform outside of the classroom, including grade-level advisers, subject coordinators or chairs, club moderators, athletic coaches, co-curricular and extracurricular activities coordinators, and community involvement services (Arañas, 2023).

David (2019) emphasized that in order to give public school teachers enough good time for classroom-related activities, it is imperative that their non-teaching responsibilities be reduced. School officials might then be directed as to what needs to be added to or removed from the responsibilities of teachers—especially elementary teachers, who teach nearly every topic.

Furthermore, Ndioho and Chukwu (2017) discovered that a teacher's workload significantly impacts how students perform in the classroom. Due to inadequate planning, teachers become less efficient in imparting their lessons, which lowers the level of instruction and education that teachers may impart.

Increased workloads impact the teaching performance of elementary school teachers, so it is important to investigate how they actually manage multiple assignments. This will help the education community as a whole develop a new system that will address the effects of increased workloads on teachers' stress levels, time management skills, and effectiveness in the classroom. It disclosed that having many teaching and non-teaching workloads can have a negative impact on the learning process.

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Most teachers are overloaded by many ancillary tasks, which could affect their time management and make them exhausted. The majority of educators suffer from burnout, which is a result of low self-esteem and emotional tiredness. Every teacher has adequate or moderate stress coping skills, which means they can handle any scenario and perceived demands by being able to resist external pressure. Certain educators demonstrate their ability to manage stress by emphasizing problems, while others concentrate on emotions. Reduced teaching and non-teaching responsibilities have been shown to boost teachers' capacity to provide high-quality instruction and support (Mosha, 2017). It might therefore result in a decline in the number of educators dealing with problems like stress (both physical and mental), mistakes made in their work, professional rivalry, subpar instruction, and an unbalanced work-life schedule. From the given premise, the researcher examines the multiple ancillary functions and teachers' well-being.

The concept of this study was anchored on the Theory of Job Enlargement by Tumi et al. (2022). Job Enlargement means increasing the scope of a job through extending the range of its job duties and responsibilities generally within the same level and periphery. This involves combining various activities at the same level in the organization and adding them to the existing job. It is also called the horizontal expansion of job activities. This contradicts the principles of specialization and the division of labor whereby work is divided into small units, each of which is performed repetitively by an individual worker, and the responsibilities are always clear. Some motivational theories suggest that the boredom and alienation caused by labor division can cause efficiency to fall. Thus, job enlargement seeks to motivate workers by reversing the process of specialization. A typical approach might be to replace assembly lines with modular work; instead of an employee repeating the same step on each product, they perform several tasks on a single item. In order for employees to be provided with Job Engagement, they will need to be retrained in new fields to understand how each field works.

The objective of the job is to motivate an employee by increasing his efforts and exposure towards achieving the organizational objectives set for the job. By doing this, an employee can get a wider range of their objectives without his or her job in a repetitious manner. Job enlargement requires the management of the organization to provide their support in providing appropriate training to the employees to make them able to adapt to the enlarged job scope.

Tumi et al. (2022) define job enlargement as the process of allowing individual workers to determine their own pace (within limits), to serve as their own inspectors by giving them responsibility for quality control, to repair their own mistakes, to be responsible for their own machine set-up and repair, and to attain choice of method. A person's experience of happy feelings, happiness, a sense of purpose, healthy relationships, etc., have all been used to characterize well-being. Given the general nature of the term "well-being," more precise definitions for subtypes of well-being that relate to significant facets of a person's life have been offered. Occupational well-being is one such subtype, which denotes a person's positive attitude toward their work and might involve emotional, cognitive, and psychosomatic components of their functioning.

II. METHODOLOGY

The study utilized descriptive correlational designs. A correlational study is a type of research design in which the researcher seeks to identify the types of relationships that naturally occurring variables have with one another. Simply expressed, correlational research aims to identify whether and how two or more variables are related (Katzukov, 2020). More so, it is also a causal design; hence, it finds out which of the independent variable/s singly or in combination influences the well-being of the respondents.

This study was conducted in East I District, Division of Cagayan de Oro City, specifically in Cugman Elementary School, Gusa Elementary School, East City Central School, FS Catanico Elementary School, and Malasag Elementary School. The respondents of the study were the one hundred seventy-seven (177) teachers of East I District. Simple random sampling was used in this study. In this sampling, the researcher computed the sample size from the population to identify the actual participants of the study.

The variables of the study were described using descriptive statistics such as frequency, percentage, mean, and standard deviation. Furthermore, the Pearson Product Moment Correlation Coefficient (r) was used to determine the significant relationship between the dependent and independent variables.

III. RESULTS AND DISCUSSION

Problem 1. What is the profile of the teachers' ancillary functions?

Table 1 presents the teachers' profiles on their ancillary functions. It revealed that there were ten (10) most common ancillaries that they were assigned. These include class adviser, subject area coordinator, ICT coordinator, school paper adviser, reading coordinator, SBAC member, DRRM coordinator, GSP coordinator, class program coordinator, and grade leader. These functions are assigned to the teachers as the school heads find and observe that they are trustworthy to be given tasks that can

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better help the school operations without affecting their main duties and responsibilities, which are teaching and taking care of the learners at school.

According to Salise et al. (2021), ancillary functions are those that are involved in providing essential assistance for an organization's and system's main operations or tasks. Operationally speaking, the teachers' auxiliary roles are described as that in addition to teaching in the classroom, they perform additional duties associated with the school, like serving as grade-level advisers, subject chairmen and coordinators, club moderators, athletic coaches, and in-charge in recreational and co-curricular activities as well as community service offerings.

Table 1. Profile of teachers' ancillary functions

Ancillary Functions	Frequency	Percentage
Class Adviser	158	89.27%
Subject Area Coordinator	66	37.29%
ICT Coordinator	28	15.82%
School Paper Adviser	53	29.94%
Reading Coordinator	29	16.38%
SBAC Member	23	12.99%
DRRM Coordinator	8	4.52%
GSP Coordinator	44	24.86%
Class Program Coordinator	7	3.95%
Grade Leader	25	14.12%
Others	5	2.32%

Moreover, in Memorandum No. 291 series of 2008, the Department of Education (DepEd) released guidelines for carrying out the Civil Service Commission resolution on working hours for public school teachers. The resolution stipulates that a public-school teacher can work up to six hours in the actual classroom and two hours on activities and duties related to teaching, such as creating lesson plans, practicing exercises, reviewing and documenting student performance, conducting research, attending seminars, providing counseling, meeting with parents, and performing coordination tasks activities, social services provided by the community, involvement in the upkeep and enhancement of school buildings, and other associated activities. However, due to the demands of the job, a teacher may be required to work more than eight hours a day or more than six hours in the classroom; in such cases, extra compensation will be determined (Marmol, 2019).

In the same table, it showed that the highest assigned ancillary function with 89.27% were as class advisers. This implies that a teacher's main responsibility is to provide instruction in the classroom that aids in pupils' learning. This means that effective lesson planning, feedback-giving and work grading, classroom material management, curriculum navigation, and staff collaboration are all required of teachers. Teachers are encouraged to concentrate on teaching, work toward enhancing their own professional competence, and gain experience in the classroom. Counselors and other committed teachers can be tasked with carrying out the duties of a class adviser. The school administration implements a number of strategies to lessen teachers' worry and increase their sense of self-efficacy (Lai, 2020).

Under the direction of the guidance counselor and the director of the school, advisers are tasked with implementing the homeroom guidance program at their individual schools. In order to accomplish the primary goal of the homeroom guidance program, the advisers should be well-versed in the most recent developments in knowledge and expertise. Before beginning the homeroom guidance program at each school, the implementer must be well-prepared, oriented, and ready to go in order for the program to be successful (Pasco, 2023).

Meanwhile, the least ancillary, as shown in the table, is the class program coordinator, with a percentage of 3.95%. This implies that few people chosen to be in charge of managing projects and programs inside an organization are the program coordinators. Together with their assistants, they will effectively manage their time as they plan and carry out these projects. This means that to guarantee smooth and effective administration in the school, the class program coordinator oversees and supports a wide range of administrative, human resources, communications, and financial activities and processes (Revel, 2023).

Nevertheless, program coordinators agreed with Taylor's study (2023) that giving them the chance to participate in worthwhile job experiences was a crucial part of their responsibility in promoting their well-being. According to this perspective, online activities that matched students' interests, skill sets, and/or projected future career objectives were considered relevant

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experiences. In light of this, program coordinators described several methods in which they made a conscious effort to provide students with worthwhile work experiences.

Table 2. Teachers' position

Number of Ancillary Functions	Frequency	Percentage
Teacher I	26	14.69
Teacher II	47	26.55
Teacher III	81	45.76
Total	177	100.00

Table 2 exhibits the teachers' profiles in terms of their position. It showed that eighty-one (81) or 45.76%, of the teachers were occupying the Teacher III position, forty-seven (47) of the teachers were handling Teacher II positions while twenty-six (26) or 14.69% of the teachers were still occupying the entry position which the Teacher I. This data implies that the majority of the respondents are at the teaching position wherein they are now open to either avail or apply for administrative positions or master teacher positions. This means that the teachers are preparing themselves for possible promotions.

Teaching positions in the Philippines range from Teacher I to Teacher III positions. However, their salary range is different in each position, with the majority of their duties and responsibilities. Their primary responsibilities are taking care of their pupils as well as teaching them the needed knowledge and skills that will be utilized by the learners as they progress to higher levels of learning and in preparing themselves for their future endeavors.

In the same table, the highest teaching position occupied by the respondents was Teacher III. This implies that the majority of the teachers were already able to equip themselves with the knowledge and skills wherein they could even mentor their fellow novice teachers in the teaching position. Teachers with Teacher III teaching positions can proceed to become administrators or as highly proficient teachers.

According to dela Fuente (2020), the education sector in the Philippines assigns teachers to various positions based on their level of education, years of experience, and specialized training and skills. The Department of Education (DepEd) offers Teacher III and Master Teacher posts, which are the highest-ranking teaching positions. Promotion to these positions is often the result of superior teaching abilities. Regional differences are significant in the quality of teachers at all educational levels. Laws such as Republic Act No. 4670, sometimes referred to as the Magna Carta for Public School instructors, which states that instructors cannot be transferred to another station without their approval, limit the necessity for teacher redeployment in order to adequately address local requirements. Teachers may, however, be transferred under specific circumstances.

Meanwhile, the Teacher I position was the least position occupied by the respondents. This implies that there are only a few of the teachers who are still in novice positions. This can be due to the fact that either some of the teachers were able to comply and qualify for the needed requirements and criteria in reaching Teacher II and III positions, or others are contented to stay at the Teacher I position. Newly hired teachers need assistance from their co-teachers and school administrators as they need to adjust to the environment that the department has as well as the type of pupils that they have.

According to Jomoad et al. (2017), the freshly hired teachers perceived difficulties with the workload as serious, which may indicate that the difficulties provided them with significant strain and difficulty. Heads of schools should assign sufficient paperwork for newly hired instructors on an administrative level. More seasoned individuals must be assigned to extracurricular activities. Teachers must be completely developed and conscious of the time constraints and the difficult nature of teaching. Task completion can be aided by management.

Table 3 presents the teachers' number of ancillary functions. It showed that ninety-seven (97) teachers out of 177 have three (3) to four (4) ancillaries, with a percentage of 54.80%. Seventy-three (73) or 41.24% of the teachers were with one (1) to two (2) ancillaries, and the least number of ancillaries is five (5) and above with seven (7) out of 177 total numbers of teachers with a percentage of 3.95%. This implies that their ability to manage several auxiliary tasks was crucial to their success and perseverance. The desire to progress both personally and professionally is what drives many educators to enroll in multiple ancillaries. It means that the teachers are resilient enough to perform several auxiliary tasks. Teacher organizations are becoming concerned about overworked educators. In separate remarks, the Teachers' Dignity Coalition and the Alliance of Concerned Teachers in the Philippines urged the Department of Education to examine teacher workloads in order to protect their physical and emotional well-being. Furthermore, according to ACT, the introduction of regulations requiring a great deal of work and the non-implementation of those ensuring enough rest have made teachers' workloads more and more taxing over time (Into, 2018).

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Table 3. Teachers' number of ancillary functions

Number of Ancillary Functions	Frequency	Percentage
1-2 Ancillary Functions	73	41.24
3-4 Ancillary Functions	97	54.80
5 and above Ancillary Functions	7	3.95
Total	177	100.00

In the same table, ninety-seven (97) teachers or 54.80%, have three (3) to four (4) ancillaries. This means that apart from their main functions, the teachers are also trusted to handle ancillary functions as their immediate supervisor or school administrator saw potential in them to excel in tasks that can help the school provide other services that can provide better services to the learners and stakeholders. This means that teachers have to manage their time wisely so that no areas will be compromised and pupils' performance will not be affected.

According to Mohamad's study (2022), many teachers who also have supplementary responsibilities find it challenging to balance their time between these tasks. As a result, teaching lost importance as their main responsibility. As a result, both the students' performance and the effectiveness of their instruction were impacted. Very few were content with their supplementary functions because they were motivated to advance in their jobs. The investigator goes on to state that even though it was challenging for many teachers to balance their time between performing several ancillary tasks, they succeeded by utilizing various tactics. They also think having these many supporting roles could help them advance personally and professionally.

Meanwhile, these numerous extra duties have left most teachers overburdened, which may impair their ability to manage their time and wear them out. Reducing the amount of work that teachers have to do, both teaching and non-teaching related chores, might encourage teachers to provide better instruction and performance. Therefore, it can result in a decline in the number of educators dealing with problems, including burnout, work-life imbalance, professional competition, physical and emotional stress, and mistakes in their work (Tolibas, 2022).

Meanwhile, the least number of ancillaries were teachers with five (5) and above ancillary functions with seven (7) out of 177 total numbers of teachers with a percentage of 3.95%. This means that the assigning of ancillary functions of teachers is based on the number of subjects handled and the nature of ancillary tasks given to them. Ancillary tasks are categorized into Heavy, Moderate and Easy categories. School heads usually balance the number of teaching loads and the possible ancillary tasks that each teacher can be assigned,

Tarraya (2022) claimed that teachers' workload is determined by national criteria of teacher effectiveness, which will thereafter serve as the foundation for their performance evaluation. Teachers continue to find methods to complete their tasks. They require a lifetime of dedication to function well despite managing several supporting roles. It was the total combination of perseverance, sacrifice, and resolve. This entails having a comprehensive plan in addition to being positive and driven. They also need to be strategic.

Problem 2. What is the level of the teachers' well-being in terms of Emotional Well-being?

Table 4 on the next page presents the teachers' emotional well-being. It has an overall Mean of 4.22 with SD=0.99, described as Strongly Agree which is interpreted as Very High. This implies that a good emotional state that incorporates the individual needs and goals of both instructors and students is known as teacher well-being. The well-being and job satisfaction of teachers have a significant impact on their behavior and are favorably correlated with student achievement and the school and classroom environment. The development of emotional intelligence in educators is vital, as it endows them with the capability to control their emotions, so enhancing their decision-making abilities in everyday teaching scenarios and playing a pivotal role in the educational process. Because it prevents frustration before professional realization, which improves teaching practice, teachers' health, and mental well-being, the positive reinforcement of emotional intelligence lowers the levels of stress and anxiety that so greatly concern society (Molero, 2019).

Table 4. Teachers' emotional well-being

Indicators	Mean	SD	Description	Interpretation
1. With my multiple ancillary, I provide emotional support for students.	4.17	0.65	Agree	High
2. With my multiple ancillary, I condition my mind to be healthy; take food supplement; eat at the right time.	4.28	0.71	Strongly Agree	Very High

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3. With my multiple ancillary, I meditate and pray; offer everything to God.	4.66	0.77	Strongly Agree	Very High		
4. With my multiple ancillary, I always have a good night rest, enough recreation, and exercise.	3.77	0.62	Agree	High		
5. With my multiple ancillary, I maintain positive and energetic attitude while teaching.	4.18	0.66	Agree	High		
6. With my multiple ancillary, I uphold my own professional standards.	4.33	0.72	Strongly Agree	Very High		
7. With my multiple ancillary, I think I will be able to reach my full potential here.	4.20	0.71	Agree	High		
8. With my multiple ancillary, I adjust to new pedagogical practices.	4.22	0.71	Strongly Agree	Very High		
9. With my multiple ancillary, I meet my personal and professional expectations.	4.11	0.63	Agree	High		
10. With my multiple ancillary, I can determine which tasks are most pressing.	4.25	0.72	Strongly Agree	Very High		
Overall		4.22	0.69	Strongly Agree	Very High	
Note:	4.21-5.00	Very High	3.41-4.20	High	2.61-3.40	Moderately High
	1.81-2.60	Low	1.00-1.80	Very Low		

In the same table, the highest rated indicator *With my multiple ancillary, I meditate and pray; offer everything to God* with a Mean of 4.66 with SD=0.97, described as Strongly Agree which is interpreted as Very High. This implies that meditation on well-being may also contribute to improved job performance and classroom management. Being more present for your pupils could help one become the most effective teacher. By practicing mindfulness meditation, school teachers can become more resilient and have better mental health under stressful situations. It was observed that this happened to both females with stronger personality traits and females with stronger personality profiles. The fact that the teachers actively practiced meditation every day to safeguard and enhance their mental health may have contributed to this accomplishment (Matiz, 2020).

Meanwhile, the lowest indicator, *With my multiple ancillary, I always have a good night rest, enough recreation, and exercise*, got a Mean score of 3.77 with SD= 0.82, described as Agree and interpreted as High. This implies that it's really beneficial for your mental health and the preventive of teacher burnout to take a minute to relax and take care of yourself. It is also a crucial approach to make sure you have enough empathy, perspective, and patience on hand to support students who will be coming to you in the upcoming school year for much-needed support. The Virtanen (2021) study provided fresh insight into how teachers recuperate on a daily basis during the workday, in the evening, and following a week-long vacation. The findings were converted into useful recommendations for bettering working circumstances for educators, promoting recuperation throughout the workday and in free time, and maximizing and extending the positive impacts of vacations. Interventions aimed primarily at instructors and recovery training are examples of potential practical ramifications.

Problem 3. Is there a significant relationship between teachers' ancillary functions and well-being when grouped according to their profile?

Table 5. Test correlation on teachers' ancillary functions (position) and well-being

Number of Ancillary Functions	Mean	SD	r-value	P-value	Decision	Interpretation
Teacher I	4.29	0.92	0.286	0.076	Accept Ho	Not Significant
Teacher II	4.24	0.89	0.478	0.002	Reject Ho	Significant
Teacher III	4.12	0.87	0.483	0.002	Reject Ho	Significant

Note: Significant if computed p-value is less than 0.05 level of significance

Table 5 exposes the test correlation between teachers' ancillary functions (Position) and well-being. Looking at the mean scores, it can be observed that respondents with Teacher I position have the highest level of well-being with Mean score of 4.29 with SD=0.92, at a Very High Level while respondents with Teacher III positions have the lowest level of well-being with Mean score of 4.12 with SD=0.87 at a High Level. This implies that the teachers with lower positions have a higher level of well-being than those with higher positions. This is because teachers with higher positions are given more ancillary work as they are

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being tested if they are ready for promotion, which also involves more tasks and responsibilities. Moreover, these are the teachers who are now slowly trained to handle ancillaries with minimal involvement in administrative tasks and concepts.

For the Teacher I position, it registered a computed r -value of 0.286 with p -value=0.076. The computed p -value is higher than the critical p -value at a 0.05 level of significance. This implies that the Teacher I position has no significant relationship with teachers' well-being. Thus, the null hypothesis is accepted. This further means that the level of well-being among these teachers is at the same level. Although these teachers are also given ancillary functions, it does not affect their level of well-being. This is due to the fact that they are given tasks that are minimal and easy to perform. According to Ortan et al. (2021), teachers with less ancillary tasks can perform their duties and responsibilities effectively and efficiently. This can further lead to better well-being, satisfaction, and performance.

For the Teacher II position, it registered a computed r -value of 0.478 with p -value=0.002. The computed p -value is lower than the critical p -value at a 0.05 level of significance. This implies that Teacher II positions have a significant relationship towards teachers' well-being. Thus, the null hypothesis is rejected. Moreover, the Teacher III position registered a computed r -value of 0.483 with p -value=0.002. The computed p -value is lower than the critical p -value at a 0.05 level of significance. This implies that Teacher III has a significant relationship with teachers' well-being. Thus, the null hypothesis is rejected. It can be gleaned from the table that teachers in Teacher II and III positions have lower levels of well-being as they only achieved a high level compared to the teachers in Teacher I positions with very high levels of well-being. This can be attributed to the fact that teachers with much higher positions are also given more ancillaries as they are more qualified and have passed the standards set for teachers to be able to occupy such positions.

According to the Philippine National Research Center for Teacher Quality (2017), those with the credentials required to enter the teaching profession are considered Beginning Teachers (Career Stage 1). Educators at this point are encouraged to advance to Career Stage 2 in two to three years. Moreover, Professional independence in the use of skills essential to the teaching and learning process characterizes proficient teachers (Career Stage 2). Within the first two or three years of teaching, teachers should aim to meet the acceptable standards outlined in this stage. Career stages 1 and 2 are where the teachers are at when they are occupying Teacher I and II respectively. These teachers are given extra ancillary functions to get the chance to showcase their full potential.

Table 6 exhibits the test correlation on teachers' number of ancillary functions and well-being. Looking at their mean scores, it can be observed that teachers with 1-2 ancillary works have very high level of well-being with a Mean score of 4.46 with $SD=0.78$ while teachers having five or more ancillary functions have a high level of well-being with a Mean score of 4.06 with $SD=0.63$. This implies that teachers with few ancillaries have a higher or better level of well-being than those with five and above teaching. With few ancillaries, the teachers can concentrate on working with their duties and responsibilities at their best since there are few things to do that may distract them and take up a little of their time preparing for their teaching and learning activities.

Table 6. Test correlation on teachers' number of ancillary functions and well-being

Number of Ancillary Functions	Mean	SD	r-value	P-value	Decision	Interpretation
1-2 Ancillary Functions	4.46	0.78	0.213	0.116	Accept Ho	Not Significant
3-4 Ancillary Functions	4.13	0.67	0.492	0.001	Reject Ho	Significant
5 and above Ancillary Functions	4.06	0.63	0.499	0.001	Reject Ho	Significant

Note: Significant if computed p -value is less than 0.05 level of significance

For 1 and 2 ancillary functions, it registered a computed r -value of 0.213 and p -value of 0.116. The computed p -value is higher than the p -critical value at a 0.05 level of significance. This implies that there is no significant difference between a number of ancillary functions and teachers' well-being when teachers are given 1 and 2 ancillary functions, respectively. Thus, the null hypothesis is accepted. This data means that the teachers' level of well-being among these teachers is at the same level. Although these teachers are also given 1 and 2 ancillary functions, it does not affect their level of well-being. This is due to the fact that they are given tasks that are minimal and easy to perform. Therefore, it does not prevent them from performing their duties and responsibilities.

According to Llego (2020), the number of ancillary tasks varies according to the teaching load given to the teachers. Some teachers have a smaller number of teaching hours to achieve in a day or week, and to make it sufficient, they are given ancillary functions depending on their needed time and whether it is heavy, medium, or easy in nature. Thus, there are cases in which the teacher has fewer teaching hours but is assigned to perform multiple ancillaries.

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For 3-4 ancillary functions, it registered an r-value of 0.492 and computed p-value=0.001. The computed p-value is less than the p-critical value at a 0.05 level of significance. This implies that a significant relationship was observed when teachers were given 3-5 ancillary functions towards their well-being. Thus, the null hypothesis was rejected. Moreover, for five and above ancillary functions, it registered an r-value of 0.499 and SD=0.001, with the computed p-value being lower than the p-critical value of 0.05 level of significance. This implies that a significant relationship was observed when teachers were given five and above ancillary functions toward their well-being. Thus, the null hypothesis was rejected.

Moreover, teachers assigned with 3 to 5 or 5 and above ancillary functions are sometimes challenged in terms of their division of labor and time allotment, which can lead to stress. However, they also know that they are challenged and tested as to their capacity and capability to perform other tasks or functions apart from their teaching and learning activities. Thus, they give their best to prove to the school heads that they can do it. Moreover, it also serves as an opportunity to learn new things about administration and management, which can help them in their future endeavors.

According to Into and Gempes (2018), despite the challenges of being a teacher with several ancillary responsibilities, they shared positive insights about their experiences regarding dedication and commitment, being upbeat, opportunities for growth and development, and as a sign of faith and confidence in one's own abilities. Teachers who perform a variety of auxiliary duties benefit greatly in terms of their professional and personal growth. It affects all of the nation's educators more broadly as well.

IV. CONCLUSIONS

Based on the findings of this study, the following conclusions are formulated:

1. Teachers' profile revealed their most ancillary function was as a class adviser, occupying Teacher III positions and were assigned to 3 to 4 ancillaries.
2. The level of the teachers' well-being was Very High. Despite this, being a teacher is a demanding job that puts them at risk for burnout. Therefore, programs to prevent stress and burnout should include techniques involving higher mental functions, such as transcendental meditation and prayer.
3. A correlation between teachers' ancillary functions and well-being was established. Therefore, it must be given attention and importance.
4. Programs, activities and pieces of training are created to improve teachers' knowledge and understanding of ancillary functions as well as of well-being. Thus, it must be implemented accurately and consistently.

V. RECOMMENDATIONS

Based on the findings and conclusion of the study, it is recommended that the:

1. The class advisers need to be constantly given the school's help and support. They need to have more time from other commitments so they may their respective task.
2. Priorities in education must be set for the welfare of teachers. These would be techniques like prayer and meditation. It overcomes worries and focuses on positive solutions.
3. The well-being of teachers is associated with ancillary services. The school administrators may provide teachers with training on various coping mechanisms so they can handle the demands of their jobs and obligations.
4. Knowledge and attitude are significant predictors of teachers' well-being. Thus, schools should provide pieces of training and seminars that will enhance the teachers' knowledge and attitude to have a better level of well-being.

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Development of Ethnomathematics Student Worksheets Based on Augmented Reality on Geometric Material



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ABSTRACT: The aim of this research is to describe the results of the development of Augmented Reality Based Ethnomathematics Student Worksheets (LKPD). This research is motivated by a problem being faced by 5th grade teachers at Islamic Global School Malang Elementary School, namely the absence of interactive learning media to support students' abilities, so that students tend to find it difficult to understand geometric material. This type of research is R&D Research and Development using the 4D research method, namely define, design (planning), develop, disseminate, but the research only reaches the development stage. The population used in this research was 20 grade 5 students at SD Islamic Global School Malang. The sampling technique is a purposive sampling technique. The test subjects were divided into two, namely expert trials and student response trials. The subject of expert testing was carried out by 3 mathematics education lecturers at Insan Budi Utomo University Malang and 1 class teacher at SD Islamic Global School Malang. The sample method used was purposive sampling. Purposive sampling was used because of several criteria. Namely, students received material based on the curriculum, LKPD, and the same class facilities were used and taught by the same teacher. The samples were 5th grade students and teachers at Islamic Global School Malang Elementary School. Data collection techniques use observation and questionnaires. The data analysis technique in this LKPD development research is a Likert scale using 2 types of data, namely qualitative data and quantitative data. Qualitative data was obtained from interviews at the defined stage and qualitative data was obtained from expert assessment questionnaires and student response questionnaires. Based on the results of the research and discussion, it can be concluded that the development of Augmented Reality-based Ethnomathematics Student Worksheets (LKPD) can be used in learning. This is based on the results of expert validation by obtaining a percentage of 96.33%, with a percentage of 100% for the suitability of the indicator, a percentage of 95% for the augmented reality indicator, a percentage of 88% for the language suitability indicator, a percentage of 100% for the interest indicator display, 100% percentage on material suitability indicators, and 95% percentage on ethnomathematics indicators.

KEYWORDS: augmented reality, ethnomathematics, LKPD.

INTRODUCTION

Mathematics is one of the subjects that is expected to shape students to have the ability to solve problems both in mathematical problems and everyday problems, so that mathematics has been taught from elementary school level to university level (Nurulaeni, 2022). Mathematics is closely related to the problem solving process, because mathematics is an exact scientific discipline that requires reasoning and creative thinking in understanding a theorem. Students' ability to solve mathematical problems becomes a provision in facing the era of globalization in the future (Aledya, 2019). But in fact the results of the 2018 survey conducted by one of the international programs that measures the level of educational success in a country, namely the Program for International Students Assessment (PISA), stated that in the mathematics category, Indonesia was ranked 7th from the bottom (73rd out of 79 countries) with average score 379. (Hewi, 2020)

Based on the results of observations that have been made using interviews with a mathematics teacher at the Islamic Global School Malang Elementary School, the difficulties experienced by students are almost the same, namely working on questions related to geometric shapes, most students have difficulty understanding word problems so there are still many errors in carrying out calculations. This is also in line with the results of research conducted by Lipianto and Budiarto which stated that there were still students making mistakes in writing the final answer correctly and students tending to memorize without understanding the concepts related to the material. (Ambarita, 2023)

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Currently, the difficulties experienced by the majority of students in spatial geometric material are caused by several factors, including a lack of understanding of the basic material (namely plane geometric material), a lack of mastery of the Pythagorean Theorem, a lack of mastery of the concept of spatial figures, and a lack of mastery of spatial geometric context problems (Lois, 2022). One of the factors causing students' low mathematical problem solving abilities is a lack of interest in learning mathematics because they think that mathematics has too many formulas that are difficult to understand (Ikha, 2021). Interest in learning mathematics is one of the important factors that influences mastery of mathematical concepts in solving mathematical problems (Fikri, 2022). Without interest in students, it will be difficult to develop students' desire to learn mathematics, because this interest will encourage students to continue trying to find strategies by using all their abilities to produce creative ideas to find solutions to solving mathematical problems. (Siagian, 2016). In line with that, based on the results of interviews with class teachers at Islamic Global School Elementary School, the teaching materials used are still monotonous and conventional without compiling their own teaching materials. And it has not provided learning experiences and has not been able to encourage the development of students' thinking abilities. Therefore, it is necessary to develop teaching materials that can help students learn material more meaningfully.

One way to increase students' interest in learning mathematics is to apply the concept of ethnomathematics to learning. Ethnomathematics has the potential to help students develop significant interest in learning mathematics. Ethnomathematics-based Student Worksheets (LKPD) are teaching materials that use the cultural context of certain areas in learning mathematics, so that they will make students feel familiar and love and understand more because they consider mathematics to be part of their culture. In line with Francois, the expansion of the use of ethnomathematics in accordance with students' cultural diversity and with the practice of mathematics in their daily lives brings mathematics closer to the students' environment because ethnomathematics is implicitly a program or activity that conveys values in mathematics and mathematics education. (Ayuningtyas, 2019)

According to previous research, the application of ethnomathematics concepts in mathematics learning is very effective in increasing students' interest and understanding regarding mathematics material. Research conducted by (Dosinaeng, 2020) with the title "Ethnomathematics for Middle School Students: Exploration of Geometry Concepts in Boti Tribe Culture." shows the results that culture can be used as a context in the mathematics learning process, such as the axioms of points, lines and planes, the concept of tangent lines, the concepts of area and volume of geometric shapes.

Ethnomathematics concepts can also be integrated with technology. This is effective according to research conducted by (Ayu, 2020) with the title "Development of Prezi Learning Media Based on Ethnomathematics on Flat Building Materials", which states that integrating culture using interactive media is effective because it is not only easy to understand but also contains cultural values. local so that mathematics learning is more meaningful, this is proven by survey results which stated that 97% were in the very practical category. This interactive media is accompanied by the use of ZUI (Zooming User Interface) technology where students can have more freedom to regulate the size of the material. Apart from that, research conducted by Ilmawan Mustaqim with the title "Utilization of Augmented Reality as a Learning Media", states that Augmented Reality (AR) is a new technology that is capable of combining two-dimensional or three-dimensional virtual objects into a real environment and then generating or projecting them automatically. real time. (Mustaqim, 2016)

Considering the importance of geometry material in the learning process, the role of Student Worksheets (LKPD) is needed to help students understand the material according to students' daily experiences. Worksheets are part of print media. Print media is a general term used in reference to media that distribute printed materials. Print media in education is a program that is widespread throughout the world which is used as a forum or means for disseminating educational information (Yaumi, 2018). In connection with the country of Indonesia which has potential and cultural diversity that can be utilized and connected to mathematics in everyday problems to increase students' mastery of mathematics. In this case, the researcher took spatial construction material found at the 5th grade elementary school level due to students' difficulties and many everyday problems that can be connected to local cultural ethnomathematics. Based on the explanation above, it is necessary to develop Student Worksheets (LKPD) which can improve the learning atmosphere of students and can be understood easily in accordance with the social and cultural conditions in their region.

RESEARCH METHODS

This type of research is R&D Research and Development using the 4D research method, namely define, design (planning), develop, disseminate, but the research only reaches the development stage. The population used in this research was 20 grade 5 students at SD Islamic Global School Malang. The sampling technique is a purposive sampling technique. The test subjects were divided into two, namely expert trials and student response trials. The subject of expert testing was carried out on 3

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mathematics education lecturers at Insan Budi Utomo University Malang and 1 class teacher at SD Islamic Global School Malang. The sample method used was purposive sampling. Purposive sampling was used because of several criteria, namely students received material based on the curriculum, LKPD, the same class facilities were used and taught by the same teacher. The samples were 5th grade students and teachers at Islamic Global School Malang Elementary School. Data collection techniques use observation and questionnaires. The data analysis technique in this LKPD development research is a Likert scale using 2 types of data, namely qualitative data and quantitative data. Qualitative data was obtained from interviews at the define stage and qualitative data was obtained from expert assessment questionnaires and student response questionnaires. The results of data analysis are used to revise the LKPD with the following assessment guidelines:

Table 1 . Likert Scale Scoring Rules

Score	Information
1	Invalid
2	Less Valid
3	Valid
4	Very Valid

Then the data that has been collected is analyzed into percentages with the following formula: (Ridwan, 2019)

$$P = \frac{\text{Number of data scores collected}}{\text{Maximum Number of Scores}} \times 100\%$$

Where P is the percentage of validity of ethnomathematics-based teaching materials and the ideal score is obtained from the highest score of each respondent.

The final step is to change the percentage value that has been obtained into qualitative form and then conclude the value based on the following table criteria: (Ridwan, 2019)

Assessment criteria table :

Highest score = 4 (very valid), the highest score percentage = $\frac{4}{4} \times 100\% = 100\%$

Lowest score = 1 (very poor), lowest score percentage = $\frac{1}{4} \times 100\% = 25\%$

Range = $100\% - 25\% = 75\%$

So the interval distance = $\frac{75\%}{4} = 18,75\%$

Table 2. Percentage range and quality criteria for student worksheets (LKPD)

Score	Information
25,00% - 43,74%	Invalid
43,75% - 62,49%	Less Valid
62,50% - 81,24%	Valid
81,25% - 100%	Very Valid

LKPD can be used if it meets valid criteria, and is very valid. However, if it is not valid or invalid, there needs to be revision and review so that the LKPD can be used by students..

RESULTS AND DISCUSSION

Before carrying out development, the researcher first made initial observations by conducting interviews with the supporting teachers to find out what media had been used and the needs needed for this development. From the results of these observations, it was found that the goal of mathematics learning for grade 5 elementary school in the Merdeka curriculum

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is that students are able to understand the differences in drawings of prism shapes, know the number of edges of a prism, know the number of corner points of a prism, know the sides of a prism and a cylinder, and can draw sketches/nets. prisms and tubes. Apart from that, it was found that what causes students' low understanding is the absence of interactive teaching materials that are able to support the learning process, while the facilities provided by the school are very adequate to be utilized optimally.

Based on the description above, these conditions and potential support researchers to develop Augmented Reality-based Ethnomathematics Student Worksheets (LKPD) on geometry material. The prepared LKPD is then validated by experts with the following explanation:

Table 3. Media Expert Validation

No	Aspect Indicator	Percentage	Criteria
1	Suitability Of Presentation	100,00%	Very Valid
2	Augmented Reality	95,00%	Very Valid
3	Display Interest	100,00%	Very Valid
Total		98,33%	Very Valid

In the media expert assessment, there are three assessment indicators presented in the table above. Based on the table above, the overall assessment of the LKPD is included in the very valid criteria with a percentage of 98.33%. This shows that the presentation given is in accordance with the guidelines for preparing LKPD on spatial construction material for class V SD/MI students. (Salaudin, 2019)

Table 4. Material Expert Validation

No	Aspect Indicator	Percentage	Criteria
1	Language Suitability	88,00%	Very Valid
2	Validity Of Material	100,00%	Very Valid
3	Etnomatematics	95,00%	Very Valid
Total		94,33%	Very Valid

In the material expert assessment, there are three assessment indicators which are presented in the table above. Based on the table above, the overall assessment of the LKPD is included in the very valid criteria with a percentage of 94.33%. This shows that the presentation given is in accordance with the student handbook on spatial construction material for fifth grade SD/MI students. (Salahudin, 2019)

Table 5. Teacher Validation Results

No	Aspect Indicator	Percentage	Criteria
1	Suitability of Presentation	100,00%	Very Valid
2	Augmented Reality	95,00%	Very Valid
3	Language Suitability	88,00%	Very Valid
4	Display Interest	100,00%	Very Valid
5	Validity of Material	100,00%	Very Valid
6	Etnomatematics	95,00%	Very Valid
Total		96,33%	Very Valid

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In teacher assessment, there are six assessment indicators which are presented in the table above. Based on the table above, the overall assessment of the LKPD is included in the very valid criteria with a percentage of 96.33%. This shows that the presentation given is in accordance with the student handbook on spatial construction material for fifth grade SD/MI students. (Salaudin, 2019) The Student Worksheet (LKPD) that was developed can be seen in table 3-5. After revising according to the experts' suggestions, the final product was the Ethnomathematics Student Worksheet (LKPD) based on Augmented Reality on geometry material.

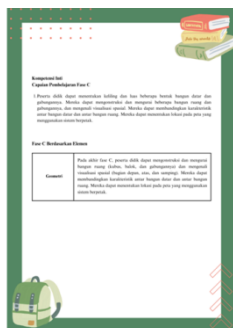
The development of Augmented Reality-based Ethnomathematics LKPD has fulfilled the learning concept. Based on the concept of constructivism, learning is the result of student construction as a result of interaction with the surrounding environment. According to constructivism theory, the concept of learning is that students must find out for themselves and change complex information, check new information with old provisions, and change it if the provisions no longer apply. (Susanto, 2016)

According to M. Fanni Marufi Arif and Agus Wiyono Student Worksheets (LKPD) are teaching materials developed by educators as facilitators in learning. LKPD contains tasks that must be carried out by students as a form of training which aims to ensure that students can understand and understand the material being taught and can increase student activity in improving learning achievement. (Fitria, 2020)

Student worksheets can be used as a medium for active learning so that they require active student involvement in learning (Pada, 2021). Therefore, this LKPD is designed so that students can be actively involved in the learning process.



Gambar 1. Tampilan



Gambar 2. Tampilan Capaian



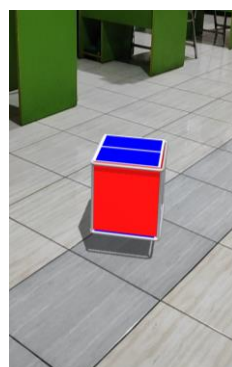
Gambar 3. Tampilan Review Materi



Gambar 4. Tampilan Langkah Etnomatematika



Gambar 5. Tampilan Barcode AR dan Petualangan Etnomatematika



Gambar 6.. Tampilan Augmented Reality

This Augmented Reality-based Ethnomathematics Student Worksheet (LKPD) is considered very valid by material experts, media experts and practitioners. The results of this research are supported by research conducted by (Utami, 2018). The results of this research show that ethnomathematics-based LKPD is very suitable and suitable for use in learning. Apart from that, research conducted by (Afifah, 2019) showed that the development of teaching materials containing augmented reality was able to foster student activity.

Apart from that, the LKPD developed can help the learning process, make it easier for students to understand the material and can make students learn actively. This statement is in accordance with research conducted by (Sartika, 2022) that student worksheets are student learning tools that contain various activities that will be carried out by students actively. These

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activities take the form of observations, experiments, and asking questions. Therefore, student worksheets are related to the choice of learning strategies that are integrated into the entire learning process.

According to M. Fanni Marufi Arif and Agus Wiyono Student Worksheets (LKPD) are teaching materials developed by educators as facilitators in learning. LKPD contains tasks that must be carried out by students as a form of training which aims to ensure that students can understand and understand the material being taught and can increase student activity in improving learning achievement. (Pada, 2021)

Based on the explanation above, it shows the importance of developing ethnomathematics worksheet based on augmented reality. This Student Worksheet (LKPD) is a motivational tool to increase students' interest in learning. With the help of the Augmented Reality-based Ethnomathematics Student Worksheet (LKPD), students will try to solve problems related to building space and can explore the culture that exists in Indonesia as a form of cultural preservation. What has been explained above can conclude that the Ethnomathematics Student Worksheet (LKPD) based on Augmented Reality on Geometry Material can be said to be suitable for use.

CONCLUTIONS

The development of Augmented Reality-based Ethnomathematics Student Worksheets (LKPD) has provided a solution to the problem of fifth grade students at Islamic Global School Elementary School, where students' lack of interest in studying mathematics has affected students' understanding of geometry material, especially geometric shapes. With the Augmented Reality-based Ethnomathematics Student Worksheet (LKPD), teachers can also maximize school facilities such as a stable network and learning media using Android. This Augmented Reality-based Ethnomathematics Student Worksheet (LKPD) has gone through a validation process by experts. With this validation test, this LKPD has been declared valid.

Based on the research and discussion, it can be concluded that the development of Augmented Reality-based Ethnomathematics Student Worksheets (LKPD) on geometry material is very suitable for use in the learning process. This is based on media expert validation of 98.33%, material expert validation results of 94.33%, and practitioners or teachers of 96.33%.

This Ethnomathematics Student Worksheet (LKPD) based on Augmented Reality on Geometry Material can be a motivation for teachers to use it in classroom learning. The school principal can give instructions to teachers in the hope that this will be a motivation to make LKPD according to students' needs by utilizing existing facilities.

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Wind Power Development and Impact on the Local Economy: International Experience and Suggestions for Vietnam



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ABSTRACT: In the context of the global focus on renewable energy policies, wind power development plays a crucial role in the sustainable energy transition and enhancing local economies. This paper aims to explore and analyze international experiences in wind power development, especially from leading countries like the U.S. and China, and propose lessons applicable to Vietnam. We focus on how wind power can positively impact local economies through job creation, investment attraction, and promoting sustainable economic development, while suggesting necessary policies and technical support to boost the wind power sector in Vietnam.

KEYWORDS: Wind power, Economic impacts, Local economy

I. INTRODUCTION

Climate change is currently a critical issue for humanity in this century. Therefore, the development of renewable energy has become a priority for many nations globally. Among various renewable energy sources, wind power has emerged as one of the most promising and rapidly growing sectors. This study aims to explore the development of wind power on an international scale, examining its impact on the local economy, with a particular focus on drawing lessons and making feasible policy suggestions for Vietnam.

Wind energy, characterized by its low emissions and sustainability, has witnessed significant technological advancements and cost reductions, making it a competitive alternative to traditional fossil fuels [1]. Leading countries in wind power development, such as China, the United States and Germany, have demonstrated the potential for wind energy to contribute significantly to national energy supply, stimulate economic growth, create jobs, and reduce carbon emissions [1].

This research paper consists of two main parts. The first part of this article discusses the economic benefits of wind power, including job creation in manufacturing, installation, and maintenance, as well as the positive impacts on local communities through land lease payments and increased tax revenues from two world-leading countries in wind power development, the USA and China. Based on international experience, the second part offers deep insights and recommendations for Vietnam. Despite its significant potential for wind energy, Vietnam faces several challenges, including legal barriers, limited technical expertise, and infrastructure constraints. This article proposes a comprehensive strategy for Vietnam to overcome these challenges, including policy reform, financial support, and leveraging advancements in wind technology.

In summary, this study emphasizes the importance of adopting a comprehensive approach to wind power development, highlighting the necessity for supportive policies, technological innovation, and international cooperation. By learning from global experiences, Vietnam can tap into its wind power potential, contributing to energy security, economic development, and environmental sustainability goals.

II. LITERATURE REVIEW

A. Wind Power

A renewable energy source called wind power or wind energy uses the force of the wind to create electricity. It entails utilizing wind turbines to transform kinetic energy—the spinning motion of blades caused by moving air—into electrical energy,

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or electricity. This calls for specific technologies, like a generator housed in the nacelle—the top of a wind turbine—behind the blades.

The total amount of economically extractable power available from the wind is considerably more than present human power use from all sources. Wind power, as an alternative to fossil fuels, is plentiful, renewable, widely distributed, clean, and produces no greenhouse gas emissions during operation, and the cost per unit of energy produced is similar to the cost for new coal and natural gas installations [1]. As a result, this renewable energy source is recognized as a good solution for the environment, which can help to reduce our reliance on fossil fuels and hydro energy.

B. Wind Power Global Status

The wind power industry has become a crucial component in the pursuit of increasing renewable energy sources for many countries, driven by technological advancements and industrial growth. It now holds a central position in both long-term and short-term international energy strategies [1]. The interest in harnessing offshore wind power has seen a significant rise globally, driven by factors such as high energy demand, the global shift towards renewable resources, and the potential of wind speeds.

In 2015, global wind energy production reached 39 TWh, increasing to 42 TWh in 2016 [1]. Projections indicate that wind power capacity worldwide will increase by 143 mW in 2030, with European countries and China leading the market. Improved access to resources, funding, supportive policies, and faster project implementation could potentially add around 7 GW to this capacity.

Table 1: Total Installed Wind Power Capacity (MW)

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023 (pred.)
MW	435,284	486,964	539,296	589,531	649,744	748,738	846,035	934,500	1,045,942

Source: [1]

The European offshore wind energy sector, particularly in the North Sea, has experienced rapid growth in recent years, leading to large-scale commercial deployment of offshore wind farms. Plans for new wind farms in the Nordic and Baltic Seas by 2030 could result in a total installed capacity of 45 GW and 8 GW, respectively [1]. Offshore wind technology presents a promising solution for reducing greenhouse gas emissions, with projects like the Walney Extension offshore wind farm generating clean electricity for a significant number of homes.

While offshore wind farms have minimal visual and noise impacts at a distance from the shore, their influence on marine ecosystems requires further detailed analysis. Identifying large-scale offshore wind locations in the US and China, with favorable wind conditions in vast marine areas, could drive the development of mega offshore wind projects, presenting challenges for various stakeholders involved in wind energy projects.

C. Impact of Wind Power to Economic Development

Using wind turbines reduces greenhouse gasses like CO₂ and emitting air pollution. Its environmental benefits are a source of motivation to the government and policies investing in constructing wind farms. Moreover, the impact of wind power on economic development is also attractive.

Apart from manufacturing energy, wind farms can be seen as business development. As other business developments, wind power also brings economical impacts on microeconomics and macroeconomics. According to De Silva et al. [2], The development of wind energy offers a different industrial trajectory for the electricity sector, which is seen as having the potential to benefit new groups of people. In contrast to traditional fossil fuel-fired power plants, which are typically concentrated in a few locations, wind farms can be distributed more widely across a region or country. This may lead to a corresponding change in the spatial distribution of employment and income, with new opportunities created in areas that are currently underserved by the traditional energy sector. As the demand for wind energy technologies and services grows, new industries and markets will emerge, creating opportunities for innovation and job creation [2], [3].

Wind power projects can help to create a more balanced and diversified local economy, which can make it less vulnerable to downturns in any one particular industry. This can lead to more stable employment levels, incomes, and tax revenues for local communities [2], [4]. The economic impact can be particularly crucial in rural areas, which tend to have a one-dimensional economy, such as agriculture [2].

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In the research of De Silva et al. [2], wind resource-rich regions are often rural areas with low population densities. Wind energy operations led to a sharp increase in fixed assets in some windy rural areas, as well as increased investment in transmission lines to carry the wind energy from rural areas to urban consumers. As a result, rural development interests and environmental groups have allied themselves to promote policies that support wind generation.

Additionally, wind projects can benefit the local economy without putting a significant strain on local and state infrastructure, such as existing water and sewer systems, transportation networks, or emergency, education, and other government services [5], [6]. Thanks to wind project's high labor-to-capital ratio, meaning that they require more workers than expensive machinery and equipment. Significant economic impacts of the wind industry include payments to local landowners, short- and long-term job creation, and spending on goods and services in supporting industries [5]. All phases of wind development bring increased economic activity to the local area. During the planning stage, wind developers may need to hire local businesses to provide services such as legal services, environmental impact assessments, and engineering work [2], [6]. During the construction phase, wind farms typically create a large number of short-term jobs, such as construction workers, truck drivers, and equipment operators [6]. Additionally, nonlocal workers who come to town to work on wind farms often stay in hotels and eat at restaurants, which can benefit the local hospitality industry [6].

Once a wind farm is operational, it creates a few long-term jobs, such as turbine technicians and maintenance workers. Wind farms also generate ongoing revenue for local governments through property taxes [4]. Overall, the wind industry can have a significant positive impact on the local economy by providing income to landowners, creating jobs, and supporting local businesses.

III. INTERNATIONAL EXPERIENCE

A. United States

In 2022, China was the country with the largest wind energy output, around 824 terawatt hours. The United States ranks second which was half the output of China [1]. Wind power has been developed rapidly and played an important role in supporting growth in the United States since 2011 [7]. Brown et al. [3] indicated that: Wind power development has necessarily influenced employment, income, expenditures and property taxes. Moreover, it has also affected agricultural production due to wind turbines which displaced other uses of land. They presented that the annual personal income increased about \$11,000 per megawatt of wind capacity installed during the model period, and the average aggregate increase at the county level employed 0.5 jobs per megawatt. Therefore, the average increase in the county's total personal income and employment was 0.22% and 0.4%, respectively, for counties with wind installations between 2000 and 2008.

In America, Texas produces more than 92 Terawatt-hours of electricity, surpassing the combined output of the next three leading states (Iowa, Oklahoma, and Kansas) [8]. Despite being the leading state in wind-generated electricity, wind energy contributes only 20% to Texas' overall electricity production. Texas is recognized as one of the most promising states for wind power in the United States. In 2011, two large wind energy projects completed in Texas between 2005 and 2008 with a capacity of nearly 1398 MW were estimated to have generated 680 on-site construction jobs and 4100 total construction jobs in Texas [4]. Additionally, 63 on-site jobs and a total of 350 jobs were created annually throughout the project implementation across the state. The total economic output for the entire state from this level of wind energy development is estimated at around \$1.8 billion (or \$1.32 million per MW of installed capacity) assuming a 20-year operational period for these facilities [4]. Furthermore, the counties within the scope of this project also experienced an increase in employment and overall economic output. However, according to De Silva et al. [2], they showed that wind energy development has an impact at the industry level, however, it does not have a statistically significant impact on net employment in general at the county level. Additionally, using land to install wind turbines and build wind power plants helps increase the personal income of landowners. And when the property tax base increases, there is a reduction in county general tax rates while counties have more tax revenue and school finance, which can help the state-level gain.

The US prioritizes short-term financial incentives, which creates uncertainty about the direction of its renewable energy development [9]. America is divided into many states which also affects policy issuance because each state has its own policy to develop wind power. The Inflationary Reduction Act (IRA) [10], extending the Production Tax Credit (PTC) and Investment Tax Credit (ITC) for wind projects through 2024 were enacted in August 2022. Moreover, the IRA invests in climate and energy for America by increasing credit amounts and having bonus tax incentives for PTC and ITC for projects that meet specific requirements.

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B. China

China is currently the world leader in wind energy, boasting the largest installed capacity globally with 334.98 GW of onshore wind power and 30.46 GW of offshore wind power installed by the end of 2022, according to IRENA [11]. This immense capacity significantly contributes to the global total and demonstrates China's commitment to leading in renewable energy sources. The country focuses on developing wind power in regions with abundant wind resources, such as Inner Mongolia, Xinjiang, and Gansu, as well as offshore areas along the eastern coastline [12], [13]. The rapid growth achieved can be attributed to substantial government investment, supportive policies, and technological advancements.

Research by Xia, F. and Song, F. [14] and Zhao et al. [15] emphasizes the critical role of government policies in promoting wind energy development. Policies such as feed-in tariffs, direct subsidies, and tax incentives have proven effective in encouraging investment from both private and state-owned enterprises [15]. Studies by Xia, F. and Song, F. [16] indicate that wind energy development has positively impacted local economic growth in China's construction and service sectors. However, wind power projects have been shown to reduce local revenue, a consequence of China's tax reductions encouraging businesses to invest in wind power installation.

Despite significant achievements, China's wind power sector faces numerous challenges. Issues related to grid integration, including the curtailment of wind power due to insufficient grid capacity, remain significant obstacles. Research by Q. Yang et al. [17] on the environmental impact assessments (EIA) of wind projects suggests that better planning and consideration of ecological impacts are necessary to ensure sustainable development.

China's experience underscores the importance of comprehensive policy frameworks that support the entire lifecycle of wind power development, from manufacturing and installation to operation and maintenance [18]. Moreover, the shift towards offshore wind power is seen as a strategic move to exploit untapped wind resources without the land use conflicts associated with onshore wind farms.

IV. SUGGESTIONS FOR VIETNAM

A. Financial Support

To develop wind power, the United States and China have implemented flexible and appropriate investment, tax, and fee support policies. In China, a Feed-In Tariff (FIT) mechanism and tax reductions have been applied to encourage private enterprises to collaborate with the government [15]. In the EU and the US, cost competitiveness has been achieved, which is a crucial factor for the growth of wind power, as it is often cheaper than any other power generation source [19]. Therefore, to develop wind power in Vietnam, the government should establish a flexible market for the production and consumption of wind power, where renewable energy sources will be more cost-effective and resource-efficient than currently.

B. Research and Application of Suitable Wind Power Technology

The US, China, and EU countries are leaders in researching, developing, and providing renewable energy technologies, including wind power. China is also the world's largest wind turbine manufacturer, according to the Global Wind Energy Council (GWEC) [1]. To achieve this, the US and China have implemented strategic support policies for the development of wind power technology production and installation [15], [20]. Besides research, improving wind power technology is also a focus for these countries. This is because technical issues often arise after some time of use, and without a replacement process, the operation of wind power plants would not be guaranteed. As Vietnam is still a developing country with limited capital and technology for the wind power production sector, it is necessary to apply the wind power achievements of developed countries in a way that suits Vietnam's resources.

C. Development of Policies, Laws, and Simplification of Procedures

To develop wind power, the governments of China and the US have established policy and legal frameworks that include specific support policies for renewable energy development, pricing mechanisms, and taxes [15], [20]. Currently, in Vietnam, the legal procedures for licensing wind power projects are very complicated, and the pricing and policy mechanisms for buying and selling wind power to producers and consumers still face many difficulties [21]. Therefore, the Government of Vietnam should develop a policy and legal framework to support wind power development. Additionally, it should simplify the process and eliminate unnecessary procedures to support businesses investing in the wind power sector [22].

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V. CONCLUSIONS

In conclusion, this research has methodically investigated the field of wind power development and its complex effects on regional economies, with a particular emphasis on drawing practical conclusions and approaches that are relevant to the Vietnamese situation. We have identified the critical role wind energy plays in guiding economies toward sustainable growth, energy security, and environmental preservation by investigating the global wind energy landscape. The results of this study provide Vietnam, a nation with significant wind energy potential, with a guide for utilizing this renewable resource. The obstacles noted—such as lack of technical expertise, infrastructure constraints, and regulatory barriers—can be overcome. Quite the contrary, they offer chances for public-private partnerships, capacity building, and policy reform. The recommendations outlined advocate for a comprehensive approach that encompasses policy reform, financial incentives, and technological adoption, underpinned by a collaborative effort between the government, industry stakeholders, and the international community.

The strategic implications for Vietnam are clear: by embracing the lessons learned from global wind power development, Vietnam can not only meet its energy needs but also catalyze economic development, job creation, and environmental sustainability. The transition to wind power represents more than just an energy shift; it is a commitment to a sustainable future, where economic growth and environmental stewardship go hand in hand.

As we look towards the future, it is evident that the journey of integrating wind power into Vietnam's energy mix is both promising and essential. The path forward requires concerted efforts, innovative policies, and a steadfast commitment to sustainability. This research not only contributes to the academic discourse on renewable energy but also provides a practical framework for policymakers, industry leaders, and communities to navigate the complexities of wind power development. Ultimately, the successful implementation of the suggestions put forth can position Vietnam as a leader in renewable energy in Southeast Asia, setting a precedent for sustainable development and economic resilience.

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Employers' Feedback on the Expectations and Performance of BSBA Marketing Management Graduates of Mariano Marcos State University: A Gap Analysis



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ABSTRACT: Getting the employers' feedback is very crucial in evaluating the quality of graduates Higher Education Institutions (HEIs) produce and the graduates' employability. This study determines the expectations and graduates' performance in terms of business/management competencies, marketing skills and personal qualities/attitudes as perceived by employers. The gap analysis between the expectations and performance of graduates will help the HEIs align their academic programs with the need of the industry. Through a descriptive research design and survey questionnaires administered to ninety-five (95) managers, supervisors and senior-level staff, the study assesses the alignment of the program with industry needs. The findings reveal that while graduates excel in certain competencies such as ethical standards, customer service, and people skills, and qualities such as initiative and risk orientation mindset, there are areas for improvement, including communication, stakeholder management and conflict resolution, positive values and work ethics, analytical skills, adaptability, marketplace understanding, database skills, organization and planning, motivational skills, environment and global awareness, reliability, self-discipline, optimism, proactiveness, and productivity. Recommendations are provided to enhance the BSBA Marketing Management curriculum, implement competency development programs, and collaboration and feedback mechanisms between the employers and academic institution to better prepare graduates for employment.

KEYWORDS: BSBA Marketing Management, business/management competencies, marketing skills, personal qualities/attitudes, employers

I. INTRODUCTION

Employers seek graduates who possess the required knowledge and competencies and demonstrate essential personal qualities and attitudes that are crucial for success in the workplace. Higher Education Institutions (HEIs) play a vital role in equipping graduates with the competencies needed to succeed in the dynamic job market. Graduates who possess the needed competencies can meet industry expectations and are highly employable. It is therefore vital to continuously evaluate whether academic programs are aligned with the evolving needs of industries and organizations.

The program outcomes of the BSBA Marketing Management program of the Mariano Marcos State University are for graduates to be able to apply the concepts along marketing management and use them in various business situations both in local and international context, demonstrate critical and analytical skills to analyze, innovate, and manage a strategic business direction, communicate well and express ideas through various modalities and diverse context and demonstrate positive values and work ethics that promote a sense of responsibility and accountability in their chosen profession. To ensure that the program produces graduates with competencies required to find gainful employment, employers' feedback is continuously conducted. Employers' feedback is vital in shaping academic programs. Their feedback serves as a valuable yardstick to measure the relevance and effectiveness of the curriculum (Sannadan, et al., 2016). It sheds light on how well graduates perform and adapt to real-world workplace demands. As Omar et al. (2008) highlight, employer feedback can also be used as a tool to assess students' competency in various key areas.

Employer feedback provides a valuable assessment of employee performance, offering insights into how well they translate their skills and knowledge into practical experience. When graduates join the real world of employment, the outcome of their performance is a very good predictor of their ability (Felicen, 2017). According to the graduates in the study by Ramirez et al., their knowledge, academically gained skills, and competencies significantly influenced how well they performed at work.

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Businesses frequently express concern about the lack of essential skills in graduates, hindering their professional development and career progression. This highlights the critical need for collaboration between educational institutions, authorities, and employers (Ranasinghe & Herath, 2011). By working together, they can identify and address these skill gaps, ensuring university graduates possess the competencies essential to thrive in the job market. Understanding the key characteristics desired by employers is fundamental to improving graduates' employability.

Ting and Ying (2012) found that both academics and practitioners shared similar views regarding the importance of various competencies in business graduates. These included skills in writing, oral communication, research, and knowledge acquisition, as well as attributes like honesty, diligence, resourcefulness, the ability to enhance values, teamwork, innovation, and computer proficiency. In another study by MdSaad, Robani, Jano, and Majid (2013), employers were observed to prioritize problem-solving, tool handling expertise, and presentation skills in graduates. According to MdSaad et al. (2013), individuals possessing these qualities were considered valuable assets to businesses, showcasing the ability to think critically, act logically, and analyze situations for effective decision-making and issue resolution.

This study focuses on evaluating the expectations and performance of graduates of the BSBA Marketing Management program in terms of business/management competencies, marketing skills, and personal qualities/attitudes as perceived by employers. By assessing the gap between the expectations of employers and the performance of graduates, this study aims to identify areas for improvement and provide recommendations to enhance the BSBA Marketing Management program.

Through a descriptive research design and the use of survey questionnaires administered to managers, supervisors and senior-level staff familiar with the performance of BSBA Marketing Management graduates, this study provides valuable insights into the alignment of the program with industry needs. By analyzing the competencies expected by employers and the actual performance of graduates, this study sheds light on the strengths and areas for development within the program.

The gap analysis serves as a feedback mechanism for educational institutions to assess the effectiveness of their curriculum and teaching methods in developing competencies, qualities and attitudes. The gap between expectations and performance would highlight the importance of providing support to help students develop and enhance their competencies and qualities, graduates are falling short of. By addressing the performance gap, institutions can better prepare graduates for the challenges of the workforce.

The findings of this study will not only benefit the academic institution in refining the academic program but also provide students with a roadmap for enhancing their skills and competencies to meet the demands of the job market.

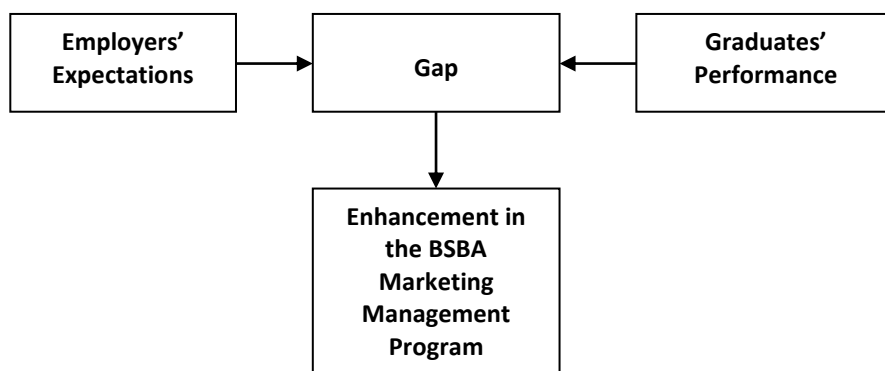


Figure 1. Conceptual Framework of the Study

II. RESEARCH METHODS

This study used the descriptive research design. The research utilized survey questionnaire which was administered online. Purposive sampling was used, and the respondents were 95 managers or immediate supervisors or staff at senior level who have knowledge of the performance of the BSBA Marketing Management graduates.

The indicators on business/management were the program outcomes common to business and management disciplines. Indicators 1-9 were adopted from CHED Memo No. 17 series of 2017. Indicators 10-13 were adopted from the approved curriculum map for the BSBA Marketing Management Program of Mariano Marcos State University.

Mean was used to determine the level of competency expectations and extent of performance of the BSBA Marketing Management graduates on business/management, marketing and personal qualities/attitudes as assessed by their employers.

The following range of mean values were used to analyze and interpret the competency expectations and performance of graduates:

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4.51-5.00	Very High (VH)
3.51-4.50	High (H)
2.51-3.50	Moderate (M)
1.51-2.50	Low (L)
1.00-1.50	Very low (VL)

The gap analysis was done by getting the gap score, this is computed by getting the difference between the expected competencies and the performance of the graduates (expectations – Performance). The gap analysis results were used as basis for identifying recommendations in enhancing the BSBA Marketing Management program. The following scale adopted from Noel-Levits (2008) was used to interpret the gap score.

Gap Score	Interpretation
1.00 and above	Performance does not meet the expectations (PDE)
0.51 – 0.99	Performance slightly meet the expectations (PSE)
0.50 – 0	Performance meets the expectations to the optimum (PE)
Negative gap Score	Performance exceeds the expectations (PEE)

III. RESULTS AND DISCUSSIONS

The following are the results of the study.

Table 1. Level of Expectations, Performance of Graduates and Gap Analysis on Business/Management Competencies

Indicators	Expectation	DI	Performance	DI	Gap Score	DI
1. Perform the basic functions of management such as planning, organizing, staffing, directing and controlling	4.40	H	4.26	H	0.14	PE
2. Apply the basic concepts that underlie each of the functional areas of business (marketing, finance, human resource management, production and operations management, information technology, and strategic management) and employ these concepts in various business situations.	4.41	H	4.31	H	0.10	PE
3. Select the proper decision-making tools to critically, analytically and creatively solve problems and drive results.	4.47	H	4.27	H	0.20	PE
4. Express oneself clearly and communicate effectively with stakeholders both in oral and written forms.	4.54	VH	4.37	H	0.17	PE
5. Apply information and communication technology (ICT) skills as required by the business environment.	4.44	H	4.31	H	0.13	PE
6. Work effectively with other stakeholders and manage conflict in the workplace.	4.53	VH	4.34	H	0.19	PE
7. Plan and implement business related activities.	4.32	H	4.16	H	0.16	PE
8. Demonstrate corporate citizenship and social responsibility.	4.38	H	4.30	H	0.08	PE

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9. Exercise high personal moral and ethical standards.	4.64	VH	4.54	VH	0.10	PE
10. Apply the concepts along marketing management and use them in various business situations both in local and international context.	3.98	H	4.04	H	-0.06	PEE
11. Demonstrate critical and analytical skills to analyze, innovate, and manage a strategic business direction	4.26	H	4.20	H	0.06	PE
12. Communicate well and express ideas through various modalities and diverse context	4.45	H	4.27	H	0.18	PE
13. Demonstrate positive values and work ethics that promote a sense of responsibility and accountability in their chosen profession	4.56	VH	4.47	H	0.09	PE
OVERALL	4.41	H	4.30	H	0.12	PE

Legend:

Range of values	Descriptive Interpretation	Gap Score	Descriptive Interpretation (Source: Noel-Levitz)
4.51-5.00	Very High (VH)	1.00 and above	Performance does not meet the expectations (PDE)
3.51-4.50	High (H)	0.51 – 0.99	Performance slightly meet the expectations (PSE)
2.51-3.50	Moderate (M)	0 – 0.50	Performance meets the expectations to the optimum (PE)
1.51-2.50	Low (L)	Negative gap Score	Performance exceeds the expectations (PEE)
1.00-1.50	Very low (VL)		

Table 1 shows the level of expectations, performance of graduates and gap analysis on business/management competencies.

On employers' expectations, the overall mean score is 4.41, which is described as "High" indicates that employers expect high level of competencies on business/management for BSBA Marketing Management graduates.

Specifically, competencies rated as "Very High" (VH) include "Exercise high personal moral and ethical standards" (4.64), "Demonstrate positive values and work ethics that promote a sense of responsibility and accountability in their chosen profession" (4.56) "Express oneself clearly and communicate effectively with stakeholders both in oral and written forms" (4.54), and "Work effectively with other stakeholders and manage conflict in the workplace" (4.53). This means that graduates are expected to excel in ethical conduct, positive values, communication, stakeholder management and conflict resolution in organizations. Graduates are expected to demonstrate high personal moral and ethical standards, which is essential for maintaining trust and integrity in any organization. Additionally, graduates are highly expected to uphold positive values and work ethics in their professional roles. It highlights the need for marketing graduates to exhibit integrity, responsibility, and accountability in their work. Moreover, BSBA Marketing Management graduates are expected to possess strong communication skills to effectively interact with various stakeholders. Enhancing communication skills leads to better collaboration, negotiation, and relationships in the workplace. Lastly, the ability to work effectively with different stakeholders is vital for business success. Graduates are expected to develop skills in managing relationships, resolve conflicts, and foster positive interactions with diverse groups. This means that the program should focus on the competencies that are required by the industry.

On the performance of graduates, the overall mean is 4.30, also described as "High". The high performance of graduates suggests that the academic program is effectively equipping students with the necessary knowledge and skills required by employers on business/management. Specifically, the competency with a "Very High" (VH) performance rating is "Exercise high personal moral and ethical standards" (4.54). Graduates are upholding ethical values in their professional conduct.

The table shows the discrepancies between the expectations of employers (VH) with the performance of graduates (H). These are "Express oneself clearly and communicate effectively with stakeholders both in oral and written forms," "Work effectively with other stakeholders and manage conflict in the workplace" and "Demonstrate positive values and work ethics that promote a sense of responsibility and accountability in their chosen profession". Developing skills to work effectively with stakeholders and manage conflicts is vital for fostering positive relationships, collaboration, and teamwork in the workplace. The ability to demonstrate positive values and work ethics that promote responsibility and accountability can have wide-ranging implications for graduates in business/management, impacting their professional reputation, career growth, organizational

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culture, client relationships, risk management, and personal satisfaction. This implies that the BSBA Marketing management program shall target competencies development to meet the employers' standards.

The overall gap score between the expectations and the performance of graduates in business/management competencies is 0.12, indicating that the graduates' performance meets the expectations to the optimum. This implies that the program is aligned with the industry's needs.

While graduates are generally performing at a high level, there is still room for improvement to fully meet the employers' expectations. Addressing these gaps is important for enhancing the students' readiness to meet industry expectations. The highest gap, 0.20 is indicator "Select the proper decision-making tools to critically, analytically and creatively solve problems and drive results." Improving critical thinking, analytical reasoning, and creative problem-solving skills can empower graduates to navigate uncertainties, identify opportunities, and implement strategic solutions in dynamic business contexts.

On the other hand, the lowest gap score is in the area of applying concepts along marketing management, with a gap score of -0.06. A negative gap score indicates that the performance exceeds the expectations in this competency. This implies that graduates are performing even better than expected in applying marketing management concepts in various business situations, both locally and internationally. This could be attributed to the effectiveness of the curriculum, teaching methods, and practical experiences provided to the students.

Table 2. Level of Expectations, Performance of Graduates and Gap Analysis on Marketing Skills

Indicators	Expectation	DI	Performance	DI	Gap Score	DI
1. Influencing and Negotiation	4.37	H	4.21	H	0.16	PE
2. Innovativeness/Creativity	4.44	H	4.21	H	0.23	PE
3. Analytical skills	4.55	VH	4.39	H	0.16	PE
4. Business and commercial acumen	4.48	H	4.29	H	0.19	PE
5. Adaptability and flexibility	4.64	VH	4.47	H	0.17	PE
6. Marketplace and customer understanding	4.71	VH	4.41	H	0.30	PE
7. Analysis and database skills	4.56	VH	4.29	H	0.27	PE
8. Marketing communications	4.55	VH	4.3	H	0.25	PE
9. Customer service	4.68	VH	4.53	VH	0.15	PE
10. Logistics expertise	4.32	H	4.11	H	0.21	PE
11. Entrepreneurial competency	4.28	H	4.03	H	0.25	PE
12. Organization and planning	4.53	VH	4.35	H	0.18	PE
13. Writing ability	4.49	H	4.3	H	0.19	PE
14. Motivational skills	4.51	VH	4.29	H	0.22	PE
15. Networking	4.49	H	4.39	H	0.10	PE
16. People skills	4.68	VH	4.51	VH	0.17	PE
17. Content management	4.39	H	4.3	H	0.09	PE
18. Public speaking	4.36	H	4.21	H	0.15	PE
19. Research	4.21	H	4.16	H	0.05	PE
20. Environmental and Global Awareness	4.51	VH	4.29	H	0.22	PE
OVERALL	4.49	H	4.30	H	0.19	PE

Legend:

Range of values	Descriptive Interpretation	Gap Score	Descriptive Interpretation (Source: Noel-Levitz)
4.51-5.00	Very High (VH)	1.00 and above	Performance does not meet the expectations (PDE)
3.51-4.50	High (H)	0.51 – 0.99	Performance slightly meet the expectations (PSE)
2.51-3.50	Moderate (M)	0 – 0.50	Performance meets the expectations to the optimum (PE)
1.51-2.50	Low (L)	Negative gap Score	Performance exceeds the expectations (PEE)
1.00-1.50	Very low (VL)		

Table 2 shows the Level of expectations, performance of graduates and the gap analysis on marketing competencies.

Employers' expectations regarding marketing competencies are "High" as shown by the overall mean of 4.49. With employers expecting a high level of performance, graduates entering the labor market need to be well-prepared and demonstrate proficiency in marketing.

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Ten (10) out of twenty (20) competencies were rated as "Very High" with a mean range of 4.51-4.71. This signifies a strong importance of these skills and attributes in the industry. The table shows that employers expect graduates to: demonstrate proficiency in analyzing complex information and deriving actionable insights to drive marketing strategies effectively; adapt quickly to changes, embrace new technologies and trends, and pivot strategies as needed to stay competitive in the market; able to understand market dynamics, consumer behavior, and trends; skilled in collecting, analyzing, and interpreting data to drive marketing initiatives, measure performance, and optimize campaigns; excel in crafting compelling marketing content, engaging with stakeholders, and maintaining consistent brand messaging across various channels; demonstrate a customer-centric approach, problem-solving skills, and the ability to address customer needs to enhance brand loyalty and satisfaction; well-organized, detail-oriented, and adept at strategic planning; demonstrate strong organizational skills, time management, and the ability to prioritize tasks to execute marketing campaigns efficiently and achieve objectives; possess motivational skills to inspire and lead teams, drive innovation, and achieve marketing goals, demonstrate leadership qualities, the ability to motivate others, and a positive attitude to foster a productive work environment; demonstrate strong people skills, emotional intelligence, and the capacity to build relationships to succeed in team-based marketing environments; and lastly, demonstrate a commitment to sustainability, cultural sensitivity, and an understanding of international markets to navigate the global business landscape effectively. This implies that the BSBA Marketing management program must be aligned with the employers' expectations.

On the other hand, the overall mean of 4.30 under graduates' performance indicates that graduates are performing well in these skills. Graduates are achieving very high performance in customer service and people skills. This implies that graduates excel in addressing customer needs, resolving issues promptly, and providing exceptional service and in communication, collaboration, and relationship-building. Strong interpersonal skills enable graduates to communicate effectively with colleagues, clients, and stakeholders, fostering teamwork and productivity. It indicates that the curriculum aligns well with industry expectations and prepares graduates to meet the demands of the job market.

While this suggests a generally positive performance level, there are still areas where graduates may fall short of the high expectations set by employers. The curriculum and teaching processes must focus on enhancing students' skills and competencies to consistently meet or exceed the high standards set by employers.

The table shows room for improvements along analytical skills, adaptability and flexibility, marketplace and customer understanding, analysis and database skills, marketing communications, organization and planning, motivational skills and environmental and global awareness. This highlights the need for targeted skill development, continuous learning, and alignment of the BSBA marketing management program with industry standards.

As shown by the overall gap score of 0.19 described as performance meets the expectations to the optimum, this suggests that graduates are equipped with marketing skills needed by the industry. The highest gap score (0.30) is "Marketplace and customer understanding". This implies that the BSBA Marketing Management program focus on enhancing knowledge and skills in areas such as market research, consumer behavior, and customer segmentation.

Table 3. Level of Expectations, Performance of Graduates and Gap Analysis on Personal Qualities/Attitudes

Indicators	Expectation	DI	Performance	DI	Gap Score	DI
1. Flexibility and adaptability	4.37	H	4.21	H	0.16	PE
2. Empathy, Prudence, and Temperance	4.44	H	4.21	H	0.23	PE
3. Reliability	4.55	VH	4.39	H	0.16	PE
4. Integrity	4.48	H	4.29	H	0.19	PE
5. Self-discipline	4.64	VH	4.47	H	0.17	PE
6. Optimism towards work	4.71	VH	4.41	H	0.3	PE
7. Pro-activeness	4.56	VH	4.29	H	0.27	PE
8. Productivity	4.55	VH	4.30	H	0.25	PE
9. Initiative	4.68	VH	4.53	VH	0.15	PE
10. Accountability	4.32	H	4.11	H	0.21	PE
11. Leadership	4.28	H	4.03	H	0.25	PE
12. Professionalism	4.53	VH	4.35	H	0.18	PE
13. Civic Responsibility	4.49	H	4.30	H	0.19	PE

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14. Risk Orientation Mindset	4.68	VH	4.51	VH	0.17	PE
15. Resilience	4.39	H	4.30	H	0.09	PE
MEAN	4.51	VH	4.31	H	0.20	PE

Legend:

Range of values	Descriptive Interpretation
4.51-5.00	Very High (VH)
3.51-4.50	High (H)
2.51-3.50	Moderate (M)
1.51-2.50	Low (L)

Gap Score

1.00 and above
0.51 – 0.99
0 – 0.50
Negative gap Score

Descriptive Interpretation (Source: Noel-Levitz)

Performance does not meet the expectations (PDE)
Performance slightly meet the expectations (PSE)
Performance meets the expectations to the optimum (PE)
Performance exceeds the expectations (PEE)

Table 3 shows the level of expectations, performance of graduates and the gap analysis on personal qualities/attitudes.

On the employers' expectations, the overall mean of 4.51 described as "Very High" indicates that graduates are expected to demonstrate a very high level of personal qualities and attitudes. This suggests that there should be a strong emphasis on personal qualities and attitudes in the educational curriculum.

Eight (8) out of fifteen (15) qualities are rated as "Very High". These qualities are reliability, self-discipline, optimism towards work, pro-activeness, productivity, initiative, professionalism, risk orientation mindset. This means that graduates are expected to demonstrate dependability, trustworthiness, and accountability in their work and interactions; exhibit strong self-control, motivation, and the ability to stay focused on tasks and goals; demonstrate positive attitude, resilience, and a proactive mindset towards challenges; take initiative, anticipate needs, and drive positive change within their roles and organizations; manage their time, resources, and tasks to achieve high levels of output and effectiveness; demonstrate a proactive approach, creativity, and a willingness to take on new responsibilities and challenges; uphold ethical standards, exhibit a strong work ethic, and maintain a professional demeanor in all interactions; and embrace calculated risks, innovation, and strategic decision-making to drive growth and success.

The overall performance of graduates in personal qualities and attitudes, as indicated by the mean performance score of 4.31 is "High". This shows that graduates are demonstrating positive qualities/attitudes. Specifically, the very high-performance scores are initiative and risk orientation mindset. This signifies that graduates excel in demonstrating a proactive approach, creativity, and a drive to act in various situations as well as exhibiting a willingness to take calculated risks, think strategically, and embrace uncertainty. The high performance of graduates indicates that the academic program aligns with the industry requirements.

The table shows discrepancies in the employers' expectations and performance of graduates. These qualities are reliability, self-discipline, optimism towards work, pro-activeness, productivity, and professionalism. The gap between very high expectations and high level of performance highlights specific areas where the curriculum may be falling short in adequately preparing students for the demands of the workforce. This can serve as a valuable indicator for educators to identify areas that require enhancement or revision.

The overall gap score is 0.20, indicating that graduates' performance is meeting employers' expectations to the optimum. While the overall performance of graduates in personal qualities and attitudes is high, there is still room for improvement to align more closely with the very high expectations set by the employers.

The highest gap score, 0.27 is proactiveness which means that the program focuses on developing proactive skills in students to better meet the demands of the workforce. Employers often value employees who can anticipate needs, identify opportunities, and drive positive change within their roles and organizations.

IV. CONCLUSIONS

The study highlighted the expectations of employers as to competencies graduates of BSBA Marketing Management should possess. Graduates must excel in demonstrating business/management competencies, marketing skills, and personal attitude/qualities which are needed by the industry. Particularly the competencies such as communication, stakeholder management and conflict resolution, positive values and work ethics, analytical skills, adaptability, marketplace understanding, database skills, organization and planning, motivational skills, environment and global awareness, reliability, self-discipline, optimism, proactiveness, and productivity to meet employers' expectations.

Generally, the BSBA Marketing Management program is aligned to the needs of the industry. Graduates are performing well in various skills and competencies.

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The gap analysis indicated that while graduates generally perform well, there is still room for improvement to fully meet industry expectations. These skills are analytical skills, adaptability and flexibility, marketplace and customer understanding, analysis and database skills, marketing communications, organization and planning, motivational skills and environmental and global awareness, communication, stakeholders' relationship and conflict management and positive work values and ethics, reliability, self-discipline, optimism towards work, pro-activeness, productivity, and professionalism. Addressing these gaps is important for enhancing the students' readiness to meet industry expectations.

The following are the recommendations:

1. The curriculum and instruction could be revised to focus on developing the identified skills and competencies that are essential for meeting or exceeding the high standards set by employers. This may involve incorporating more practical, hands-on experiences, case studies, and real-world projects to enhance skills needed by the labor market.
2. Implement skill development programs to address specific areas of improvement identified by employers. These programs can include workshops, seminars, and training sessions to enhance the needed skills and competencies among students.
3. Ensure that the BSBA Marketing Management program is aligned with industry standards and practices. Collaborate with industry partners to understand current trends and requirements and integrate relevant skills and knowledge into the curriculum to better prepare graduates for the workforce.
4. Establish feedback mechanisms between employers and the academic institution to gather insights on the performance of graduates in the workplace. Use this feedback to continuously improve the curriculum, teaching methods, and student outcomes to better meet the expectations of employers.

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Correlation between Relational Understanding and Cognitive Style on Mathematical Problem-Solving Ability



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ABSTRACT: Problem-solving ability is needed in mathematics learning. This study aimed to find out about the correlation between relational understanding and cognitive style on the problem-solving ability of students. Relational understanding was taken into account because this understanding is related to a person's ability to use mathematical procedures obtained by correlating various mathematical concepts that are relevant in problem-solving and to understand why such procedures can be used. Cognitive style was also considered because this style is related to how students think and understand, including how they solve problems. The study used multiple correlation analysis with independent variables of relational understanding (X1) and cognitive style (X1), while the dependent variable was problem-solving ability (Y). The samples of this study were 22 High School students in Malang, selected randomly. The multiple correlation analysis resulted in $R = 0,965$, indicating that there is a significant correlation between relational understanding and cognitive style on problem-solving ability. In addition, the result of F test also showed that the multiple correlation coefficient was significant.

KEYWORDS: Relational understanding; Cognitive style; Problem-solving ability

INTRODUCTION

A problem is an obstacle or issue to be solved. Most mathematicians argue that problems are questions that students shall answer or respond to, but not all questions will become problems for students (Shadiq, 2003). A question will become a problem if the question contains a challenge that is not solved by any routine procedures that students already know. Therefore, such question will become a problem for students who do not know the routine procedures or find a challenge in solving it, but the same question will only become an ordinary question for students who already know the procedure.

According to Reys (in Zhu, 2007), "problem solving is the foundation of much mathematical activity". Problem solving is a fundamental component in learning and gaining knowledge (Ayllon, et al, 2016). According to Polya, problem solving processes consist of (1) understanding the problem, (2) devising a plan, (3) carrying out the planning, and (4) re-examining (Ayllon, et al, 2016). The steps that can be selected in solving are guessing and checking, making an orderly list, eliminating possibilities, using symmetry, considering special cases, using direct reasoning, solving equations, looking for patterns, drawing pictures, solving simpler problems, using a model, walking backwards, using a formula and becoming ingenious (Victor, 2015).

Problem solving is taught and explicitly becomes one mathematics learning objective contained in mathematics curriculum. This is in line with the mathematics learning objectives stated by BSNP (2006). In addition, NCTM (2000) states that problem solving is one of the standards that shall be mastered by students in mathematics learning. In addition, problem solving ability is seen not only as a mathematics learning objective but also as the main instrument to measure the performance of students in mathematics learning (Eviyanti, et al, 2017). In fact, mathematics and problem solving are two things that are integral.

Problem solving is needed in mathematics learning. This, according to Pehkonen (1997), is because problem solving has various benefits, i.e.: (1) developing general cognitive skills, (2) boosting creativity, (3) problem solving is a part of mathematics application processes, and (4) motivating students to learn mathematics. In addition, problem solving could improve students' higher-order thinking skills (Abdullah, et al, 2015; Kortesi & Georgieva, 2015; Ersoy, 2016). Based on this explanation, problem solving is one of the mathematics learning objectives that could encourage and train students' higher-order thinking skills. Therefore, teachers shall pay attention to any factors that influence or are related to problem solving abilities. By knowing

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these factors, teachers are expected to formulate a learning design that is able to provide a positive relationship with problem solving abilities.

One of the factors considered to have a positive relationship with students' problem-solving ability is students' understanding. Understanding, in Revised Bloom's Taxonomy, is a dimension higher than remembering which consists of interpreting, giving examples, classifying, summarizing, concluding, comparing and explaining (Krathwohl, 2002). Further Skemp (1987) divided understanding into three, namely instrumental understanding, relational understanding, and logical understanding.

This understanding specifically refers to relational understanding. Relational understanding is students' understanding to find the procedures to be used, based on reasoning and ability to connect to mathematical concepts (Anwar, 2016). Relational understanding is a rich and interconnected network of concepts (Olivia, et al, 2013). This understanding is the ability to re-explain the concepts that have been studied, analyze (classify), apply the concepts in an algorithm, and correlate one concept to another so that students are able to find reasoning or rationality of an answer (Mustaghfirin, 2014). This is in line with an argument of Skemp (1987) that "relational understanding is described as knowing both what to do and why", i.e. a person's ability to use mathematical procedures obtained by correlating various mathematical concepts that are relevant in problem-solving and to understand why such procedures can be used. Yazidah (2018) in a previous research stated that groups of students with high academic achievement and students with middle academic achievement had almost the same relational understanding abilities.

Relational understanding is crucial in mathematics learning. In addition, improving relational understanding will then improve meaningful learning for students (Anwar, 2016). Relational understanding is important for meaningful mathematics learning because teachers certainly expect that students' understanding is not limited to the understanding to only connect (Mustaghfirin, 2014). Besides, relational understanding contains a scheme or structure that can be used to solve more problems (Mustaghfirin, 2014). Therefore, relational understanding can be said to play a role in problem solving.

In addition to relational understanding, another factor considered is cognitive style. Cognitive style is a psychological term to describe the way individuals think, understand and memorize information (Lusiana, 2017). Cognitive style is an individual characteristic in thinking, feeling, memorizing, solving problems, and making decisions (Park, 1996: 639). Cognitive style can be divided into two, namely field independent (FI) and field dependent (FD) cognitive styles.

Further, each of these cognitive styles has its own characteristics. Individuals with field dependent cognitive style are those who tend to think globally, view an object and its environment as a unity, have social orientation, prefer a structured environment, follow existing objectives, as well as prioritize extrinsic motivation and reinforcement. On the other hand, individuals with independent field cognitive style are those who tend to view objects as discrete and separate parts of the environment, able to analyze to separate stimuli from the context, able to restructure, have impersonal orientation, design their own objectives, and work with intrinsic motivation and reinforcement. In other words, cognitive style is related to how students think and understand, including their problem solving.

This study analyzed the correlation between these two factors, both relational understanding and cognitive style, with problem solving ability. A strong correlation between relational understanding and cognitive style with problem solving ability can be used as a consideration in designing a more meaningful mathematics learning for students. This study was limited to only relational understanding and cognitive style as the independent variables and problem-solving ability as the dependent variable.

METHODS AND MATERIALS

Scope of Research

The research instrument was test questions which were limited to combinatorics to measure students' relational understanding and problem-solving ability. Combinatorics was selected because this material is one of the basic concepts that students shall master and this is highly relevant to everyday life. In addition, the research instrument was also in the form of GEFT (Group Embedded Figure Test) to find out about students' cognitive style, whether the students had field dependent (FD) or field independent (FI) styles.

Research design

This was a correlational research with a quantitative approach. The correlational technique used was multiple correlation with Pearson Product Moment that matched the ratio data. The multiple correlation in this study was the correlation between two independent variables and one dependent variable (Sugiyono, 2002). The independent variables in this study were relational understanding (X_1) and cognitive style (X_2). The dependent variable was problem-solving ability (Y).

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Research Procedure

The population in this study was high school students in Malang, while the samples consisted of 22 students who were randomly selected. The samples were selected using simple random sampling technique.

Data on problem solving ability scores (Y), relational understanding (X₁) and cognitive style (X₂) will be analyzed correlation between problem-solving ability (Y) and relational understanding (X₁), correlation between problem-solving ability (Y) and cognitive style (X₂), correlation between relational understanding (X₁) and cognitive style (X₂), correlation between relational understanding (X₁) and cognitive style (X₂) with problem-solving ability (Y).

Data Collection and Data Analysis

Multiple correlation is number that indicates the direction and strength of the correlation between two or more variables simultaneously with other variables (Sugiyono, 2002). The correlation between two or more variables is stated to be positive when an increased value of a variable could increase the value of another variable, and vice versa, when a decreased value of a variable could decrease the value of another variable. To calculate multiple correlation, simple correlation was first calculated using Pearson Product Moment correlation. The simplest formula that can be used to calculate the correlation coefficient is as follows,

$$r_{xy} = \frac{\sum xy}{(\sum x^2)(\sum y^2)} \quad (1)$$

where r_{xy} is the correlation between variable x and y , $x = x_i - \bar{x}$ with $y = y_i - \bar{y}$. Next, multiple correlation was calculated using the following formula.

$$R_{yx_1x_2} = \sqrt{\frac{r_{yx_1}^2 + r_{yx_2}^2 - 2r_{yx_1}r_{yx_2}r_{x_1x_2}}{1 - r_{x_1x_2}^2}} \quad (2)$$

Interpretation of correlation coefficient adapted from Sugiyono (2002) is presented in the following table.

Table 1. Interpretation of Correlation Coefficient

Coefficient Interval	Correlation Level
$0 \leq r < 0.2$	Very low
$0.2 \leq r < 0.4$	Low
$0.4 \leq r < 0.6$	Moderate
$0.6 \leq r < 0.8$	Strong
$0.8 \leq r \leq 1$	Very strong

Next, F test was done to test the significance on the multiple correlation coefficient.

$$F_{count} = \frac{R^2/k}{(1 - R^2)/(n - k - 1)}$$

with R is multiple correlation coefficient, k is the number of independent variables and n is the number of samples. If F_{count} is greater than F_{table} then H_0 is rejected and H_1 is accepted, meaning that the multiple correlation coefficient is significant.

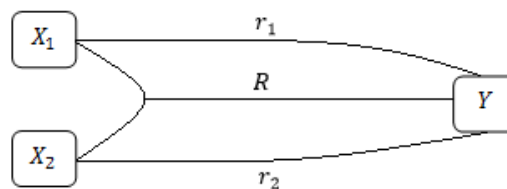


Figure 1. Multiple Correlation between X₁ and X₂ with Y

Based on this diagram, r_1 shows the correlation between relational understanding and problem-solving ability, r_2 shows the correlation between cognitive style and problem-solving ability, and R shows the correlation between relational understanding and cognitive style with problem-solving ability.

RESULTS AND DISCUSSIONS

Results

Problem-solving ability refers to Polya, but this study did not consider the review stage. Therefore, the problem-solving ability indicators were (1) students are able to understand the problem, (2) students are able to devise a plan, and (3) students

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are able to carry out the plan. The combinatorics problem given was "a car number plate of Malang area begins with letter N, followed by four numbers, and ends with two letters. How many number plates can be formed if the four digit numbers form even numbers and contain no same numbers?". The problem-solving ability was presented using a scale of 0 to 100. The guidelines for the scoring of students' problem-solving ability are presented in Table 2.

Table 2. Guidelines for Scoring of Students' Problem-Solving Ability

Problem Indicators	Solving	Description	Scores
Understand problems	the	Interpret the problems correctly	2
		Incorrectly interpret some of the problems	1
		Misinterpret the problems	0
Devise a plan		Devise a problem-solving plan correctly and completely	4
		Devise a problem-solving plan correctly but incompletely	3
		Devise a problem-solving plan that is less relevant	2
		Devise a problem-solving plan that is not relevant	1
		Do not devise a problem-solving plan	0
Carry out the plan		Carry out the problem-solving procedure correctly and obtain correct results	2
		Carry out the problem-solving procedure correctly but obtain incorrect results	1
		Carry out no problem-solving procedure	0

Problem solving ability in this study was the dependent variable, whose correlation with students' relational understanding and cognitive style was analyzed. Students' scores in terms of their problem solving ability were calculated using the following formula.

$$y = \frac{\text{score obtained by students}}{8} \times 100$$

Relational understanding was one of the independent variables whose correlation with problem solving ability was analyzed in this study. The indicators of relational understanding referred to combinatorics problems given to the students. In general, the indicators of relational understanding consisted of: (1) correlating various mathematical concepts, (2) applying concepts in various mathematical representation, and (3) classifying objects based on whether or not the requirements for the concept are met. These three indicators were further explained based on the given combinatorics problem. The descriptions of each indicator are presented in the following table.

Table 3. Description of Relational Understanding Indicators

Indicator	Description
Correlating various mathematical concepts	Able to correlate the concepts of even numbers
Applying concepts in various mathematical representation	Able to transfer the problem into four boxes for numbers and two boxes for letter
Classifying objects based on whether or not the requirements for the concept are met	<ol style="list-style-type: none"> Able to determine the correct enumeration rules to solve the problem based on what is known and asked Able to place even numbers in the last box as the first box to be filled out Able to divide the solution into two cases (if number 0 fills in the last box and if number 0 does not fill in the last box) Able to determine many choices of number in each box

The descriptions of each indicator were eventually used to measure the students' relational understanding. The following table describes the scoring of the students' relational understanding.

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Table 4. Guideline for Scoring of Students' Relational Understanding

Description of Indicator	Description	Score
Able to determine the correct enumeration rules to solve the problem based on what is known and asked	Able to determine the appropriate enumeration rules and explain the reasons of determining the rules based on what is known and asked	2
	Able to determine the correct enumeration rules but unable to explain the reasons of determining the rules based on what is known and asked	1
	Unable to determine the correct enumeration rules and unable to explain the reasons of determining the rules based on what is known and asked	0
Able to transfer the problem into four boxes for numbers and two boxes for letter	Able to transfer the problem into four boxes for numbers and two boxes for letter	2
	Able to transfer the problem into four boxes for numbers only, but neglecting the letters	1
	Unable to transfer the problem into four boxes for numbers and two boxes for letter	0
Able to correlate the concepts of even numbers	Able to explain the definition of even numbers and correctly mention numbers belonging to even numbers, i.e. 0, 2, 4, 6 and 8	2
	Able to explain the definition of even numbers and but incorrectly mention numbers belonging to even numbers, i.e. 0, 2, 4, 6 and 8	1
	Unable to explain the definition of even numbers and unable to mention numbers belonging to even numbers, i.e. 0, 2, 4, 6 and 8	0
Able to place even numbers in the last box as the first box to be filled out	Able to place even numbers in the last box as the first box to be filled out	1
	Unable to place even numbers in the last box as the first box to be filled out	0
Able to divide the solution into two cases (if number 0 fills in the last box and if number 0 does not fill in the last box)	Able to divide the solution into two cases	1
	Unable to divide the solution into two cases	0
Able to determine many choices of number in each box	Able to determine many choices of number in each box and explain the reason behind each choice of number	2
	Able to determine many choices of number in each box but unable to explain the reason behind each choice of number	1
	Unable to determine many choices of number in each box	0

Each of the students' relational understanding scores was calculated using the following formula.

$$x = \frac{\text{score obtained by students}}{10} \times 100$$

In addition to relational understanding, another independent variable analyzed in this study was cognitive style. Cognitive style scores referred to the GEFT questions given to the students. The minimum score was 0 and the maximum was 18. The score ranging from 0 to 9 showed FD cognitive style, while the score from 10 to 18 showed FI cognitive style. The GEFT test score was then converted into a scale of 0 to 100 using the following formula.

$$x = \frac{\text{score obtained by students}}{18} \times 100$$

Data of problem-solving ability score (Y), relational understanding (X_1) and cognitive style (X_2) are presented in the following table.

Correlation between Problem-Solving Ability (Y) and Relational Understanding (X_1)

To determine the correlation between problem-solving ability and relational understanding, correlation analysis was performed using formula (1). The research showed that there is a significant correlation between relational understanding and

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problem-solving ability, evident from the calculation which resulted in $r_{yx_1} = 0.962$. This shows that there is a strong correlation between relational understanding and problem-solving ability. In addition, the correlation is positive, so the better the students' relational understanding, the better their problem-solving ability.

Correlation between Problem-Solving Ability (Y) and Cognitive Style (X₂)

To determine the correlation between problem-solving ability and cognitive style, correlation analysis was performed using formula (1). The research showed that there is a significant correlation between cognitive style and problem-solving ability, evident from the calculation which resulted in $r_{yx_2} = 0.861$. This shows that there is a strong correlation between cognitive style and problem-solving ability. In addition, the correlation is positive, so the better the GEFT test score, the better the students' problem-solving ability. Higher test scores indicate that students tend to have FI cognitive style.

Correlation between Relational Understanding (X₁) and Cognitive Style (X₂)

To determine the correlation between relational understanding and cognitive style, correlation analysis was performed using formula (1). The research showed that there is a significant correlation between cognitive style and relational understanding, evident from the calculation which resulted in $r_{x_1x_2} = 0.923$. This shows that there is a strong correlation between cognitive style and relational understanding. In addition, the correlation is positive, so the better the GEFT test score, the better the relational understanding. Higher test scores indicate that students tend to have FI cognitive style.

Correlation between Relational Understanding (X₁) and Cognitive Style (X₂) with Problem-Solving Ability (Y)

To determine the correlation between relational understanding and cognitive style with problem-solving ability, a correlation analysis was performed using formula (2). The research showed that there is a significant correlation between relational understanding and cognitive style with problem-solving ability, evident from the calculation which resulted in $R_{yx_1x_2} = 0.965$. This shows that there is a strong correlation between relational understanding and cognitive style with problem-solving ability. Further, F test was performed to examine the significance of the multiple correlation coefficient, which resulted in $F_{count} = 128.24$ greater than $F_{table} = 3.52$ at a significance level of 5%. Therefore, it can be concluded that the multiple correlation coefficient is significant, meaning that the result of the correlation analysis can be applied to the population from which the samples were selected, i.e. high school students in Malang.

DISCUSSIONS

A strong correlation between relational understanding and cognitive style shows that these two factors can be considered in developing mathematical problem-solving ability. Students who have relational understanding tend to be better at problem-solving. Relational understanding helps students know more about what they learn and what they need in learning it (Anwar, 2016). The results also showed that a higher cognitive style score indicates a better problem-solving ability. Students with FI cognitive style tend to have a high level of independence in viewing stimulus without being dependent on teachers. On the other hand, students with FD cognitive style tend to be highly dependent on the educational resources from teachers (Lusiana, 2017). However, this does not necessarily mean that students with FI cognitive style are better than those with FD. If students with cognitive style are considered to have been more independent in solving problems, teachers are expected to be able to design and provide treatment needed by students with FD cognitive style. Finally, students with both FI and FD cognitive styles are expected to have the same opportunities to develop their problem solving ability.

CONCLUSIONS

Relational understanding and cognitive style have a significant correlation with problem-solving ability. The calculations resulted in $R_{yx_1x_2} = 0.965$, meaning that there is a strong correlation between relational understanding and cognitive style with problem-solving ability. The result of F test also showed that the multiple correlation coefficient is significant, indicating that the results of the correlation analysis can be applied to the population from which the samples were selected, i.e. high school students in Malang. These results indicate that in order to develop problem-solving ability, teachers shall consider students' relational understanding and cognitive style. For future researchers, it is suggested that they study how to design learning that could accommodate relational understanding or cognitive style as a part to improve students' problem-solving ability.

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Adaptive Sustainable Mobility Solutions by Using Vehicle-Integrated Photovoltaic in Kigali City



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ABSTRACT: In a fast-paced urbanized culture, sustainable transportation remains a significant challenge. Quick and smooth mobility of people and goods with the possibility of regulating traffic congestion and preventing climate change is essential for every public transportation user. Urban population in developing nations like Rwanda is expected to double by the year 2050, and balancing the supply and demand of the urban transport system will be a significant issue. Information technology enables elements within the transportation system, including vehicles, roads, traffic lights, and message signs, to become intelligent by embedding them with sensors, processors, algorithms, and actuators, thus empowering them to communicate through various technologies. These technologies improve transportation system performance by reducing congestion, increasing safety and traveler convenience, and protecting the climate against some greenhouse gases. Different mobility solutions are stated in this document. The use of electric vehicles, Passenger Information Systems, Car-sharing and ride-sharing services, electronic payment, Bus Signal Priority, and Vehicle-Integrated Photovoltaics. Using photovoltaics in Rwanda is adequate because of the electricity problem. This is the best solution for fighting against climate change due to fuel from motorized traffic.

KEYWORDS: Information technology, Traffic congestion, Vehicle Integrated Photovoltaics

1. INTRODUCTION

Rwanda has made substantial progress in economic, environmental, human, and social development after the devastation of the 1994 genocide. Government policy has focused on building institutional capacity, good governance, and supporting economic growth, resulting in an annual growth rate of eight percent between 2000 and 2013, a 170 percent increase in real GDP, making the country among the ten fastest-growing economies in the world. Rwanda is one of the densest countries in Africa and one of the least urbanized, with approximately 17 percent of its 12 million people living in urban areas (World Bank, 2016). The city is simultaneously administrative, industrial, educational, health centers, and commercial. With an increased shortage of electricity pollution, the City of Kigali cannot introduce faster electric vehicles and other mobility solutions. This phenomenon directly results from the refusal by the population to use electric vehicles and electric motor vehicles because of a lack of charging stops.

The theory of sustainable mobility comes from the more significant concept of "sustainable development," defined as the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Oxford, 1987). Promoting sustainable mobility is one of the most widespread objectives in transport policy at all territorial levels, whatever the "political color" of the decision-maker. Nowadays, no plan, project, or policy direction concerning the transport sector does not (at least) mention the concept of sustainable mobility (Klecha & Gianni, 2018). The effects of technology on promoting the shift in behavior towards sustainable transportation modes are investigated. The international community has made several commitments over the last decade related to transport, setting the bar high on what is needed to transform the sector and to ensure that the future is sustainable. For example, the 2030 Agenda for Sustainable Development identified many characteristics that define a sustainable world. The UN Secretary General's high-level advisory group on sustainable transport identified the attributes that mobility must embody to ensure a sustainable future, including safety, affordability, accessibility, efficiency, resilience, and carbon impacts. Sustainable mobility includes various measures to reduce CO₂ emissions, such as car sharing and expanding public transport, as the principle of having short distances (Rupprecht Consult, 2019).

Also, the digital automation and networking of vehicles are central. Developing alternative driving systems such as battery and fuel cells is significant. Although the market share of electric and hybrid vehicles rose from 1.8 % to 2.6 % by mid-2019, the limited range, high acquisition costs, and regional gaps in the charging infrastructure require further technical innovations and new

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scientific approaches (Rupprecht Consult, 2019). At Fraunhofer ISE, transdisciplinary research is conducted on modern technologies for the sustainable mobility of tomorrow, taking all drive systems into account. According to (<https://www.ise.fraunhofer.de/en/sustainable-mobility.html>), 23 % of CO₂ emissions are from the transport sector, primarily due to motorized individual traffic. While the need for mobility is forecast to increase by around 30 % by 2030, implementing the climate protection plan for transport has reached a standstill. Instead of saving 40 % of greenhouse gas emissions, CO₂ emissions in this sector – unlike in other areas – have not fallen since 1990. Ecological, economic, and social aspects play a more significant role in mobility than in hardly any other sector. Therefore, the essential prerequisite for a successful transition to sustainable mobility is social acceptance and close cooperation between industry, science, and politics (Rupprecht Consult, 2019).

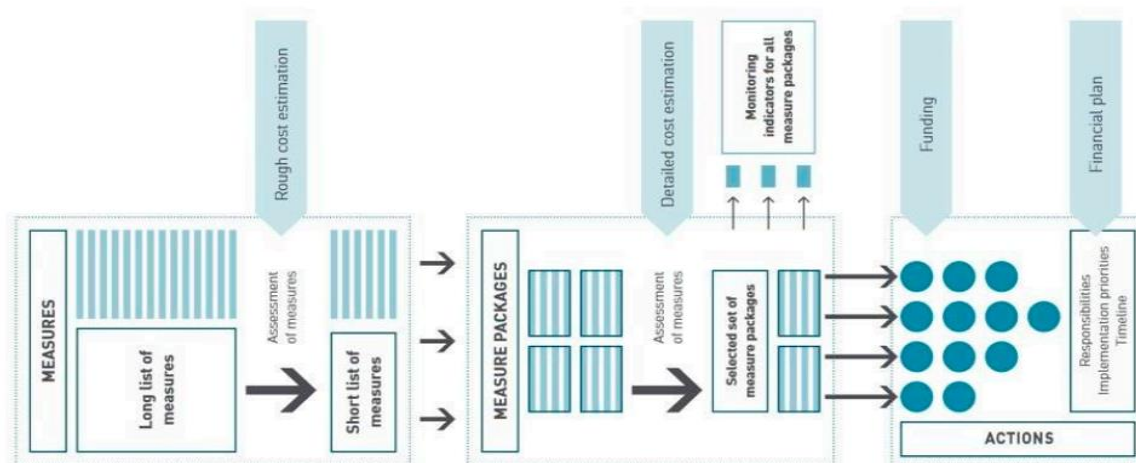


Figure 2. 1. Mobility measures selection process (Rupprecht Consult, 2019)

2. SUSTAINABLE MOBILITY SOLUTIONS

2.1. Electric Vehicles (EVs)

The overall transportation sector is responsible for 30% of all fossil fuel emissions in the EU (European union, 2007). With the increasing cost of energy and climate change constraints leading to pressure to mitigate GHG emissions, the automotive industry is one of the sectors that shows significant investments in R&D to reduce emissions and the dependence on fossil fuels. Powertrain electrification has been advocated for decades as an alternative for ICEVs due to zero tailpipe emissions and higher efficiency by using an electric motor instead of an Internal Combustion Engine (ICE). Typical ICE efficiency is 28–30%, while electric motors achieve 85–95% (Larminie & Lowry, 2003). The main obstacle to the mass adoption of EVs has been the battery, due to the low energy density capability, limiting the vehicle range. Advances in battery technology over the last decades, namely Lithium-ion technology, have led to the viability of mass manufacturing of EVs.



Figure 3 1. Charging infrastructure

2.2. Passenger Information Systems

One of the most relevant issues in cities is mobility. The current traffic congestion situation in cities leads to several health problems derived from pollution, noise, and, obviously, the tremendous stress on drivers who spend several hours in traffic to reach their destination (Allen et. al., 2018). Several developed cities have created innovative mobility systems as new Solutions to

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solve this problem. The implementation of systems of this kind involves the development of software and hardware infrastructure in the city.

These developed countries have created passenger information systems for bus users that indicate the real-time bus location, and they have also developed several apps that provide this information directly to the smartphones of the bus users. A smart city is an urban development that securely integrates Information and Communication Technologies and the Internet of Things (IoT) technology to manage a city's assets. A smart city can be defined as using information and communication technologies to improve the city's critical infrastructure and make public services for citizens more efficient (Avatefipour & Sadry, 2018). A Smart City uses technology to improve the quality of life and the accessibility of its inhabitants. Additionally, it ensures sustainable economic, social, and environmental development. An intelligent city allows citizens to interact with it in a multidisciplinary way and permits the city to adapt to their needs in real time (Yankevich, 2019). The concept of a Smart City requires the implementation of mechanisms to know the real-time context of the services provided to the citizens. For example, in the case of an intelligent mobility system, such as the one proposed in this research, the users need to know the location of buses in real time to improve the times used to reach a destination.

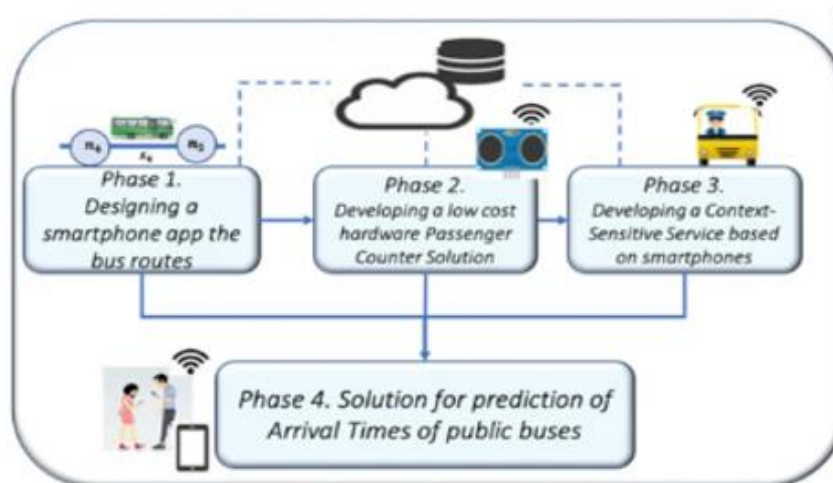


Figure 3. 2. Overview of the proposed solutions

2.3. Car-Sharing and Ride-Sharing Services

Increasing concerns about traffic congestion, road safety, greenhouse gas emissions, and energy consumption have resulted in people making different transportation choices, which in turn are affecting future mobility patterns. As “sustainable mobility” has become increasingly popular, recent transportation research focuses on identifying and building a sustainable transport future. Car sharing faces significant obstacles from primary sources: potential users, transportation infrastructure, governments, and businesses (Zeng, 2015). Although these four are common in cities worldwide, car sharing faces unique challenges in emerging markets, such as poor or insufficient public transport, private car restrictions, severe traffic congestion, and competition with semiformal transport modes. Further, as car sharing is not the only product offered by new mobility services, as technology advances and lifestyles change, customers will use the products and services that best meet their ever-changing travel needs.

2.4. Electronic Payment

Our mobility is undergoing a digital transformation. Innovative apps and digital companies offer mobility solutions where the customer is relieved of payment administration. Physical card payments or manual transfers are history. As a European market leader, Twikey helps to make the right financial choices in the complexity of different bank and online payment methods. We relieve the mobility player from customer identification to the collection agency. Full automation is the only solution to process high volumes without debtor administration. Nowadays, Mobility as a service (MaaS) integrates any discussion, analysis, or forecast on future mobility systems. As discussed (Spickermann et al., 2014), the mobility ecosystem is becoming more fragmented with the introduction of transport solutions, new business models, and new companies, all aligned with the same common objective: providing affordable, convenient, and sustainable mobility solutions. One example of a MaaS solution is Ustra, a mobility shop that provides a channel for selling physical tickets for transport operators. All services are based on a mobility app, essential for providing a pay-as-you-ride or a pay-as-you-go solution, often complemented by additional web-based services.

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	Transport mode	Operator	Mode for payment and utilization	App / system used
Traditional transport services	Ferries	TLS	Digital payment & physical ticket	viva
	Bus	coris	Digital payment & physical ticket	viva
	Light rail	coris	Digital payment & physical ticket	viva
	Rail	fertagus	Digital payment & physical ticket (CP) Fully digital (Fertagus)	viva, via verde
	Metro		Digital payment & physical ticket	viva
	Taxi	TAXI	Fully digital	X
	Parking	empark	Fully digital	empark, viva
New transport services	Car-sharing	emtel, ego	Fully digital	empark, viva
	Ride hailing	Uber, CABIFY, taxify	Fully digital	Uber, CABIFY, taxify
	Bike sharing	GIRA	Fully digital	empark
	Electric scooters	Lime, voi, hive	Fully digital	Lime, voi, hive

Figure 3. 3. Transport operators in Lisbon

2.5. Bus Signal Priority

Bus signal priority (BSP) is an operational strategy that facilitates the movement of public buses through traffic signal-controlled intersections by reducing the time they spend at intersection queues (Smith HR & Hemily , 2005). Thus, it helps improve bus service reliability by reducing schedule deviation, bus travel times, and delays. Another advantage is that it is a relatively less expensive way to make public transit more competitive than automobiles. BSP can be viewed as both demand and supply-side traffic management measures. It helps to make public transit more attractive, making people shift from private modes to public transport, thus reducing road vehicular demand. BSP also improves the signal timing for maximizing the throughput, making it a supply management measure. Despite these benefits, their potential negative impacts on the competent modes raise concerns about their deployment and urge a thorough validation before implementation.

2.6. Vehicle-Integrated Photovoltaics

The automotive sector has been developed and prospered thanks to abundant, cheap, and energy-efficient oil. For more than a century, its domination was unchallenged. Likewise, for decades, the rise in vehicle power was made without considering the environmental dimension (Minak et.al.,2019). EV charging stations present several problems. Indeed, they amplify the electric load. Consequently, it potentially intensifies the peak load or produces other peaks. Moreover, EV charging stations can boost load side uncertainties overload distribution grid devices, which reduce their lifetime, augment power loss, and induce significant voltage deviations compared to their nominal value(Dominguez-Navarro et al.,2019). Integrating PV panels in the vehicle will allow the charging battery to operate autonomously. This means no longer needing charging stations or reducing their use as much as possible.



Schematic of a lightweight module for trucks.

Electric-powered truck and mini truck, both with integrated photovoltaic modules.

Figure 3. 4. Photo with photovoltaics

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3. SUSTAINABLE MOBILITY SOLUTIONS IMPLEMENTATION CHALLENGES

The stakeholders identified a lack of commitment behind these policy goals as the most critical barrier. If no goals and targets deriving from transport politics are formulated, there will be no solid political will to reform the system(s). Decisions are often based on political reasons but lack a long-term strategy. Additionally, conflicting policy objectives (e.g., passenger vs. freight) complicate the situation. According to the group, lacking communication between the policy and public administration levels in European multilevel governance may lead to contradictory policy strategies (European Commission, 2011). Another barrier concerns the general interest of industrial players to gain proprietary solutions. Transport operators often have a data monopoly and are not eager to share. It is a common business strategy to create market entry barriers by excluding new entrants from data and information access. In addition, shared data access would expose operators' shortcomings like operation delays and disruptions to public scrutiny. A primary barrier for the private sector is finding profitable business models and investment strategies for traveler information systems and services. Although there are corresponding user needs and wants for quality and reliable information, acceptance of extra charges is limited, especially when sufficient information is already available free of charge. Furthermore, the stakeholders mentioned that real user needs and wants are often not well understood and reflected in decisions being made (European Commission, 2011). A specific gap in knowledge exists concerning the barriers faced by local authorities across the different levels of policy implementation (HILL & HUPE P, 2003). Stakeholders' engagement is lacking, but at the same time, they have contributions considered to be the most significant, thus posing the most severe barriers in terms of the involvement of stakeholders in delivery (A.D, MA, & MRTPI, 2005).

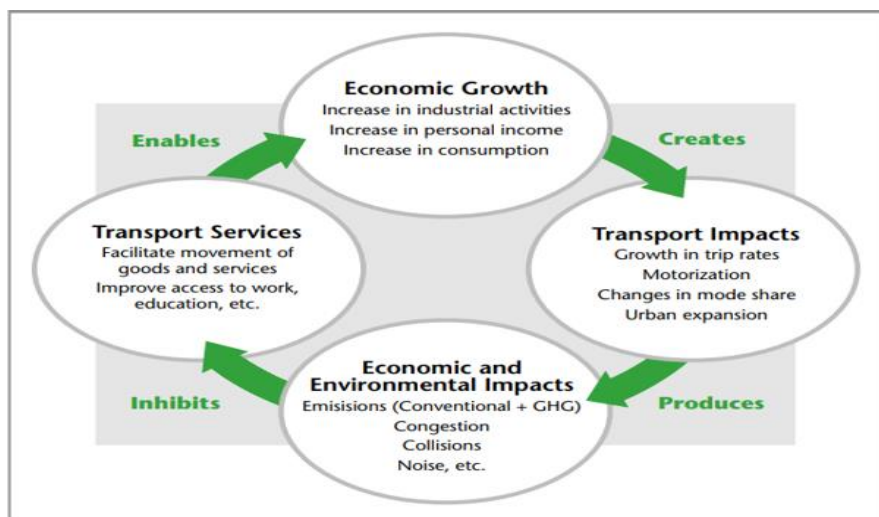


Figure 5. 1. The challenges of making mobility sustainable (Molina,2002)

4. PROPOSED SUSTAINABLE MOBILITY SOLUTION – VEHICLE INTEGRATED PHOTOVOLTAIC (VIPV)

The City of Kigali is the capital of Rwanda and is located at Rwanda's geographical heart. Occupying an area of 730km², the city is located at latitude 10o58' S and a longitude 30o07' E. The average annual precipitation rate is approximately, with an annual average high temperature of 27°C and annual average low temperature of 16°C (kigali, 2023). We proposed vehicle intergrated photovolataic (VIPV) because it is the cleanest way of sustainable mobility solution in Transportation.

4.1. Integrated Photovoltaic (VIPV)

The idea of a solar-powered vehicle or vehicle-integrated photovoltaics (VIPV) is nothing new. It dates to the 31st of August in 1955 when William G. Cobb, a GM engineer, revealed the world's first VIPV prototype at the General Motors Powerama auto show held in Chicago, Illinois. "Sunmobile" was the name of his 15-inch-long tiny automobile, which included 12 photovoltaic cells made of selenium (a nonmetal substance with conducting properties) to power up a tiny motor that was connected to its rear axle by a pulley (solaredition, 2020). However, the fundamental idea behind that was not creating something clean and green that could help mitigate the environmental effects of diesel cars, as it was not considered a threat then. He wanted to show us the feasibility of running cars with solar energy. Currently, there are several companies like Sono motor (Sion), Lightyear (Lightyear One), Hyundai (Sonata), and Tesla (Cyber Truck), that are trying to use this approach to either extend their range or to be able to charge your vehicle thoroughly. Photovoltaics can be achieved in several ways: by solar-powered charging stations or photovoltaic modules built into a car's body parts (VIPV). The interest in VIPVs is due to the increase in the efficiency of solar modules, the decrease in the prices of solar modules, and the booming market of hybrid or electric vehicles. If all of the electric vehicles by the

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year 2030 were equipped with a solar roof and assuming those vehicles had an average roof area of 2/m² and a solar module with the capacity of 200 W/m², they would have a potential market of 18GW per year (solaredition, 2020).

4.2. VIPV Benefits

VIPV is still a relatively new technology, but it has the potential to improve the efficiency and sustainability of vehicles significantly. The following are the benefits of VIPV.

- i. Increased range for EVs: VIPV can extend the range of EVs by up to 30%. This can make EVs more practical for long-distance travel.
- ii. Reduced fuel consumption for gasoline and diesel vehicles: VIPV can reduce fuel consumption by up to 10%. This can save money and reduce emissions.
- iii. Lower greenhouse gas emissions: VIPV can help to reduce greenhouse gas emissions from vehicles by up to 30%.
- iv. Reduced dependence on fossil fuels: VIPV can help to reduce our dependence on fossil fuels by generating electricity from a clean and renewable source.
- v. Enhanced vehicle aesthetics: VIPV can seamlessly integrate into the vehicle's design, adding a sleek and futuristic look.
- vi. Potential for additional revenue streams: VIPV can provide opportunities for additional revenue streams through vehicle-to-grid (V2G) technology, where excess solar energy generated by the vehicle can be sold back to the grid.
- vii. Reduced reliance on charging infrastructure: VIPV can help to reduce reliance on charging infrastructure, as vehicles can generate their electricity.
- viii. Extended battery life: VIPV can help to extend the life of the vehicle's battery by reducing the need for deep discharges.
- ix. Reduced maintenance costs: VIPV requires minimal maintenance, making it a cost-effective solution.
- x. Improved sustainability profile: VIPV can significantly enhance the sustainability profile of vehicles, making them more environmentally friendly.

4.3. VIPV Challenges

Vehicle-integrated photovoltaics (VIPV) is a promising technology with the potential to significantly improve the efficiency and sustainability of vehicles. However, there are also several challenges that need to be addressed before VIPV can become widely adopted.

- i. Cost: The cost of VIPV systems is currently relatively high. This is due to the high cost of the PV modules and the cost of integrating them into the vehicle. As the technology matures, the cost of VIPV systems is expected to come down.
- ii. Efficiency: The efficiency of VIPV systems is currently lower than the efficiency of traditional PV panels. This is due to the fact that the PV modules must be integrated into the vehicle's body, which can reduce their exposure to sunlight. As the technology develops, the efficiency of VIPV systems is expected to improve.
- iii. Durability: VIPV systems must be able to withstand the rigors of everyday driving, including exposure to the elements, vibration, and impact. As the technology matures, the durability of VIPV systems is expected to improve.
- iv. Weight: VIPV systems can add weight to a vehicle, reducing fuel economy. As the technology develops, lighter and more efficient VIPV systems are expected to be developed.
- v. Aesthetics: VIPV systems must be aesthetically pleasing in order to be accepted by consumers. More aesthetically pleasing VIPV systems are expected to be developed as the technology matures.
- vi. Integration: VIPV systems must be integrated into the vehicle's design in a way that does not compromise the vehicle's safety or performance. As the technology matures, better methods for integrating VIPV systems into vehicles are expected to be developed.
- vii. Standards and regulations: There are currently no standards or regulations governing using VIPV systems in vehicles. This could create challenges for automakers and consumers. As the technology develops, standards and regulations for VIPV systems are expected to be developed.
- viii. Consumer acceptance: Consumers may be hesitant to adopt VIPV technology due to the higher cost and the perceived risks. As technology matures and the benefits become more apparent, consumer acceptance is expected to increase.

Despite these challenges, VIPV can be a transformative technology for the automotive industry. As the technology continues to develop, VIPV systems are expected to become widely adopted in the years to come.

4.4. Feasibility study

The feasibility of a fully solar-powered vehicle that is able to traverse great distances is very low. It is possible to use a fully solar-powered vehicle for short distances and there are some options on that front as well, like Sion from Sono motors which according

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to them can add up to 245 km (112 km on average) of driving range per week through solar energy to the car's battery. Also, the body of a vehicle has limited space to accommodate solar panels, and until their efficiency is not increased, they are not suitable for traversing long distances without any other source of energy, and for it to work with high efficiency, certain weather and climate conditions should be met as well. Right now, one of the feasible ways to use vehicle-integrated photovoltaics is to use them as a secondary source of power so they can be charged with electricity from the grid or charging station and solar energy. This, in turn, will also benefit the driving range of the vehicle (solaredition, 2020).

5. CONCLUSION

As of now, there aren't many VIPVs out there, but because of advancements in solar technology regarding efficiency and lowering of module prices, there is scope for further development and growth. This market also has great potential, reaching about 18 GW annually. So much so that by 2030, 10% of electric vehicles could be represented with VIPVs. Especially in sunny conditions, it is possible to drive for weeks without charging. Due to where it has been implemented as an example in the Netherlands, it is expected to have about 25% fewer times charging annually, and in summer, you may even drive for three months without recharging the vehicle a single time. In sunny places like Spain and Italy, the charging time might reach 40% with the current technology annually. Also, with three-to-four-year payback time, there is a reasonable benefit to be considered (solaredition, 2020), but when it comes to Kigali, Rwanda this will be more effective and efficient because it is located on a sunny day where it varies an average of between 16 degrees to 27 degrees and most of the times go higher, and also there is a problem of enough electricity which tackled the increase of electricity chargeable vehicles so implementing VIPV in Kigali will be effective and reliable.

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Trends in Fintech Application in the Insurance Sector in Vietnam



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SUMMARY: In recent years, the development of information technology has had a strong impact on the operation of the global economy. The product of this revolution is Fintech, which combines technology and finance based on technological platforms. Therefore, the application of Fintech in the fields of finance-banking, financial investment, insurance, etc., is an inevitable trend that helps businesses make breakthroughs and enhance their competitiveness. Hence, insurance companies that do not change or are slow to change must accept relinquishing market share to other insurance companies that have adopted information technology. This article focuses on assessing the current situation of Fintech application trends in the insurance sector in Vietnam, thereby proposing solutions to enhance the sustainable application of Fintech in the insurance sector in Vietnam.

KEYWORDS: Fintech, insurance, Vietnam.

1. INTRODUCTION

Innovation through the application of new technologies is the main driving force for change in the financial sector in general and the insurance sector in particular. In the financial sector, this development has even greater influence and truly transforms businesses in finance-related activities such as banking transactions, payments, personal financial management, and insurance (Ajilouni & Al-Hakim, 2018). The integration of technology and finance in Fintech has disrupted traditional economic models and changed consumer behavior. Vietnam's unique socio-economic structure, coupled with the ongoing digitalization, makes Vietnam a typical case of Fintech's impact on comprehensive finance, economic growth, and legal challenges (Nguyen et al., 2020). In the insurance sector, the operations of insurance companies have rapidly changed under the pressure of Fintech enterprises - companies operating in technology-based fields. Insurance, in particular, or finance in general, is one of the earliest sectors to adopt information technology, undergo significant changes, and introduce a plethora of new financial products and services through the application of Industry 4.0 technologies. The fintech sector is booming, with many companies providing various financial services and operating on a global scale. Fintech offers many financial products and services such as electronic payments, mobile payments, personal finance, or corporate finance (Le Cam Tu, 2021). Currently, many fintech companies are thriving globally, offering financial products and business models based on Internet and digital platforms such as Big Data, Artificial Intelligence (AI), Blockchain, smartphones, etc. Financial services based on technology platforms bring many conveniences, ushering in a new era in financial activities worldwide: the digital age. Based on theoretical research on the application of fintech in the insurance sector, the authors have identified trends in fintech application in the insurance sector (both life and non-life) in Vietnam, thereby proposing some solutions to enhance the sustainable and progressive application of fintech in the insurance sector in Vietnam in the near future.

2. OVERVIEW OF FINTECH APPLICATION IN THE INSURANCE SECTOR

General Overview of Fintech

Concept of Fintech: The term "Fintech" is short for "Financial Technology," which is the field that combines information technology and finance to refer to the use of technology to improve and enhance traditional financial services (Chishti & Barberis, 2016). Nowadays, many people use this term to refer to all companies utilizing the internet, cloud computing technology, open-source software to enhance financial activities, including banking, investment, insurance, etc. There are various concepts of Fintech up to now.

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According to Wikipedia citing the Huffington Post, Fintech is defined as a new financial industry that applies technology to improve financial operations' efficiency. Fintech companies provide applications, processes, products, and new business models in the financial services industry, including one or more supplementary financial services on internet and digital platforms.

On the other hand, BIS (2018) mentions that Fintech is a financial technology innovation leading to new business models, applications, and technology processes. They significantly impact financial services, organizations, as well as financial service provision.

Another concept of Fintech by Nguyen & colleagues (2018) states that Fintech is an industry comprising non-bank organizations, including startup organizations using technology to support more efficient financial services. Fintech is a term used to describe new technologies aimed at improving and automating financial service provision and utilization (Dinh & Nguyen, 2021).

Therefore, despite various concepts of Fintech, in general, authors agree that Fintech is technology enterprises operating in the financial sector, providing efficient financial solutions, cost savings. Thus, the emergence of Fintech boosts both general businesses and insurance businesses to change from traditional business methods to competitive methods based on Fintech platforms.

Target Audience of Fintech: Previously, the financial market was highlighted with two main components: financial institutions and customers. However, currently, Fintech has added another equally important component, albeit new, which plays a core role in development, that is, financial technology companies. Accordingly, the target audience of Fintech includes three parties:

Customers: Customers are the primary users of both technology and financial services. They directly benefit from financial institutions and a range of best and newest conveniences from advanced technology. However, they also provide motivation for financial institutions to continually research new products and companies to innovate new technologies. All aim to satisfy customers' demands for the best - cheapest - most satisfactory products.

Financial Institutions: Financial institutions include banks, insurance companies, securities firms, financial companies, leasing companies, etc. These are essential components of the financial system. Not only do they guide the development of the financial market, but they also continuously innovate and create the best products to satisfy human life's needs. Currently, financial institutions understand the importance of applying technology in the financial sector. They invest in research, even collaborate or directly establish Fintech companies. All aim to actively grasp the latest technology and quickly dominate the market.

Fintech Companies: Fintech companies operate independently, initially specializing deeply in the field of information technology. However, these companies recognize the need to apply technology to finance. This drives the Fintech sector to open up and create opportunities for financial technology enterprises to develop vigorously. So far, this entity is significantly impacting both financial institutions and directly using customers.

The fields of operation of Fintech companies: Fintech companies operate in the information technology sector, providing products and services in the financial domain. Fintech originated in the 1990s, initiated by Citigroup, known as the "Financial Services Technology Consortium," with the purpose of facilitating technology collaborations. Financial services based on technology platforms bring numerous conveniences, opening up significant potential for enhancing financial accessibility. The quality of services also improves significantly due to the accuracy and responsiveness of intelligent software, which surpasses human capabilities. As of the present time, Fintech operates in various fields globally and specifically in Vietnam, including:



Figure 1. Fields of operation of Fintech companies in Vietnam

Source: Fintech News (2021)

These fields of operation are increasingly developing and diversifying in types, significantly impacting financial and banking activities, payment systems, personal finance management, insurance, and more.

- (1) Payments
- (2) Wealth Management
- (3) P2P Lending
- (4) Data/Credit Scoring/Management
- (5) Digital Banking
- (6) Insurtech
- (7) Blockchain/Crypto
- (8) Crowdfunding
- (9) Comparison

Fintech in the insurance sector: Fintech will drive innovation in various business sectors globally, including the insurance industry. Instead of traditional operating methods where customers have to directly visit insurance companies, agents, or meet insurance advisors in person, insurance companies have partnered with Fintech companies on platforms utilizing the internet, cloud computing technology, and open-source software. The purpose is to enhance the efficiency of business operations.

Application of Fintech in insurance includes various technologies and trends that will drive innovation in different business sectors globally. These include:

Firstly, Blockchain will become an integral part of Fintech strategy. Blockchain, the technology behind Bitcoin and other cryptocurrencies, has been considered to enhance Fintech services in various fields. While the impact of Blockchain on Fintech has mainly been limited to banking and other areas concerning transaction management and supply chain, this technology will create more opportunities in payment infrastructure, digital identity management, and money transfer infrastructure. Most financial companies will consider creating immutable records of important financial information and using them safely and securely (Fosso et al., 2020). In the insurance industry, Blockchain has helped and is helping insurance companies save time, improve transparency, prevent fraud, comply with regulations, and develop better products and markets. Blockchain in insurance can be conceptualized as a collection of related parties generalized into three layers, including (i) *Protocol layer*: Computer language and computational principles form the foundation that developers have previously researched academically; (ii) *Network layer*: Accessing protocols through insurance companies, brokers. Thus, those working in the insurance industry will leverage the

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Blockchain system to access customer products and services, which is the platform connecting providers and consumers; (iii) *Application layer*: Serving user requests such as individual customers, organizations, businesses (Freeman et al., 2010).

The application of Blockchain technology will help make the insurance market transparent in terms of information about buyers, sellers, brokers, and agents accurately, timely, and comprehensively. In reality, transactions by involved parties often intentionally conceal information, resulting in prices that may not reflect the market equilibrium but could be higher or lower than the market equilibrium price (Akelopz, 1970). This is a problem that needs to be thoroughly addressed in insurance transactions because Blockchain ensures the transparency and integrity of the product and the insurance company. For example, products are created in a legal manner (not violating financial principles, regulations for insurance product business). Additionally, the interaction of opportunistic behaviors and the limited capabilities of humans in uncertain environments and asymmetric information conditions create transaction costs that affect transaction efficiency and the internal operations of businesses. The application of Blockchain technology is expected to reduce transaction costs in insurance transactions for insurance companies. The benefits that Blockchain brings include:

Efficient insurance claim handling with Blockchain for insurance companies: Digital transformation with blockchain and automated processes help store immutable data in a decentralized ledger, improving traditional insurance systems by preventing fraud, errors, paper storage, and massive data.

Blockchain facilitates convenient and cost-saving data sharing for the insurance industry: For centuries, insurance enterprise data has been stored on paper. Data resides in disparate data silos, leading to limitations in real-time data sharing. Blockchain technology securely stores documents on a distributed ledger, facilitating easy access when needed and granting access only to authorized parties. For instance, blockchain ensures the security of individuals' health records, financial capabilities, contracts, and policy terms. Information is history-checked, financial capabilities are verified, and shared among doctors, hospitals, pharmacists, and health insurance companies.

Blockchain protects digital identities for insurance buyers: Ensuring customer information security is paramount. The immutable blockchain ledger enables users to store and control their personal data maximally. This aids insurance companies in securing customer information and prevents other companies from profiting off customer data without consent.

Reducing fraud and bias in insurance: Utilizing blockchain in insurance business systems stores user information securely and permanently on a blockchain data basis. Data can be used to analyze and predict user fraud behavior more efficiently and conveniently from their transaction history.

Time-saving in settlement processes: Insurance processes demand a lot of paperwork, which can be lost, resulting in severe consequences in claims processing. Through data records, contract terms, transactions, and other necessary information are automatically collected. When these conditions are met, insurance agreement terms are automatically executed through the use of distributed ledger technology in updating information and smart contracts.

Enhancing customer interaction and trust: Insurance companies can use this data to analyze customer behavior. Knowing the habits and health history of customers, businesses can easily come up with new ideas to provide better services and garner more participation and loyalty from their customers. For customers, being aware of what happens to their information and the necessary procedures gives them proactive control, creating transparency and increased trust with the insurance company.

Reducing unnecessary incurred costs: Without blockchain technology, insurance companies always bear the costs incurred from human positions when handling incidents such as complaints, compensations, security, etc. This significantly affects the overall profits of companies. With blockchain technology, the resolution process for such incidents is quicker, increasing customer trust indirectly, allowing insurance companies to sell more products, increase revenue, and expand their business scope.

Secondly, a new payment method (Payments) emerged. The development of mobile payment solutions has led to a significant decrease in direct transactions by customers at commercial banks, with a notable decrease of 36% in 2022. Meanwhile, mobile payments surged by 121%, with over 90% of customers expected to transition to e-wallets and contactless payment solutions. Additionally, there will be a greater shift towards the acceptance of Bitcoin and other cryptocurrencies due to their fast transaction nature and easy cross-border payments. This will ultimately lead to increased investment in Blockchain Wallets (Polasik & Piotrowski, 2016). Fintech will increasingly influence and transform the insurance industry by providing modern payment methods such as mobile payments and e-wallets.

Thirdly, InsurTech - the digital insurance sector. The trend of high internet usage has prompted businesses to adopt new and innovative technologies, changing the ways of operations for companies worldwide, including insurance companies, thus offering numerous opportunities for startups in the digital insurance field, InsurTech (Insurance + Technology). This term refers to the use of innovative technologies designed to enhance efficiency and savings from traditional insurance models. Activities in the insurance chain are carried out online through the Internet, from initial stages such as customer research, product design, marketing, to sales, contract conclusion, and post-sales operations such as customer care, appraisal, and claim settlement.

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Technology is also applied in online sales, insurance operations such as risk assessment, appraisal, pricing, reinsurance, etc. InsurTech companies can be original insurance companies, intermediary companies, acting as brokers or insurance agents, or solely providing technology solutions and insurance support services.

The impact of Fintech on the insurance industry: Fintech brings many positive benefits to the insurance sector but alongside, there are also negative issues affecting the specific business operations:

Positive impacts: Fintech has made breakthroughs in the insurance sector, bringing many positive impacts. New technologies in fintech have spurred improvements in efficiency, convenience, and transparency in financial services, from providing simple mobile apps for financial management to blockchain development. Therefore, fintech has many positive impacts on the insurance industry, some specific positive impacts of fintech on the insurance industry are:

(i) Fintech enhances customer experience. Fintech has created convenience and better user experiences in financial services. Mobile apps and online transactions allow customers to perform transactions quickly and easily, from money transfers, bill payments to asset management and investment.

(ii) Fintech helps customers save time and costs. Instead of having to go to traditional banks, insurance companies, or advisors to deposit money and wait for hours, customers can perform financial transactions with just a few simple steps on smartphones or mobile devices. This helps save time and transportation costs, while helping insurance companies reduce operating costs.

(iii) Fintech promotes the development of cryptocurrencies and mobile payments. The development of cryptocurrencies and mobile payments has created a financial environment that is not only easy to use but also secure. Customers can make payments without using cash or traditional credit cards, reducing the risk of fraud and counterfeiting.

(iv) Fintech facilitates convenient, quick, and easy financial connection and asset management. Fintech has helped create a seamless and continuous connection environment between various bank accounts, investments, and different financial sources. Customers can easily manage assets, track investments, and shape their personal financial goals through online apps and platforms.

With the development of the Fourth Industrial Revolution, more and more consumers are using products and services from Fintech. Through Fintech, the access to financial services - banking, insurance, etc., is enhanced, adding value to customers using the services. Also, due to the development advantages on the information technology platform without the need for a transactional network like banks, the products and services provided by Fintech companies have and are attracting a large number of customers; especially those who have difficulty accessing financial services. Overall, the world welcomes the Fintech wave as it makes financial transactions easier, more transparent, and cheaper.

Negative impacts: Although fintech has brought many positive impacts in the insurance sector, there are also some negative impacts that need to be considered. Here are some negative aspects of fintech for the insurance industry:

(i) Security risks and financial fraud. Alongside the development of Fintech, issues regarding security and financial fraud have arisen due to increasing technology and the use of personal data. This is the reason for cyber attacks and financial frauds. Because Fintech develops rapidly compared to the existing legal system. For example, products of Fintech are created by innovation and creativity, so current legal regulations cannot keep up.

(ii) Customers' understanding of how to use Fintech products is still limited; they have no basic knowledge of finance, or even do not know how to secure personal information, leading to security breaches. For example: setting up fake websites to make users disclose their accounts and passwords to seize assets.

(iii) In addition, the use of technology is reducing the number of direct employees in traditional ways. In the era of applying technology in general and Fintech products in particular, the branches, transaction offices of insurance companies, agents, advisors are increasingly narrowing in scale and number, and Fintech may make some jobs disappear and affect the workforce. Therefore, automation in the insurance industry combined with Fintech may lead to layoffs. Insurance companies may need to reduce staff to improve efficiency and reduce costs. This may have a negative impact on workers and require them to adapt to new job positions or learn new skills and expertise.

3. TRENDS OF FINTECH APPLICATION IN THE INSURANCE SECTOR IN VIETNAM

The insurance market in Vietnam was established in 1993 and has since experienced significant development with the emergence of numerous life and non-life insurance enterprises, insurance brokers, and a broader range of insurance products, particularly life and health insurance. According to statistics from the Ministry of Finance (2023), as of November 30, 2023, there were 82 insurance businesses operating in Vietnam, including 31 non-life insurance enterprises, 19 life insurance enterprises, 2 reinsurance enterprises, and 29 insurance brokerage enterprises, along with 1 branch of a foreign non-life insurance enterprise.

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The total assets of the insurance market were estimated to reach nearly 913.340 trillion VND, an 11% increase compared to the same period in 2022. The industry has reinvested in the economy with an estimated amount of 762.580 trillion VND, marking a 13% increase over the same period. Total owner's equity was estimated at 190.230 trillion VND, a 7% increase. The total insurance premium revenue for the entire industry was estimated at 227.600 trillion VND, with a 2% increase in the non-life insurance market and a decrease of approximately 12.5% in the life insurance market. The total value of insurance benefits paid out was estimated at around 86.470 trillion VND, a 31% increase compared to the same period in the previous year. In 2023, the Ministry of Finance submitted to the Government for issuance 03 Decrees detailing the Law on Insurance Business and chaired the issuance of 01 Circular detailing the Law on Insurance Business and related guiding decrees. Based on these, Law on Insurance Business No. 08/2022/QH15 and guiding documents have created a comprehensive legal framework to promote the safe, stable, and sustainable development of the insurance market in the future.

The achieved business results were attributed to the application of fintech by many enterprises in their business activities, typical examples being Bao Viet Insurance Company, Dai-ichi, Manulife, AIA, etc. This application has led to groundbreaking changes in the insurance industry, altering its centuries-old traditional methods, changing insurance purchasing behaviors, and transforming insurance company management and operations. Applications in the Fintech field such as Blockchain, payments, Insurtech, Comparison... etc., have revolutionized and improved every stage of the insurance value chain, from market research, marketing, product design, sales, customer service to complaint resolution. There have been changes and improvements in insurance products, the emergence of new intermediaries, changes and innovations in distribution channels, and the appearance of new insurance models. Specifically, fintech applications in insurance companies in Vietnam include:

Bao Viet Insurance Corporation (Bao Viet Insurance): As the non-life insurance arm of the Bao Viet Financial Group, Bao Viet Insurance stands as the core and oldest entity within the group's member companies. With nearly 60 years of operation, 3,000 employees, close to 30,000 agents, around 80 subsidiary companies, and nearly 700 insurance offices spread across provinces and cities nationwide, Bao Viet Insurance is a leading insurance enterprise in Vietnam. Bao Viet Insurance has always been at the forefront of providing insurance products and services to customers, including vehicle insurance, health insurance, and medical insurance, catering to diverse customer needs.

In 2020, Bao Viet Life Insurance applied Blockchain technology in its Loyalty program for loyal customers, allowing them to convert accumulated points into a variety of practical gifts such as vouchers for phone cards, supermarkets, dining services, etc. Bao Viet was the first to launch the Baoviet Direct application, applying advanced security technologies such as SSL/TLS, Tokenization, fingerprint authentication, supported by a 24/7 customer service center to address all customer inquiries. With this app, customers can easily purchase insurance, manage policy benefits, file and track claims, find nearby garages, hospitals/clinics, schedule medical appointments, vehicle repairs, bringing maximum convenience to customers.

Furthermore, Bao Viet has collaborated with fintech companies to innovate and apply new payment methods. Specifically, on February 1, 2018, Bao Viet Insurance signed a cooperation agreement with MoMo - a fintech company providing secure e-wallet solutions with superior payment features. This collaboration between MoMo and Bao Viet Insurance offers products such as auto insurance, motorcycle insurance, health insurance, cancer insurance, travel insurance, allowing customers to conveniently and quickly purchase Bao Viet products on the internet and mobile platforms. This collaboration reflects the essential trend in the digital age to bring products closer, more convenient, and smarter to customers, ensuring their interests are paramount and security is highest with internationally standard technology solutions. Moreover, this collaboration adds value to the digital payment ecosystem, enhancing the service experience for Vietnamese users and contributing to improving the quality of social life.

Also in 2018, Bao Viet officially launched the Baoviet Pay digital banking application based on the infrastructure, technology, and devices of Bao Viet Bank, compatible with all types of phones running on IOS, Android connected to the internet via 3G, 4G, 5G, or Wi-Fi with all mobile networks in Vietnam. With this application, users can access over 50 utilities such as bill payments, new purchases, insurance premium payments to Bao Viet, tuition fee payments, VETC toll payments, easy and fast fund transfers between Baoviet Bank accounts and over 30 domestic banks in Vietnam. Additionally, Baoviet Pay provides customers with group products such as selling life and non-life insurance products, depositing/withdrawing securities account funds, managing insurance contracts, filing insurance claims, scheduling insurance appointments, and vehicle repairs.

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Figure 2: Fintech application at Bao Viet Insurance Company
(Source: collected by group of authors)

Manulife Insurance Company: With a history of 24 years, Manulife is one of the first life insurance companies with foreign investment in Vietnam. Its insurance business activities include mixed insurance, term life insurance, health insurance, and supplementary personal accident insurance for life insurance, as well as retirement insurance. In terms of reinsurance business activities, the company accepts and cedes reinsurance for life insurance, health insurance, and personal accident insurance. By the end of 2023, the company had over 40,000 employees, 116,000 agents, and thousands of distribution partners, serving nearly 34 million customers. To maintain its leading position in the Vietnamese market, the company has always focused on business activities and applications, collaborating with Fintech companies to create products suitable for the era of Industry 4.0, bringing continuous business development. Specifically, Manulife Vietnam officially partnered with the super app MoMo to launch online health insurance products and payment solutions for customers. This collaboration marks a turning point for Manulife Vietnam in becoming the first life insurance company to provide health insurance solutions through the MoMo platform, allowing over 31 million MoMo users to access the comprehensive health insurance product Max - Live Healthy.



Figure 3. Fintech application at Manulife Insurance company
(Source: collected by group of authors)

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InsurTech Sector in Vietnam: According to the Southeast Asia (SEA) Digital Economy Report 2023 released by Google, Temasek, and Bain & Company on November 10, 2023, Vietnam has the highest rate of new internet users in the Southeast Asia region, reaching 41%, with approximately 70% of the population being current internet users. The deployment of new technologies and innovations is changing the business models of insurance companies globally, presenting many opportunities and challenges for Vietnamese startups in the InsurTech sector. Although InsurTech is a relatively new field in Vietnam, it has been developing rapidly. Most traditional insurance companies have built online applications or websites to serve their business activities. Alongside the entry of foreign InsurTech companies, we have witnessed the emergence of InsurTech startups in Vietnam such as INSO, SaveMoney, MIIN, Papaya, etc. These companies are mostly small-scale and primarily act as intermediaries (brokers or insurance agents) and provide technology services to traditional insurance companies.

Comparison Sector in Vietnam: The comparison sector is applied in financial technology - insurance, specifically with products like GoBear and eBaohiem. GoBear, a Fintech product, is the first and only tool in Asia operating in this field, and Vietnam is the sixth market in the region where it operates, including Singapore, Hong Kong, Thailand, Malaysia, and the Philippines. Currently, this tool has 4.5 million customers who use it to search according to their needs. GoBear Vietnam has officially launched a super data search tool, integrating objective and specialized data for insurance and banking products such as credit cards, personal loans, and related insurance products, helping users search and use a credit card service or personal loan from banks... just by visiting the website at <https://www.gobear.com/vn>, the requested search content will appear immediately. In May 2020, the company announced that it had more than 100 commercial partners, including banks and insurance providers. Furthermore, GoBear's services have been used by over 55 million users. GoBear saw a 52% increase in average order value in 2020. The platform also recorded a 50% annual revenue growth from lending products. Additionally, online insurance eBaohiem is applied - an insurance platform for customers owned and operated by Moncover Vietnam through O2 insurance platforms for customers and an insurance platform for consulting agents to build connections for insurance products such as health, auto, travel, life insurance, etc., and to provide insurance advice easily and conveniently based on ensuring the most competitive insurance programs and terms.



Figure 4. eBaohiem - insurance platform for customers owned and operated by Moncover Vietnam
(Source: Collection of authors)

In recent years, the Fintech application in the insurance sector in Vietnam has made significant strides. The rapid development of technology and widespread access to the internet and smartphones have created opportunities for increasing convenience and user-friendliness, specifically:

Firstly, regarding mobile applications and online payments. Vietnam has a large number of mobile users, and the demand for financial services on smartphones is increasing. Therefore, insurance customers can easily conduct insurance transactions anytime and anywhere.

Secondly, the explosion of Fintech in cashless payments. Vietnam's economy is still considered to have a high cash usage rate, which negatively impacts economic development. Therefore, there is still significant potential for promoting cashless payments in Vietnam. Currently, mobile payment services and cashless payments have developed strongly in Vietnam. Mobile wallet applications such as Momo, ZaloPay, AirPay, and QR code payment services are favored by many consumers due to their convenience and fast transaction speeds.

Thirdly, the insurance market in Vietnam will continue to grow strongly, and InsurTech will flourish in the coming years. The cashless trend is developing and will lead consumers to increase digital transactions. As digital insurance products are designed to enhance customer experience, expand networks of potential and loyal customers, etc., Vietnamese startups benefit from their

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lightweight structure, flexible operations, and low costs in partnering with domestic insurance companies to implement InsurTech, while foreign InsurTech companies are limited by high costs, language differences, and cultural disparities. Vietnam has many favorable conditions to become a regional information technology hub due to competitive labor costs and a stable political environment. This is an opportunity for InsurTech companies.

Despite the benefits of applying Fintech in the insurance sector, there are still limitations:

Firstly, security and trust issues. One of the biggest challenges in deploying Fintech in Vietnam is security and trust. Consumers are still concerned about providing personal and financial information on mobile and online applications.

Secondly, legal and regulatory issues. The rapid development of Fintech has created legal and regulatory challenges. The lack of clarity in regulations and guidelines can lead to inconsistency and lack of trust in Fintech services.

Thirdly, access and usability issues. Although Fintech usage is increasing, some segments of the population may have difficulty accessing and using Fintech services.

Fourthly, financial risks and uncertainty. The rapid development of Fintech may come with financial risks and uncertainty. Smart investment services may require investors to understand risks and implement smart investment diversification.

Lastly, alongside the advantages and opportunities, Vietnamese InsurTech startups must face significant challenges when competing with powerful foreign InsurTech companies, always grappling with the issues of human resources and capital. Large investments in technology and the development of high-quality human resources over a long period, fierce market competition, the risk of bankruptcy, and acquisition are significant challenges in the operation and development of businesses. Digitization is deeply ingrained in our daily lives, and InsurTech will be an inevitable trend in the future if we do not want to lag behind and be eliminated. Sustainable development of the insurance market in general and InsurTech in particular in Vietnam requires the concerted efforts of the state, businesses, and the people.

4. SOLUTIONS FOR DEVELOPING FINTECH APPLICATIONS IN THE INSURANCE SECTOR IN VIETNAM

The trend of international economic integration is expanding rapidly alongside competition in the financial sector, leading to changes in the application of scientific and technological achievements in financial products and services and changing customer expectations. The emergence of Fintech is essential and necessary in the new era. Therefore, in the insurance sector, the application of Fintech is an inevitable trend. To further develop this trend in the future, the author group proposes the following solutions:

Diversifying products to meet changing needs: Currently in Vietnam, companies in the market tend to operate mainly in large areas such as payments, peer-to-peer lending, financial investments, E-banking, etc. There are still some areas such as liquidity management or investment management that have not been actively engaged by companies. Fintech needs to expand into other potential areas such as financial management, lending, savings, online investment, consulting, information rating, etc., to meet diverse customer needs. The government needs to have policies to sponsor and support research and application of technology achievements in the financial sector and other fields. Only then can Vietnam's Fintech sector develop strongly alongside other countries in the region.

Enhancing cooperation among stakeholders in supplying Fintech products and services: With the advantages provided by Fintech, exploitation has proven to be effective in the financial sector. On one hand, Fintech companies, despite having technological advantages and innovative business models, lack experience in financial operations, management systems, control, and customer networks. On the other hand, financial companies, in general, and insurance companies, in particular, have advantages in risk management and operation of business systems, customer data. Collaboration between Fintech companies and financial companies will help them to tap into and reach a large customer base, expand their operational scale, and minimize costs. This cooperation will be extremely advantageous, thereby creating a comprehensive strength to enhance competitiveness and contribute to the development of the insurance sector.

Increasing investment in technology infrastructure and improving the quality of human resources as the foundation for applying Fintech in insurance companies: The trend of applying Fintech in insurance companies is bringing about increasingly high efficiency in business. To combine and apply various fields of Fintech and its products in insurance activities on internet platforms, Big Data technology, Artificial Intelligence (AI), mobile phones, etc., insurance companies must invest in this infrastructure to facilitate application.

Additionally, the success of any business relies on the quality of its human resources. For the insurance industry, customers participating in insurance need to be advised to understand their insurance contracts correctly (up to 78.6% of surveyed subjects by Vietnam Report, 2023 believed this had a significant impact). Currently, digital technology is prevailing in every sector,

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so the supply of human resources to meet technological demands is directly trained from educational institutions, which is still very limited. Therefore, when receiving new human resources, the industry has to spend a lot of time and costs on training, which is also a major barrier in the digital age workforce. This requires human resources to have expertise in information technology, application, and proficient handling of techniques.

Perfecting the legal framework regarding policy mechanisms for Fintech activities: Vietnam's Fintech development is very fast, with great potential, but there are still many limitations and risks for both businesses and investors due to unclear legal regulations. The government has issued Decree No. 101/2012/ND-CP, dated November 22, 2012, regarding non-cash payments. Followed by Circular No. 23/2019/TT-NHNN, dated November 22, 2019, providing detailed regulations on payment activities, conditions to be licensed for intermediary payment services, and regulations on activities providing ewallets. Recently, on June 22, 2023, the National Assembly passed the Law on ETransactions as the highest legal basis for the development of electronic transaction forms. However, a law defining Fintech companies' activities as a financial institution has not yet been enacted. Moreover, completing a comprehensive, synchronized legal framework, mechanism, and policy is the most important and urgent requirement for developing Fintech activities. The government needs to supplement specific regulations on Fintech in legal documents, decrees, and circulars to address issues such as security, cybersecurity, intellectual property ownership, consumer protection. At the same time, regulations on mandatory standards for products, services, business models, types of activities should be provided to ensure transparency for Fintech companies. Besides, Fintech is part of the financial industry. The Ministry of Finance and the State Bank of Vietnam must have specialized management and supervision departments for Fintech activities to ensure stability for the monetary financial system. Furthermore, policies to encourage Fintech startups to develop in the future, such as tax exemptions, reductions, and support policies, should be established.

5. CONCLUSION

Fintech is an essential product of the Fourth Industrial Revolution. Fintech products are a combination of technology and finance based on technology platforms. The development of fintech applications in the insurance sector in Vietnam requires cooperation and commitment from various stakeholders. By investing in technology, enhancing support, creating investment conditions, and fostering collaboration between insurance companies and fintech companies, as well as strengthening human resource training, legal frameworks, etc., the goal is to develop sustainably to bring high benefits to both users and insurance companies.

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In Vitro investigating the antidiabetic activity of *Rumex abyssinica*, *Hibiscus sabdariffa*, and *Cinnamomum zeylanicum*



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ABSTRACT

Background: Diabetes is a metabolic disorder symptomized by high blood glucose level. The treatment is associated with adverse side-effects regarding health and economic burdens of the diseased. The difficulty in insulin injection, the non-compliance, prolonged treatment, makes to the diabetic patients to have a poor controlled blood glucose level particularly in resource limited settings. As alternative, people are using medicinal plants as they are cheap, readily available, and lesser side effects. Even though the need for herbal medicine are culturally and socially accepted but the toxicity, active principles, and mechanism of action are generally not known well so this study aims to investigate in vitro potential effects of *Rumex abyssinica*, *Hibiscus sabdariffa*, and *Cinnamomum zeylanicum* in glucose regulation.

Methodology: Different parts from the 3 plants were subjected to hot Soxhlet extraction using solvents with different polarity. The in vitro anti-diabetic activity of the extracts was investigated by measuring their effect on assays of α -amylase inhibition and glucose transport across yeast cells.

Result: The result of α -amylase inhibition revealed highest, significant ($p < 0.001$) from aqueous extracts (0.5 mg/ml) of *Hibiscus sabdariffa* and *Rumex abyssinica* by 85.11%, and 77.91% respectively. Though chloroform extract of *Cinnamomum zeylanicum* was not significant exhibited 92.49% α -amylase inhibition at 0.5 mg/ml. In the glucose transport assay, the aqueous extract (0.5 mg/ml) of *Cinnamomum zeylanicum*, *Hibiscus sabdariffa*, and *Rumex abyssinica* increased glucose transport across yeast cells by 52.44%, 52.16%, and 50.57% respectively, at 25mM glucose concentration.

Conclusion: All the three selected medicinal plants were found to have an effective inhibition of α -amylase and glucose absorption by the aqueous extract. This shows that the plants extract contains an active water-soluble ingredients which may have anti-diabetic activity in vivo when taken in the form of tea. Therefore, we kindly recommend that, a further in vivo, toxicological, phytochemical, and molecular analysis of these plants to be conducted in case control studies as it has been used as tea in the community.

KEYWORDS: In vitro, anti diabetic activity, inhibition, yeast uptake, medicinal plants

INTRODUCTION

Diabetes is a metabolic syndrome defined as a hyperglycemia caused by inadequate insulin production, insulin action, or both. Diabetes' persistent hyperglycemia is linked to long-term damage, dysfunction, and failure of various organs, particularly the eyes, kidneys, peripheral nerves, heart, and blood vessels [1]. Diabetes mellitus is classified into four types: type 1, type 2, gestational diabetes mellitus, and other particular types [2].

Diabetes mellitus is one of the world's most alarming diseases. Diabetes caused an estimated 2 million deaths in 2019, and it is a major cause of blindness, renal failure, heart attacks, stroke, and lower limb amputation [3]. Diabetes affected around 537 million individuals (20-79 years) in 2020, and this figure is expected to climb to 783 million by 2045. Furthermore, according to the International Diabetes Federation (IDF), 24 million individuals in Africa reported with diabetes in 2021, with a projected increase to 55 million by 2045 [4]. Similarly, the estimated number of adults (20-79 years old) living with impaired fasting glucose (IFG) in Eritrea is anticipated to rise from 107,300 in 2021 to 249,600 in 2045 [5].

The anti-hyperglycemic drugs used so far have many modes of action that primarily aim to keep blood glucose concentrations closer to normal. Although these drugs alleviate symptoms and reduce diabetes-related mortality, they have a negative impact on

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life quality [6]. In the process, research on medicinal plants as therapeutic aid is concentrated on plant and herbal drugs [7] [8], which have a history that predates modern medicine [9]. The plant based herbal medicine are thought to be safer than pharmaceutical medications [10]. According to ethnobotanical studies from around the world, there are over 1200 plants with anti-hyperglycemic potential [11]. In addition Alkaloids, glycosides, flavonoids, saponins, and other active components have been documented to have therapeutic properties [12].

The Eritrean traditional medicinal plants *Hibiscus sabdariffa*, *Cinnamomum zeylanicum*, and *Rumex Abyssinica* were listed for this investigation because of their historically stated anti-diabetic properties [13]. However, there is no scientific evidence supporting the claim in Eritrea, thus the study intends to evaluate the probable anti-diabetic potential of plant extracts using two in vitro models. Carbohydrate-digesting enzyme (alpha-amylase) inhibitory activity and yeast glucose absorption are the two in vitro methods used.

MATERIALS AND METHODS

Reagents and Chemicals

Chloroform, acetone, and, DMSO (purchased from BDH) alpha amylase (purchased from LD Carlson company, distributed by LD Carlson co, Kent, OH 44240), 3,5- dinitro salicylic acid (DNSA), sodium phosphate buffer, K⁺-Na⁺ tartrate, NaOH (purchased from BDH), starch and glucose (purchased from fisher scientific).

Collection and Preparation of Plant Extracts. The selected plants were purchased from the spices market in Asmara, Eritrea and authenticated by a botanist from the College of Science, Department of Biology, Mai-nefhi, Eritrea. The different plant parts: flowers, bark, and roots of *Hibiscus sabdariffa*, *Cinnamomum zeylanicum*, and *Rumex abyssinica*, respectively, were washed thoroughly and dried in a shaded area at room temperature (20-22°C) for seven days. The dried plant parts were then ground to powder-form using a grinding machine.

The active ingredients of the plants were extracted by continuous hot Soxhlet extraction using three different solvents with increasing polarity chloroform, acetone, or distilled water. The solvents were then evaporated, by a rotary evaporator, under reduced pressure and controlled temperature (20-22°C). These plant extracts were dried and stored in a clean petri dish and kept at 4-7°C for further use in the in vitro anti-diabetic assays.

Anti-diabetic Activity

The extracts of the flowers, bark, and roots of *Hibiscus sabdariffa*, *Cinnamomum zeylanicum*, and *Rumex abyssinica*, respectively, were tested for their inhibitory effect against the carbohydrate digestive enzyme (α -amylase) and their role in glucose uptake in yeast cells.

Inhibition of α -Amylase Enzyme.

This assay was carried out following the procedures by Yosief et al [14]. Different concentration plant extracts (0.1, 0.2, 0.3, 0.4, 0.5 mg/ml) were prepared. The plant extract (250 μ l) were then added to 0.02M sodium phosphate buffer (pH 6.9) containing 0.15 mg/ml α -amylase. The solution was pre-incubated at 25°C for 10min; 1% starch solution in 0.02M sodium phosphate buffer (pH 6.9) was added and the mixture was further incubated at 25°C for 10 min before the reaction was terminated by adding 2 ml, dinitro salicylic acid (DNSA) reagent. The test tubes were then incubated in boiling water for 5 min and cooled to room temperature. The reaction mixture was diluted with 5 ml distilled water and the absorbance was measured at 25°C at 540 nm using a spectrophotometer. A control was prepared using the same procedure replacing the plant extract with distilled water. The α -amylase activity was calculated using the following formula: (1)

$$\% \text{ Inhibition} = \frac{G_c - G_s}{G_c} \times 100$$

Where G_c (control) is the glucose concentration of the control reaction and G_s (sample) is the glucose concentration of the test sample.

Glucose Uptake in Yeast Cells

Commercial baker's yeast was washed three times with distilled water, and a 10% (v/v) suspension in distilled water was prepared. Different concentrations of plant extract were added into 1ml glucose solution and incubated at 37°C for 10 min. After 10 min of incubation yeast suspension was added and mixed by vortex to initiate the reaction. The reaction mixture was further incubated for 60 minutes at 37°C. Then, the tubes were centrifuged, and glucose uptake was immediately estimated in the supernatant using a spectrophotometer at 540 nm. The percentage increase in glucose uptake by yeast cells was calculated using the formula (1) [15].

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Data Analysis

The entire analysis was undertaken in triplicate. Quantitative values were presented as means \pm standard deviation (SD). One-way analysis of variance (ANOVA) was used to evaluate the statistical differences followed by Tukey HSD post hoc test.

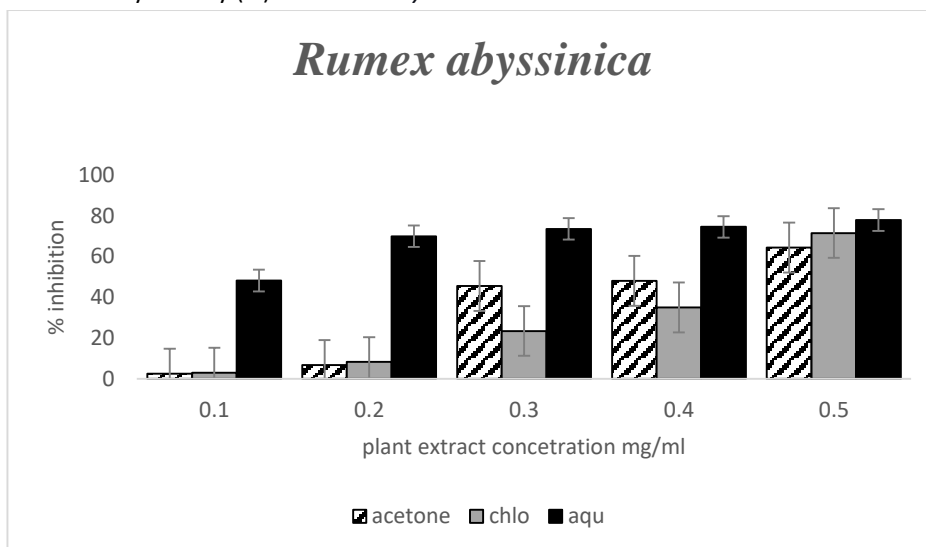
RESULT

α -amylase inhibition assay

The in vitro α -amylase inhibitory activities of *Rumex abyssinica*, *Hibiscus sabdariffa* and *Cinnamomum zeylanicum*, extracted with three solvents were assayed as seen in **Figure 1**. The distilled water extract of the plant *Rumex abyssinica* exhibited significant inhibition in vitro α -amylase activity at all concentrations ($p < 0.001$). The increase in inhibition by 77.91% in α -amylase activity was recorded highest at 0.5 mg/ml. Acetone extract of *Rumex abyssinica* (0.3 to 0.5 mg/ml) showed significant ($p < 0.001$) inhibition in α -amylase activity (by 45.49% to 64.33%). While the chloroform extract of the plant *Rumex abyssinica* inhibited in vitro α -amylase activity in a dose-dependent manner at concentrations ranging from 0.1 to 0.5 mg/ml (2.96% to 71.46%). However, significant inhibition was recorded only at 0.5 mg/ml ($p < 0.001$).

Figure 1. Changes in α -amylase activity (%) as a result of incubation with 0.1 to 0.5 mg/ml of *Rumex abyssinica*, acetone, chloroform and distilled water extracts. The X-axis shows plant extract concentration in mg/ml and the Y-axis shows % inhibition. Results are expressed as mean \pm SD. ** indicates highly significant values with P value < 0.01 .

Figure 1. Alpha amylase inhibitory activity (%) of *Rumex abyssinica*

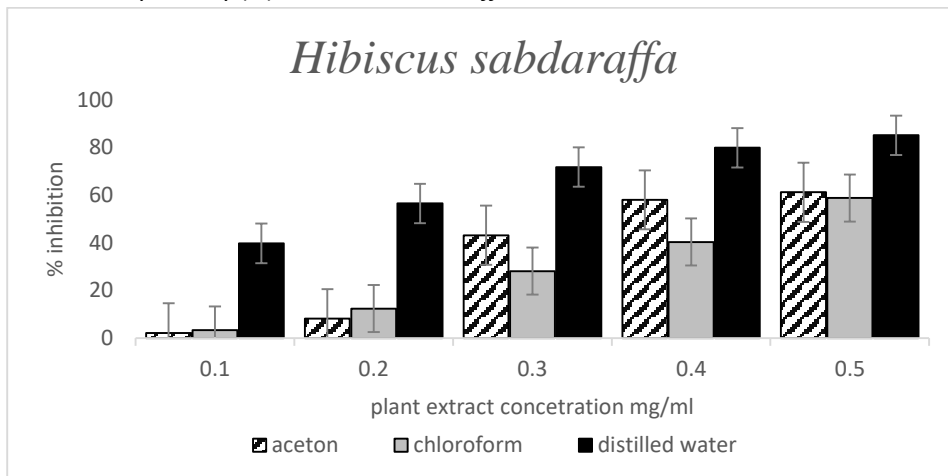


The aqueous extract of *Hibiscus sabdariffa* showed significant dose-dependent inhibition in in vitro α -amylase activity ($p < 0.001$) at all concentrations. While the acetone extract exhibited a linear dose response in vitro α -amylase inhibition ranging from 2.2% to 61.24% that was significant at concentrations higher than 0.3 mg/ml ($p < 0.001$). The chloroform extract also showed dose dependent inhibition at the concentration range from 0.1 mg/ml to 0.5 mg/ml (3.41% to 58.83%). However, the increase in vitro α -amylase inhibition by chloroform extracts were significant at the concentrations 0.3 mg/ml ($p < 0.01$), 0.4 mg/ml and 0.5 mg/ml ($p < 0.001$), **Figure 2**.

Figure 2. Changes in α -amylase activity (%) as a result of incubation with 0.1 to 0.5 mg/ml of *Hibiscus sabdariffa*, Acetone, chloroform and distilled water extracts. The X-axis shows plant extract concentration in mg/ml and the Y-axis shows % inhibition. Results are expressed as mean \pm SD. ** indicates highly significant values with P value < 0.01 .

In Vitro investigating the antidiabetic activity of *Rumex abyssinica*, *Hibiscus sabdariffa*, and *Cinnamomum zeylanicum*

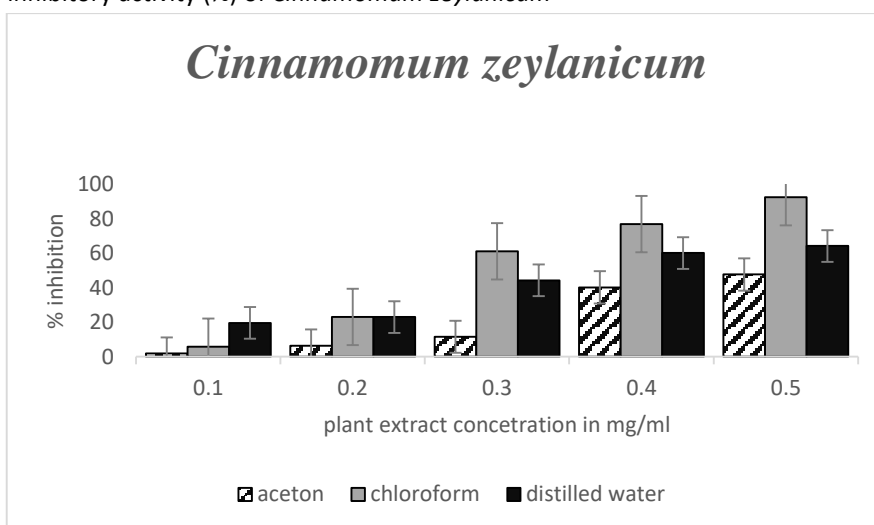
Figure 2.Alpha amylase inhibitory activity (%) of *Hibiscus sabdariffa*



The distilled water extract showed significant ($p < 0.001$) dose dependent inhibition in vitro α -amylase activity at concentrations higher than 0.3 mg/ml. The acetone extract of *Cinnamomum zeylanicum* exhibited inhibition ranging from 1.9% to 47.75%. Significant ($p < 0.05$) inhibition was observed at the highest concentration 0.5 mg/ml acetone extract. The chloroform extract of the plant *Cinnamomum zeylanicum* showed linear increase in vitro α -amylase inhibition though the difference was not significant, **Figure 3.**

Figure 3. Changes in α -amylase activity (%) as a result of incubation with 0.1 to 0.5 mg/ml of *Cinnamomum zeylanicum*, acetone, chloroform and distilled water extracts. The X-axis shows plant extract concentration in mg/ml and the Y-axis shows % inhibition. Results are expressed as mean \pm SD. ** indicates highly significant values with P value < 0.01 .

Figure 3.Alpha amylase inhibitory activity (%) of *Cinnamomum zeylanicum*



Glucose Uptake in Yeast Cells

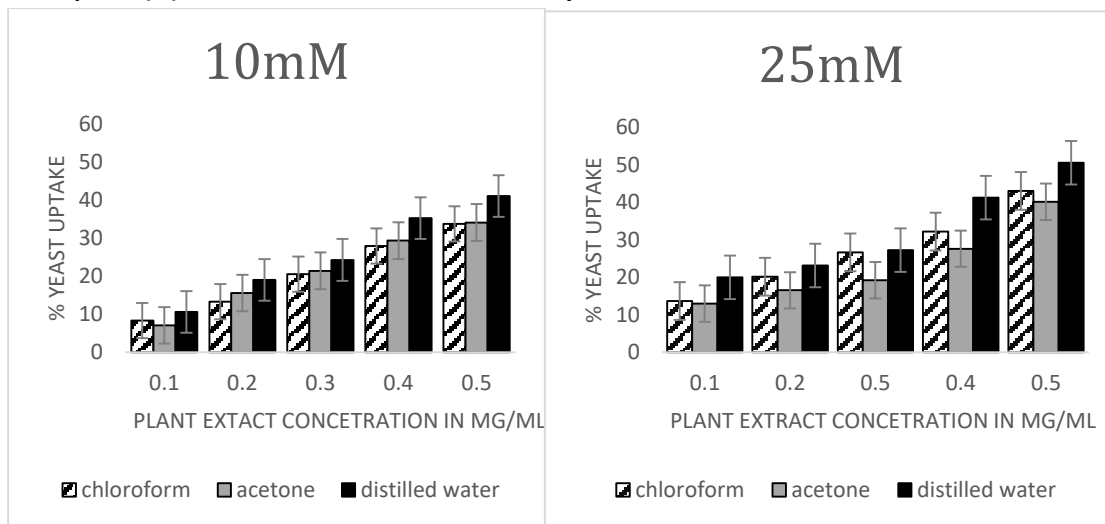
Different concentrations of the selected plant extracts (0.1mg/ml, 0.2mg/ml, 0.3mg/ml, 0.4mg/ml, and 0.5mg/ml) were used to investigate their effect on glucose uptake in yeast cells at 5-, 10- and 25-mM glucose. Increase in glucose uptake in yeast cells was observed at glucose concentrations higher than 10 mM.

At 10mM of glucose concentration, *Rumex abyssinica* extract (0.5mg/ml) promoted increase in glucose uptake, (41.1 %, distilled water, 33.8 % chloroform and 34.1% acetone). At 25mM of glucose concentration, *Rumex abyssinica* extracts (0.1mg/ml to 0.5mg/ml) by the different solvents exhibited a dose dependent increase in glucose uptake. The highest increase in uptake at 25 mM of glucose concentration was recorded for the 0.5mg/ml aqueous (50.57%), followed by 43.02% for chloroform and 40,13% for acetone extract **Figure 4.**

In Vitro investigating the antidiabetic activity of *Rumex abyssinica*, *Hibiscus sabdariffa*, and *Cinnamomum zeylanicum*

FIGURE 4: Glucose uptake (%) in yeast cells at concentrations from 0.1 to 0.5 mg/ml of *Rumex abyssinica*, chloroform, acetone and distilled water extracts in glucose concentrations of 10mM and 25mM. The X-axis shows plant extract concentration in mg/ml and the Y-axis shows % uptake. Results are expressed as in percentage uptake.

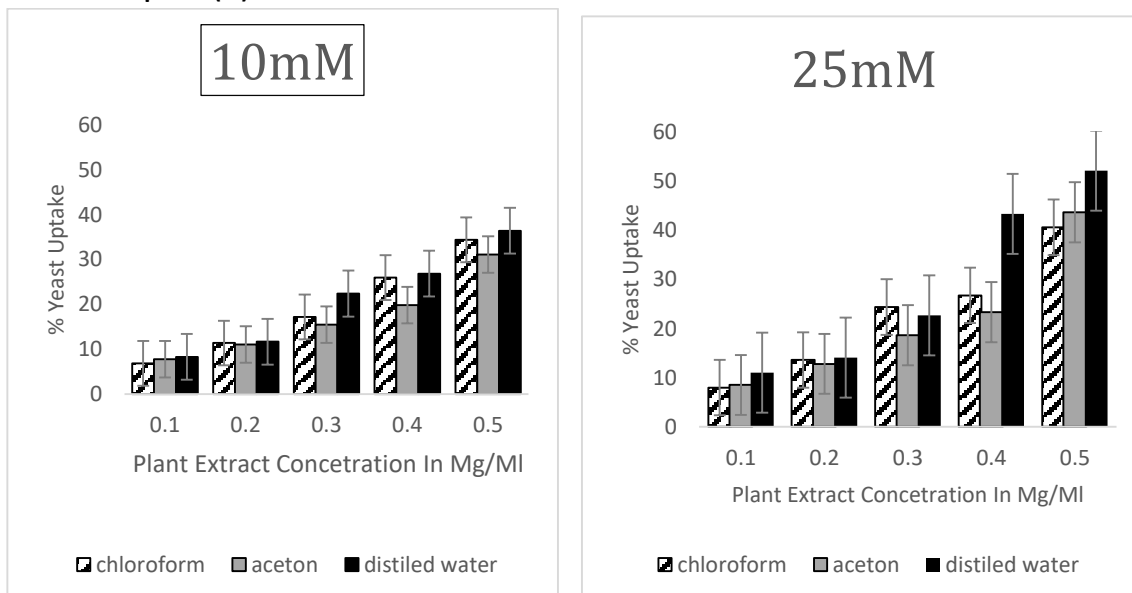
Figure 4. Glucose uptake (%) in 10 mM and 25 mM of *Rumex abyssinica*



At 10 mM glucose, the distilled water, chloroform and acetone, extracts of *Hibiscus Sabdariffa* (0.5mg/ml) promoted increase in uptake of glucose across the plasma membrane of yeast cells. The highest increase by 36.4%, 34.38%, 31.12% was recorded for 0.5 mg/ml in water, chloroform and acetone respectively. Similarly, at 25 mM glucose concentration, the highest activity was recorded at 0.5mg/ml extract concentration. The increase in uptake was by 52.16% in distilled water, 40.60% in chloroform and 43.37% in acetone extract, **Figure 5**.

FIGURE 5: Glucose uptake (%) in yeast cells at concentrations from 0.1 to 0.5 mg/ml of *Hibiscus sabdariffa*, chloroform, acetone and distilled water extracts in glucose concentrations of 10mM and 25mM. The X-axis shows plant extract concentration in mg/ml and the Y-axis shows % uptake. Results are expressed as in percentage uptake.

Figure 5. Glucose uptake (%) in 10 mM and 25 mM of *Hibiscus sabdariffa*

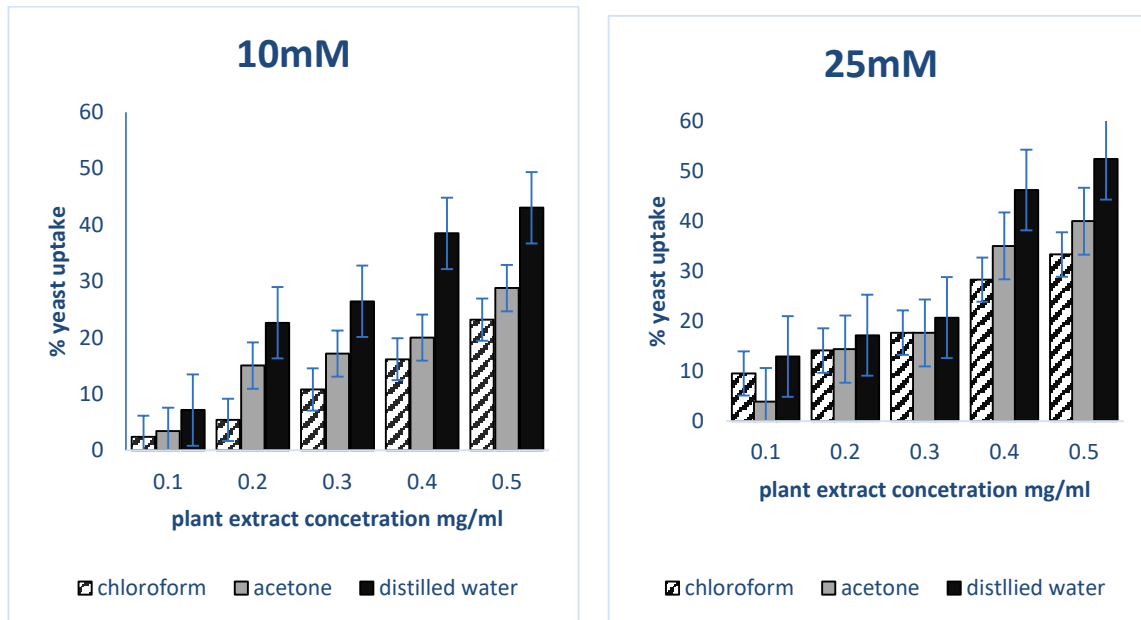


At 10mM glucose the highest increase in uptake was reached at 0.5mg/ml concentration. The increase in uptake was by 43.05%, 23.2%, and 28.79% in distilled water, chloroform and acetone respectively. At 25mM of glucose concentration, the distilled water, chloroform and acetone plant extracts exhibited a dose dependent increase in glucose uptake from 0.1mg/ml to 0.5mg/ml concentration. The highest increase in uptake was recorded in 0.5mg/ml concentration by 52.44% distilled water, followed by 33.36% for chloroform and 40.01% for acetone extract **Figure 6**.

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FIGURE 6: Glucose uptake (%) in yeast cells at concentrations from 0.1 to 0.5 mg/ml of *Cinnamomum zeylanicum*, chloroform, acetone and distilled water extracts in glucose concentrations of 10mM and 25mM. The X-axis shows plant extract concentration in mg/ml and the Y-axis shows % uptake. Results are expressed as in percentage uptake.

Figure 6. Glucose uptake (%) in 10 mM and 25 mM *Cinnamomum zeylanicum*



DISCUSSION

The enzyme alpha-amylase breaks down the alpha-bonds in polysaccharides like glycogen and starch to produce mono- and disaccharides like maltose and glucose. Alpha amylase inhibitors bind to the polysaccharide's alpha-bond and unable it from dissolving into monosaccharides. It has been demonstrated that the rise in postprandial glucose levels is positively associated with the activity of alpha-amylase. Alpha-amylase activity is thus implicated in the control of postprandial hyperglycemia and perhaps in the management of type 2 diabetes [16]. Plant extracts that impact glucose uptake across the plasma membrane are anticipated to affect glucose homeostasis given that diabetes is a condition with defective glucose uptake.

Plants consumed in Eritrea that are well-recognized to have anti-diabetic effects include *Hibiscus sabdariffa*, *Cinnamomum zeylanicum*, and *Rumex abyssinica*. *Hibiscus sabdariffa* and *Cinnamomum zeylanicum* have been explored for their effects on α -amylase inhibition and glucose uptake in the past researches [17], [18], [19] [20]. However, *Rumex abyssinica* has not yet been examined for its effects on glucose regulation. Therefore, the purpose of the study is also to determine how *Rumex abyssinica* differs from *Hibiscus sabdariffa* and *Cinnamomum zeylanicum* in its ability to decrease α -amylase activity and glucose uptake across yeast cell membranes.

In this study all three plant extracts exhibited α -amylase inhibition. Highest inhibition was recorded in aqueous extract followed by acetone and chloroform extract. The α -amylase inhibition by *Rumex abyssinica* was similar to that of by *Hibiscus sabdariffa*, which was higher than the inhibition by *Cinnamomum zeylanicum*. Chloroform extract of *Cinnamomum zeylanicum* showed no significant inhibition, where as, the chloroform extract of *Hibiscus sabdariffa*, showed significant inhibition at concentrations higher than 0.3 mg/ml and *Rumex abyssinica* at 0.5 mg/ml.

Our findings on the effects of *Hibiscus sabdariffa* on α -amylase inhibition are consistent with previous research conducted by [17]. that suggested the plant's aqueous extract is a powerful inhibitor of pancreatic α -amylase [17]. Additionally, the pressurized water extraction of *Cinnamomum zeylanicum* resulted in inhibitory activity for α -glucosidase and α -amylase (42.8 mg mL⁻¹ and 78.7 mg mL⁻¹, respectively) (P 0.05) [18].

CONCLUSION

Based on the above findings, the more effective inhibition of α -amylase and glucose absorption by the aqueous extract show that the plant extract's active ingredients are water-soluble. Hence, it's possible that the extracts may have anti-diabetic activity in vivo when taken in the form of tea, the way they are usually consumed. Therefore, the observed results will provide a line for further research.

In Vitro investigating the antidiabetic activity of *Rumex abyssinica*, *Hibiscus sabdariffa*, and *Cinnamomum zeylanicum*

DECLARATIONS SECTION

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Authors' contributions:

Helen Yemane, Nardos Tseggai, Sabela Ghirmay, and Diana Hadish conducted the study (contributed sample collection and preparation, sample analysis, and data interpretation). Helen Yemane and Nardos Tseggai drafted and conceived the manuscript. Helen Yemane was the one responsible for writing the manuscript and all contributed to revising and checking the manuscript. Dr. E. Tareke is responsible for the conception and design of the research, data interpretation, writing and revising, and finalizing of the manuscript. The authors are fully accountable for ensuring the integrity and accuracy of the work and the authors have read and approved the final manuscript.

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Analysis of the Maximum Oxygen Volume Level (Vo₂max) of Basketball Referees Pengda Yogyakarta Special Region



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ABSTRACT: A basketball referee is the person responsible for officiating a game. The referee plays a very important role in the outcome of the game. The purpose of this study was to assess the level of oxygen volume. This type of research is descriptive using a quantitative approach. The methods used in this study were surveys and measurement tests. This research was conducted at the Yogyakarta State University Outdoor Basketball Field in December 2023. The data collection technique in this study used the Multistage Fitness Test (MFT). The population in this study were C-A licensed Yogyakarta Special Region Pengda basketball referees totaling 25 referees. The results showed that 3 referees were in the Excellent category with a percentage of 12%, 9 referees in the Fair category with a percentage of 36% and 13 referees in the Poor category with a percentage of 52%. It can be concluded that VO₂max basketball referee Pengda Yogyakarta Special Region has a poor category. Proper and sustainable training is needed so that VO₂max ability is maintained.

KEYWORDS: Analysis, Basketball, Referee, VO₂max

I. INTRODUCTION

Basketball is a big ball game played by two groups / teams of five people, each team dribbling, passing and trying to put the ball into the ring or score as many points as possible (Fatahilah, 2018). Currently basketball is very popular in the world, even almost every country has an official basketball organization. Basketball is widely favored by various groups of people in various regions. The development and progress of basketball in the community in Indonesia is quite rapid (Sugiyati, 2013). This development is also felt in the Special Region of Yogyakarta. Players fight for the ball and score points to the opponent's ring, the players often intersect or body contact (Schiltz, M et al., 2009). Therefore, in basketball games there are often deviations and violations. Every decision-making requires a field adjudicator, namely the referee.

The referee is the person responsible for leading the game. The referee plays a very important role in a game (Sumiyarsono, 2015). In basketball matches, the referee has full protection from the parent of basketball in Indonesia, namely the Indonesian Basketball Association (PERBASI). The referee has the power to make decisions on rule violations committed both inside and outside the boundary line including the floor area near the scorekeeper's table, team benches and the area immediately behind the line (FIBA, 2022). In basketball refereeing, two officiating techniques are known, namely the "Two Person Officiating" and "Three Person Officiating" techniques. To officiate with both refereeing techniques, PERBASI as the highest parent in the game of basketball in Indonesia provides guidelines for doing so, which include the movement of a referee so that all playing fields can be properly supervised by all referees on duty.

Referees can carry out their duties properly if they have a good understanding of match regulations and excellent physical fitness so that the decisions taken are correct and impartial (Rosyadi, 2017). A referee is required to be fast, responsive and precise in making decisions in various situations. Especially situations that require fast mobility such as the eight-second rule and fast break strategy. Therefore, a basketball referee needs good physical fitness in every basketball match he leads.

One part of physical fitness is cardiovascular endurance. Cardiovascular endurance is a strong predictor of health for people of all ages and genders (Benito et al., 2016). Endurance training is influenced and impacts the quality of the cardiovascular, respiratory and circulatory systems. Therefore, the factor that affects aerobic endurance is the maximum ability to meet oxygen consumption which is characterized by VO₂ max. For basketball referees, the better the quality of fitness, the better the

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VO2max level of a referee, so that the level of endurance is also good, which in turn a referee has a high level of health and physical fitness. Conversely, if a referee has low endurance, then they will quickly experience fatigue which results in unstable emotions, easily swayed in a situation or atmosphere, lack of concentration and lack of focus in leading the match. VO2max is the maximum amount of oxygen in milliliters, which can be used in one minute per kilogram of body weight (Faiz, 2015).

To meet these endurance demands a referee must have a lot of energy. The demand for energy in large quantities will be produced through an aerobic system that requires oxygen, therefore the high and low endurance of a referee depends on the high and low maximum oxygen capacity or VO2max. Factors that affect VO2max are the physiological functions of the body, exercise or physical activity, food, the physical environment and also genetic or hereditary factors besides that the value of resting oxygen consumption is also influenced by body weight (Sazeli, 2016).

II. METHOD

This type of research is descriptive using a quantitative approach. The methods used in this research are surveys and measurement tests. Descriptive research is research intended to investigate circumstances, conditions or other things that have been mentioned, the results of which are presented in the form of a research report (Arikunto, 2013). The quantitative approach is an approach based on the philosophy of positivism, used to research on certain populations or samples with the aim of testing predetermined hypotheses (Sugiyono, 2017). The survey method was chosen by researchers because the survey method is data collection carried out at this time, to obtain information in the form of characteristics, opinions, and test several hypotheses (Zawawi & Burstiando, 2020).

This research was conducted at the Yogyakarta State University Outdoor Basketball Field in December 2023. The data collection technique in this study used tests. The test was used by researchers to measure VO2max basketball referees Pengda Yogyakarta Special Region. The population in this study of basketball referees Pengda Yogyakarta Special Region licensed C-A amounted to 25 referees. The sample in this study amounted to 25 referees using saturated sampling technique.

Data collection techniques in this study used direct observation techniques. The instrument used in this study used the Multistage Fitness Test (MFT) or bleep test (Fenanlampir & Faruq, 2015). Facilities and tools using a flat and non-slip track, meter, tape (sound tape), cone, stopwatch. Implementation, test participants try to get to the end of the opposite direction to coincide with the "tut" signal. Test takers must place one foot directly behind the start/finish line mark at the end of each run. Test takers should continue running for as long as possible until they are no longer able to adjust to the speed set on the tape. This test is maximal and progressive, meaning that it is quite easy at the beginning with jogging, then increasing and getting faster towards the last moment. Then analyzed based on the score table below:

Table 1. VO2max Ability Standard Norms

No	Score	Category
1	X>55,9	Superior
2	51-55,9	Excellent
3	45,2-50,9	Good
4	38,4-45,1	Fair
5	35-38,3	Poor
6	X<35,0	Very Poor

Source: Ali Miftahul (2016)

III. RESULT AND DISCUSSION

A. Result

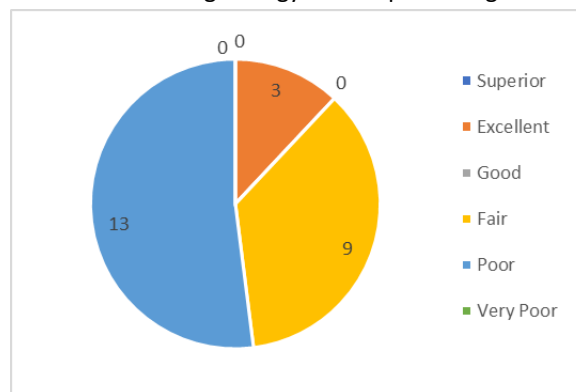
The description of the research data is intended to provide an overview of the results of the sample studied, in this case providing an overview of the VO2max level of the Yogyakarta Special Region Pengda basketball referee. This research was conducted on basketball referees Pengda Yogyakarta Special Region. The purpose of this study was to determine the VO2max level of the Yogyakarta Special Region Pengda basketball referee. Furthermore, in this description, the distribution of the VO2max ability level of the Yogyakarta Special Region Pengda basketball referees of the research respondents according to the VO2max standardization norms with the bleep test is presented as follows:

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Table 2. Percentage of VO2max basketball referees Pengda Yogyakarta Special Region.

Category	Score	Frequency	Percentage
Superior	X>55,9	0	0%
Excellent	51-55,9	3	12%
Good	45,2-50,9	0	0%
Fair	38,4-45,1	9	36%
Poor	35-38,3	13	52%
Very Poor	X<35,0	0	0%
Jumlah		25	100%

Graphic 1. VO2max results of basketball referees Pengda Yogyakarta Special Region.



From the table above, it is explained that the results of the analysis of the level of VO2max ability of the Yogyakarta Pengda basketball referee with 25 respondents, obtained the average count (mean) = 53.6 the lowest score obtained was 34.4 and the highest score obtained was 88.2. Based on the table above, it is found that there are 3 referees in the Excellent category with a percentage of 12%, there are 9 referees in the Fair category with a percentage of 36% and there are 13 referees in the Poor category with a percentage of 52%. It can be concluded that VO2max basketball referee Pengda Yogyakarta Special Region has a poor category.

B. Discussion

Based on the results of data processing carried out, it can be concluded that the basketball referee of the Yogyakarta Special Region Pengda has a less category. This is based on the program run by the Yogyakarta Special Region Pengda regarding the physical fitness of basketball referees which is still not optimal. The physical condition that must be trained by basketball referees is cardiovascular endurance both anaerobic and aerobic. Endurance is divided into 2 things, the first aerobic is often called aerobic fitness where in the process of activity O2 is needed because it is carried out over a long period of time such as long distance running and cycling, the second is anaerobic endurance where speed endurance is endurance with a shorter distance (Lumiantuarso, 2013). Aerobic endurance is the ability to perform long-term activities related to O2 and ATP bonds to supply energy (Nusri & Panjaitan, 2019). VO2max can also be called maximal oxygen consumption or maximal oxygen uptake or aerobic capacity. VO2max comes from "V" which means Volume and "O2" means oxygen and Max which means maximum, and can be interpreted as oxygen uptake during maximum excretion of exercise that the body can use during exercise (Tumiwa, 2016).

VO2max is not only a parameter of the level of the body's / physical ability to take oxygen, but also sends it to the working muscles and helps dispose of metabolic waste and not only that VO2max is also one of the factors to support achievement (Salman, 2018). Someone who has good endurance and stamina has a high VO2max value (Chotimah, 2015). So that someone who has poor endurance and stamina will have an impact on a poor VO2Max level. Factors that affect VO2max levels include gender, age, heredity, altitude, exercise and nutrition (Indrayana & Ely, 2019).

Energy system endurance is the ability of the performance of the organs of the human body within a certain period of time. VO2max is the maximum level of oxygen volume used and processed by a person during intensive physical activity and one way to determine VO2max endurance using the MFT test. VO2max is a form of evaluation of the level of a person's physical condition. Data processing of research results shows differences in classification / categories that are quite varied (Nunes, 2019).

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Each aspect needs special attention programmatically with a routine training program in order to improve endurance, with the hope that if the basketball referee's endurance is good, the referee will be more focused on the field when leading the match. Then based on the results in the table above, it shows that the average ability of the Yogyakarta Special Region Pengda basketball referee is in the good category. It can be concluded that each referee has a different ability in his endurance ability, the referee will have good endurance if the referee is consistent in physical training.

Endurance training is influenced and impacts the quality of the cardiovascular, respiratory, and circulatory systems. Therefore, the factor that affects aerobic endurance is the maximum ability to meet oxygen consumption which is characterized by VO2 Max. Endurance as the ability of a person to overcome fatigue physically and psychologically (mentally). In another sense, it can also be interpreted that endurance is the ability of the organism (body coordination) to be able to carry out loading as long as possible both statically and dynamically without experiencing a decrease in the quality of its work. Seeing the importance of good cardiovascular endurance that every basketball referee must have, it takes effort to maintain that endurance so that the referee has good fitness quality. A referee is required to be fast, responsive and precise in making decisions in various situations. Especially situations that require fast mobility such as fast attack direction (turn over fast break), therefore a basketball referee needs good physical fitness in every basketball match he leads.

A good physique in sports activities is one of the keys to building confidence (Komarudin, 2015). With a good physique the referee can think calmly not affected by anything and can carry out his duties properly. Referees who do not understand the rules of the game will also result in making decisions that are less precise and seem unobjective. The referee's low level of physical fitness is also one of the factors that can harm one of the competing teams. This results in the referee often being left behind when running to get the best position to determine decision making. The existence of a fit physique, the referee is able to think calmly and is not affected by anything and can carry out his duties optimally (Rosyadi et al., 2017). In addition, if physical fitness decreases, it can result in a lack of trust in the referee's performance and the referee's image becomes bad in the eyes of players, coaches, spectators, even in the eyes of the organizing committee (Rohmana & Kartiko, 2017). FIBA also has a recommended training program to train and maintain good physical fitness. Creating a consistent training program makes changes to the physical fitness of basketball referees for the better. The training program recommended by FIBA to train the physical fitness of basketball referees is a 5 km/day for 5x/week running program, an interval running training program and a leg muscle strengthening training program. Proper and sustainable training is needed so that VO2max ability is maintained. In line with a fit physique, the referee is able to think calmly and is not affected by anything and can carry out his duties optimally (Rosyadi et al., 2017).

IV. CONCLUSIONS

Based on the results of the research that has been done, it is obtained that the VO2max ability of the Yogyakarta Special Region Pengda basketball referee has a poor category. There are 3 referees in the Excellent category with a percentage of 12%, there are 9 referees in the Fair category with a percentage of 36% and there are 13 referees in the Poor category with a percentage of 52%.

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The Coherence of Good Administration and Good Governance in Government (A Conceptual Approach)



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ABSTRACT: Good administration (*goed bestuur*) and good governance (good governance) are two concepts that are the focus of attention in the study of administrative law. Through a global conceptual and practical approach, the concept of good governance is flexible, adaptable, and normative. It becomes a positive legal regulation. Thus, it has practical normative effects to be implemented by government institutions. The relationship between good administration and good governance will show that the principles of good governance are the third pillar in realizing good governance, besides the two classic pillars that have previously existed, namely the supremacy of law and democracy.

KEYWORDS: Good administration, good governance, Administrative law.

1. INTRODUCTION

The Administrative Law approach to the concept of government (*bestuur, Verwaltung*) is divided into two meanings, namely material and formal. The material meaning of the concept of government is often formulated negatively, that state power which does not include legislative power and judicial power (*Tatigheid des states die nich Gesetzgebung oder Justiz ist*). Furthermore, in its formal meaning, it is defined as a certain form of governmental action (*een bepalde vorm van overheidsop treden*) (Prakk, & Kortmaan, 1986; Hadjon, 2002).

At the beginning of the 21st century, bringing together and connecting the concept of good governance and the concept of good governance from an administrative law perspective is still relatively new, although the latest administrative law handbooks have paid attention to this (Schlössels & Zijlstra, 2010; Addink, 2012). Most administrative law experts today have also paid full attention to focusing their views, especially on the principles of good governance (het beginsel van goed bestuur/good administration principles) or with the norms of propriety as commonly used by the Ombudsman..

Administrative law in general has major changes in its evolution, as a result of the norming of administrative actions that has so far only been carried out sectorally and spread out. The lack of clarity in norms and the length of various procedures often receive criticism, both from politicians and the public. The ideals of rule of law and democracy do not always seem to provide an adequate framework, especially now that public values are under pressure..

The concept of good governance in the national legal system can be correlated to existing and generally accepted principles, as well as to more specific principles in the field of administrative law. Good governance is a term that has a broad scope and is multidisciplinary in nature. Thud, the meaning varies depending on the context. This represents a number of things, for example compliance with basic rights (civil, political and social), effectiveness and transparency, government accountability (in financial or other matters) and prioritizing the supremacy of the law (rule of law/ *rechtsstaat*).

In the concept of good governance, a distinction can be made between different groups of behavior in government administration. These behaviors are related to the legislative, administrative and adjudication processes. Based on literature searches, it can also be seen the development of appropriate regulatory principles (van der Vlies, 1984), reasonable principles of justice - *due process of law* in current legal practice (de Waard, 1987). in addition, the principles of good administration (*beginselen van behoorlijk bestuur*) were previously known. (Nicolai, 1990). These three groups of principles together can be called the principles of proper/good government action.

The need for a clear conceptualization of norming/standardizing government actions arises not only at the national level, but also at the regional and international levels. The strong reciprocal effect of these norms occurs at various levels, both in

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discussions about multi-level governance, where the principles of good governance play a central role. These principles have become deeply rooted in each jurisdiction from above and at different levels, but take on the character of legal norms that must be obeyed. In addition, a principles-oriented approach based on unambiguous concepts will lead to more coherence and consistency in the legal norming of government actions..

The central problem which is a legal issue for realizing good governance (*goed bestuur*/good administration), conceptually departs from the principle of legality, both formal (authority and procedures) and material (substance). The general principle of procedure which is based on three main foundations of administrative law (the principle of the rule of law, the principle of democracy, and the instrumental principle), in the development of its concept has made the instrumental principle the main basis in the study of the concept of good governance, related to the value of the "propriety" of government actions. carried out by government organs (in the broadest sense). In connection with this, the legal issue raised in this article concerns: how is the coherence between the concept of good administration (*goed bestuur*) and good governance (good governance) in the perspective of administrative law.

2. RESEARCH METHOD

This research method used a normative (doctrinal) approach in the form of library research, especially a conceptual approach. The conceptual approach departs from the views and doctrines that have developed in legal science (Marzuki, 2013), especially administrative law. The concept approach is intended to analyze legal material. Thus, the meaning contained in legal terms can be known. This is conducted as an effort to obtain new meanings contained in the terms studied, or to test these legal terms in theory and practice (Hajar, 2015).

3. RESULTS AND DISCUSSION

3.1. Concept and Dimensions of Good Administration (*Goed Bestuur*)

The concept of good administration (*goed bestuur*) can be approached from various scientific fields such as administrative law, administrative and policy science, governmental science, and economics. The term good administration (*goed bestuur*) can essentially be seen as a fact and a norm, and this depends on the perspective from which this difference is approached (Addink, 2012).

Based on an internal administrative perspective, facts and norms are cultural products that cannot be separated, because they are closely related. Administrative agency policies as facts and law as norms will also be close to each other. Likewise, the role of judges, ombudsman and audit institutions is not limited to just what the law says about good governance, but also about what must be contained in the law relating to this matter. On the other hand, from an external administration perspective, it will always refer to what the law or statutory regulations say about good governance (*goed bestuur*/good administration). Facts and norms, as well as policy and law, are thus again scattered. Therefore, an approach oriented to the principles of good governance will make it possible to bring policy and law to a fairly close state again (Addink, 2012).

The meaning of the term 'law' shows a certain duality, namely on the one hand it refers to the idea of what law actually is (natural law). On the other hand, it refers to positive law that applies in a certain place and time (Ballin, 1979). Despite this duality, the two meanings form an analogous whole. The idea of law (law in the first sense) is the prepositive sense of all law (in the second sense). Legal ideas and positive law cannot exist without each other. The concept of good administration and the principles that embody this concept cannot be achieved without the principles of good governance as stated in prepositive law .

Through the choice of methods combining various views, traditions, arrangements and relationships that are constantly changing, to say a government is a "good" administrative, there are at least four things that need to be considered, namely (Montfort, C. van, 2004):

- a) good administration is not a stable situation, what is "good" will change when the economic, social and moral context changes (*goed bestuur is geen stabiele situatie: wat 'goed' is verandert als economische, sociale en morele contexten veranderen*);
- b) "good" is given different and ever-changing interpretations in various social domains (*het 'goede' krijgt in de verschillende maatschappelijke domeinen een andere, en telkens veranderende invulling*);
- c) there is no 1 (one) external assessor who determines when and whether there is good administration. Therefore, it is not "the government" or "the citizens" who determine whether there is good government. What is good can only be determined intersubjectively. This has consequences for the way in which governance should be evaluated (*er is niet 1 externe beoordelaar die vaststelt wanneer en of sprake is van goed bestuur. Het is dus niet 'de overheid' of 'de burger' die vaststelt of sprake is van goed bestuur. Wat goed kan alleen intersubjectief worden vastgesteld. Dit heeft consequenties voor de manier waarop bestuur moet worden geëvalueerd*);

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d) good governance will never be achieved completely, a hundred percent score will never be possible on all dimensions/aspects of good governance (simply because of the mutual tension that exists between parts of good governance). The maximum that can be achieved is the “best possible” management (*goed bestuur zal nooit volledig worden bereikt, nooit zal op alle dimensies van goed bestuur een honderd procent score mogelijk zijn (alleen vanwege de onderlinge spanning die bestaat tussen onderdelen van goed bestuur). Het maximaal haalbare is ‘zo goed mogelijk’ bestuur*).

Furthermore, regarding the scope of the dimensions of good administration (*goed bestuur*), then by referring to the UN definition, public governance debates, comments and additions to both, as well as observations based on a brief historical outline and general principles. Furthermore, this leads to four dimensions of good governance. These dimensions form the character associated with (Montfort, 2004):

- a) *democratie : participatie, publieke rekenschap, verantwoordelijkheid, organisatie van reflectie en deliberatie* (democracy: participation, public accountability, responsibility, organizational reflection and deliberation);
- b) *wet en recht: rechtstatelijkheid, rechtmatigheid en integriteit* (Laws and legal: supremacy of law, legitimacy and integrity);
- c) *gemeenschappelijkheid : aansluitend bij gedeelde warden* (similarity: in line with shared values); And
- d) *uitvoering : kwaliteit, doelmatigheid, voorzien in maatschappelijke vraag (inclusief handelings-en leervermogen)* [implementation: quality, efficiency, and meeting social demands (including capacity to act and ability to learn)].

3.2 Good Administration and Its Practical Consequences in Law and Justice

The principles of good government are part of administrative law. These principles in administrative law can be approached through interpretive concepts (Dworkin, 1986). An interpretive approach will provide clarity about what is or is not considered law. The important thing that can be understood from Dworkin's approach is the discretionary space for interpretation regarding the principles. Dworkin in his view suggests that only one interpretation is possible, and this will create clarity and consistency in the content and scope of the principles of good government. Justice in the general sense can be different from justice in the context of good governance (administrative law). The legal approach in conducting assessments focuses on actions that are following the law or not, and if it is not then generally there are legal means to enforce legal norms that are violated.

Good administration (*goed bestuur*) can conceptually lead to practical normative consequences. The practical normative consequence of good administration (*goed bestuur*) as a legal principle is that bodies/institutions must comply with these legal norms in carrying out their duties. The administrative body must gather the necessary knowledge of the relevant facts and interests to be considered during preparation. This is proven that the principles of good governance have been included in the provisions of legislation (Addink, G.H. 2012).

The consequences of most of the principles of good governance lie in the legal regulations that must be obeyed by bodies/institutions and the provisions that apply directly from an international agreement

3.3 Development of the Concept of Good Governance

The concept of good governance, which was originally not a legal concept, has turned into a legal concept and has become the basis for a modern state together with the principle of the supremacy of law and the principle of democracy. This concept is the most modern and dominant of the three pillars of the country, while the concept of the rule of law and the concept of democracy are the more classic pillars but are still alive. The concept of good governance can only become legal principles if it has been codified and has legal consequences (Addink, 2019).

Three steps can be distinguished in carrying out concept positivization, namely identification, internalization, and enforcement of good governance. Hence, there is a direct relationship between good governance and human rights which can be illustrated in various articles in international agreements on human rights. Recent developments related to law regarding good governance and the development of most of the principles of justice which were previously unwritten, have more or less codified and internationalized national administrative law with the development of the principles of good governance, including the principles of good governance (Addink, G.H., 2012).

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3.4 The Coherence of *Goed Bestuur*/Good Administration and Good Governance Dimensions

As mentioned in the explanation above, the principles of good administration (*goed bestuur*) are rooted in the principles of supremacy/rule of law (the principles of proper/good governance and the principles of governance based on human rights) and the principles of democracy (the principles of transparent government, the principles of participatory government, the principles of effective government, and accountability) while the principles of good governance are the foundation for a modern democratic rule of law. Starting from the conceptual approach and substance of each study of these principles, the relationship between UNDP good governance and the dimensions of good administration (*goed bestuur*) can be illustrated through mapping in the following table:

Table 1. The Coherence of the Principles of Good Governance and Dimensions of *Goed Bestuur*/Good Administration

Good Governance Principles (UNDP)	Dimensions of Good Administration (<i>Goed Bestuur</i>)
<i>Participatie</i>	Dimensie 1: Voldoen aan democratische principes (Fulfill democratic principles) : - <i>representatie</i> (representation) - <i>verantwoordelijkheid</i> (responsibility) - <i>verantwoording</i> (accountability) <i>interventie (exit, voice en loyalty)</i> [intervention (exit, voice and loyalty)] - <i>deliberatie – reflective</i> [deliberation-reflection]
<i>Accountability</i>	
<i>Transparancy/Openness</i>	
<i>Equity and inclusiveness</i>	Dimensie 2: Wet en recht (Act and Law) : - <i>rechtsstaatelijk</i> (supremacy of law) <i>rechtmatig</i> (incl. ABBB's) [valid, including AUPB] - <i>integer</i> (intact)
<i>Rule of law</i>	
<i>Consensus orientation</i>	Dimensie 3: Gemeenschappelijke percepties en waarden (Shared Perceptions and Values) : <i>consensus over basiswaarden</i> (consensus about basic values) <i>consensus over lange termijn doelen (deliberatie over die doelen/waarden)</i> [consensus about long-term goals – deliberation about those goals/values]
<i>Strategic/long term vision</i>	
<i>Responsiviteit</i>	Dimensie 4: Uitvoering (Implementation) : <i>responsief (kunnen) inspelen op vraag en maatschappelijke ontwikkelingen</i> – [responsive (able) to respond to social demands and developments] <i>kwaliteit (inc. Doeltreffendheid en doelmatigheid)</i> – [quality (including effectiveness and efficiency) - <i>handelingsvermogen</i> (ability to act)
<i>Efficiency</i>	

Source: Processed and analyzed from UNDP, 1997 & Montfort, 2004

Furthermore, if the principles of good governance as presented by Addink (2019) and juxtaposed with the dimensions of good governance according to van Montfort (2004), then the following description can be understood below:

Table 2. Description of the Relationship between the Principles of Good Governance and the Dimensions of *Goed Bestuur*/Good Administration

The Principle of Good Governance	Dimensions of Good Administration (<i>Goed Bestuu</i>)
1. Transparency	Dimensie 1: Voldoen aan democratische principes (Fulfill democratic principles) : - <i>representatie</i> (representation) - <i>verantwoordelijkheid</i> (responsiveness) - <i>verantwoording</i> (accountability) <i>interventie (exit, voice en loyalty)</i> [intervention (exit, opinion and loyalty)] - <i>deliberatie – reflective</i> [deliberation-reflection]
2. Participatie	

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<p>3. The Principle of Properness</p>	<p>Dimensie 2: Wet en recht (Act and Law) : - <i>rechtsstaatelijk</i> (supremacy of law) <i>rechtmatig</i> (incl. ABBB's) [valid, including AUPB] - <i>integer</i> (intact)</p>
<p>4. The Principle of Effectiveness</p>	<p>Dimensie 3: Gemeenschappelijke percepties en waarden (Shared Perceptions and Values) : <i>consensus over basiswaarden</i> (consensus about basic values) <i>consensus over lange termijndoelen (deliberatie over die doelen/waarden)</i> [consensus about long-term goals – deliberation about those goals/values]</p> <p>Dimensie 4: Uitvoering (Implementation) : <i>responsief (kunnen) inspelen op vraag en maatschappelijke ontwikkelingen</i> – [responsive (able) to respond to social demands and developments]</p>
<p>5. Accountability</p>	<p><i>kwaliteit (inc. Doeltreffendheid en doelmatigheid)</i> – [quality (including effectiveness and efficiency) <i>handelingsvermogen</i> (ability to act)</p>
<p>6. The Principle of Human Rights</p>	<p>Dimensie 1, 2, 3, 4</p>

Source: Processed and analyzed from Addink, 2019 and van Montfort, 2004.

4. CONCLUSION

Concerning the concept of good administration (*goed bestuur*), it focuses on government agencies carrying out correct and appropriate actions at the right time, while the concept of good governance focuses on the views of agencies/institutions, priority interests that promoted and respected values, as well as the management process in a broad sense as a reflection of the culture of interaction between institutions, then several main conclusions can be stated as follows:

1. The legal concept of good administration (*goed bestuur*) which is rooted in the principles of the rule of law and the principles of democracy, will show the practical normative consequences that must be carried out by government bodies/institutions themselves, both through moral approaches, positive law and through interpretive concepts.
2. Good governance, which was originally a concept, can be transformed into a legal norm by positiveizing a number of its principles in statutory regulations and through the practice of court decisions and international agreements.
3. The development of the Administrative Law perspective on the principles or principles of good governance in relation to the realization of good administration (*goed bestuur*), will make these principles or principles the third pillar, in addition to the first pillar of the rule of law and the second pillar principles of democracy

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The Effect of Humic and Gibberellin on the Growth and Flowering of The Cat's Eye (*Syzygium Zeylanicum*) Plant



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ABSTRACT: Cat's eye (*Syzygium zeylanicum*) is one of the tropical plants that has a fairly high value. *Cat's eye plant* is often used variously. This first-year research was conducted with the aim to study the effect of the interaction of Humic acid and gibberellin on the flowering of Cat's eye plant and to determine the best concentrations of Humic acid (LHA) and gibberellin (GA) to spur the flowering of cat eye plant. The research method used is an experimental method with a factorial RAL treatment pattern. The first factor is the concentration of gibberellins consisting of 4 levels, namely 0 ppm; 100 ppm; 200 ppm; 300 ppm. The second factor is the concentration of Humic acid, which consists of 4 levels consisting of 0 ppm; 100 ppm; 200 ppm and 300 ppm. Each combination of treatments was repeated 10 times so that 120 experimental units were obtained. The results showed that the interaction between Humic acid and GA did not show significantly different results on all parameters tested. The independent use of GA and Humic acid may affect the growth of Cat's eye plant. GA treatment of 200 ppm showed plant height and relative growth rates. The Lion Humic acid treatment concentration of 0 ppm and 200 ppm showed the highest average number of flowers, while for the highest average number of roots shown in the 0 ppm Humic acid treatment. The F test was used to analyses the data, and if they were significantly different.

KEYWORDS: Gibberellin, Cat's eye plant, tropical plant, Humic acid, growth parameters flowering.

INTRODUCTION

Cultivation of tropical plants is currently a very popular activity and is able to improve the economy of the community. Tropical plants can be potted plants, hanging plants, table decorations, garden tropical plants and indoor plants. The economic value of a tropical plant is influenced by architecture, leaf color, and flower size [Ali et al , 2022]. The demand for tropical plants from year to year continues to increase along with public awareness of the needs of tropical plants [Yusuf et al , 2023]. One of the flower plant commodities that are often cultured is the Cat's eye plant often known as chicken mole flowers. Cat's eye plant is a plant originating from India and Sri Lanka, South Asia [Flowersofindia.net]. *S. zeylanicum* belongs to the family Myrtaceae with the characteristic of having many erect stem branches, with a plant reaching 12m. *S. zeylanicum*. is a tropical plant that is used as a hedge plant to become a ritual flower used for religious rituals. Cultivation of Cat's eye plant Often carried out in open fields, and very rarely cultivated using pots. this is because the height of the *S. zeylanicum* plant reaches 12 m with many branching, making this plant easily fall off. Therefore, plant growth engineering is needed to make plants shorter so that they can be used as potted tropical plants that have high aesthetic value. One of the ways to get a short crop with a quick flowering time is the application of Lion Humic acid and gibberellin feeding to plants [Hamad , 2017].

Humic substances are defined as naturally occurring, heterogeneous substances that can vary in color from yellow to black, have high molecular weight, and are resistant to degradation. Humic substances are amorphous, partially aromatic and well-defined organic compounds. They are substances that do not have chemical and physical properties. Humic substances are divided into three groups humic acid, fulvic acid, and humin, according to their solubility in acids and bases. Chen and Avnimelech [Chen , 1986] classified humic substances and fulvic acids, starting from humus. Fulvic acid has a smaller molecular structure than humic acid [Grenthe , 1997], is less persistent in the soil, and is more easily subjected to microbial degradation. Humins are humic structures that cannot dissolve in either acidic or alkaline environments. Humic acid, on the other hand, has a large molecular weight and takes longer to break down. For this reason, humic acids are generally used in soil applications [Ghabbour , 2001]. In addition to reducing the evaporation rate of water in the soil, humic substances increase the cation exchange capacity (CAC) of soils and increase soil fertility. The unique feature of humic substances is that they show buffering properties over a wide pH range. All

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humic substances have the same general functional groups. There are no significant compositional differences between old and new humic materials, and they show the same types of reactions and interactions [Kulikova et al , 2005].

PLANT DESCRIPTION

Syzygium zeylanicum begins to flower when it is bush-sized and can reach trees up to 22 m high and with a trunk diameter of up to 50 cm. All the organs of this plant are not covered by hair. Twigs are cylindrical and slender, 1–2 mm in diameter. The leaves are arranged opposite each other and are arranged in such a way in one plane, when young they are reddish, when crushed they are very aromatic, the leaves are oblong or oval-shaped, measuring 6-10 × 3-4 cm, the base is wedge-shaped and asymmetrical, the tip is usually tapered, the veins intramarginal is usually 1–2 mm from the margin. The flowers in series resemble panicles with a length of 2-4 cm, appearing from branches that have shed or rarely have not shed leaves. The number of flowers is large, between 27 to 53, apparently there are often fewer. Flowers have no stalks, the calyx tube is inverted cone-shaped, 2–2.5 mm long and with four ornamental parts, calyx 1 mm long, corolla 1.7–2 mm long, circular in shape and the lobes are free. The fruit is round, green and becomes red and dark when ripe, measuring 0.5 × 1 mm in both length and width. Secondary Metabolites and Bioactivity Various secondary metabolite compounds have been identified from this type, including α -pinene, octanal, linalool, α -cubebene, azulene, valencene, β -panasene, δ -cadinene, α -panasene, nerolidol, humulene epoxide II, caryophyllene oxide, farnesol, phytol, squalene, β -tocopherol, γ -tocopherol, α -tocopherol and β -sitosterol, heptane, β -linalool, β -selinene, propylene glycol, α -copaene, Selina 4,11-diene, pyrogallol, methyl palmitate, neophytadiene, palmitic acid, eicosane, methyl oleate, stearic acid, tannin, α -farnesene, β -caryophyllene and hentriacontane. Some of the important known bioactivities include anticancer, anti-inflammatory, lowering blood pressure, antibacterial and antioxidant. Based on the accounts of people born in the 1970s, this type of fruit is said to be often consumed, which incidentally is also reported in various literature. Other uses are for construction, although it seems less popular, and also for medicine. The leaves are known as bay leaves, which are a well-known cooking spice. Grows naturally in areas with sand-clay soil types in secondary forest habitats. This species tends to live in the lowlands with an altitude generally reaching 400 m, but seems to be able to live at higher elevations [Abd Rahim et al , 2018].

Syzygium are typically grown as tropical plants for their attractive glossy foliage. Some varieties produce edible fruit that are eaten fresh or used in jams and jellies. It has a multitude of uses. It is evergreen, has dense foliage, and grows rapidly to a height of up to 14 m if left unchecked. *Syzygium* are sensitive to extreme cold and frost, but will grow almost anywhere. *Syzygium zeylanicum* is excellent for hedges and borders. *Syzygium zeylanicum* has the regional name cat eye plant. This plant can be found in tropical and subtropical areas. The flowers produce nectar, which can attract insects such as bees and butterflies. This plant bears fragrant white flowers that develop into pearly, beautiful albeit inedible berries. Native to the western ghats in Kerala, India, and Evergreen tree. This study aims to determine the effect of Lion Humic acid and gibberellin application on the growth and flowering of *Cat's eye* plant (*Syzygium zeylanicum*)

RESEARCH METHODS

A field experiment was done from June 2020 to March 2022 at the Horticulture Section of the University campus. The purpose of the study was to investigate the impact of lion's humic and gibberellin on the growth and flowering of the cat's eye plant. This study used Complete Randomized Design (CRD) with Factorial Pattern [Dafaallah , 2019]. Cat eye plant seeds came from the department of horticulture. The seeds were sown at a depth of 1-1.5 centimetres, with a distance of 3 metres between rows and 2 to 3 metres inside each row. Four-week-old healthy seedlings with a strong growth pattern were chosen for transplanting. Two times every month, we sprayed the plants with foliar applications of humic acid (LHA) and gibberellic acid (GA).

The experimental design involved the use of treatments consisting of factor A, which encompassed four distinct concentrations of humic acid, and factor B, which encompassed four distinct concentrations of gibberellic acid. The first factor GA with 5 concentration levels is: 0 ppm (GA1), 100 ppm (GA2), 200 ppm, 300 (GA3) ppm, 400 (GA3) ppm and 500 (GA5) ppm. The second factor is Humic acid with 4 levels of concentration, namely: 0 ppm (LHA1), 100 ppm (LHA2), 200 ppm(LHA3) and 300 ppm(LHA4). All treatments are planted on soil media, husk waste, shrimp fertilizer and compost in a ratio of 1:1:1:1. During the course of this study, we conducted measurements and documented many parameters of the plant, including its height, the quantity of primary and secondary branches, and its girth, which was measured in millimetres. The blooming attributes that were observed and recorded included the number of days until the first flower bud initiation, the number of days until the first flower opening, the number of days until 50% flowering, and the duration of the flowering period. This research used an area of 1 m x 9 m. Gibberellins and LHA were applied three times in a row, namely when the plants were 8 weeks after planting and had entered the generative phase with the bud size being approximately 3-3.5 mm until the plants were 10 weeks after planting. However, at 8 weeks after planting, right before the first spraying, the first victim was observed to see the morphological growth of the cat eye before applying

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GA. The data was analyzed by variance analysis, with a confidence level of 95%. The calculated F value obtained is greater than the F table, followed by a further test of honest real difference (LHSD).

RESULTS AND DISCUSSION

Based on the results of observations made, changes in plants are characterized by changes in size, the formation of new organs, and an increase in the number of plant organs. This is because there are nutrients available in plant media and most of the nutrients needed by plants have been provided by the growing media for further nutrients in the media are absorbed by the roots used for the growth and flowering process. The results of variance analysis of the interaction of Humic acid and GA on the observed parameters showed results that had no real effect. The results of the analysis that had a real effect were shown by the treatment alone, both GA and Humic acids (Figure 1-4).

Effect of Humic acid on plant growth and flowering

The impact of humic acid on the vertical growth of cat eye plants (mm): The greatest plant height ever measured (1040.4 cm) was observed when the humic acid factor HA2 was applied topically. The following treatment, LHA3, resulted in a plant height of 1009.19 cm. The plant's height after receiving the aerial humic acid factor under the LHA4 treatment was 978.91 cm. In contrast, the control treatment (LHA1) had a plant height that was 1020 units lower. This phenomenon could be caused by humic acid's ability to promote plant nitrogen absorption. This is performed by stimulating the transport of micronutrients through the leaf epidermal and into the plant's vascular system.

Humic acid's effect on plant branches: The LHA2 treatment produced the most branches per plant, with 37.36 primary and 55.76 secondary branches. The LHA3 treatment was closely followed by 35.14 primary branches and 52.4 subsidiary branches. Furthermore, the LHA4 treatment resulted in 34.14 primary branches and 50.4 secondary branches when humic acid was applied to foliar. The control treatment (LHA1), on the other hand, had the fewest primary branches per plant. The observed effect could be ascribed to the use of a humic acid-containing foliar spray. This chemical has the ability to stimulate the generation of plant hormones, such as auxins and cytokinins, which have been linked to activities such as cell division, elongation, and differentiation. As a result, the increased presence of these hormones may lead to the expansion of primary branches.

Humic acid's impact on plant stem diameter (in millimeters): In terms of stem girth, it was discovered that the LHA2 treatment had the largest diameter, measuring 27.44 mm. This was followed by LHA3 (diameter: 25.62 mm) and LHA4 (diameter: 24.48 mm). These findings imply that foliar treatment of the humic acid component LHA4 resulted in the smallest stem diameter. The control treatment (LHA1) had a considerably smaller stem girth (23.14 mm). Increased nutritional intake as a result of nutrient chelation or binding has the potential to improve plant growth and development, particularly in terms of stem girth.

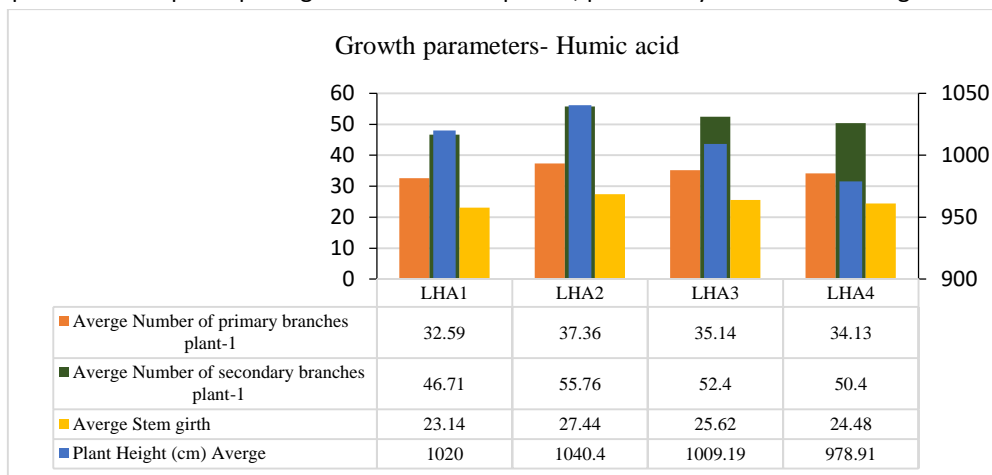


Figure 1: The effect of aerial LHA treatment on growth indices in the cat eye plant

Effect of humic acid on days to flower bud initiation and flowering: From the results given in figure 3, it was identified that the treatment LHA1 (control), the first flower bud appeared in 329.4 days. For the treatment LHA3, it took 349 days, which was the same as for the treatment LHA2. The application of humic acid, on the other hand, made it take a lot longer for LHA4 to start its first flower bud (349.56 days). Because flower buds need a certain number of days to open, using more humic acid in the areal spray may slow down the process. With the LHA4 treatment, it took the longest (351.66 days) for the first flower to open. This might have happened because the plant in the control treatment didn't get any extra nutrients or stimulants, so the first flower opened faster. The quickest time to 50% blooming was with LHA2 treatment (355.43 days). Plants in the LHA1 (control) group took 365.51 more days to reach 50% blooming than those in the other groups. Using humic acid on plant leaves may have improved

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photosynthesis, which could explain what happened. The results showed that flowering times changed significantly depending on the amount of humic acid present. Flowering taken 342.23 days with the LHA2 treatments but only 322.70 days with the LHA1 (control) treatments. This is a difference that is statistically significant. This might be because humic acid makes plants stronger and better able to handle harsh conditions. Similar results obtained by Kirn (2010) in Okra plants [Kiren et al , 2010]

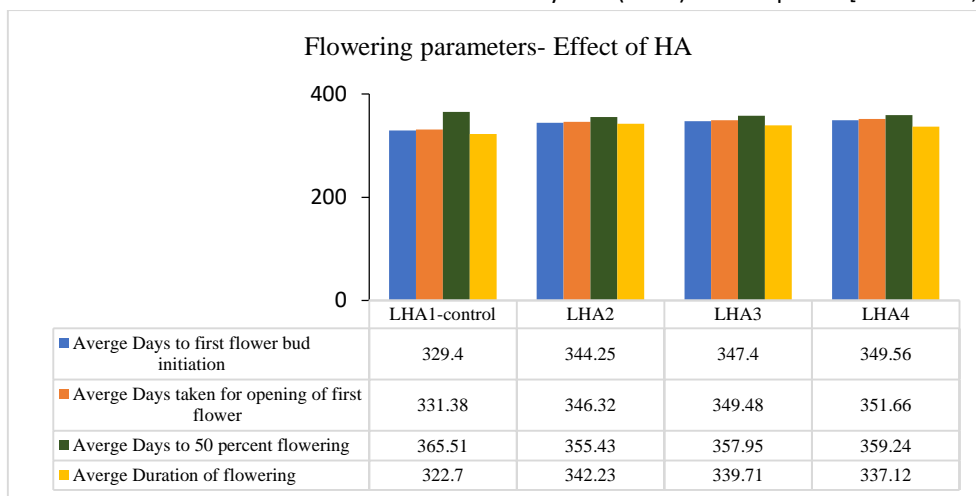


Figure 2: The effect of aerial LHA treatment on flowering parameters in the cat eye plant

The diameter of the blooming flower is one component of the final result in the cat eye plant production process. Flower diameter is measured from the centre line of the flower corolla, carried out when the flower is half open, namely at the time of flower harvest with the criteria that the flower corolla opens 45° to the axis of the flower stalk. Figure 3 shows that in the flower diameter parameters, there was no significant difference between the treatment and the control. Significant differences in all treatments could be due to the same number of florets produced so that the distribution of assimilate was equally distributed to all flowers. In marigold flowering experiments, [Ahmad et al , 2019] observed comparable findings.

Effect of Gibberellic acid (GA)

The impact of GA on the vertical growth of cat eye plants (mm): The findings of the study revealed that there were statistically significant variations in plant height across different amounts of gibberellic acid. The application of GA4 led to the highest plant height seen in the study, measuring 1016.18 cm. GA3 followed this with a height of 984.5 cm, GA2 with a height of 961.18 cm, and GA5 with a height of 935 cm. The control treatment (GA1) exhibited a minimum plant height of 864.82cm as measured. The observed increase in maximum plant height could be related to the administration of GA, which is known to enhance intermodal length and subsequently stimulate cell elongation and protein synthesis.

GA effect on plant branches (Primary & secondary): According to the findings of this study, there were statistically significant differences in the number of branches between GA concentrations. GA2 had the most principal (39.12) and secondary (58.04) branches per plant, followed by GA3 (33.86), GA4 (33.17), GA5 (32.13), and GA1. The control treatment (GA1) had the lowest average number of primary branches per plant in both observations (31.77 and 45.50). This phenomenon is caused by a rise in the number of nodes along the principal axis, which is caused by internode elongation.

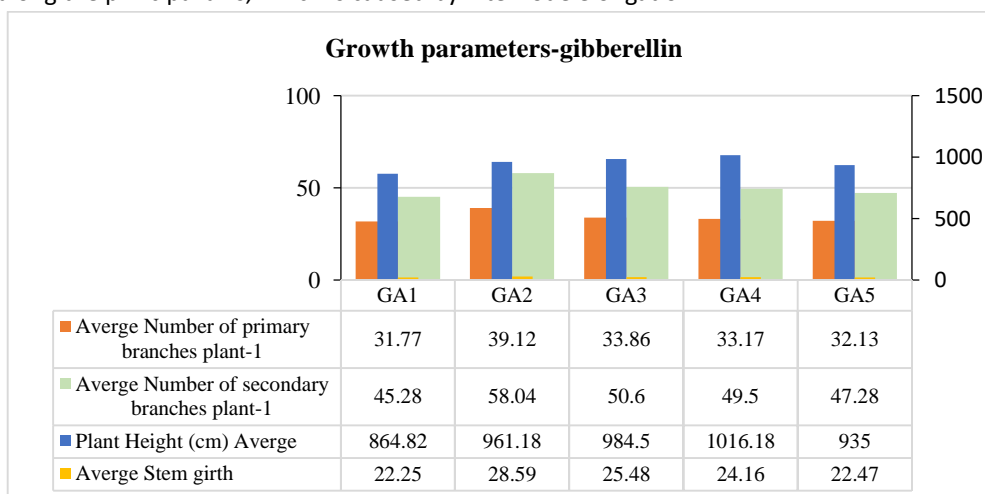


Figure 3: The effect of aerial GA treatment on growth indices in the cat eye plant

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GA impact on plant stem diameter (in millimeters): The average outcome indicated that there were statistically significant variations in the stem diameter across varying concentrations of GA. GA2 therapy produced the greatest stem girth measurement of 28.59 mm, whereas GA3 therapy produced a somewhat lower measurement of 25.48 mm. For the GA4 and GA5 regimens, the stem girth measurements were 24.16 mm and 22.47 mm, respectively. The GA1 control therapy resulted in a statistically significant reduction of 22.25 mm in stem girth. A plausible hypothesis postulates that as plant height increases, so does stem diameter. An increase in GA3 concentration stimulates the cambium and its immediate progenitors, resulting in an increase in stem diameter.

GA effect on Leaf area : Leaf area is the main parameter because the photosynthesis rate of a plant is determined to a large extent by leaf area. According to [Sarwar et al , 2017], nutrients, water and light are necessary for plant growth, which are allocated in the form of dry matter during the growth phase, then at the end of the vegetative phase, photosynthesis results will be deposited in plant organs such as fruit stems and seeds. If there is a lack of nutrients, water and sunlight, it will prevent plant growth and development from being less than optimal. Leaf area observations were carried out 3 times, namely when the plants were 8 WAP (before spraying), 11 WAP (a week after the third spraying), and at harvest. From the three observations made, the results showed that there were no significant differences between treatments. This is because gibberellin affects cell elongation but not leaf growth. This is in accordance with the research results of [Bultynck et al, 2004] where gibberellin treatment showed no significant effect on leaf area. [Al-Rawi et al , 2016] stated that leaf development and increase in leaf size are influenced by the availability of water and nutrients in the medium.

GA Effect on Flower buds: Flower buds will form as the length of the flower stalk increases due to starch hydrolysis which can increase the sugar concentration. The increase in sugar concentration that occurs will also increase the osmotic pressure in the cells and cause the cells to grow [Taufique et al, 2013] added that the increase in the number of flower buds is in line with the increase in the length of the leaf stalks. Figure 4 shows that there was significant difference in the number of cat eye plant flower florets from the start of observation to harvest. The average result in figure 5 revealed that the efficacy of different doses of GA to stimulate the growth of the first flower bud varies significantly. The GA5 treatment had the lowest time to initiate the first flower bud (269.18 days), while the GA3 treatment took the longest (284.18 days). The immature period of the treated plants was likely shortened as a result of the tropical application of GA, which promoted and enhanced vegetative development, increased photosynthesis and respiration, and improved CO₂ fixation. Treatment GA5 significantly shortened the time to the first flower opening (335.1 days), whereas treatment GA2 lengthened the time to the first flower opening (359.85 days). The number of days between the emergence of the first flower bud and its eventual opening in GA3-treated plants may have been reduced, which is responsible for the early emergence of flower buds in cat eye plants. The GA2 treatment required the fewest days (338.58 days) to achieve 50% flowering, while the GA1-control treatment required the most (359.76 days). Treatment GA2 had the longest flowering duration (290.29 days) while treatment GA3 had the lowest (241.78 days).

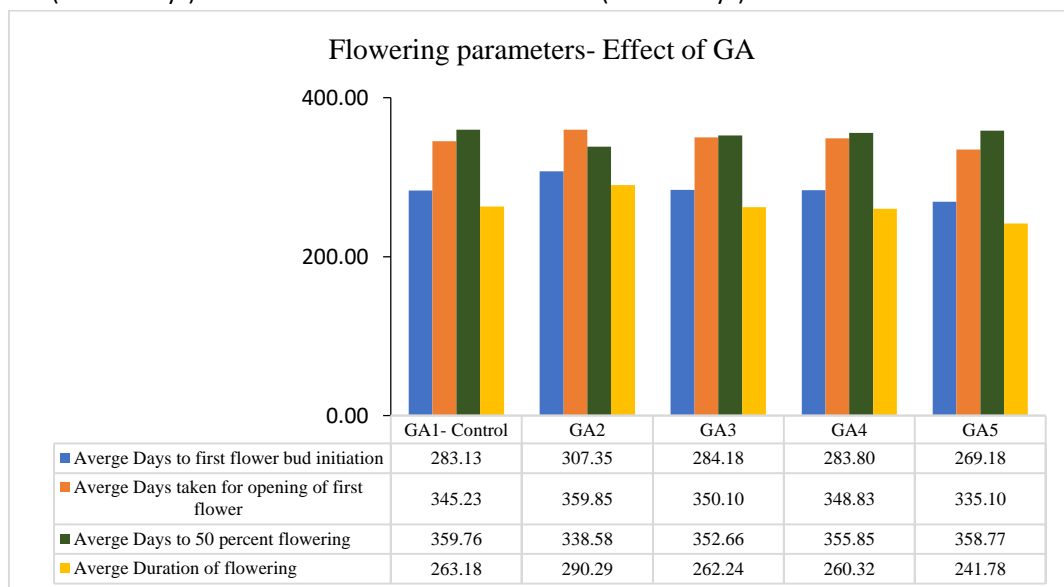


Figure 4: The effect of aerial GA treatment on flowering parameters in the cat eye plant

Figure 5 depicts Cat eye plant plantation, flowering, and fruiting at various intervals after aerial application of lion humic acid and gibberellic acid.

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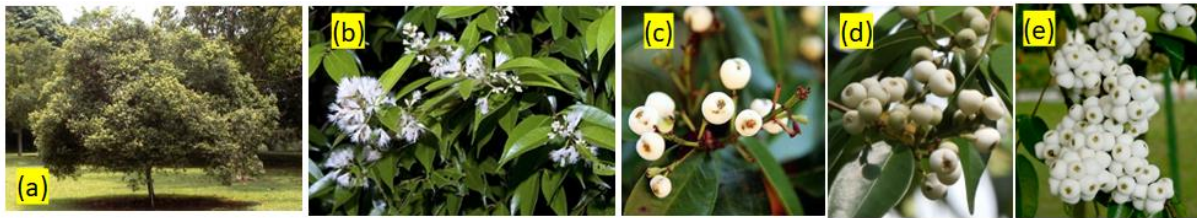


Figure 5: (a) Maintenance of Cat eye plant; (b) Observation 330 days; (c) 410 observations; (d) 460 days observations; (e) 480 days observations.

Combined effect of LHA and GA on growth and flowering of Cat eye plant

The current study found significant differences in the average outcomes for the combined impact of LHA (Humic Acid) and GA (Gibberellic Acid) on the initiation of the first flower bud across humic acid and gibberellic acid concentrations. The combination of treatments (LHA1:GA5) and (LHA4:GA2) resulted in a significantly shorter length of 332.4 days for the emergence of the first flower bud. The identical treatment combination, on the other hand, observed a significantly longer time of 411.1 days for the start of the first flower bud. This study investigates the significant differences in first flower opening noticed when comparing different amounts of humic acid and gibberellic acid. With a reported value of 342.8 days, the treatment combination of LHA2:GA5 resulted in a considerably reduced number of days necessary for the first flower opening. With an average of 390.4 days, the combination of LHA2:GA2 therapy resulted in a significantly longer period for the first flower opening. When evaluating different humic acid concentrations, there are significant differences in flowering time. The LHA1:GA1 treatment had a considerably longer blooming period of 528.2 days, while the LHA2:GA2 treatment had a significantly shorter flowering time of 461.3 days. The flowering duration varies significantly between humic acid and gibberellic acid concentrations. The LHA2:GA2 treatment combination resulted in a much longer maximum length of blooming (437 days) in marigold. In contrast, the LHA1:GA5 treatment combination was associated with a significantly reduced minimum blooming duration (333.8 days) in the Cat eye plant.

Treatment combinations	Average Days to first flower bud initiation	Average Days taken for opening of first flower	Average Days to 50 percent flowering	Average Duration of flowering
LHA1:GA1	350.4	360.4	528.2	357.2
LHA1:GA2	349.1	354.7	509.6	371.5
LHA1:GA3	361.0	358.4	497.6	372.1
LHA1:GA4	345.6	356.6	504.4	363.2
LHA1:GA5	332.4	346.2	505.7	333.8
LHA2:GA1	358.4	353.1	494.8	380.9
LHA2:GA2	394.6	390.4	461.3	437
LHA2:GA3	358.4	361.4	502.9	378.5
LHA2:GA4	362	364.5	504.3	363.7
LHA2:GA5	343.6	342.8	512.2	346.3
LHA3:GA1	364.1	361.4	511.7	380.6
LHA3:GA2	402.5	372.3	475.3	420.4
LHA3:GA3	359.1	369.5	500.8	372.8
LHA3:GA4	362.2	363.3	497.6	381.4
LHA3:GA5	345.5	356.3	507.5	337.5
LHA4:GA1	361.7	361.4	506.2	374.2
LHA4:GA2	411.1	379.6	474.5	417.8
LHA4:GA3	361.3	367.2	499.2	364.1
LHA4:GA4	368.3	366.8	512.2	368.2

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LHA4:GA5	342.5	348.8	509.7	353.9
SD	19.53±1.26	10.81±1.01	14.79±1.61	25.47±0.93

The HSD test results show that all treatments tested did show significant results. This is shown by the absence of differences between the tested treatment and the control treatment. The low number of flowers and the high height of plants produced in this study may be caused by: the concentration of growth regulators used, the physiology of the parent plant, plant genetics and environmental factors (temperature, bulk rain, humidity, etc.). The concentration of Lion Humic acid sprayed on Cat's eye plant is thought to have not been able to have a large effect on the growth inhibition of *S. zeylanicum*. The use of Humic acid with large concentrations can have a better influence on the Myrtaceae family.

The research results showed that the effect of a gibberellin concentration of 200 ppm could increase the germination and growth of cat eye plant which included germination speed, plant height, number of leaves per plant, leaf area per plant, stem diameter, plant wet weight, plant dry weight, longest root length, and root wet weight. However, at gibberellin concentrations of more than 200 ppm, it becomes toxic, inhibiting germination and growth of cat eye plants. According to [Kasim, et al, 2020] that giving fertilizers at a low concentration will not show significant changes in plants, while giving it at a concentration that is too high will actually have an impact on reducing growth.

The role of gibberellin with a concentration of 200 ppm is able to increase plant growth and development because gibberellin influences the absorption of nutrients and water by plant roots to increase, as a result the photosynthesis process can take place smoothly and is accumulated throughout all parts of the plant to support increased plant growth and development. such as the number of leaves, leaf area, plant height, root length, so it will also have an effect on increasing the wet weight of the plant. The results of the research show that the interaction between the effects of gibberellin (GA) concentrations up to 200 ppm can increase germination and growth of cat eye plant which include germination speed, plant height, number of leaves per plant, leaf area per plant, stem diameter, plant wet weight, dry weight: plant and longest root length. The results of the research show that there is a very real interaction between the gibberellin concentration of 200 ppm and LHA. This interaction occurs because there is mutual support between the function and role of gibberellin at a concentration of 200 ppm optimally so that it can hydrolyse proteins and encourage cell division, with the LHA. LHA has the advantage of a high level of adaptation to the environment and response to nutrient absorption so that it can increase germination and better plant growth. [Richards et al, 2001] stated that gibberellin will stimulate cell elongation, namely in the meristem or root tips, because the hydrolysis of starch produced from gibberellin will support the formation of alpha-amylase. As a result, the osmotic pressure in the cells increases so that there is a tendency for the cells to develop with LHA, which has a very good influence on the plants being able to grow well, so the best interaction is achieved in the treatment with a gibberellin concentration (GA) of 200 ppm which is the best interaction that occurs because there is mutual support for each other.

CONCLUSION

Based on the findings and discussions, the inhibition of *Syzygium zeylanicum* growth through the use of plant growth regulators is impacted by the type of plant growth regulators used, the planting material used, and environmental conditions. Several conclusions can be drawn based on the findings of the research and discussion, as follows:

1. The effect of different Gibberellin (GA) concentrations was very significant on all variables observed, only the percentage of germination was not significantly different. The best germination and growth of cat eye plants was achieved at a concentration of 200 ppm.
2. The influence of different concentrations of LHA is very significant for most of the variables observed, but the difference in germination percentage variable is not significant—the best germination and growth of cat eye plant.
3. There is a very significant interaction between the concentration of Gibberellin (GA) and LHA on the variables of germination speed, plant height, number of leaves, leaf area, plant wet weight, plant dry weight, significantly different on stem diameter and longest root length and other variables are not significantly different. The best interaction was at a Gibberellin (GA) concentration of 200 ppm with LHA.

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Exploring the Harmonization of Political and Administrative Set-Ups for Better Service Delivery in an Organization- Case Study IPAM, USL



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ABSTRACT: This research study examines the harmonization of political and administrative setups for better service delivery in an organization. The study focuses on the Institute of Public Administration and Management at the University of Sierra Leone (IPAM USL) to investigate the process of harmonization within the institution. Through a qualitative research design including interviews, observations, and content analysis, the study seeks to analyze the implementation of the harmonization process and its effects on the performance and service delivery of the institute. Key findings will provide insight into the effectiveness of the harmonization process and important recommendations for further improvement in service delivery through the harmonization of political and administrative set-ups.

KEYWORDS: Harmonization, political, administration, service delivery, IPAM USL.

I. INTRODUCTION

The harmonization of the political and administrative set-up of organizations has become an increasingly important topic for the development of effective service delivery. Organizations are now being urged to review their structures and processes to make sure that their services are delivered efficiently and of the highest possible quality. A key aspect of this review is the harmonization of different components of the organization including the political and administrative set-ups. This is so that different areas of the organization can work together and the organization's functions are undertaken in a consistent and coordinated manner. This study seeks to explore the harmonization of the political and administrative set-up of the Institute of Public Administration and Management, University of Sierra Leone (IPAM USL) to identify best practices that will facilitate enhanced service delivery, with a focus on the background, research methods, theoretical and conceptual backgrounds.

The Institute of Public Administration and Management (IPAM) of the University of Sierra Leone (USL) was established in 1977 as a training center for public sector personnel and executives. IPAM is the only institute of its kind in Sierra Leone, and its mandate is to provide executive training and professional development for public sector workers. IPAM's activities include the design and delivery of short courses; in-house training and consulting; research; and conferences. It is also responsible for the preparation of publications, including manuals, books, and journals, as well as the dissemination of information to stakeholders in the public sector.

The University of Sierra Leone is the oldest and most prestigious university in the country. It is also one of the largest higher educational institutions in Sierra Leone with campuses in Freetown, Kenema, Makeni, Bo, etc. Collectively, the university's mission is to expand knowledge and understanding through teaching and research in a variety of fields. Furthermore, it seeks to promote knowledge through its Institutes, Faculties, Centres, and other academic units. IPAM serves as the hub for the University's activities to improve the public administration capacity of African countries.

II. BACKGROUND OF THE STUDY

The concept of harmonization of political and administrative, arrangements is gaining popularity across both the public and private sectors. This concept is based on the premise that political and administrative systems in any organization should be aligned to achieve better service delivery outcomes and maximize the efficiency of both systems. This paper provides a review of the

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literature on the harmonization of political and administrative set-ups for better service delivery in an organization and provides a theoretical perspective to illustrate how these systems can be strengthened.

The nature of public service delivery, which can involve both political and administrative structures, often brings into sharp focus the many challenges of governing and administering complex modern organizations (Ferlie et al. 2016; Scarbrough and Dearlove 2018). Public organizations are frequently called upon to provide services simultaneously by numerous different stakeholders, and both their internal and external environments are often highly turbulent and in flux (Osborne and Gaebler 1993; Wilson 1999). To effectively manage and deliver these services, organizations must have strong systems of coordination and governance that are both reliable and adaptive to the dynamic organizational, legal, and political context around them (Stone and Steinfatt 2011; Hill and Hupe 2010).

Harmonization of political and administrative systems is a critical process that seeks to align the goals, priorities, and decision-making processes of both political and administrative structures within an organization (Howlett et al. 2018; Summerfield and Rennie 2018). It is intended to ensure that the collective output of both systems is actively driven to meet the organization's desired outcomes. Harmonization of political and administrative systems for better service delivery in an organization is composed of a series of approaches that seek to improve the efficiency, organization, and implementation of services (Peters et al. 2017). It includes the establishment of clear lines of authority between different parts of an organization, increasing the level of trust between the political and administrative functions, improving communication and cooperation between various stakeholders, and achieving better coordination between different projects (Rogers and Gerritsen 2018).

Harmonization is defined as the process of arranging different elements so that they work together to form a coherent whole (OECD, 2017). It is a dynamic process that involves understanding the strengths and weaknesses of each component and adjusting them in terms of function and structure in such a way that they complement each other. This process is often used to help organizations achieve greater efficiency and effectiveness in service delivery, as it can reduce duplication of effort across various parts of the organization, resulting in a more streamlined approach (OECD, 2017).

In the context of public administration, the harmonization of political and administrative set-ups is seen as essential for efficient and effective service delivery. It involves coordinating the actions of political and administrative entities toward a common purpose and achieving established goals (Bardach et al, 2019). Harmonizing the two set-ups creates a platform for accountability, responsiveness, optimization of resources, total satisfaction, and improved outcomes (Huang et al, 2020).

Political entities have the primary responsibility of setting public goals, institutions, and policy preferences (Yaniv, 2006). This includes the permanent bureaucracies that are entrusted with the control of public resources and are expected to implement the set rules, regulations, and policies. On the other hand, administrative entities are responsible for the efficient use of the available resources to attain the set goals and objectives (Osborne, 2005). The administrative setup involves running, organizing, and optimization of resources.

The management of the two set-ups is a challenging endeavor, as the resources they have are fixed and non-renewable (Eden and Testa, 2004). This puts a strain on public service delivery as both actors must be taken into consideration during the design, implementation, and assessment of projects (Perry, 2004). In addition, the effectiveness of both administrative and political set-ups depends on their ability to cooperate and collaborate (Heikkila, 2005).

The main objective of this research is to explore the harmonization of political and administrative setups for better service delivery in an organization. A case study of the Institute of Public Administration and Management, University of Sierra Leone, IPAM, USL. To respond to this, the researcher has identified four key questions in response to these research objectives:

1. What measures can be taken to harmonize political and administrative set-ups to enhance service delivery in IPAM, and USL?
2. How can the harmonization of political and administrative set-ups improve efficiency in IPAM and USL?
3. What are the implications of harmonization of political and administrative set-ups on stakeholders in IPAM, USL?

III. LITERATURE REVIEW

The concept of harmonizing different parts of the organization is not a new one. It is an approach that can be traced back to the emergence of public administration theory in the 1920s when theorists sought to create administrative structures that would address the complexity of the public sector (Dimock, 1925; Michels, 1927). Over the last century, this concept has continued to

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evolve to meet the changing needs of organizations. This has resulted in the creation of new organizational structures and strategies for achieving greater efficiency and effectiveness, through the utilization of harmonized political and administrative set-ups. In this paper, we will explore the concept of harmonizing political and administrative setups for better service delivery in an organization.

Harmonization, as a concept, refers to the process by which a group of parts come together to form a whole, with each part playing its part. In the context of organizations, harmonization of political and administrative set-ups refers to the process by which different components of the organization such as the different departments and divisions, and their respective political and administrative structures, are unified to form a coherent system that is focused on and facilitates the overall mission and goal of the organization. As has been emphasized by Dahl (1969, p.129), this unity or “harmony” is only achieved when organizations make sure that all their components work together in an organized manner, while at the same time being mindful of the relationship between those components and their overall objectives.

The harmonization of political and administrative set-ups in organizations is a critical factor in ensuring successful service delivery. When the different components of organizations are harmonized, it allows for the efficient, cost-effective utilization of resources. This is because when different components of the organization are unified in purpose, they can better coordinate their efforts to achieve the desired outcomes. Additionally, when the different components and processes are aligned to the overall mission of the organization, it can help to ensure that the organization’s resources are utilized most effectively, as resources that are not aligned with the mission of the organization can be identified and eliminated. This in turn has the potential to reduce wastage and help to ensure that services are delivered more efficiently.

At the heart of the harmonization process is the desire to design an arrangement in which different parts of the organization pull together to achieve the best outcomes. This process of harmonization enables organizations to develop stronger capabilities in the areas of strategy, governance, and delivery (Fichtner 2014). It also allows organizations to effectively respond to external changes, reduce costs, and increase the effectiveness of service delivery (Hall 2016). Harmonization has the potential to create a “whole-organization” approach to governance, strategy, and delivery, bringing different parts of an organization together to improve performance, increase value for money, and improve the effectiveness of service delivery (Votaw and Powell 2016).

Furthermore, the harmonization of political and administrative set-ups can create a sense of corporate identity within organizations. When different components of the organization are aligned in purpose and can coordinate their efforts towards achieving the same goals, it can increase trust and understanding between different actors within the organization and contribute to a sense of unity, which in turn can help to ensure that the organization is better able to manage itself and its services.

Harmonizing political and administrative set-ups is a strategic means of improving service delivery for governments, organizations, and entities. This process is aimed at coordinating and integrating the policies and procedures of each sector to improve the delivery of services. As highlighted by an extensive body of literature, the harmonization of political and administrative setups can have various benefits.

The need to merge different professional capacities, competencies, and perspectives of various sectors is a recurrent theme when discussing the harmonization of political and administrative setups. As highlighted by Rootes (2010) and Pecquet and Koole (2013), one of the primary goals of harmonizing the set-ups is to ensure a smoother operation of the organization by reducing inter-sectorial bureaucratic and operational inefficiencies. Such inefficiencies result from the conflicting demands and expectations of the governmental and administrative agencies that constitute the organization’s various sectors. By harmonizing the set-ups, the organization can create a unified identity and purpose that will facilitate the delivery of services through a collective effort.

Finally, when the political and administrative components of organizations are harmonized, it can help to create an environment that is more conducive to service delivery, and ultimately improved quality of care. This is because, with a unified system in place, it can be easier to identify weaknesses in service delivery, which can then be addressed to improve quality. Furthermore, with better coordination between different components of the organization, it can be easier for healthcare providers to focus on the provision of care instead of dealing with administrative tasks. This in turn can result in better service delivery.

IV. EMPIRICAL REVIEW

Empirical evidence shows that political and administrative harmonization can improve organizational service delivery. Studies conducted by the United Nations (2014) have found that standardized procedures for decision-making, coordinating action

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between different levels of government, and strategizing for service delivery can reduce bureaucracy and stimulate greater efficiency in service provision. Additionally, harmonizing of government and administrative systems leads to better coordination and communication, both internally and externally, which can foster improved relationships between organizations, individuals, and service delivery agents.

Other research has revealed that harmonized systems of government and administrative organizations can lead to greater quality control in public sector performance and service delivery. In a study of several hundred government agencies, Al-Esa (2006) observed improved output management and accountability and an increase in the ability of higher levels to monitor and assess order fulfillment. Furthermore, Al-Esa (2006) found that an area of marginal improvement was seen in a better quality of service delivery, as agencies with harmonized systems were more likely to use resources efficiently and deliver services with greater proximity, reliability, and responsiveness.

The potential of harmonizing political and administrative set-ups to be effective in-service delivery has been explored in government and non-profit organizations around the world. In a study of state government in the United States, Ness and Sheingate (2019) found that while political considerations influenced the provision of services, higher levels of service delivery were obtained when political and administrative set-ups were better aligned or when administrative structures were strengthened. In a different context, Duke and Labadi (2010) investigated the role of administrative harmonization in the creation and maintenance of security sector reform in Liberia. They found that, in the aftermath of the civil war, harmonization of political and administrative changes had a positive effect on the security sector reform process.

Similar findings have been seen in other parts of the world. For instance, Yeoh and Friedman (2012) studied the effectiveness of Singapore's efforts in harmonizing political divisions to provide better public services. They discovered that when government systems were aligned with local preferences and there was a greater sense of collaboration between the different groups, it resulted in more effective service delivery. Meanwhile, a study of Ghana's public service reforms found that a key aspect of successful reform was the harmonization of political and administrative elements (Otoo et al., 2017). This suggests that to successfully harmonize political and administrative systems for better public service delivery, there must be a deliberate effort to make sure that all stakeholders are involved in the process. Additionally, there must be an effort to make sure that the systems are tailored to meet specific local needs and preferences.

Finally, Gardner and Whitford (2010) studied the impacts of organizational harmonization on service delivery in a major private company. Results indicated that those areas of the organization that had adopted mechanisms for harmonizing their political and administrative systems helped to increase the positive aspects of service delivery, such as customer satisfaction, efficiency, and effectiveness. The study further indicated that the harmonization process was also associated with improved commitment levels by management, reduced staff turnover, and better communication processes. The authors concluded that while harmonization of political and administrative systems was effective in improving service delivery, it was important to ensure that stakeholders were involved in the process for it to be successful.

V. RESEARCH METHOD

For this research, a qualitative research approach was chosen to analyze the harmonization of political and administrative set-ups for better service delivery in IPAM, USL. Quantitative research rather than qualitative research is more suitable for this research as the information needed to identify and assess the different encouraging and discouraging factors of harmonization for this organization is very hard to quantify. Data for this research was collected from primary sources. Interviews were conducted with relevant personnel and administrators. In addition, surveys and questionnaires were distributed among the organization's customers and stakeholders. Data from secondary sources were also collected, such as published literature, reports, and existing studies.

VI. FINDINGS AND DISCUSSIONS

Senior staff at the Institute of Public Administration and Management, University of Sierra Leone, completed a 10–15-point interview checklist in response to the research's goals, which were to investigate the harmonization of political and administrative set-ups for better service delivery in an organization, along with secondary information gleaned from online articles and the institution's website. The results of the checklist show the following:

4.1 What Strategies do you think the management has implemented to ensure the harmonization of political and administrative set-ups to improve service delivery in IPAM, USL

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Since its inception in 2014, IPAM-USL has sought to ensure the harmonization of political and administrative set-ups to improve service delivery. To achieve this goal, the Management has implemented several strategies.

First, IPAM-USL has established a Working Group on Harmonisation of Administrative Procedures to ensure that policies and procedures are consistent across the organization. The Working Group serves as a forum for discussing and negotiating new initiatives, and for resolving any potential conflicts related to operational and administrative harmonization. Additionally, IPAM-USL has conducted specific training programs designed to increase the technical and managerial capabilities of staff in the areas of administrative harmonization. The training focuses on developing leadership, management, and organizational skills, and on developing a shared understanding of the strategies and approaches required for harmonizing administrative processes.

Second, IPAM-USL has also established an Office of Risk and Compliance to help coordinate the implementation of harmonization initiatives. The Office serves as a hub for coordination and supervision of the harmonization process, and for monitoring progress and reporting results. Additionally, IPAM-USL has introduced a range of performance management tools, such as performance appraisals and feedback mechanisms, to ensure the effective and efficient implementation of harmonization initiatives.

4.1.1 Challenges have you experienced in the process of harmonizing political and administrative setups in IPAM, USL

One of the most significant issues that have been encountered with harmonizing political and administrative setups in IPAM, USL is the lack of consensus by the different political beliefs and opinions among different groups and individuals. Some stakeholders want to implement a top-down approach that emphasizes a strong national authority, while others prefer decentralization. This has resulted in a divergence of opinions and a lack of unified thinking when making decisions. In addition, the different cultural backgrounds and the need to bridge the gap between the two entities have meant that finding common ground is more challenging.

Furthermore, the lack of resources, both financial and human, has been a hindrance to the harmonizing process. Without sufficient financial and human resources, the harmonizing process has been hampered by the inadequate staffing of government institutions as well as the need to develop effective control systems to ensure that the necessary funds are properly managed.

The process has also been hindered by the lack of legal frameworks in place to ensure that the expectations of all stakeholders are consistent. This has meant that there has been difficulty in reaching a consensus on the underlying legal parameters, leading to an impasse in the negotiations.

Finally, there is also the natural resistance to change from smaller, isolated entities. This resistance leads to a reluctance to accept changes from outsiders which, in turn, slows down the process of harmonization. Despite these challenges, there has been progress in IPAM, and USL as all stakeholders continue to strive towards the goal of harmonizing the political and administrative systems.

4.1.2 Suggestions do you have for overcoming any difficulties in harmonizing political and administrative set-ups in IPAM, USL

Clear and effective communication between ministerial departments and local authorities is essential in harmonizing political and administrative set-ups in IPAM, and USL. Good communication ensures that all stakeholders – decision-makers, administrators, and other stakeholders - are aware of their roles and responsibilities and are aware of the policies and procedures that need to be implemented. Regular meetings should be held to discuss issues and to agree on common objectives and strategies.

Accountability structures should also be established and implemented. This will ensure that Ministers, administrators, and other stakeholders are accountable for the decisions that are taken, and will allow for performance and progress monitoring to ensure that decisions reflect the aims and objectives of the partnership.

It is also important to ensure that all policies and guidelines are fair and equitable. Different stakeholders may have different views on certain issues, and it is important that these are taken into account and that all parties feel respected and confident in their role in the decision-making process.

The fourth suggestion is to ensure that there is an effective dispute resolution system in place. This will allow for disagreements to be resolved in an effective and timely manner. The dispute resolution system should be based on principles of respect, fairness, equality, and openness.

4.2 Has the management implemented the harmonization of political and administrative set-ups to achieve efficiency gains in IPAM, USL

To achieve efficiency gains in the field of public administration, the management of IPAM and USL has implemented a harmonization of the political and administrative setups. These efforts range from revising organizational structures, simplifying reporting lines, streamlining administrative systems, and developing performance measurement tools.

At the structural level, the harmonization of political and administrative set-ups has been achieved through several top-level reforms, such as the redistribution of public administrative duties into entities and agencies guided by overall performance

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objectives. The establishment of an Administrative Management System (AMS) has enabled the decentralization of certain tasks and the delineation of responsibilities across different administrative levels.

At the procedural level, IPAM and USL have developed standard policies and procedures to simplify processes and remove unnecessary bureaucracy. In addition, the management has used quality certification systems, such as ISO9000, to ensure a common approach to decision-making and administrative activities.

Furthermore, technology-related initiatives have been launched to accelerate responses and reduce the impact of paperwork on the work of civil servants. Examples of such initiatives include the introduction of mobile communications that make it possible to transmit information and make decisions in real time, the development of electronic reporting systems, and the deployment of data management systems that ensure the processing of large amounts of information.

Overall, the harmonization of the political and administrative set-ups implemented by IPAM and USL has enabled the organizations to develop performance-oriented public management models that respond to the needs and interests of citizens more efficiently.

4.2.1 Processes have been put in place to ensure smooth implementation of the harmonization of political and administrative set-ups in IPAM, USL

The Institute of Public Administration and Management, University of Sierra Leone, has implemented several processes to ensure the smooth implementation of the harmonization of political and administrative set-ups.

The staff of the Institute was given adequate training to ensure they were equipped with all the necessary skills and knowledge to effectively implement the harmonization. Team meetings were also set up to discuss various issues and ensure that the harmonization was implemented properly.

The Institute has also reviewed the structure and operations of other similar institutions in the region to determine what would be the most suitable and effective framework for the harmonization. This has enabled the Institute to implement the harmonization more systematically.

In addition, the Institute has adopted a collaborative approach through which all stakeholders can take part in the harmonization process. Through this approach, the Institute has been able to engage with different government departments, non-governmental organizations, civil society, and other relevant bodies to ensure the successful implementation of the harmonization.

Moreover, the Institute has established a monitoring and evaluation framework to assess the impact of the harmonization process. The monitoring and evaluation methods include surveys, interviews, focus groups, and other external reviews. The evaluation results will be used to identify areas in need of improvement and make the necessary adjustments and corrections.

Overall, these processes have been put in place to ensure the successful implementation of the harmonization of political and administrative set-ups in the Institute of Public Administration and Management, University of Sierra Leone.

4.2.2 Considerations have the management taken into account when establishing the harmonization of political and administrative set-ups in IPAM, USL

The management of the Institute of Public Administration and Management, University of Sierra Leone (IPAM, USL) has sought to establish a harmonious political and administrative set-up that is both efficient and effective. This has been done to ensure that the institute's staff, both at the management and executive level, foster an environment of transparency and accountability and ensure that the highest ethical and professional standards are adhered to.

To ensure an effective harmonization of the political and administrative set-up, the management has taken several considerations into account. These include the need to prioritize a pro-active and proactive approach to organizational transparency, accountability, and oversight; the need to create and follow clear and consistent strategies and approaches in the implementation of IPAM's plans and activities; and the need to ensure the IPAM's governing process is conducted respectfully and collaboratively. In addition, IPAM's management has also looked to create an atmosphere of unbiased treatment of staff, enabling all members to feel valued and respected regardless of any differences in background or role. This has been achieved by the introduction of incentives such as training sessions and workshops to foster an open and honest dialogue amongst employees, ensuring every person is allowed to contribute to the organization's success.

Finally, the IPAM management has also created a system of information exchange, creating a centralized platform from which all updates on the institute's activities can be accessed and monitored. This has enabled the organization to maintain a strong sense of unity, keeping staff informed on any changes to the organization and allowing for better communication across all levels.

4.3 Has harmonization of political and administrative set-ups affected stakeholders in IPAM, USL

The harmonization of political and administrative set-ups across the Institute of Public Administration and Management, University of Sierra Leone has impacted numerous stakeholders in both tangible and intangible ways. Politically, the Institute's harmonization has been beneficial in creating a more cohesive and uniform framework for decision-making, allowing stakeholders

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to rely upon highly consistent and predictable policies. The Institute has been able to create tighter regulations on academic standards and research initiatives, while also granting students and faculty greater degrees of freedom in exercises like curriculum planning and student clubs. Administratively, harmonization has resulted in a more streamlined approach to operational tasks, such as budgeting, faculty assignments, and student data management.

Additionally, the harmonization of political and administrative structures within the Institute has been a boon to its relationships with external stakeholders. The harmonization has allowed other organizations and agencies that interact with the Institute to rely upon a steadier platform of negotiation and collaboration. Through the standardization of processes such as institutional accreditation, external assessment, corporate partnerships, and public outreach, the Institute has been able to significantly broaden its influence and deepen its involvement in various areas of expertise.

Overall, harmonization within the Institute of Public Administration and Management at the University of Sierra Leone has had a quantifiably beneficial effect on stakeholders, and it has surely been a boon to its national and international profile as well.

4.3.1 Feedback has the management received from stakeholders regarding the harmonization of political and administrative set-ups in IPAM, USL

When the Institute of Public Administration and Management, University of Sierra Leone (IPAM, USL) began the process of harmonizing the political and administrative setups, they heard a variety of opinions from stakeholders.

The first point of feedback is that the process should reflect the ambition and diversity of the students. Many stakeholders believe that the process should take into consideration the various backgrounds and experiences of the students and ensure that they are represented in the institution's policies. Stakeholders also believe that the IPAM must ensure that the solutions it creates remain relevant for students over time and respond to the changing needs of the student population.

Other stakeholders asserted that the process of harmonization must also be inclusive and transparent. Several stakeholders suggested that IPAM should publish any changes to its policies in different formats, such as through articles, newsletters, emails, and online platforms, to inform the wider public and ensure accountability.

Furthermore, stakeholders emphasized the need for a shared advantage amongst all parties, in that the process should bring about practical benefits for the students, the University, and the IPAM. Stakeholders indicated that the IPAM should be focusing on tangible gains, such as enhancing the quality of instruction, staff-to-student collaboration, working environment, and student experience.

Finally, stakeholders also suggested that collaboration and engagement with a variety of stakeholders in the harmonization process is critical to ensure success. This collaboration should include garnering the perspectives of faculty, alumni, administrative staff, and regional and national institutions, amongst others, to create the most comprehensive and effective policies.

Ultimately, the feedback received from stakeholders about the harmonization of political and administrative set-ups at the IPAM is that it should be done in a way that is inclusive, transparent, and beneficial for all parties involved.

4.3.2 Steps has the management taken to ensure that stakeholders benefit from the harmonization of political and administrative set-ups in IPAM, USL

The management at the Institute of Public Administration and Management, University of Sierra Leone, has adopted a wide range of measures to ensure that stakeholders benefit from the harmonization of the political and administrative set-ups. These measures include increasing transparency in all decision-making and management processes, as well as developing policies, protocols, and guidelines to ensure compliance with legal and ethical standards. Additionally, capacity-building initiatives have been implemented to strengthen the institutional framework, as well as to improve the members' performance and productivity. To facilitate stakeholder engagement, the management at the IPAM has implemented and promoted consultative processes to gather public input on key decisions. Such processes involve local stakeholders in planning and decision-making, two-way communication mechanisms to update stakeholders on progress and outcomes, and evaluation meetings to regularly monitor and evaluate the performance of stakeholders and the system.

Moreover, the Institute has organized and facilitated regular stakeholder meetings to identify areas for improvement, share best practices, and establish concrete collaboration agreements and joint actions based on solid collective commitments.

Furthermore, the Institute has established networks of partnership so that stakeholders, including the government, civil society organizations, and the private sector, can coordinate their efforts and contributions for a better implementation of policies and projects across the board.

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VII. CONCLUSION AND RECOMMENDATIONS

From the findings, it is apparent that IPAM USL has a positive setup of political and administrative structure. This has helped them to be more productive and has enhanced their quality service delivery in the field of education in the country. In that same light, more premium has been made in giving training, engagement, and providing a platform for dialog and free communication within the institution.

However, the following are recommendations for IPAM USL to implement and work on to increase efficiency and effectiveness in their service delivery and set up a formidable political and administrative structure that will create more value for the institution:

1. They should ensure training and workshops are conducted quarterly to provide staff with the required requisite skills that will contribute to skills enhancement.
2. Staff inclusion should be a priority through continued engagement and development. This will prevent strikes and resistance to change
3. Communication of vital information should be cascaded from top to bottom and top management must also give attention to feedback from the lower levels.
4. The staff of IPAM should be equipped with all the necessary skills and knowledge to effectively implement management objectives.
5. Management of IPAM USL must deter from making decisions that suit a section of the administration, and rather promote collectivism and teamwork.
6. The Management of IPAM USLM should create more policies and procedures to enhance a positive setup for an inclusive political and administration process that will contribute to quality service delivery.
7. The management of IPAM should improve of the process of handling political beliefs and opinions among different groups and individuals within the institution.

VIII. LIMITATIONS AND FUTURE RESEARCH DIRECTION

The researchers encountered the following limitations:

The primary challenge encountered while conducting this study was that a significant number of employees were busy with administrative work and could not give time for the interviews. This makes it difficult for the researchers to inquire more into the study. Also, some administrative barriers deter the researcher from meeting senior management staff. However, this was managed through proper alternative plans and coordination with the various respondents hence ensuring limited time was lost in the process.

The researchers implore further research on the other constituent colleges within USL ie. FBC and CoMAHS to get a holistic view of how politics and administrative setup can be harmonized in USL and how it can improve their service delivery.

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Factors Affecting Residential Satisfaction with Social Housing in Urban Areas: International Researches and Current Situation in Vietnam



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ABSTRACT: This paper explores the multifaceted aspects contributing to residents' satisfaction within social housing in urban areas, integrating international research findings with Vietnam's current situation. It examines factors such as housing unit physical attributes, quality of infrastructure, service accessibility, community cohesion, and alignment with residents' expectations. By identifying gaps between expectations and experiences, the study proposes strategic interventions to enhance livability, sustainability, and satisfaction in social housing projects, offering insights relevant to Vietnam and other countries facing similar urban housing challenges.

KEYWORDS- Social Housing, Affordable Housing, Residential Satisfaction

I. INTRODUCTION

As urbanization progresses rapidly and the demand for affordable housing increases, social housing has emerged as a crucial element in the development strategies and urban planning worldwide. This study aims to explore the multifaceted aspects contributing to residents' satisfaction within the framework of social housing, especially in urban environments. By integrating international research findings with the current situation in Vietnam, this study endeavors to uncover unique insights and propose feasible solutions to enhance the effectiveness of social housing programs to meet the needs of urban residents.

The concept of resident satisfaction with social housing encompasses various factors, including but not limited to the physical attributes of the housing unit, the quality of surrounding infrastructure, accessibility to essential services, community cohesion, and the extent to which residents' expectations are met (Francescato et al., 1981), (Eziyi O. Ibem & Dolapo Amole, 2013), (Peck and Stewart, 1985), (Amérigo and Aragones, 1997). These factors collectively impact the overall health and quality of life of residents, necessitating comprehensive understanding and resolution by policymakers, urban planners, and housing developers.

Internationally, numerous studies have highlighted the key success factors of social housing programs, emphasizing the importance of integrating affordability, sustainability, and community participation in the planning and implementation process (Eziyi O. Ibem & Dolapo Amole, 2013), (Miray Gür & Neslihan Dostoglu, 2011). These studies offer valuable benchmarks and lessons that can be adapted and applied to the Vietnamese context. Vietnam, with its unique socio-economic backdrop and rapid urban development challenges, presents an interesting case study for examining the efficacy of social housing policies and practices.

The significance of this study lies in its potential to provide information and guidance for future social housing policies in Vietnam. By identifying the gaps between residents' expectations and their actual experiences, the study seeks to propose strategic intervention measures that can enhance livability, sustainability, and overall satisfaction with social housing projects. Furthermore, this study contributes to a broader discussion on affordable housing solutions in urban areas, offering deep insights that may be relevant to other countries facing similar challenges. It is hoped that the findings and recommendations drawn from this study will serve as valuable information for stakeholders in the planning, development, and management of

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social housing projects, not only in Vietnam but also in other countries grappling with the complexities of urban affordable and sustainable housing.

II. LITERATURE REVIEW

A. Social Housing

The concept of "Social Housing" first emerged in countries like the United Kingdom, the United States, and Canada in the 1970s and gradually spread to other countries such as Japan and South Korea. There, Social Housing is understood as a type of housing provided to individuals who lack income, or have an insignificant amount of it. These individuals are those who cannot and will never be able to establish a home for themselves. They are often homeless people, elderly singles, disabled individuals without the capacity to work, and others in vulnerable conditions such as those who have been released from prison, K Scanlon, C Whitehead, MF Arrigoitia (2014). This type of housing, mainly owned by the state but also involving housing associations and charitable organizations, plays a part in sustaining the lives of those living in social housing. Depending on specific circumstances, applicants for social housing may be eligible for complete exemption from payment or may rent at a low cost. The rental fee is often covered by charitable organizations such as churches, non-governmental organizations, and philanthropists through funds rather than direct payments to the users to prevent wasteful expenditure.

Social housing can be understood as a type of housing that is constructed through investments by the State or organizations and individuals from various economic sectors. It is built on the actual market demand for renting and purchasing under support arrangements for people with low income, tailored to the particular social and economic conditions of different areas.

In Vietnam, the term 'social housing' has been frequently mentioned recently. According to Expert Dr. Ngo Le, social housing is designed for individuals or families with a low to average income, available for them to rent or purchase at preferential prices. Households in need have to meet certain conditions as established by the municipal government, in accordance with the laws and regu of the State.

Thus, social housing is not only a crucial part of socioeconomic development policies but also represents a specific social welfare responsibility of the State. The government promotes policies to stimulate the development of the housing market while also introducing measures to provide better access to housing for socially disadvantaged groups, low-income individuals, and the impoverished. This strategy contributes to ensuring sociopolitical stability, vitalizing urban and rural welfare, and fostering a mannered and modern environment. Having a secure and unsparing living space is considered a state and societal obligation to its citizens, an essential human right, and a necessity for holistic personality development. It is equally a key determinant of a nation's future potential by delineating the level of commitment to enhancing the human resources needed for the country's upgrowth.

B. Residential Satisfaction

According to Emami and Sadeghlou (2021), assessments of the residential environment by residents based on needs, expectations, and actual experiences are mentioned in the study of housing satisfaction. Or, residents' satisfaction is seen as a positive evaluation of both the physical conditions and the intangible elements of the residential environment—a concept often considered in studies on housing economics and urban studies (Kabisch et al., 2020).

Another concept, residents' satisfaction with housing, is a process and a complex cognitive structure (Lu, 1999). Accordingly, residents' satisfaction with housing depends on location, time, personal characteristics, and their evaluation of the housing. Meanwhile, Borgoni et al. (2021) argue that residents' satisfaction with housing often determines the extent to which households evaluate where they live. Therefore, satisfaction with housing comes from having suitable housing and a good quality residential area. It can be seen that housing satisfaction depends on specific characteristics of the housing and the conditions of the residential area where the housing is located.

Housing satisfaction is a topic that has attracted the interest, research of scientists, policymakers, and real estate developers because it brings many meanings and benefits (Mohit and Raja, 2014b). Galster (1985) identified at least four benefits of studying housing satisfaction: (1) Helping to predict the quality of life of the residents (Sirgy, 2001: 340); (2) Used as a standard to measure the success of housing development by real estate investment companies and the public housing supply sector; (3) Used to assess changes in housing demand, moving intentions, and changes in residential areas; (4) A basis to evaluate the inadequacies of the current housing conditions of residents, thereby finding policy intervention options to improve housing

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conditions. This explains why in recent decades many scholars have conducted research on this topic, aiming to find measures to create and enhance residents' satisfaction with housing.

The research topic on consumer satisfaction has been explored for a long time with the first acknowledgment being the research of Cardozo (1965). Over time, various concepts have been introduced by many researchers, but to this day, there has not been a consensus on the definition and evaluation method of satisfaction (Satisfaction). The reason is that it depends on the research context and evaluation perspective (Oliver, 2014). Giese and Cote (2000) believe that there are 03 common elements mentioned in the definition of satisfaction: The response (emotional or cognitive); Associated with a specific focal issue (Expectation, product, consumer experience, etc.); Evaluated at a specific time (possibly after selection, consumption, based on accumulated experience, etc.). Meanwhile, Oliver (2014) provides a general definition of satisfaction, which is the customer's total response to the product and service provided by the business. This is an evaluation of the product and service characteristics with a pleasurable level related to the consumption activity, including levels when the consumption activity is not yet completed or has been completed.

Housing satisfaction is a complex concept approached from various perspectives such as economics, sociology, psychology, planning, geography, etc. (Vera-Toscano and Ateca-Amestoy, 2008), besides, it depends on the location, time, purpose, and the standard value system of the evaluator. In the process of reviewing the research situation, the author finds that two terms are widely used when referring to the research topic: "Housing satisfaction" and "Residential satisfaction" - sometimes they are used interchangeably.

In terms of semantics, housing satisfaction is currently composed of two words "Housing" and "Satisfaction." Where housing is not simply the meaning of an individual's dwelling unit but includes a composite of physical and social elements that make up the housing system – This is a multi-dimensional structure also called the living environment (Smith, 2012). Meanwhile, satisfaction with the place of living is a reaction to "the difference between what has been achieved and what is proposed according to the standard" (Morris, Crull, Winter, 1976). Satisfaction is defined as the difference between aspiration and reality achieved, within the assessment range between sufficiency and deficiency (Campbell et al., 1976). Potter and Cantarero (2006) believe that satisfaction is a subjective response to an objective environment. Finally, Mesch and Manor (1998) define satisfaction as the evaluation of the physical and social environmental characteristics by individuals. Due to the fact that satisfaction with housing is a category related to many different specialized fields and over time, scientists have analyzed this content not only from one aspect but from various multi-dimensional perspectives (Mohit and Raja, 2014b). In this study, the research objective focuses on the satisfaction of residents with social housing in urban areas, hence, the study defines satisfaction as follows: The satisfaction of residents with social housing is the level of evaluation and perception of the residents about the social housing unit they have been allocated. The evaluation indicators aimed at measuring the level of satisfaction of the residents mentioned in this study are the entire range of satisfaction levels, from "very dissatisfied" to "very satisfied" instead of just being in a state of satisfaction. Residents in these housing areas form their level of satisfaction with housing based on their experience and interaction with their apartment, on aspects such as physical infrastructure, amenities arranged around, the quality of services provided, as well as the housing ownership mechanism at social housing projects after handover.

C. Factors Affecting Residential Satisfaction with Social Housing

In this section, we will present a focused review related to the research theme of residents' satisfaction with social housing in social housing projects in urban areas. In various countries, the definitions of social housing vary depending on historical, cultural, political, and economic circumstances. Social housing has long been present in the Northern Hemisphere, especially in Europe. However, a study by CECODHAS (European Coordination Committee for Social Housing) indicated that most European countries use terms other than "social housing" in their policies and laws. Instead, terms such as "common housing" or "not-for-profit housing" in Denmark, "housing promotion" in Germany, "people's housing" in Austria, "publicly protected housing" in Spain, and "public utility housing" in Sweden are used.

In countries like the USA, Canada, or Israel, the government often uses the term "public housing" in their policies. Even in the Russian Federation, the definition of social housing has yet to appear, the closest meaning of this concept being "housing for social use - жилищный фонд социального использования". However, despite the different terminologies, the definitions of this type of housing in various countries share a common point: they are all provided at a lower price compared to regular real estate and are distributed according to government regulations.

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The above definitions show that social housing typically has the following characteristics: First, regarding the beneficiaries, this type of housing targets low-income groups, who often struggle with accessing housing through market mechanisms. Second, in terms of ownership, there are two common forms of ownership, either for rent or collective ownership. Third, regarding the provider, social housing is supplied by government agencies or non-profit organizations, or a combination of both. Fourth, on the issue of subsidies, subsidy packages are introduced to support residents, ensuring affordability and economic value for the tenants/buyers, facilitating easier access compared to standard housing on the market. In conclusion, analyzing the concept of social housing is very important, as it not only helps to understand accurately this type of housing but also helps to present the perspectives of countries on housing support policies for the poor.

In European countries, after World War II, many social housing real estate developments grew rapidly. An overview of studies shows that countries use various variables to measure residents' satisfaction with social housing in Europe. In Hungary, research by J. Hegedüs et al. (2017) using data from Budapest, has indicated some findings such as the emergence of private management significantly improving residents' satisfaction with maintenance services in apartments owned by the government, as these private companies are providing more efficient services. However, actual tenants are not satisfied with the current maintenance of the buildings, and they are not willing to pay more for maintenance services. The willingness is only higher among tenants with higher incomes, while those living in relatively expensive rented houses are also less willing to pay for this service fee. They might be somewhat skeptical about the benefits obtained from increasing rent, especially if the government still bears responsibility. These models suggest a three-part strategy: increasing rent to fund improved services; a major shift to private companies to provide management services; and introducing housing subsidy programs to protect poor households from the full impact of rent increases and make rent increases more acceptable.

Notably, in Turkey, research on Affordable Housing by Turgut, Hulya, et al. (2011) identified determinants of residents' satisfaction as social infrastructure, public open spaces, environmental factors related to the neighborhood, physical characteristics and climate control of the house, accessibility, security, and relationship with neighbors. The findings of the study show that investing more in social infrastructure, even distribution of the population, characteristics, and amenities of the housing environment affect residents' satisfaction. Additionally, parameters related to housing plans and construction quality and materials related to lower costs also determine residents' satisfaction, such as accessibility to the city center, workplaces, and shopping areas, health facilities, and educational institutions. These parameters affect the level of satisfaction in different neighborhoods. In this context, the authors affirm that when meeting housing needs, the goal should not be to build a "house" but to create a "home" where residents can live satisfactorily. In other words, to meet the satisfaction of residents with this type of housing, it is not only necessary to satisfy the basic values and needs of the users but also to approach social priorities and cultural values through the architectural design process of housing. Recently, research results by Türkoğlu et al. (2019) when evaluating the satisfaction of residents living in different residential areas in Istanbul have shown quite interesting findings. Among them, the research found that: (i) The attractiveness of residential areas has the strongest impact on residents' satisfaction with housing and living environment; (ii) The perceived quality of the physical and social characteristics of the residential area impacts residents' satisfaction; specifically, the main variables of significance are: attractiveness, attachment, accessibility, urban services, and environmental stress factors; (iii) Factors such as attractiveness, accessibility, and attachment are identified as important factors affecting residents' satisfaction with both formal and informal residential areas.

In Africa, scientific forums have seen a significant number of studies published in various countries aimed at analyzing, evaluating, and adjusting policies on planning and reconstructing social housing as a solution to improve the living conditions of people in difficult circumstances.

In South Africa, the study on social housing by Clinton O. Aigbavboa & Dr. Wellington D. Thwala (2014) provides readers with findings on social and physical factors affecting satisfaction with their residence in four different housing subsidy projects in Gauteng Province, South Africa. Data collected from residents' surveys were analyzed using descriptive statistics. Findings from the survey indicated that respondents were satisfied with their overall housing situation but complained about some aspects of the apartment. However, respondents reported that most of their housing needs were not met. Additionally, the research project also compared the dissatisfaction factors perceived among residents receiving housing subsidies.

In Nigeria, the study by Umar Obafemi Salisu et al. (2019) surveyed the level of satisfaction of residents with the provision of public housing in Lagos, Nigeria, aiming to determine the level of satisfaction of residents with the quality and conditions of the apartments and space allocation, service quality, public facilities, and social environment; to examine the statistical relationship

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between the overall satisfaction of residents with the quality of public housing and the components of public housing apartments to identify the most critical component affecting residents' satisfaction; as well as to identify the major challenges of public housing areas in Lagos, Nigeria, with the aim of proposing possible improvement strategies. The study's results showed that factors affecting residents' satisfaction include: space allocation; service quality; infrastructure; structural design and maintenance policy; electricity supply and parking; poor drainage and gutter systems are major issues affecting residents of public housing. The conclusion is that uncertain housing provision does not guarantee success in sustainable housing development, but meeting actual housing needs and preferences of residents with lower costs and standard structural quality will ensure adequate, affordable, and sustainable housing for all citizens.

America is a continent where the concept of people's satisfaction with their housing, in general, and their social housing, in particular, appeared quite early. The USA is quite successful in developing social housing because they have been concerned about residents' satisfaction with social housing from an early stage. According to Deidre E. Paris and Roozbeh Kangari (2005) research on strategic issues affecting the satisfaction of residents of affordable housing based on data collected from two affordable multi-family housing complexes Defoors Ferry Manor and Moores Mill in Atlanta. They concluded that the main variables affecting residents are satisfaction with property management, tenant selection policy, enforcement of residence rules, communication with residents, how quickly property management staff respond to residents' concerns, how property management staff cooperate with residents, how friendly staff are with residents, whether residents recommend their friends to live in their apartment complex, community quality, maintenance, residents' quality of life, building quality, building repair quality, the overall cleanliness of the premises, the overall cleanliness of the community, residents' perception of their neighborhood's safety at night, residents' perception of safety at night while in their apartment, and overall satisfaction of residents with their apartment.

In Canada, according to Jonathan David Fonberg and Grant Schellenberg (2019), the satisfaction of social housing tenants in Canada is influenced by 9 factors such as overall space, number of bedrooms, affordability, conditions, ability to block external noise, safety and security, energy performance, house temperature in winter, and house temperature in summer.

In the Asian region, there has also been a number of research works published over time aimed at analyzing, evaluating, and adjusting policies on planning and reconstructing social housing to meet the needs of the population. In the Maldives, the study by Mohit and Azim (2012) on public housing in Hulhumale confirmed several key factors affecting residents' satisfaction with housing, such as: physical characteristics and service provision in the housing area, public amenities, and the social environment within the residential area.

In Malaysia, Mohit et al. (2010) researched the level of satisfaction of residents with low-cost public housing in Kuala Lumpur. The authors focused on examining five (05) main variables with 45 observed variables affecting residents' satisfaction with their housing, specifically: (1) characteristics of the housing, (2) housing support services, (3) public amenities, (4) social environment, and (5) residential area amenities. Specifically, the results of the empirical analysis at the research site showed that residents are satisfied with the housing support services, followed by public amenities and the residential area. Meanwhile, there is a proportion of people with a low level of satisfaction regarding the characteristics of the housing and the social environment. The satisfaction index of the residents has a high (positive) correlation with the characteristics of the dwelling unit, social environment, support services, and public amenities, but a low correlation with the physical facilities of the neighboring area. Additionally, the demographic structure attributes of the residents (such as: age, family size, wife's job, previous residence) have a negative correlation with the level of satisfaction with housing. Meanwhile, variables related to race, type of job, floor of residence, and residence duration of residents have a positive correlation with residents' satisfaction in housing areas.

From a social perspective, Jun and Jeong (2018) considered the housing satisfaction of two groups of residents - those who bought houses and those who received support under the social housing policy program living in the same housing complexes in South Korea. The study results show that the type of housing complexes differently impacts the satisfaction with housing between these groups. Living in mixed-use complex, independent mixed housing, and randomly mixed housing is positively related to the residents receiving support from the government's public housing program. In other words, mixed housing types create a difference in the level of satisfaction of the people benefiting from public housing policies. Additionally, when comparing the level of social conflict among residents in different mixed housing types, the study results by the author team show that the level of social conflict among residents in randomly mixed types is statistically lower compared to other mixed types.

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In Iran, the study by Roya Etmnani-Ghasrodashti et al. (2017) evaluated residential satisfaction with the Merh Housing Scheme (MHS) - Affordable House type developed by the Iranian Government since 2007 (Maryam Ghasemi et al. - 2018). According to the descriptive analysis results, the authors proved that only 32.5% of respondents are satisfied with living in MHS. Specifically, the physical characteristics of the building are the main determinant of overall satisfaction of the respondents, while the social characteristics of the housing project have little or no impact on residents' satisfaction. Another study, when considering the determinants of satisfaction with affordable housing, Marziyeh Riazi, Ali Emami, et al. (2018) confirmed the impact of planning policies, design principles, and interaction with neighbors as decisive factors for satisfaction. The analysis results show that interaction with neighbors is more important than other factors, while ethnicity moderates the relationship between neighbors regarding housing satisfaction. However, the study still has limitations in analyzing planning policies, such as accessing planning documents of housing projects. Besides, there are other limitations related to sampling. The participants in the quantitative phase were housewives. Therefore, this article needs further research to consider other determining factors for satisfaction with affordable housing, while also expanding sampling to both men and women.

In the Asian region, particularly since around the year 2000, China has conducted numerous studies on residents' satisfaction (Z. Li and Wu, 2013). Specifically, J. Li, Li, et al. (2019) focused on examining the satisfaction of low-income groups receiving support for public rental housing in Wuhan City, China. The research results revealed several interesting points such as: (i) Housing and residential area characteristics, including per capita living space, housing design, as well as the neighborhood and public amenities, have a positive and significant impact on tenants' satisfaction; (ii) Housing management services are also significant determinants of tenant satisfaction; (iii) The rental price has a negative and significant impact on housing satisfaction; (iv) Residential area factors and public amenities play an important role in predicting the level of satisfaction among elderly tenants; (v) Interaction effects show that demographic variables (gender, age, education, occupation, income, and household size) have a significantly inverse correlation with residents' satisfaction with housing.

Another study in Hangzhou, China, by Zhonghua Huang et al. (2015) showed that most public housing residents are satisfied with their residential environment. And the public housing allocation plan significantly contributes to residents' satisfaction. Specifically, the allocation plan for housing and obstacles in housing selection affect public housing residents' satisfaction. People renting affordable and public housing have fewer housing choices and thus have higher satisfaction levels. Residents of economic comfortable housing have the lowest satisfaction level as they face the greatest obstacles in housing selection, causing them confusion in deciding to purchase comfortable housing on the market. Although residents of monetary subsidized housing can choose where to live, the minimal subsidy is not enough for them to afford to rent a comfortable house. This study also shows that residential area characteristics, public facilities, and housing characteristics are the main factors affecting residents' satisfaction; the social housing allocation plan, comparisons of environment & previous residence also affect public housing residents' satisfaction. Residents of public rental housing and monetarily subsidized housing pay more attention to neighborhood characteristics; residents of affordable rental housing are more concerned about housing characteristics and neighborhood features; and residents of economically comfortable housing care more about surrounding area characteristics and public amenities. Additionally, different public housing resident groups focus on specific residential environment characteristics, which may reflect different residential environment issues they encounter, indicating the necessity for further research on residential environment mechanisms and housing allocation plans concerning residents' satisfaction.

III. CURRENT SITUATION

A. Current State of Social Housing Development in Vietnam

In recent times, localities across Vietnam have been actively promoting the development of social housing for low-income groups. Despite strong directives from both central and local governments, existing mechanisms and policies for social housing development have yet to fully meet practical needs, with timely amendments and supplements still lacking. The implementation faces significant challenges, including insufficient mechanisms and policies, a shortage of land resources, and limited state budget allocations, leading to prolonged project timelines.

At the conference launching the "Investment in the construction of at least 1 million social housing units for low-income people and industrial park workers for the period 2021-2030", Deputy Minister of Construction Nguyen Van Sinh reported that, according to local data, the country had planned 1,249 land plots totaling 8,390 hectares. However, some localities had not yet planned or allocated land for social housing, such as Ninh Binh, Ha Giang, Lai Chau, Nghe An, Dak Nong, Ninh Thuan, Dong Thap, etc. From 2021 to the end of 2023, the country initiated 499 social housing projects with more than 411,000 units. Last year,

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localities registered to complete 108 projects with over 47,500 units. Leading the completion of social housing objectives were Bac Ninh, Binh Duong, and Hai Phong, with Bac Ninh registering the highest number of social housing units at 6,000 from 5 projects. Binh Duong and Hai Phong followed, with 4,500 and nearly 4,000 units, respectively. Ha Noi and Ho Chi Minh City set goals to complete over 18,700 and 26,000 units by 2025, respectively, under the Prime Minister's social housing project.

Analyzing the 2024 real estate market, Hoàng Hải, Director of the Housing and Real Estate Market Management Agency (Ministry of Construction), predicted that moderate-cost and social housing would be market highlights. Many projects approved for investment are expected to commence in 2024, including two significant social housing projects by Vinhomes in Hai Phong and Khanh Hoa. The first, Happy Home Hai Phong, spans over 28 hectares with an investment of more than 5,800 billion VND, aiming to provide 4,004 units. Shortly after, the Happy Home project in Khanh Hoa began with an estimated investment of around 3,800 billion VND for about 3,600 low-rise social housing units. Hud, the Urban and Housing Development Investment Corporation, announced the commencement of social housing projects CT05 and CT06 in Thanh Lam - Dai Thinh 2 (Hud Melinh Central), Hà Nội, aiming to complete 17,500 units with a total floor area of 1,730,000m².

Furthermore, the initial results of the 120,000 billion VND credit package under Resolution No. 33 NQ/CP have been slow, with 28 localities announcing 68 eligible projects requiring over 30,000 billion VND in loans. To date, six social housing projects across seven localities have been disbursed over 530 billion VND. Authorities are urged to tackle challenges and promote social housing development more aggressively.

Despite the proactive stance of some localities in attracting investment and initiating social housing construction, Deputy Minister Nguyen Van Sinh noted that key areas, despite having significant social housing needs, have seen limited investment relative to the project's 2025 goals. For instance, Ha Noi and Ho Chi Minh City have only managed to meet 9% and 19% of their targets, respectively. The only project in Hà Nội to proceed with sales in 2023 was the Trung Van (Nam Tu Liem) project, offering over 100 units. A social housing project developer in Hà Nội emphasized the complexity of social housing projects, highlighting the critical role of state involvement in providing clean land and clear legal frameworks to enable bidding and ensure affordable housing prices. Deputy Minister Nguyen Van Sinh stated: "Without state intervention in land allocation and legal procedures, social housing remains a distant dream, and moderately priced commercial housing will be scarce".

B. Suggestion for Vietnam

Based on international research experience, Vietnam should implement the following policies to enhance residents' satisfaction with social housing:

First, social housing projects should be built in reasonable locations convenient for residents based on surveys, evaluation of the current situation, and consensus opinion of the people, in accordance with policy mechanisms and the project's capabilities.

Second, apartments should be designed with suitable sizes to meet the living needs and family models of the residents, both current and future. This requirement needs careful calculation to ensure the harmony of the residents' interests and the investors.

Third, regarding apartment design and the quality of social housing, city authorities should have appropriate apartment design templates that match the living conditions in the area for investors to refer to and propose apartment design solutions that meet the people's needs. When investing in the construction of apartment buildings, investors must comply with the standards and construction norms, and the quality management of the project must be carried out in accordance with legal regulations. When conducting project acceptance for use, the competent acceptance authority must ensure compliance with the design and quality set forth.

Last but not least, ensuring the living environment of residents at social housing projects also needs to be studied to have integrated solutions that harmonize and meet the public infrastructure, surrounding landscape, and social environment in areas with social housing.

IV. CONCLUSIONS

In conclusion, this article has examined the multifaceted factors affecting resident satisfaction within the context of social housing in urban areas, drawing upon a wealth of international studies for analysis. Through a comprehensive review of existing research and the current situation, we have identified key elements such as housing characteristics, design, management services, and the social and living environment that significantly impact the happiness and satisfaction of residents in social

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housing projects. The insights gained underscore the necessity of a holistic approach in policy formulation and project development, an approach that considers not just the physical attributes of housing but also the broader social and environmental context in which it exists.

For Vietnam, our recommendations aim to narrow the gap between current practices and the ideal standards derived from global benchmarks. The proposed policies emphasize the importance of participatory planning, rigorous design and construction standards, and the integration of social housing projects into the urban fabric, ensuring they contribute positively to the cityscape and its social environment. By leveraging these insights, Vietnam can ensure that its social housing initiatives not only provide shelter but also foster communities where residents feel valued, supported, and satisfied. Thus, this article contributes to the ongoing dialogue on urban development and social housing, offering a perspective that is both globally informed and locally applicable, with the potential to guide future research and policy implementation in Vietnam and beyond.

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The Influence of Perception, Trust, And Security on Fintech E-Wallet Services: The Case of The Z Generation in Yogyakarta



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ABSTRACT: This research aims to examine the influence of perceived ease of use, perceived benefits, perceived risk, trust and security variables on the likelihood of using fintech e-wallet services. The population in this research is the Z generation residing in Sleman Regency, Indonesia. The data source used in this research is primary data using a quantitative approach. Sampling in this study used a purposive sampling technique, the number of samples used was 100 Z generation in Sleman Regency who used the ShopeePay e-wallet fintech service for transactions. In this research, the data was processed/tested using the IBM SPSS statistics 23 program. The results of the research show that partially the variables perceived ease of use and perceived benefits have a positive and significant effect on interest in using ShopeePay fintech e-wallet services among the Z generation in Sleman Regency, while the variables Perceptions of risk, trust and security do not have a significant influence on interest in using the fintech e-wallet service ShopeePay among the Z generation in Sleman Regency.

KEYWORDS: Perceived Ease of Use, Perceived Benefits, Perceived Risk, Trust, Security, Fintech E-Wallet.

1. INTRODUCTION

Technology continues to develop along with the demands of the times, technological advances such as in the current digital era greatly influence needs in various aspects of people's lives, including carrying out transactions. Technological developments have made the way of transactions in society experience changes from initially conventional to moderate, a phenomenon that occurs in people's lives in the current digital era, namely changes in habits in carrying out transaction processes from initially making payments in cash (cash) to non-cash (cashless) this phenomenon is referred to as the cashless society phenomenon (sikapiuangmu.ojk.go.id, 2023). Apart from influencing aspects of life in society, technological developments also influence the economic system, especially in the financial sector which is starting to implement the digital economy, various digital financial services companies compete with each other to create appropriate innovations and strategies so that the company's credibility is maintained (Tanoto, et.al, 2021). A technological innovation that is developing in the financial sector is Financial Technology.

Financial Technology (fintech) is a combination of financial services and technology that changes the business model from conventional to moderate, where initially transaction activities were carried out face to face but now with fintech transaction activities can be carried out without having to meet in person (bi.go.id, 2023). Fintech includes all financial services and products provided by financial institutions (Arner et.al, 2015). One type of fintech product used by the majority of Indonesian people is a non-cash payment system in the form of electronic money. The development of electronic money in Indonesia is very fast, this can be seen from the amount of electronic money circulating in Indonesia which continues to increase from year to year (Yogananda, A.S., & Dirgantara, I.M.B., 2017). The increase in the amount of electronic money in circulation every year has proven that Indonesian people have begun to switch to using electronic money as a payment system for transactions, especially e-wallets (Pratiwi & Sofwan, 2022).

E-wallet is one of the fintech classifications in the payment sector, e-wallet is one of the most popular, popular and popular alternative digital payment transactions and has become a trend in Indonesian society to date. E-wallet is an application

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connected via the internet, which is used to store money in electronic form (Widiyanti, 2020). It can be concluded that E-wallet is a fintech-based payment method (mobile payment) that is connected via the internet network and has the aim of making it easier for each user to store electronic money digitally.

Based on a survey conducted by Populix, it shows that the Gopay e-wallet fintech service occupies the top position as the e-wallet most widely used by people in Indonesia (goodstats.id, 2023). In this research, based on an initial survey conducted by researchers, the results show that the e-wallet fintech service ShopeePay is the e-wallet most widely used by the Z generation in Sleman Regency as a tool for transactions. Even though many have been selected, the data still does not explain the factors that cause the high interest in using ShopeePay fintech e-wallet services among the Z generation in Sleman Regency, for example whether it is due to ease of use, benefits obtained, perceived risks, trust. them towards the e-wallet or because of the security they feel regarding the e-wallet security system. So it would be very interesting if researchers could research the problem of this phenomenon.

The development of e-wallets among the public is one form of convenience created by technological advances, but not all emerging technologies can be easily accepted by the public. What also needs to be known is that the perceptions and attitudes that generate interest in each individual towards the use of a technology vary. In this case, the financial sector needs to first understand the level of individual acceptance of the use of technology in financial services (Chong, T.P, et.al, 2019). To understand each individual's attitude in accepting technology, an approach using the Technology Acceptance Model (TAM) theory is used, which is one of the theories most commonly used to explain individual acceptance of the use of technology.

Interest in using e-wallet is a person's desire and interest in using fintech services (e-wallet) as a digital financial transaction tool. The author uses the variable interest in using e-wallets because the use of fintech digital payment services such as e-wallets must continue to be developed considering that various digital financial services companies compete with each other to create appropriate innovations and strategies so that the company's credibility is maintained (Tanoto, et.al., 2021). In this research, the author will test several variables that might influence the interest of the Z generation in Sleman Regency in using the ShopeePay e-wallet fintech service, including perceived ease of use, perceived benefits, perceived risk, trust and security.

Perceived ease of use is the user's self-belief regarding the perceived ease of using technology (Rodiah & Melati 2020), the easier an e-wallet is to use for transactions, the more a person's interest in using an e-wallet will increase. Research conducted by Nelyumna, et.al (2022) shows the results that perceived ease of use has a positive and significant effect on the interest of Jabodetabek people in using fintech (e-wallet), while research conducted by Kinanti & Mukhlis (2022) shows the results that Perceived ease of use does not influence interest in using the ShopeePay e-wallet.

Perceived benefits is one of the factors that can influence people's interest in using e-wallets. The more people feel the benefits of e-wallet technology, the more often people will use e-wallets Paramitha & Mahyuni (2022). Research conducted by Nelyumna, et.al (2022) shows the results that perceived benefits have a positive and significant effect on the interest of Jabodetabek people in using fintech (e-wallet), while research conducted by Pratiwi & Sofwan (2022) shows results that perceived benefits has no effect on interest in using ShopeePay fintech.

Perceived Risk is the user's perception regarding uncertainty and possible negative consequences that will be received related to the use of fintech (Ryu, H.S, 2018). The higher the level of risk perception, the less interest the user has in using e-wallet, conversely, the lower the risk perception, the greater the user's interest in using e-wallet services. Research conducted by Kinanti & Mukhlis (2022) shows the results that risk perception has a positive and significant effect on interest in using the ShopeePay e-wallet. Research conducted by Nelyumna, et.al (2022) shows the results that risk perception has a significant negative effect on interest in using e-wallets. Meanwhile, research conducted by Pratiwi & Sofwan (2022) shows the results that risk perception has no effect on interest in using the ShopeePay e-wallet.

Trust is one of the factors that can raise people's interest in using e-wallet services. If people's trust in using financial services is high, then people will tend to feel satisfied so that interest in using e-wallets will increase (Nizar & Yusuf, 2022). Research conducted by Nizar & Yusuf (2022), shows the results that trust has a positive and significant effect on interest in using the Link only digital wallet application, while research conducted by Hanifah & Mukhlis (2022) shows the results that trust does not have a significant effect on interest in using e-commerce. -wallets.

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Perception of security is the extent to which people as users of digital financial services (e-wallets) believe that the technology is safe to use (Khoiriyah, et.al., 2023). The better the security system that the company providing fintech e-wallet services has in protecting the personal information of its users, the higher the number of users using fintech e-wallet services (Aditya & Mahyuni, 2022). Research conducted by Aditya & Mahyuni (2022) shows the results that perceived security has a positive and significant effect on the interest of the millennial generation in Bali province in using fintech, while research conducted by Sukmawati, K & Kowanda, D (2022) & Ananda, P & Nuriyah, A (2023) show results that perceived security does not influence interest in using e-wallet.

2. THEORY AND HYPOTHESES DEVELOPMENT

Financial Technology (fintech) is a combination of financial services and technology that changes business models from conventional to moderate. In fintech, regulations are also regulated which aim to protect individuals regarding the security of funds and data, managing fintech companies, as well as to meet the needs of society, including in the services sector and payment systems. Fintech products usually take the form of a system created to carry out specific financial transaction mechanisms (bi.go.id, 2023). One example of a fintech product that is classified into the payments sector is e-wallet. E-wallet is a method of electronic payment systems or transactions using applications connected to the internet network (Widiyanti, 2020).

To understand each individual's attitude in accepting technology, an approach using the Technology Acceptance Model (TAM) theory is used. The TAM theory was developed by Davis (1989) which explains that behavior is carried out because someone has an interest or desire to do it (Sunarya, 2022). TAM theory is one of the most commonly used models in research regarding the adoption or use of technological systems, because it is considered an appropriate model for evaluating individual behavior in using fintech in general (Stewart and Jürjens, 2018). There are two main variables in TAM theory which are determining factors for analyzing a person's acceptance of the use of technology, including perceived usefulness and perceived ease of use. Apart from using the perceived benefits and ease of use factors on interest in using fintech, in this study the authors added external variables within the TAM model framework, namely risk perception, trust and security factors as suggested by previous researchers, to determine the influence of risk perception, trust and security on interest in using fintech e-wallet.

Interest in using an e-wallet is a person's desire and interest in using an e-wallet as a digital financial transaction tool. Perceived ease of use is the user's self-belief regarding the perceived ease of using technology (Rodiah & Melati 2020), the easier an e-wallet is to use for transactions, the more a person's interest in using an e-wallet will increase. Perceived benefits have a very strong influence on a person's interest in using fintech e-wallet services (Aydin & Burnaz, 2016). Risk perception has a strong role in reducing users' interest in making transactions using electronic money (e-wallet) so that risk perception may have a negative effect on consumer interest in using fintech service products (Yogananda & Dirgantara, 2017). Trust in digital payment system services (e-wallet) has quite a big influence on users' interest in making transactions (Pratiwi & Sofwan, 2022). The higher the level of user trust in the e-wallet service provider, the higher the interest in using it. Security is a factor that can encourage a person's interest in using e-wallet, when security can be accepted in accordance with what is expected by the user, then the user will be willing to disclose their personal information and will use e-wallet with feelings of security and peace of mind (Sukmawati & Kowanda, 2022).

The Influence of Perceived Ease of Use on Interest in Using Fintech E-wallet

Perceived ease of use is the extent to which a person believes that using a particular system will be free of effort (Davis, 1989). If the millennial generation as users believe that fintech e-wallet services are difficult to use, then their interest in using fintech e-wallet services will decrease. However, on the contrary, if they believe that fintech e-wallet services are easy, uncomplicated and practical to use, then their interest in using fintech e-wallet services will also increase. The research results of Nelyumna et. al (2022) shows that the variable perceived ease of use has a positive and significant effect on interest in using fintech e-wallet. In line with this research, the results of Rodiah & Melati's (2020) research also show that the perceived ease of use variable has a positive and significant effect on interest in using fintech e-wallets.

H1: Perceived ease of use has a positive effect on interest in using fintech services

The Influence of Perceived Benefits on Interest in Using Fintech E-Wallets

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Perceived usefulness is the extent to which someone believes that using a particular system will improve their work performance (Davis, 1989). If the millennial generation as users believe that using fintech e-wallet services can be useful in their daily lives, especially in transaction activities, then they will tend to be interested in using them. However, on the other hand, if they believe that using fintech e-wallet services is less useful then they will not be interested in using them. The research results of Nelyumna et.al (2022) show that the perception of benefits variable has a positive and significant effect on interest in using fintech e-wallets. In line with this research, the results of Aditya & Mahyuni's research (2022) also show that the perceived benefit variable has a positive and significant effect on interest in using fintech e-wallet.

H2: Perceived benefits have a positive effect on interest in using fintech services

The Influence of Risk Perception on Interest in Using Fintech E-Wallet

In the use of financial technology (fintech), perceived risk is a factor that users need to consider in choosing fintech e-wallet services as an online transaction tool. Risk perception is defined as a user's perception of uncertainty and the possibility of negative consequences that will be received related to the use of fintech (Ryu, H.S, 2018). In the use of financial technology or in this case e-wallet as a non-cash payment, of course there are risks that must be considered, the higher the risk perceived by e-wallet users, the greater the user's interest in using e-wallet, however conversely, the lower the risk perceived by the user, the greater the user's interest in using fintech e-wallet services (Paramitha & Mahyuni, 2022). The research results of Nelyumna et.al (2022) show that the risk perception variable has a negative and significant effect on interest in using e-wallets. In line with this research, the research results of Rodiah & Melati (2020) also show that the risk perception variable has a negative effect on interest in using e-wallets.

H3: Perception of risk has a negative effect on interest in using fintech services

The Influence of Trust on Interest in Using Fintech E-Wallet

Trust is the belief in the user that the fintech e-wallet service company they trust will fulfill all its obligations well and in accordance with what the user expects. Trust in fintech e-wallet services has quite a big influence on users' interest in making transactions (Pratiwi & Sofwan, 2022). The higher the level of public trust in the use of high financial services, the more likely people will feel satisfied so that people's interest in using e-wallets will also increase. The research results of Nizar & Yusuf (2022) show that the trust variable has a positive and significant effect on interest in using fintech e-wallet. In line with this research, the research results of Utami, M.K (2021) also show that the trust variable has a positive and significant effect on interest in using fintech e-wallet.

H4: Trust has a positive effect on interest in using fintech services

The Influence of Security on Interest in Using Fintech E-Wallets

Security is the extent to which people as users of digital financial services (e-wallets) believe that the technology is safe to use (Khoiriyah, et.al., 2023). Security helps users build trust, develop attitudes and generate positive intentions to adopt a technological innovation. The better the security system that the fintech e-wallet service provider company has in protecting the personal information of its users, the higher the interest of users in using it. The research results of Utami, M.K (2021) show that the security variable has a positive and significant effect on the millennial generation's interest in using fintech e-wallets. In line with this research, the research results of Khoiriyah et al (2023) also show that security variables have a positive and significant effect on interest in using fintech e-wallets.

H5: Security has a positive effect on interest in using fintech services

3. METHOD

This research is a type of comparative causal research that describes the relationship between independent variables consisting of perceived ease of use, perceived benefits, perceived risk, trust and security on the dependent variable, namely interest in using the ShopeePay e-wallet fintech service.

The population used in this research is the entire Z generation in Sleman Regency who are currently or have used the fintech e-wallet service ShopeePay as a means of non-cash payment transactions. The calculation of the number of samples in this study was carried out using the Hair (1998) formula because the population size is not yet known with certainty, the number

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of samples in this study was 100 Z generations in Sleman Regency which was obtained from the number of indicators 20 times 5. The sampling technique used was using purposive sampling technique. The data collection method in this research is through distributing online questionnaires using Google Form, questionnaire links are distributed via chat and story platforms on social media such as Whatsapp, Line, Telegram and Instagram. The results of the questionnaire collection were then processed using IBM SPSS 23.

In this research, data testing was carried out using the multiple linear regression analysis method, instrument testing in this research was carried out using validity tests and reliability tests, then classical assumption tests in this research used normality tests, multicollinearity tests and heteroscedasticity tests. Hypothesis testing in this study used the t test, f test, and tested the coefficient of determination which was processed using IBM SPSS Version 23.

RESULT

Instrument Test Results

Instrument testing in this research was carried out using validity and reliability tests, if r count $>$ r table then the questionnaire used as a research measuring tool was declared valid or suitable for use.

Table 1. Validitas test

Variable	Question items	R hitung	R tabel	Kesimpulan
Perception of Ease for Use (PEU)	PKP 1	0,776	0,361	Valid
	PKP 2	0,863	0,361	Valid
	PKP 3	0,631	0,361	Valid
	PKP 4	0,845	0,361	Valid
	PKP 5	0,817	0,361	Valid
	PKP 6	0,733	0,361	Valid
	PKP 7	0,715	0,361	Valid
	PKP 8	0,912	0,361	Valid
Perception of Benefits (PBE)	PM 1	0,740	0,361	Valid
	PM 2	0,906	0,361	Valid
	PM 3	0,906	0,361	Valid
	PM 4	0,892	0,361	Valid
	PM 5	0,825	0,361	Valid
	PM 6	0,874	0,361	Valid
	PM 7	0,839	0,361	Valid
	PM 8	0,700	0,361	Valid
Perception of Risk (PRI)	PR 1	0,679	0,361	Valid
	PR 2	0,821	0,361	Valid
	PR 3	0,714	0,361	Valid
	PR 4	0,843	0,361	Valid
	PR 5	0,892	0,361	Valid
	PR 6	0,749	0,361	Valid
Trust (TRU)	KP 1	0,707	0,361	Valid
	KP 2	0,893	0,361	Valid
	KP 3	0,874	0,361	Valid
	KP 4	0,819	0,361	Valid
	KP 5	0,842	0,361	Valid

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	KP 6	0,646	0,361	Valid
Security (SEC)	KA 1	0,763	0,361	Valid
	KA 2	0,784	0,361	Valid
	KA 3	0,766	0,361	Valid
	KA 4	0,795	0,361	Valid
	KA 5	0,760	0,361	Valid
	KA 6	0,690	0,361	Valid
Interest in Using Services of Fintech E-Wallet (IUS)	MIN 1	0,803	0,361	Valid
	MIN 2	0,923	0,361	Valid
	MIN 3	0,873	0,361	Valid
	MIN 4	0,828	0,361	Valid
	MIN 5	0,918	0,361	Valid
	MIN 6	0,818	0,361	Valid

Based on the results of the validity test in the table above, it can be seen that all variables show a calculated r value > r table, which means that all statements in the questionnaire used in this research are declared valid or suitable for use to measure the variables you want to measure. To measure the reliability of variables, this is done using the Cronbach Alpha (α) statistical test. If the Cronbach Alpha value is > 0.60, the research variable can be said to be reliable.

Table 2. Reliability test

Variabel	Cronbach's Alpha	Criteria	Result
Interest in Using Services of Fintech E-Wallet	0,929	>0,60	Reliable
Perception of Ease for Use	0,913	>0,60	Reliable
Perception of Benefits	0,936	>0,60	Reliable
Perception of Risk	0,874	>0,60	Reliable
Trust	0,886	>0,60	Reliable
Security	0,837	>0,60	Reliable

Based on the reliability test results table above, it can be concluded that all statements or 40 statements in this research questionnaire are reliable because the Cronbach's alpha value for all variables was > 0.60. This shows that each item/statement item used will be able to obtain consistent data.

Hypothesis testing

The results of hypothesis testing using multiple regression analysis tools with the dependent variables of profitability and firm value are shown in table 3 below:

Table 3: Hypothesis Result

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std Error	Beta		
Constant	-2.453	1.906		-1.287	0.201
PEU	0.38	0.067	0.454	5.624	0.000
PBE	0.392	0.076	0.509	5.180	0.000
PRI	0.041	0.038	0.054	1.061	0.291
TRU	-0.102	0.108	-0.093	-0.291	0.345
SEC	0.105	0.073	0.096	1.444	0.152

Source: Data processed

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4. DISCUSSION

Perception of Ease for Use and Interest in Using Fintech Services.

The results of data analysis in this study show that the perceived ease of use variable produces a calculated $t > t$ table value of $5.624 > 1.985$ with a significance value of $0.000 < 0.050$ and a regression coefficient value of 0.380 . Based on the test results, the first hypothesis test which states that perceived ease of use has a positive effect on interest in using the fintech e-wallet service "ShopeePay" among the Z generation in Sleman Regency is proven or accepted. So it can be concluded that the perceived ease of use (PKP) variable has a significant positive effect on interest in using the ShopeePay e-wallet fintech service among the Z generation in Sleman Regency (MIN).

The easier it is to use e-wallet services for transactions, the more someone's interest in using e-wallets will increase. This research shows that the easier the ShopeePay e-wallet fintech service is, the more interest the Z generation in Sleman Regency will have in using it, this is because as users they feel the ease of using the e-wallet, such as easy to understand, easy to use. used when making transactions, flexible and practical in use. This identifies that perceived ease of use is one of the factors that can influence the interest of the Z generation in Sleman Regency in using the fintech e-wallet service ShopeePay. The results of this research support the TAM (Technology Acceptance Model) theory introduced by Davis (1989), where the TAM theory assumes that a person's acceptance of technology is influenced by perceived ease of use.

The results of this research are supported and in line with previous research conducted by Nelyumna, et al (2022), Utami M, K (2021), Rodiah, S., Melati, I.S. (2020), Aditya, T., Mahyuni, L.P. (2022), Nag, A.K., & Gilitwala, B (2019) which states that perceived ease of use has a positive and significant effect on interest in using fintech (e-wallet).

Perception of Benefits and Interest in Using Fintech Services

The results of data analysis in this study show that the perceived benefit variable produces a calculated $t > t$ table value of $5.180 > 1.985$ with a significance value of $0.000 < 0.050$ and a regression coefficient value of 0.392 . Based on the test results, the second hypothesis test which states that perceived benefits have a positive influence on interest in using the fintech e-wallet service "ShopeePay" among the Z generation in Sleman Regency is proven or accepted. So it can be concluded that the perceived benefit (PM) variable has a positive and significant effect on interest in using the ShopeePay e-wallet fintech service among the Z generation in Sleman Regency (MIN).

The higher the benefits felt when making a transaction using an e-wallet, the greater a person's interest in using an e-wallet. The more people experience the benefits of e-wallet technology, the more often people will use e-wallets (Paramitha & Mahyuni, 2022). People will use a technology if people know the positive benefits that will be obtained from using the technology (Ernawati & Noersanti, 2020).

This research shows that the more useful the ShopeePay e-wallet fintech service is, the more interest the Z generation in Sleman Regency will have in using it, this is because they feel that there are positive benefits felt from using the e-wallet, such as increasing effectiveness and productivity in transactions, and is useful in everyday life. This identifies that perceived benefits are one of the factors that can influence the interest of the Z generation in Sleman Regency in using the ShopeePay e-wallet fintech service. The results of this research support the TAM (Technology Acceptance Model) theory introduced by Davis (1989), where the TAM theory assumes that a person's acceptance of technology is influenced by perceived benefits. Hypothesis testing in this research also shows that the perceived benefit variable is the most dominant factor in influencing the interest of the Z generation in Sleman Regency in using the fintech e-wallet service ShopeePay.

The results of this research are supported and in line with previous research conducted by Nelyumna et.al (2022), Rodiah, S., & Melati I,S (2020), Aditya, T & Mahyuni L.P (2022), Khoiriyah et.al (2023), Karim, M.W et al (2020), Nag, A.K., & Gilitwala, B (2019) which states that perceived benefits have a significant positive effect on interest in using fintech (e-wallet).

Perception of Risk and Interest in Using Fintech Services

The results of data analysis in this study show that the risk perception variable produces a calculated t value $< t$ table, namely $1.061 < 1.985$ with a significance value of $0.291 > 0.050$ and a regression coefficient value of 0.041 . Based on the test results, the third hypothesis test which states that risk perception has a negative effect on interest in using the fintech e-wallet service "ShopeePay" among the Z generation in Sleman Regency is not proven or rejected. So this research shows that the risk

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perception (PR) variable does not have a significant influence on the interest in using the ShopeePay e-wallet fintech service among the Z generation in Sleman Regency (MIN).

This means that the high or low risk of the ShopeePay e-wallet fintech service that is perceived or felt by the Z generation in Sleman Regency does not affect their interest and will continue to use the ShopeePay e-wallet fintech service when making transactions. This is because the majority of the Z generation in Sleman Regency is a generation that tends not to pay too much attention to the risks they will face when making transactions using fintech e-wallet services, however they actually consider the benefits felt or obtained compared to the possible risks faced in using them. e-wallet, so that risk perception does not have a significant influence on the interest of the Z generation in Sleman Regency in using the ShopeePay e-wallet fintech service.

The reason why the hypothesis regarding the risk perception (PR) variable was not accepted or was not proven to have an effect was strengthened based on research findings conducted by Paramitha, N.M.A.M & Mahyuni, L.P (2022), which stated that the risk perception variable was not proven to have a significant effect on the interests of the millennial generation. in making transactions because by using fintech e-wallet services, the millennial generation tends to ignore the possible risks they will face in transactions, and will continue to use fintech e-wallet services. Apart from that, the use of the ShopeePay e-wallet service is only used to meet non-routine needs so this reduces concerns about the possible risks that will be faced in using the ShopeePay e-wallet (Pratiwi, S & Sofwan, A, 2022). Risk perception which does not have a significant effect explains that e-wallet users in Indonesia tend to be less concerned about the risks that might occur, users tend to focus more on the benefits they receive rather than the risks they will face (Chandra, M.B & Kohardinata, C, 2021).

The results of this research are supported and in line with previous research conducted by Paramitha, N.M.A.M & Mahyuni, L.P (2022), Pratiwi, S & Sofwan, A (2022), and Chandra, M.B & Kohardinata, C, (2021) which shows that perceptions the risk of failing to influence interest in using fintech e-wallet services.

Trust and Interest in Using the Fintech Service

The results of data analysis in this study show that the trust variable produces a calculated t value $< t$ table, namely $-0.949 < 1.985$ with a significance value of $0.345 > 0.050$ and a regression coefficient value of -0.102 . Based on the test results, the fourth hypothesis test which states that trust has a positive effect on interest in using the fintech e-wallet service "ShopeePay" among the Z generation in Sleman Regency is not proven or rejected. So this research shows that the trust variable (KP) does not have a significant influence on the interest in using the fintech e-wallet service ShopeePay among the Z generation in Sleman Regency (MIN).

This is because most of the Z generation in Sleman Regency feel that the ShopeePay e-wallet fintech service still lacks the ability to protect the privacy of its users. In this case, researchers suspect that their lack of trust could be caused by the still widespread cases of financial crime in e-fintech services. wallets such as financial fraud or digital financial fraud, wiretapping and balance breaches that cannot be handled or resolved by ShopeePay, making the Z generation in Sleman Regency tend to be more careful in placing trust in providing their personal information when making transactions using e-wallet services. ShopeePay is a financial technology service, so in this study the trust variable does not have a significant influence on the interest of the Z generation in Sleman Regency in using the ShopeePay e-wallet fintech service.

The reason why the hypothesis on the trust variable (KP) was not accepted or was not proven to have an effect was strengthened based on research findings conducted by Kurnianingsih et.al (2022) which said that e-wallet users would not be interested in using e-wallets if they felt they lacked trust. in the e-wallet they use, lack of trust has an impact on fundamental problems such as users' hesitation to provide their personal information to e-wallet service providers.

The results of this research are supported and in line with previous research conducted by Lim, H.L et al (2022) & Kurnianingsih et.al (2022) which stated that the trust variable has a negative relationship and does not have a significant effect on interest in using e-wallet, research conducted by Halim, N.A.A et al, & Hanifah, T.R., Mukhlis, I (2022) also stated that the trust variable does not have a significant effect on interest in using e-wallets.

Security and Interest in Using the Fintech Service

The results of data analysis in this study show that the security variable produces a calculated t value $< t$ table, namely $1.444 < 1.985$ with a significance value of $0.152 > 0.050$ and a regression coefficient value of 0.105 . Based on the test results, the

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fifth hypothesis test which states that security has a positive effect on interest in using the fintech e-wallet service "ShopeePay" among the Z generation in Sleman Regency is not proven or rejected. So this research shows that the security variable (KA) does not have a significant influence on the interest in using the fintech e-wallet service ShopeePay among the Z generation in Sleman Regency (MIN).

This is because most of the Z generation in Sleman Regency who were respondents in this research still feel worried about the security and confidentiality of the data they provide to the fintech e-wallet service provider ShopeePay, such as when providing their personal information and financial data which could be misused, so they do not feel completely safe, in this case the researchers suspect that this user's concern could be caused by the security system in the fintech e-wallet service ShopeePay which may still be vulnerable to digital financial crime.

The reason why the hypothesis on the security variable (KA) is not accepted or is not proven to have an effect is strengthened based on research findings conducted by Ananda, P & Nuriyah, A (2023) which states that the security variable does not have a significant effect on interest in using LinkAja Syariah services because there are still many users who do not feel safe in storing or sharing their personal information in digital form when making payment transactions. The findings of research conducted by Ariningsih et.al (2022) found that the security variable did not have a significant effect on interest in using e-wallets because young people still felt worried about the security and confidentiality of the data they provided to e-wallet service providers. for fear that it could be misused.

The results of this research are supported and in line with previous research conducted by Ananda, P & Nuriyah, A (2023) which stated that security variables do not have a significant effect on interest in using LinkAja Syariah services. The results of research conducted by Ariningsih et.al (2022) stated that security variables were proven to have no significant effect on interest in using e-wallets. The results of this research are also in line with research conducted by Sukmawati, K & Kowanda, D (2022) which states that security variables have no partial influence on the decision to use the Gopay e-wallet.

5. CONCLUSION AND SUGGESTIONS

Based on the research that has been carried out, it can be concluded that there are two proven hypotheses, namely the variables perceived ease of use and perceived benefits, these two variables have been proven to have a positive and significant effect on interest in using the ShopeePay fintech e-wallet service among the Z generation in Sleman Regency, also concluded that hypothesis 1 and hypothesis 2 in this study were proven and accepted. Meanwhile, there were three hypotheses that were not proven, namely the risk perception, trust and security variables, so these three variables did not have a significant influence on the interest in using the ShopeePay fintech e-wallet service among the Z generation in Sleman Regency, also concluded that hypothesis 3, hypothesis 4, and hypothesis 5 in this study were not proven or rejected.

For PT AirPay Indonesia as a company providing ShopeePay e-wallet fintech services which operates in the financial technology services sector, it should make more efforts to improve the confidentiality aspect of its e-wallet security system and make efforts to notify its users, in this way it will be able to increase the perception of trust. and the perception of security among the Z generation in Sleman Regency when making transactions using the ShopeePay e-wallet fintech service, so it can be a factor that influences their interest in using the ShopeePay e-wallet fintech service as a digital payment transaction tool in everyday life.

The author realizes that this research is still not perfect, and the author is only able to provide justification and contribute little to the results of previous research. So it is recommended for future researchers to add other independent variables that can influence users' interest in using fintech services, because based on the results of the coefficient of determination test there is still 23.5% influenced by other variables outside this research. Apart from that, it is also recommended for future researchers to increase the sample size or expand the scope of more respondents from this research to provide better research results.

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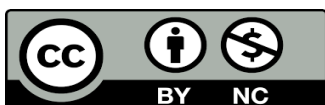
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A Bibliometric Study in Two Decades of Ethnic Entrepreneurship



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ABSTRACT: Ethnic entrepreneurship involves business practices run by specific ethnic groups, with a focus on utilizing economic resources and enterprise development to maintain and develop their cultural heritage. The main purpose of this article is to direct researchers in creating a theoretical framework and guide researchers who are new to ethnic entrepreneurship research so that they know which journals and authors to consult when studying this phenomenon. To do so, this study used the Scopus database to determine the research areas with the most research results, the countries that conduct the most ethnic entrepreneurship research, the most authors who write about ethnic entrepreneurship, the journals that publish the most research and the most cited documents.

KEYWORDS: Ethnic Group, Entrepreneurship, Ethnic Entrepreneurship, Scopus

I. INTRODUCTION

In recent decades, especially in metropolitan cities around the world, there has been massive migration from different socio-cultural or ethnic origins (Dana, 2007; Dana & Morris, 2011, 2007; Levent et al., 2003; Wong 1998; Waldinger et al., 2006; DeHart, 2010). This growth forms a new dynamic in society, where ethnic groups become important entities. An ethnic group is a group of people who are considered to have similar ethnic backgrounds. They are in a common cause where origin and culture play a major role in shaping group identity. This means that not only hereditary or geographical aspects, but also inherited values and traditions become important elements that unite individuals in these ethnic groups.

(Simpson & Yinger, 2013). In recent years, the interest and orientation of ethnic groups has seen a significant increase, especially in the context of entrepreneurship. This phenomenon is known as ethnic entrepreneurship, a concept that describes the process by which individuals who are not members of the majority population in a region actively identify market opportunities, undertake innovative activities, and take risks for the sake of prosperity for themselves, their families, and society as a whole. Ethnic entrepreneurship marks a paradigm shift in entrepreneurship studies, highlighting the significant contributions of ethnic groups to economic and social dynamics amidst cultural diversity and inherited values (Vaaler, 2011).

According to (Rahim & Mohtar, 2015) entrepreneurial behavior can be influenced by external factors such as the role of the community in the socio-cultural environment. Research from (Cai et al., 2018) also mentions the role of community as an external factor that can influence entrepreneurial behavior. Furthermore (Hayton & Cacciotti, 2013) also confirms the previous statement with research results that prove the existence of differences in entrepreneurial culture that have an impact on entrepreneurial behavior caused by the socio-cultural and ethnic background of individuals or groups of business actors. The definition according to (Aldrich & Waldinger, 1990) ethnic entrepreneurship is a group of people bound to the same cultural heritage or origin who run a business either as owners or operators.

The study of ethnic entrepreneurship in emerging markets is important because ethnic entrepreneurs contribute to the economic growth of the countries in which they live (Johnson et al., 2007). This importance is underscored by the rise of ethnic entrepreneurship studies focusing on emerging markets (Lin, 2010; Nkongolo-Bakenda and Chrysostome, 2013; Riddle and Brinkerhoff, 2011; Vaaler, 2011). For example, in Indonesia, how ethnic entrepreneurship has evolved over time by facing various threats in the form of challenges to take advantage of opportunities in starting and developing their business in a new environment (Jonius, 2011). Examples of the success of ethnic groups in Indonesia in practicing the principles of entrepreneurship include culinary, handicraft, and trade businesses owned and run by certain ethnic groups. For example, culinary businesses such as restaurants or food stalls typical of Chinese, Minangkabau, or Tegal (Java) ethnicities have become an integral part of the culinary industry in Indonesia. There are also successful ethnic entrepreneurs in the field of handicrafts, such as batik, weaving, and wood

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carving, which demonstrate Indonesia's cultural heritage. These field facts demonstrate the significant contribution of ethnic entrepreneurship to Indonesia's economy and cultural diversity (Ilhan Nas, Sahin, & Cilingir, 2011).

Van Delft, H., Gorter, C., & Nijkamp, P., (2000) Culture and ethnicity are important elements (Ibrahim & Galt, 2011). Where cultural factors can influence entrepreneurial motivation through cultural identity, values and traditions passed down from generation to generation. Meanwhile, ethnic factors dominate in ethnic entrepreneurship due to the strong linkages between ethnic identity, social networks, and access to resources in starting and developing businesses. Support systems and networks within ethnic groups have characteristics that enable ethnic entrepreneurs to create and develop business initiatives through member linkages, informal social structures, reliability, and interdependence, which provide access to financial capital, information, knowledge, family or co-ethnic labor, investors, and other entrepreneurs to share resources from home and destination countries (Urban & Ratsimanetrimanana, 2015).

Therefore, the purpose of this study is to conduct a systematic literature review on ethnic entrepreneurship studies. Conducting this research is considered important to provide relevant recommendations for practitioners and academics for the future development of ethnic entrepreneurship studies. To do so, this study utilized the Scopus database to determine the research areas with the largest research output, the countries with the most ethnic entrepreneurship research, the most categories that discuss ethnic entrepreneurship, the journals that published the most research and the most cited documents.

II. METHODOLOGY

This research aims to provide a mapping picture of the development of ethnic entrepreneurship that can later generate further background and in-depth insights. In addition, the mapping results can also develop the concept of ethnic entrepreneurship on topics that have not been researched before. Academic literature has proposed various approaches to examine the influence of certain variables, among them bibliometrics (Das, 2015). Bibliometric data analysis helps researchers to comprehensively analyze variables from various perspectives and understand their development (Fellnhöfer, 2019). Therefore, this study uses bibliometric analysis to investigate the importance of the development of ethnic entrepreneurship academic research.

A. Database Selection

This study chose Scopus as the database used in collecting data. Scopus was chosen for several reasons, including the high popularity of using Scopus for bibliometric research, because Scopus has several advantages. First, the coverage of fields in Scopus is broader than Web of Science (WoS) (Zhu & Liu, 2020) and is more frequently cited by researchers and academics (Martín-Martín et al., 2021). Second, Scopus generates more citations than WoS despite having a shorter time frame (Pranckutė, 2021). Third, Scopus is the most extensive abstract and citation database provider launched by Elsevier in 2004 (Burnham, 2006; Guz & Rushchitsky, 2009).

B. Data Collection

The data collection stage in early research is divided into two. First, the process of identifying scientific articles that will be processed as research data. This identification was done through database searches with several keywords, namely "ethnic entrepre* OR ethnic busines* OR ethnic enter*". Second, the data selection stage, which is the stage of further data filtering process with restrictions on certain categories. This includes restrictions on document type and language. For a more detailed look at the data collection stage, which can be seen in Figure 1

III. RESULT AND DISCUSSION

A. Annual Research Publication Trends

The initial presentation of the results of this study is to examine the annual trend of 433 ethnic entrepreneurship publications. The search, which has been limited to the last two decades, has become increasingly attractive to researchers and academics, with 10 publications in 2002 and 30 publications in 2022. This evolution has become more significant over the last decade, with the average annual publication consistently exceeding 10 documents, and in 2019 reaching the highest annual publication volume of 35 documents. These results show the high interest of researchers to explore the emerging themes that fall within the field of ethnic entrepreneurship, where research still has a long way to go.

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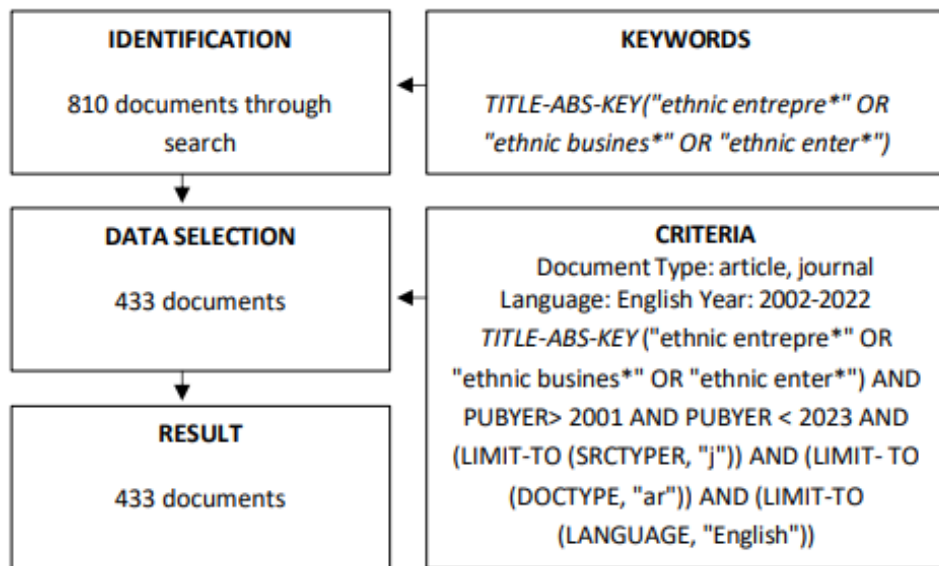


Figure 2. Annual Publication Trends over two decades of Ethnic Entrepreneurship research

Based on the results of Scopus data analysis of 433 Ethnic Entrepreneurship publications, showing 10 categories of research fields that are the subject, the top five categories in the number of publications are shown in table 1. The highest category of research fields in the number of publications is social sciences (254 documents; 37% of the total publications). Next in the second order category is the field of business, management and accounting (182 documents; 26.5% of the total publications). Meanwhile, the third order category is economics, econometrics, and finance (116 documents; 16.9% of the total publications). The fourth and fifth categories are arts and humanities (61 documents; 8.9% of total publications) and environmental science (21 documents; 3.1% of total publications). The top five EE publication fields account for 92.4% of the total 433 publications, which means that ethnic entrepreneurship publications dominate globally.

Table 1. CATEGORIES OF RESEARCH FIELDS

No.	Research Field	Total Documents
1	Social Sciences	254
2	Business, Management And Accounting	182
3	Economics, Econometrics, And Finance	116
4	Arts And Humanities	61
5	Environmental Science	21

B. Documents by country from the Ethnic Entrepreneurship Study

Information in (Figure 2) can be seen that the country that contributes the most to the publication of ethnic entrepreneurship studies is the United States with 118 documents, then there is the UK with 84 documents, Canada with 33 documents, Australia with 29 documents, Germany and the Netherlands with 21, Malaysia with 18, Italy with 16, China with 15, and New Zealand with 13.

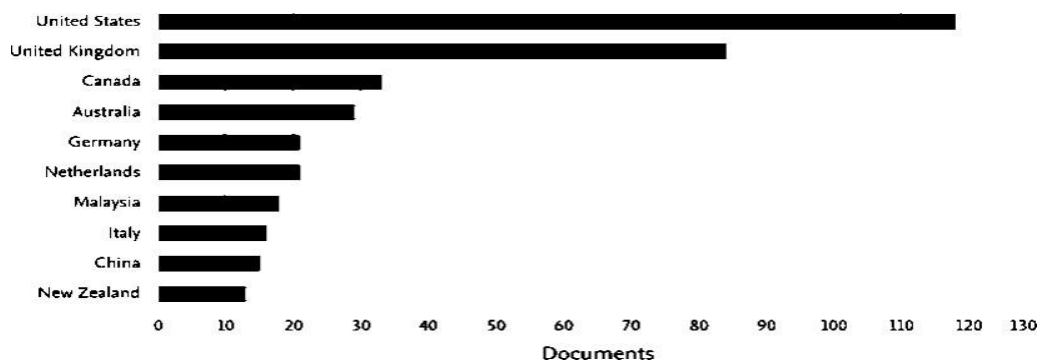


Figure 3. Country of Origin of Ethnic Entrepreneurship Publications

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C. Documents by Author of Ethnic Entrepreneurship Study

The information in the figure can be explained that the ten authors with the most publications in the field of Ethnic Entrepreneurship studies are Nijkamp, P with 10 documents, then Boyd, Brenner, Menzies, and Wang with 6 documents each, Masurel & Ojo with 5 documents, Altinay, Bent, and Dana with 4 documents each.

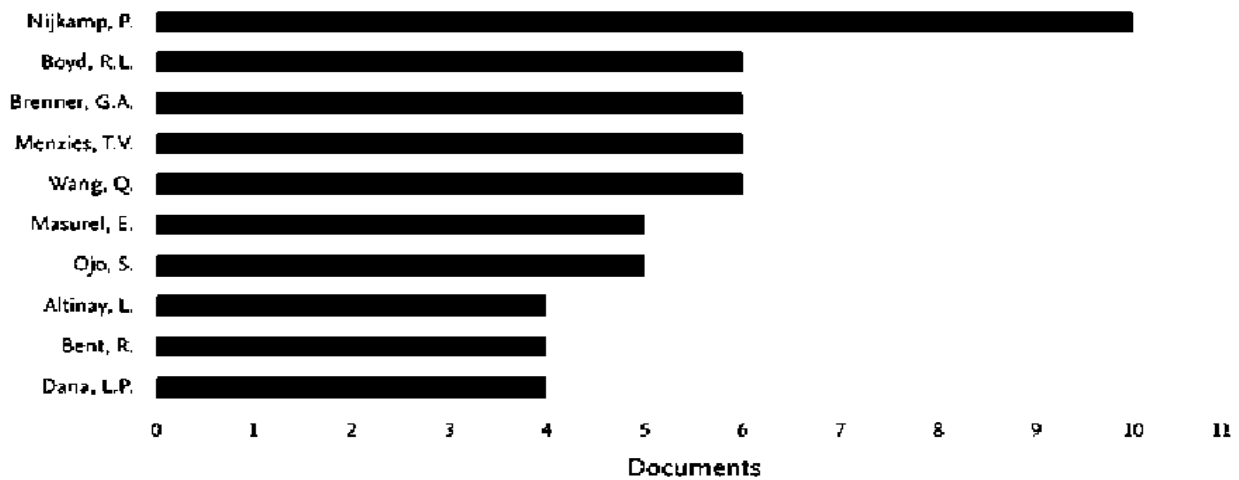


Figure 4. Authors of Ethnic Entrepreneurship Study

D. Documents by College Affiliation Ethnic entrepreneurship studies

The ten most productive publication affiliations in ethnic entrepreneurship studies are Vrije Universiteit Amsterdam with 12 documents, then The University of North Carolina and Universiti Malaya with 8 documents each, University Of Toronto with 7 documents, Mississippi State University, Oxford Brookes University, Auckland University and Toronto Metropolitan University have the same number of publications with 6 documents, finally HEC Montreal and Radboud Universiteit with 5 documents.

E. Most Cited Documents

Table 2: Most Cited Documents

Title	Author	Publisher	Number of Citations
Who are ethnic entrepreneurs? A study of entrepreneurs' ethnic involvement and business characteristics	Chaganti, Radha & Greene, Patricia G. (2002)	Journal of Small Business Management	217
Diaspora entrepreneurs as institutional change agents: The case of Thamel.com	Riddle, Liesl & Brinkerhoff, Jennifer (2011)	International Business Review	141
Motivations and performance conditions for ethnic entrepreneurship	Masurel, Enno, Nijkamp, Peter, Tastan, Murat Vindigni, & Gabriella (2002)	Growth and Change	140
Entrepreneurial values and the ethnic enterprise: An examination of six subcultures	Morris, Michael & Schindehutte, Minet (2005)	Journal of Small Business Management	131
Policies to support ethnic minority enterprise: The English experience	Ram, Monder & Smallbone, David (2003)	Entrepreneurship and Regional Development	119
National culture, networks and ethnic entrepreneurship: A comparison of the Indian and Chinese immigrants in the US	Chand, Masud & Ghorbani, Majid (2011)	International Business Review	117
Cultural diversity and entrepreneurship: Policy responses to immigrant entrepreneurs in Australia	Collins, Jock (2003)	Entrepreneurship and Regional Development	110
The emergence of small transnational enterprises in Vancouver: The case of Chinese entrepreneurs immigrants	Wong, Lloyd L. & Ng, Michele (2002)	International Journal of Urban and Regional Research	103
Breeding places for ethnic	Masurel, Enno Nijkamp,	Entrepreneursh	89

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entrepreneurs: A comparative
marketing approach

Peter Vindigni, & Gabriella
(2004)

ip and Regional
Development

E. Data Processed by Researchers

Then the researcher processed the data using VOSviewer software to provide an overview of the results of the bibliometric mapping analysis of research topic trends grouped into 7 clusters with 122 items. Topics included in cluster 1 (25 items) are entrepreneur, ethnic enclaves, ethnic entrepreneurship, ethnicity, firm ownership, gender, gender role, minority group, minority etc. Cluster 2 (21 items) consists of consumption behavior, culture, economics, ethnic businesses, ethnic entrepreneurs, ethnic identity, ethnic minorities, identity, innovation etc. Cluster 3 (19 items) consists of African immigrant, business, economic development, ethnic business, ethnic enterprise, ethnic group, family business, integration, migrants etc. Cluster 4 (18 items) consists of Asian immigrant, employment, entrepreneurship, ethnic economy, ethnic enclave, immigrant entrepreneurship, immigrant population etc. Cluster 5 (15 items) consists of business development, business performance, conceptual framework, diaspora, ethnic entrepreneur, immigrant entrepreneur, industrial performance, multinational enterprise, networks, transnational entrepreneurship etc. Cluster 6 (15 items) consists of cultural identity, eastern hemisphere, economic activity, historical perspective, social network, southeast asia, transnationalism etc. Cluster 7 (9 items) consists of entrepreneurial orientation, entrepreneurialism, entrepreneurs, ethnic groups, ethnography, turkey, Germany etc.

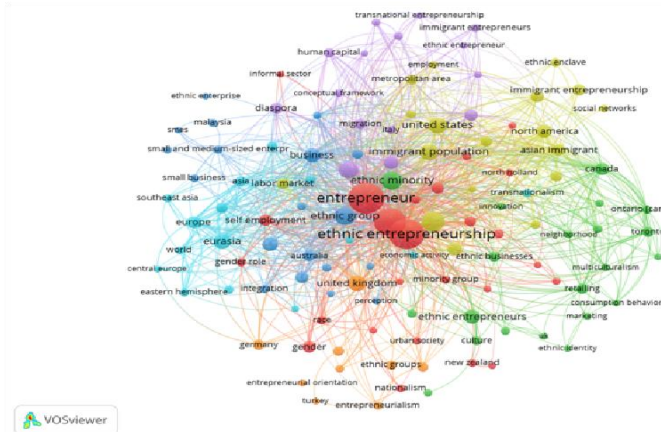


Figure 5. Network Visualization Map of Ethnic Entrepreneurship

Source: Data Processing in VOSviewer

The figure shows the mapping results regarding the publication trends of topics covered in ethnic entrepreneurship based on the year of publication. It was found that some contemporary topics were published since 2016, which are colored yellow such as ethnic enclave, immigrant entrepreneurship, entrepreneurial orientation, international migrant, social capital, ethnography, family business.

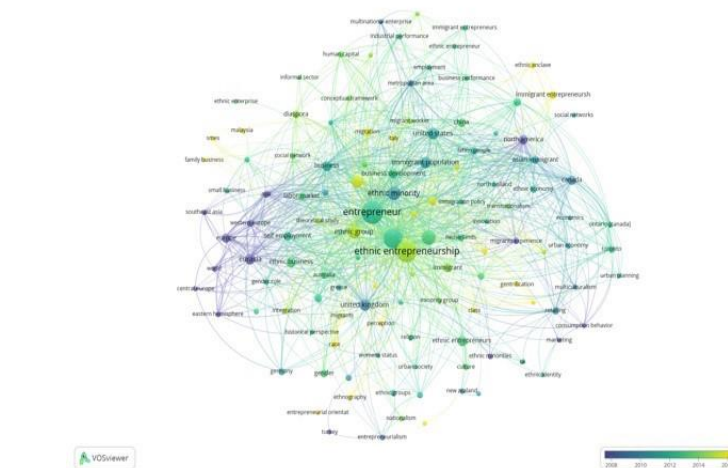


Figure 6. Overlay Visualization Map of Ethnic Entrepreneurship

Source: Data processing in VOSviewer

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Furthermore, in Figure 7 there are the results of density visualization mapping from the ethnic entrepreneurship study. It can be seen that the colors that appear are from darker ones such as blue, then green, and the lighter ones are yellow. The lighter the color that appears, the denser or more research on the topic has been done. So it can be seen that the research topics that are still little discussed include multinational enterprises, migrant workers, ethnic economy, migrant experience, multiculturalism, ethnic minorities, entrepreneurial orientation, ethnic business, business performance and historical perspective.

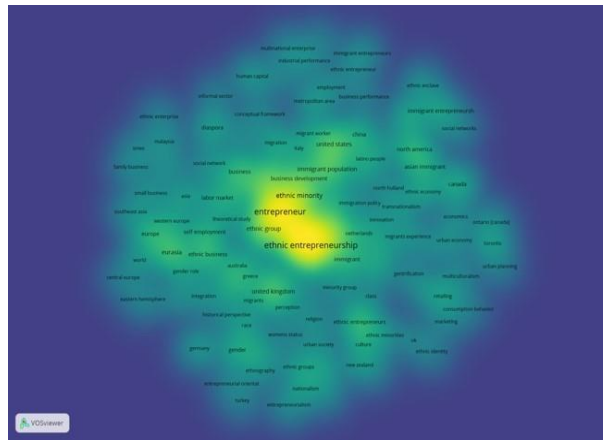


Figure 7. Density Visualization Map of Ethnic Entrepreneurship
Source: Data processing on VOSviewer

IV. CONCLUSIONS

The most commonly used definition to define ethnic entrepreneurship is the one adopted by Aldrich and Waldinger (1990): "a group of people bound to a common cultural heritage or origin who operate a business as owners or operators". Meanwhile, based on several research papers, ethnic entrepreneurship is generally defined as value-creating business activities undertaken by a group whose members share a common cultural heritage or origin and are recognized by people who do not belong to the group as possessing such attributes (Aldrich and Waldinger, 1990; Drori et al., 2009).

The research trend on Ethnic Entrepreneurship studies began in 1987. For two decades, it has been an interesting topic of discussion for researchers and academics characterized by the growth of research on this study until it reached the highest publication in 2019 with 35 documents. From a total of 433 documents analyzed from Scopus database sources, there are 254 documents or about 37% of the social science research field that examines ethnic entrepreneurship, and makes Nijkamp the author with the most publications with a total of 10 articles. The United States is the country with the most research on ethnic entrepreneurship.

Ethnic Entrepreneurship with a total of 118 articles. Then the research conducted by Chaganti, Radha & Greene, Patricia G. (2002) became the most frequently cited article with a total of 217 citations.

Based on the results of bibliometric co-occurrence analysis using VOSviewer software, the trends of ethnic entrepreneurship research topics are grouped into 7 clusters with 122 items. Topics included in cluster 1 (25 items) are entrepreneur, ethnic enclaves, ethnic entrepreneurship, ethnicity, firm ownership, gender, gender role, minority group, minority, etc. Cluster 2 (21 items) consists of consumption behavior, culture, economics, ethnic businesses, ethnic entrepreneurs, ethnic identity, ethnic minorities, identity, innovation, etc. Cluster 3 (19 items) consists of African immigrant, business, economic development, ethnic business, ethnic enterprise, ethnic group, family business, integration, migrants etc. Cluster 4 (18 items) consists of Asian immigrant, employment, entrepreneurship, ethnic economy, ethnic enclave, immigrant entrepreneurship, immigrant population etc. Cluster 5 (15 items) consists of business development, business performance, conceptual framework, diaspora, ethnic entrepreneur, immigrant entrepreneur, industrial performance, multinational enterprise, networks, transnational entrepreneurship etc. Cluster 6 (15 items) consists of cultural identity, eastern hemisphere, economic activity, historical perspective, social network, southeast asia, transnationalism etc. Cluster 7 (9 items) consists of entrepreneurial orientation, entrepreneurialism, entrepreneurs, ethnic groups, ethnography, turkey, Germany etc. Some contemporary topics published since 2016, which are colored yellow such as ethnic enclave, immigrant entrepreneurship, entrepreneurial orientation, international migrants, social capital, ethnography, family business. Based on the results of density visualization mapping, research topics that are still little discussed are those including multinational enterprises, migrant workers, ethnic economy, migrant experience, multiculturalism, ethnic minorities, entrepreneurial orientation ethnic business, business performance and historical perspective.

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Development of Website-Based Scoring Talent Identification for Athletics



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ABSTRACT: This research aims to produce a website-based talent identification scoring product for athletics, as a tool to process and analyze the talent test data for the children aged 13-15 years old in athletics. This study was a research and development (R&D) and the methods were based on the reference to the borg and gall research steps that had been simplified by the Puslitjaknov 2008 team. The research population and sample were the athletic coaching students at Athletics UKM UNY (Athletics Students Club of UNY). The research instrument was a questionnaire and an evaluation sheet in the form of a google form. The results of the data were analyzed by descriptive quantitative and qualitative analysis. The results show that the website-based athletics identification talent scoring is appropriate to be used in identifying, differentiating the potential and talent of the children aged 13-15 years old in athletics. These results are gained from: a) material expert validation of 94.23% which means "Good/Decent", b) media expert validation of 96.15% which means "Good/Decent", c) small group trial of 94.68% which means "Good/Decent" and 97.08% in the large group trial are included in the "Good/Decent" category. Hence, it can be concluded that this product is good/appropriate to use in distinguishing the potential and talent of the children aged 13-15 years old in athletics.

KEYWORDS: Scoring, talent identification, website

INTRODUCTION

A peak achievement in the world of sports cannot be achieved instantly, but must go through a long and gradual path, even in developed countries. Mansur (2011: 2) said that the lag behind national sports achievements compared to other Asian countries is one of the big problems for the nation to improve its sports achievements. Until now, sports achievements have not been optimal, because each sport and the athletes themselves have not shown optimal results. This is because there are obstacles in searching for and finding talented athletes. One effort to get talented athletes is by carrying out talent scouting efforts from an early age. Kusnanik (2014: 147) also said that one of the causes of Indonesia's lagging sports performance is due to a lack of attention to the search for talented athletes as an effort to regenerate athletes in the future. Improving sports performance is a long-term process that involves all parties and scientific disciplines that are studied scientifically. From the start until an athlete achieves achievement. These stages start from the nursery, coaching process and evaluation process to the achievements achieved by the athlete. And all of this is done by prioritizing a science and technology approach.

The development of sports achievements is the result of a combination of physical, technical, tactical and mental abilities of athletes obtained through the right coaching process. Successful achievement in sports is also determined by the level of training according to the child's age level. To achieve optimal performance, a continuous, gradual and continuous training process is needed. For this reason, it is necessary to conduct a talent search through sports search (Isfiani T, et al, 2013). Sport search is a method of identifying potential sports talent, which aims to help children determine their potential in sports according to the child's characteristics and potential (Isfiani T, et al, 2013). The uneven existence of sports search, especially at the regional level, is an inhibiting factor in the search for athletes who have good talent in the field of sports. Talent is an ability that a person has, this ability is inherent in him and can be used to do certain things faster and better. According to (KBBI) Big Indonesian Dictionary, what is meant by talent is the basis (smartness, character and disposition) that is innate from birth. Based on the definition above, it can then be said that identification of sports talent is the process of giving characteristics to the basic abilities that are inborn which can underlie sports skills. A talent scouting program needs to be carried out considering that athlete talent is the main factor in achieving achievement, so selecting young athletes is carried out selectively and optimally if the athletes being trained are

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potential athletes in accordance with the demands of the specifications of the sport in question, the time and resources used for the process. training of talented athletes more efficiently. (Kusnanik, 2014: 147).

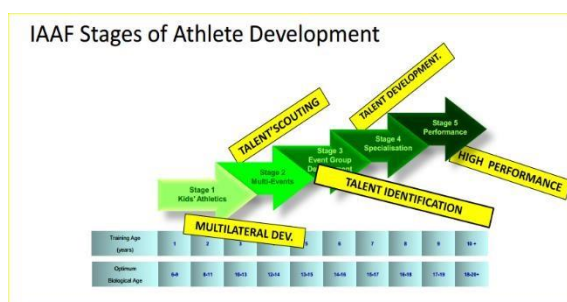
An early childhood talent identification program is needed before carrying out a training process oriented towards achieving high achievement. The talent identification process is carried out to determine children who have potential in one sport, according to their talents. In particular, nursery is a very important foundation in the process of coaching athletes to achieve achievements. If you look at the early childhood coaching process, it certainly cannot be separated from the topic of talent search. Talent search is an initial stage that must be carried out as early as possible according to the characteristics of a particular sport. Talent search is the process of selecting prospective athletes which involves the process of measuring various internal qualities of athletes which include: physical quality, anthropometry, motor quality and psychological quality (Depdiknas, 2004: 3).

Based on existing facts, a good biomotor is needed for an athlete to achieve the highest performance. Data about the athlete's physical condition in the form of biomotor components is very important for preparing training periodization. Information about the athlete's physical condition or abilities is very necessary when coaching and developing the athlete's overall physical condition is carried out. According to Mansur, et al (2020: 2) say that the physical condition of an athlete in the world of sports performance is very important and fundamental, because to get good performance the athlete must have excellent physical condition. Physical condition is a fundamental foundation that must be fulfilled first of all the stages for an athlete to achieve perfect training quality in order to achieve maximum performance when competing. Physical condition itself consists of basic biomotor components consisting of components of strength, endurance, flexibility and speed.

Knowledge about the athlete's condition is one of the main factors that must be considered in the training process in order to achieve high performance. The main aim is to increase the athlete's functional potential and develop biomotor abilities to the highest degree (Bompa & Haff, 2009). Thus, the main aim of identifying prospective athletes is to identify and select prospective athletes who have the best abilities according to the particular sport. chosen. (Bompa, 1990) stated that in western countries the identification of prospective athletes is not a new concept in the field of sports, although the activity of identifying prospective athletes has not been carried out formally. Most Eastern European countries have established specific methods for identifying potential athletes. The procedure for selecting prospective athletes is discovered and directed by sports scientists, then the scientists provide recommendations for several potential athletes in certain sports to the coaches. By using the procedure for selecting prospective athletes as mentioned above the results are truly amazing. Several athletes from the German Democratic Republic who won medals at the 1972 Olympics were selected as prospective athletes through scientific selection. Nearly 80% of the country's medal winners are the result of a process of identifying potential athletes carried out using a scientific and science and technology approach.

The Long Term Athlete Development in Athletics (LTAD.IAAF) model has been used in various countries as a long-term athletic athlete development platform. With this phasing, the division of coaching responsibilities will become clear, for example between government and private sector, amateurs and professionals and so on. With the development stages, an athlete's career path can also be prepared, from childhood to peak performance and retirement as an athlete. Competition levels can also be more clearly arranged and in accordance with the growth and development of children (athletes).

The stages of long-term athlete development in athletics are divided into 5 stages, namely:



Picture 1. IAAF Stages of Athlete Development (sumber: IAAF, 1991)

Stage I in athletics, namely Kids' Athletics, emphasizes the factor of introducing various basic movements and children becoming skilled. The competition is held in the form of a contest/festival, as a means of motivating and a place to see children's potential. At the end of Kids' Athletics, talent scouting is carried out to see children's potential for sports. At this stage it is possible for children to have potential in several sports. Stage II, namely Multi Event, emphasizes basic athletic movements and is thoroughly trained as a basis for athletes to start athletic training. Competitions are held in the form of combined events, for example tri competitions and five competitions. The test used at this stage is talent scouting, as a means of identifying children's

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talents in athletic events. It is possible for children to change numbers in athletics, due to the influence of their growth and development. Stage III is Event Group Development, which emphasizes the development of numbers that are potential athletes. The competitions that athletes take part in are numbers according to their potential, for example athletes take part in the 100m & 200m sprint races, or athletes take part in the long jump and triple jump. The test used is talent identification, as a means of seeing the athlete's potential talent. Stage III of the Event Group Development emphasizes the development of numbers that are the athlete's potential for the child's Specialization stage. In this stage there is a talent identification instrument to identify and select prospective athletes who have the best abilities according to the chosen sport.

Currently, technological developments are increasingly helping people to achieve maximum results in the field of sports. Wilson, (2010: 34) states that the development and use of technology in the field of sports is very important, this is intended to analyze athlete performance and carry out plans to improve the athlete's performance. However, the talent identification test is still carried out manually in terms of its application, so its use is still not optimal and requires a long process and time to find out the results. Based on the reality in the field, support for talent identification tests in athletics is still done manually, therefore, to support and facilitate the implementation of talent identification tests, there needs to be development that can help the committee when carrying out the tests. The importance of the talent identification scoring application for organizers is to simplify and speed up the process of recording final test results. For coaches it is also no less important, because coaches can monitor athletes and create strategies to achieve the best performance for their athletes.

The symptoms found in the field, based on the researcher's observations when he was on the talent identification test committee for athletics on the FIK football field at Yogyakarta State University in April 2019, were that the process of processing the results of the talent identification test while it was taking place was felt to be less effective. There are many test result processing tools available in the field encountered is using Microsoft Excel. The test results are distributed to the coordinator for processing using Microsoft Excel. Researchers feel that the management of talent identification test results for athletics needs to be innovated, especially in the processing of talent identification test results for athletics. Considering that technological developments are increasingly advanced, improving the quality of sports in the field of science and technology can be realized.

Based on this background, researchers had the idea to develop talent identification scoring media for athletics to analyze data and statistics on athletes' biomotor components. Having data on athletes' biomotor components as a whole can be a basis for coaches to identify talent, recommend numbers to be pursued according to the child's biomotor abilities and design training programs to improve the performance of each individual athlete so that they can achieve maximum performance.

RESEARCH METHODS

This research is research and development Research and Development (R&D) developed by Sugiyono. According to Sugiyono (2016: 333) the research and development method is a research method used to produce a particular product, and test the effectiveness of the product. To produce certain products, research is used in the form of needs analysis and to test the effectiveness of the product so that it can function in the wider community, so research is needed to test the effectiveness of the product.

Data Collection Instrument

A research instrument is a tool used to measure observed natural and social phenomena. (Sugiyono 2016: 118). In this research, the instrument used was a questionnaire in the form of a Google form. According to Sugiyono (2015: 142), a questionnaire is a data collection technique by giving written questions to respondents to answer. Data collected in media development is in the form of quantitative and qualitative data. Qualitative data obtained from assessing the quality of media products can be used for product quality development purposes. Meanwhile, quantitative data is obtained from scores obtained from questionnaires filled out by material experts, media experts and respondents.

The quantitative data obtained in this research is data in the form of numbers from the results of the questionnaire. Later, the questionnaire in this research will be given to material experts, media experts, and athletic training students who have taken talent identification courses at the Student Activities Unit (UNY Athletics UKM). Quantitative data obtained through questionnaires were analyzed using quantitative descriptive analysis techniques expressed in the distribution of scores and percentages of the specified assessment scale categories. Each question is given a weightage of 1,2,3, and 4.

Data analysis technique

Data analysis techniques are a step to find out the results of the research carried out. Data analysis includes all activities of clarifying, analyzing, using and drawing conclusions from all data collected in action. After the data is collected, the data will be processed. The data analysis technique used in this research is a quantitative analysis technique which is an assessment using

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numbers and qualitative analysis. Percentages are intended to determine the status of something that is presented as a percentage and is still presented in the form of a percentage.

The results of the data calculations are then made in percentage form by multiplying by 100%. After obtaining the percentage using this formula, the feasibility of the talent identification scoring application media in this development research is classified into four feasibility categories using the following scale:

No	Score (%)	Category
1	< 40%	Not Good/Not Eligible
2	40% - 55%	Not Good/Not Appropriate
3	56% - 75%	Fairly Good/Decent
4	76% - 100%	Good/Decent

Source: Suharsimi Arikunto (2004: 10)

The questionnaire used in this research is an assessment or response questionnaire with the form of answers and assessment information 1: Very unsuitable/very inappropriate, 2: Not suitable/not feasible, 3: Suitable/feasible, 4: Very suitable/very appropriate.

DEVELOPMENT RESULTS AND DISCUSSION

Development Results

The product developed is a media website scoring talent identification for athletic sports. This development is intended for the selection committee or team to identify talent in athletics. This website-based talent identification scoring media product for athletics was developed to help the talent identification selection committee or team in processing test result data.

The product "media website scoring talent identification for athletics" which is being developed is a data processing media for talent identification test results for athletics in the form of a website, where the data processing media can simplify and speed up the processing of the final results of the talent identification test.

Research result

Material Expert Validation

The material in the talent identification scoring media developed in this research was validated by material expert Prof. Dr. Ria Lumintuarso M.Sc. lecturer in charge of the Athletic Coaching course, Sports Coaching Education Department, Faculty of Sports Science, Yogyakarta State University. Data from material validation was obtained through a questionnaire that covered material content. Before filling out the questionnaire provided by the researcher, the material expert first studied the development of website-based talent identification scoring for athletics accompanied by the researcher. In the validation process, material experts ask directly about the media to be developed. In the Material Validation stage for the development of "Scoring Talent Identification for Website-Based Athletic Sports Branches" Based on the data obtained in the stage I material expert assessment regarding the quality of the product being developed is "Good / Decent" with a percentage obtained of 86.53% and the stage II material expert's assessment regarding the quality of the product being developed is "Good / Decent" with a percentage of obtained by 94.23%.

Media Expert Validation

The media expert in this development research is Faidillah Kurniawan, M.Or who is one of the teaching lecturers at the Department of Coaching Education, Faculty of Sports Science, Yogyakarta State University. Researchers chose him as a media expert because of his adequate competence in the media field. Data from media expert validation was obtained in two stages. The first stage was carried out to identify weaknesses and recommend improvements by media experts. The second stage was carried out after there was a revision based on the validation of the first stage. In this validation, media experts fill out a questionnaire provided by the researcher. The questionnaire covers the media content that is developed. In the Media Validation stage of development of "Scoring Talent Identification for Website-Based Athletic Sports Branches" Based on the data obtained in the phase I media expert's assessment regarding the quality of the product being developed, it is "Quite Decent" with a percentage obtained of 73.07% and the phase II media expert's assessment regarding the quality of the product being developed is "Good / Decent" with a percentage obtained of 96.15%.

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Product Trial

After carrying out expert validation and making several improvements from material experts and media experts, the talent identification scoring for athletics is suitable for testing. Here the researchers took samples from small group trials with 10 respondents and large group trials with 30 respondents from the background of athletic training students at the Faculty of Sports Science, Yogyakarta State University who had taken talent identification courses at the Athletics UKM, Yogyakarta State University. Data collection was carried out by providing developed products and questionnaires (Google Form) to research subjects online due to the situation in the Covid19 emergency PPKM situation. In the trial stage of development of "Website Based Scoring Talent Identification for Athletic Sports Branches" Based on the results of small group and large group trials, data is produced that shows a good/feasible trial. These results refer to predetermined assessment guidelines. The feasibility category used in this research is divided into several parts, namely, a value < 40% is categorized as not good/not feasible, 41 - 55% is categorized as not good/not feasible, 56 - 75% is categorized as quite good/quite feasible, and 76 - 100 % categorized as feasible.

Discussion

This research uses the research and development (R&D) method, which is a research method used to produce certain products and test the effectiveness of these products by referring to the borg and gall research steps which have been simplified by the Puskas team, namely analysis of the media used, product development, validation expert, revision, small group trial, revision of small group trial, large group trial, and product development results. The product produced in the research is a website-based scoring talent identification media for athletic sports. Development of Website-Based Talent Identification Scoring Talent Identification Media, designed and produced as an analytical based that makes it easier for coaches, test committees, and athlete development centers from regional to central level to identify and scout talent aged 13-15 years, especially in athletics according to developments. today's sports world. The reason the researcher developed this product came from the process of observations in the field and also personal experience. Researchers observed during the talent identification test process for athletics on the FIK football field at Yogyakarta State University in April 2019, namely that the process of processing the results of the talent identification test while it was taking place was felt to be less effective because the data processing of the test results was still manual using Microsoft Excel. Therefore, researchers want to develop a Website-Based Media Scoring Talent Identification for Athletic Sports Branches. In this millennial era, technological advances are increasingly sophisticated and everything has become very practical. With this development, the process of identifying the talents of children aged 13-15 years in athletics is more effective. The convenience of the website includes that we can access it anywhere and anytime with any device as long as it has an internet network connection.

After the product is finished, the product is validated by material experts and media experts. Material validation resulted in an average Material Aspect assessment of 94.23% by category **Good / Decent**, as well as the results of the Media Aspect assessment from media experts of 96.15% which is grouped into the **Good / Decent** category. There were several inputs and suggestions obtained during this process, such as adding ratings to the test results, increasing the amount of data, changing the word potential to talented, adding instructions for using media and increasing the level of contrast in the initial display.

The next stage is the trial stage which is carried out twice, namely the small group trial stage and the large group trial stage. In the small group trial, the assessment of the material suitability aspect was scored 95%, the assessment of the media appearance aspect was with a score of 93.5%, while the assessment of the programming aspect received a score of 95.5%. The total assessment at the small group trial stage received a score of 94.68%. Based on the results of the assessment, the score was converted based on the trial score conversion so that it can be concluded that the results of the assessment of the Material Suitability Aspect, appearance aspect and programming aspect are said to be Good/Decent. In the large group trial, the assessment of the material suitability aspect was with a score of 97.08%, the assessment of the media appearance aspect was with a score of 96.83%, while the assessment of the programming aspect received a score of 97.33%. The total assessment at the small group trial stage received a score of 97.08%. Based on the results of the assessment, the score was converted based on the trial score conversion so that it can be concluded that the results of the assessment of the Material Suitability Aspect, appearance aspect and programming aspect are said to be Good/Decent.

The subjects of this research were athletic coaching students who had taken a talent identification course. Small group trials were carried out on 10 respondents, large group trials with 30 respondents at the Student Activity Unit (UKM) Athletics at Yogyakarta State University. The instruments used were questionnaires and evaluation sheets in the form of Google forms. The data obtained are quantitative and qualitative descriptive. Quantitative data is obtained from questionnaire results in the form of numbers. Qualitative data is analyzed using a rating scale so that it can show the level of product suitability.

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CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The product resulting from this research is website-based talent identification scoring for athletics based on the results of biomotor and anthropometric tests for children aged 13-15 years, especially in athletics, which was developed in accordance with the current needs of the sports world and with input and suggestions from experts. Material and media experts, the product that has been developed has gone through several stages of manufacture including the stages of the material collection process, product creation process, material expert validation process, media expert validation process, small scale trials and large scale trials.

The development of website-based talent identification scoring for athletics was developed using a research and development (R&D) approach. Overall, this scoring media is said to be suitable for use in the process of identifying talent in athletics after going through several stages of expert validation and 2 stages of testing. The level of validation feasibility of material experts is included in the "Good/Decent" category and media experts are included in the "Good/Decent" category. The small group trial of 10 people is included in the "Good/Decent" category and the large group of 30 people is included in the "Good/Decent" category.

Overall, this development makes it easier for committees and coaches to identify and differentiate the potential and talents of children aged 13-15 years, so that it can be effectively used by coaches and test committees in the process of identifying sports talent to move towards specialization, especially in athletics.

Suggestion

Based on the conclusions and implications above as well as the results of research that has been carried out, stating that this development research is appropriate and validated by material experts and media experts, there are several suggestions as follows:

1. For the committee to use it as a guiding medium in carrying out talent identification tests for athletics.
2. For trainers to use it as a medium to analyze the results of anthropometric and biomotor tests for children aged 13-15 years so that they can be trained at the right specialization stage to reach peak performance.
3. Sports coaching students are expected to be able to make more comprehensive developments in line with the current needs of the sports world.

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Competitiveness Analysis of Indonesian Coffee Exports to The European Union Market



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ABSTRACT: Indonesia will be the fourth largest coffee-producing country in the world by 2020, after Brazil, Vietnam, and Colombia. Coffee is one of the plantation commodities that is starting to be in great demand by the people of Indonesia. There are many types of coffee in the world that have the best quality and quality. This makes certain types of coffee so popular and sought after by many coffee lovers worldwide. The purpose of this study is to determine the competitiveness of coffee exports in the European Union market. The data used in this study are secondary data processed and sourced from the trade map. The data analysis method used is Revealed Comparative Advantage (RCA) to analyze a country's competitiveness and Comparative Export Performance (CEP) to evaluate a country's export specialization in certain products. Based on the results of the analysis, Indonesia is still ranked fourth with an RCA value of 6.89, this is due to the low quality of coffee in Indonesia. It can be seen that Colombia has an RCA value of 57.02 in the EU market followed by Brazil whose value is 25.78, slightly different from Vietnam's RCA value of 25.54.

KEYWORDS: CEP; Competitiveness; Coffee; Export; RCA

INTRODUCTION

The plantation sector has an important role in economic growth in Indonesia, including providing employment, improving people's welfare, and a source of national development. According to the Central Bureau of Statistics (2021) this sector contributes greatly to the value of national exports, which is 50% consisting of rubber, coffee, cocoa, tea, and palm oil commodities. Indonesian coffee is one of Indonesia's leading products in international trade. Coffee exports are an opportunity for Indonesia to develop its economy and gain profits. Indonesia is one of the world's largest exporters, Indonesia's coffee planting areas are spread across several islands such as Sumatra, Java, Bali, Flores and Papua (Sinta et al., 2017). The archipelago's coffee variants are in great demand in the European and East Asian markets because in addition to having a distinctive taste, Indonesian exported coffee has also been tested for quality standards and can be accepted in all countries in the world because it has been certified by the International Coffee Organization (ICO) as a quality coffee product (Syofya, 2023); (Lestari Baso & Anindita, 2018).

Coffee is one of the plantation commodities that are starting to be in great demand by the Indonesian people. There are many types of coffee in the world that have the best quality and quality. This is what makes certain types of coffee so popular and sought after by many coffee lovers around the world. Arabica and Robusta coffee types are some of the most popular types of coffee. Arabica coffee has flavors ranging from sweet, mellow, to strong and sharp flavors. While robusta coffee has a variety of neutral to sharp flavors and is often considered to have a wheat-like taste (Ardila et al., 2019).

Indonesia is the fourth largest coffee producing country in the world in 2020 (FAOSTAT, 2016). When viewed from BPS data in 2021 and data from the Director General of Plantations of the Ministry of Agriculture in 2021, Indonesia has exported dry/primary beans by 98.01%. The development of the value of coffee exports in the last six years tends to fluctuate, ranging from 31% to 18%, making Indonesia ranked 4th in the world of coffee bean producers after Brazil, Vietnam and Colombia. In 2020, Indonesia's coffee plantation area amounted to 1.25 million ha, dominated by smallholder plantations with an average contribution of 98.14% while large plantations amounted to 1.86%. Estimated coffee production in 2022 is 793 thousand tons and productivity is 832 kg / ha Director General of Plantations (2023)

According to (International Coffee Organization n.d. 2022) noted that the level of coffee consumption in the European Union is very high but they cannot produce coffee in their own country, so the European Union is the largest coffee importer in the world and absorbs almost half of world coffee production. Therefore, changing market dynamics, evolving consumer trends,

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and changing international trade policies create unique challenges and opportunities for coffee exporters. Therefore, an analysis of the competitiveness of Indonesian coffee exports in the EU market is becoming increasingly relevant in the context of economic globalization.

Some of the factors affecting Indonesian coffee exports in the EU market include coffee quality, price, environmental interest, and the EU market's high standards for coffee quality and safety (Sudjarmoko et al., 2022); (Bedy Sudjarmoko, 2021). In addition, internal and external efforts can also affect the competitiveness of Indonesian coffee exports in the EU market. Internal efforts such as improving coffee quality and quantity, coffee specialization, strengthening human resources, and supporting manufacturing policies (Rachmaningtyas et al., 2021b); (Manalu et al., 2022). Meanwhile, external efforts such as bilateral cooperation with the EU and other countries, and the implementation of coffee quality specifications (Bedy Sudjarmoko, 2021).

In analyzing the competitiveness of Indonesian coffee exports in the EU market, the Revealed Comparative Advantage (RCA) and Comparative Export Performance (CEP) methods can be used (Rachmaningtyas et al., 2021); (Syofya, 2023). RCA and CEP are used to measure a country's competitive advantage in exposing a particular product. Several previous studies have been conducted related to the analysis of the competitiveness of Indonesian coffee exports in the European Union market. One of them is research by Purnamasari, Hanani, and Huang (2014) which analyzes the competitiveness of Indonesian coffee exports in the world market (Rachmaningtyas et al., 2021). This study shows that the CEP of Indonesian coffee has an average of 1.7 which is the lowest, because there is no specialization of coffee exported from Indonesia to the international market. Recommendations that can be given are efforts to improve the quality and quantity of coffee, including coffee specialties, strengthening human resources, and supporting manufacturing policies.

This study aims to determine the competitiveness of Indonesian coffee exports in the European Union. With quantitative analysis, this study is expected to provide in-depth insights into the strategies needed to maintain and improve Indonesia's market position in the global coffee industry.

METHODS

The data used in this study are export data from four major coffee exporting countries such as Brazil, Colombia, Vietnam and Indonesia from 2003 to 2022. This data is obtained from Trade Map.

The calculation method used to calculate this competitiveness analysis is using two indicators (1) Revealed Comparative Advantage (RCA) Index, and (2) Comparative Export Performance (CEP) Index.

Some previous researchers mentioned several methods in calculating the strengths and weaknesses of a country. If a country can produce at a lower cost than other countries, then it sells at a lower price, so it can be said that it has a comparative advantage. On the other hand, comparative advantage describes the tendency of a country to export its superior commodity relative to other countries. The method often used is the concept of Revealed Comparative Advantage (RCA) by Balassa (1965). Some previous researchers used the Balssa index to calculate the superior sector of a country. This index is used to calculate specialization in an industry using international trade data. RCA can be calculated using the following formula:

$$RCA = \frac{(X_{ij} / Y_{ij})}{(X_{rj} / Y_{rj})}$$

Where:

X_{ij} : Export value of coffee commodity (i) from Indonesia to EU (j)

Y_{in} : Total export value of coffee (i) from all over the world to EU (j)

X_{rj} : Total export value (r) from Indonesia to EU (j)

Y_{rj} : Total export value (r) from the rest of the world to Europe (j)

When a country has $RCA > 1$, it has a cooperative advantage and specializes in that commodity. When $RCA < 1$, the country does not have a competitive advantage. The higher the RCA index value, the better the country's domestic trade performance, and vice versa.

In the second calculation, we calculate using Comparative Export Performance (CEP). This calculation is used to evaluate a country's export specialization in certain products. If a country has a CEP value > 1 then the country has a relative advantage in its exports. To calculate, the following formula is used:

$$CEP = \frac{(X_{iB} / X_B)}{(X_{rW} / X_W)}$$

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Where:

X_iB : Export of country B for product i

XB : Total exports of country B

X_iW : Total world exports for product i

XW : Total world exports

RESULTS AND DISCUSSION

Indonesia's coffee exports compared to three countries, namely Brazil, Colombia, and Vietnam in the 2003-2022 period presented in Figure 1 show that Indonesia has a stable average RCA value during the 2003-2022 period of 6.89. Brazil has an average RCA value of 25.79 during 2003-2022. Colombia is the country that has the highest average value of 57.02 during the 2003-2022 period. Vietnam has an average RCA value of 25.55 during the 2003-2022 period.

This illustrates that although Indonesia is one of the main coffee exporters, it still has a comparative advantage under the main competitor countries of world coffee exports. This is due to several reasons, including the low quality of Indonesian coffee exports, 90% of which is green coffee. In addition, according to most Indonesian coffee farmers are smallholders with limited skills, which makes most Indonesian coffee farmers harvest coffee while it is still green. In addition, coffee does not reach the recommended moisture content (12.5%) so that a lot of coffee is moldy and broken due to the use of poor peeling tools. This will certainly reduce the selling value received by Indonesia. Although Indonesia still has a low comparative advantage, Indonesia has a competitive price.

As said by (Tanjung et al., 2020) Indonesian coffee is generally cheaper than other countries' coffee, making it more attractive to price-sensitive European consumers. To increase the competitive advantage of Indonesian coffee in the European market through improving cultivation techniques, providing capital, and providing supporting infrastructure for the Indonesian coffee industry so that it can produce quality coffee and be able to compete with coffee producing countries in the world. This attention can be in the form of policies on the ease of coffee production facilities and infrastructure, procurement of fertilizers and medicines, procurement of superior seeds and in the form of more intensive agricultural counseling, especially in coffee production centers (Rachmaningtyas et al., 2021).

Coffee consumers in the European market tend to be more price sensitive for several reasons. First, the European market is known to have high standards for coffee quality and safety, so consumers tend to be more selective in choosing coffee products that meet their standards (Haidar, 2016). In addition, economic factors such as slow economic growth and intense competition in the European market may also make consumers more price sensitive. In addition, the price difference between different coffee products can also affect consumers' purchase intention. With high standards, consumers in the European market tend to pay attention to product quality, brand image, and brand attitude, but price remains an important factor in purchasing decisions. Therefore, coffee producers need to pay attention not only to product quality, but also to pricing strategies that suit consumer preferences in the European market.

According to (Ferguson, 2017) the country of Colombia is also experiencing changes in coffee prices at the global level, which has an export value and has decreased due to the weak competitiveness of coffee commodities. The decline in coffee prices in Colombia was caused by an outbreak of coffee leaf rust in 2008-2011. The impact of the outbreak of coffee leaf rust caused coffee prices to decline dramatically and as many as 100,000 Colombians lost their jobs as coffee farmers (Council and Session 2003). Oversupply of coffee in the world, the global economic crisis, declining demand for coffee in several major consumer countries such as the United States and Europe, world wars that disrupted the security of coffee production and exports and uncertain climate change were important factors in the decline in the value of coffee exports in Colombia.

This is in line with research conducted by Doni Sahat Tua Manalu, Harianto, Suharno (2022) entitled Competitiveness Analysis and Factors Affecting Market Share of Major Coffee Exporting Countries in Major Coffee Importing Countries. He explained that Colombia also experienced a decline in the value of coffee exports. This is due to competition in global trade which is indicated by fluctuations in the export value of each country which is different and results in comparative and competitive advantages.

The results of this study also have similarities with research conducted by Sabrina Tasya & Suhaeni (2022) entitled Comparative Competitiveness Analysis of Indonesian Coffee Commodities in the International Market. He gave a statement that the high or low value of RCA in a country for a particular commodity is caused by the transaction value of a commodity's exports as well as the total exports of all commodities of a particular country. Thus, the export value of the commodity will be influenced by the price of the commodity in the international market. In the international market, the price has the power to measure the purchasing power of the world population as consumers of a product.

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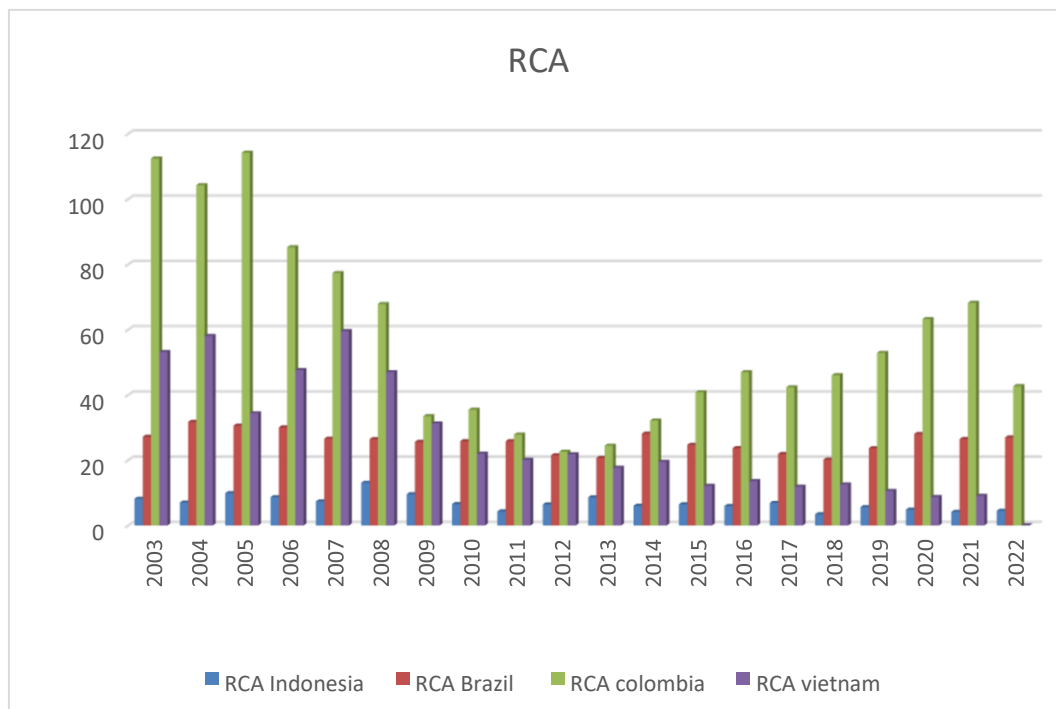


Figure 1. RCA calculation results from Indonesia, Brazil, Colombia, and Vietnam.
 Source: (Trademap 2022), processed (2023)

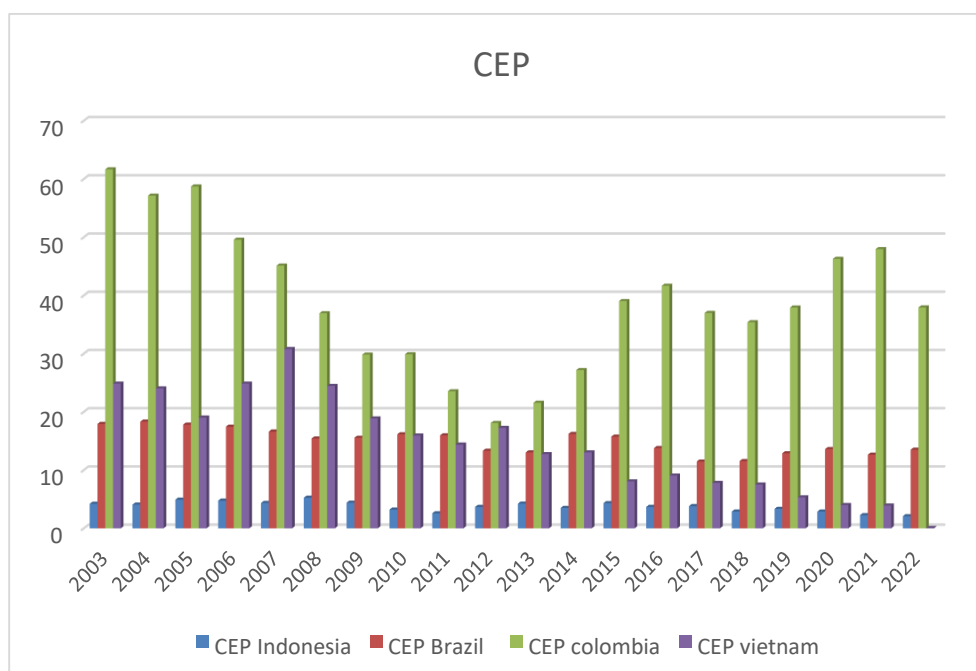


Figure 2. CEP calculation results from Indonesia, Brazil, Colombia, and Vietnam
 Source: (Trademap 2022), processed (2023)

Based on the calculation of Comparative Export Performance (CEP) which if a country has a CEP value > 1 then the country has a relative advantage in its exports. In the 2003-2022 time period Indonesia has an average CEP value of 3.71. Brazil has an average value of 14.94 in the period 2003 to 2022. Colombia is the country with the highest CEP value of 39.11 for the period 2003 to 2022. Vietnam has an average CEP value of 14.29 in the 2003 to 2022 time period. Colombia's superior CEP and RCA values are due to productivity, infrastructure, competitiveness, and production. Colombia's coffee competitiveness is much better than Indonesia's so that Colombian coffee has a higher competitiveness than Indonesian coffee, even though Indonesia has RCA and CEP values that are always positive, Indonesia still cannot compete with Colombia which has a greater RCA and CEP value (Zuhdi and Yusuf 2021).

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To increase the comparative value of coffee in the European market, improvements in coffee cultivation techniques can be made in several aspects, such as coffee varieties, processing, and sustainability. Here are some strategies that can be explored: (1) Coffee varieties: Indonesia has various excellent coffee varieties, such as Arabica, Robusta, and Catimor (Mayrowani, 2013). By developing and managing appropriate coffee varieties, Indonesian coffee products can meet the increasing demand of the international market; (2) Coffee processing: Coffee processing affects the quality and flavor of the coffee produced. Coffee processing can generally be divided into two, namely wet processing and dry processing. Indonesia has developed coffee processing technologies used, such as coffee bean warehousing and coffee bean inclusion (Anggraini et al., 2020); (3) Sustainability: Sustainable coffee farming is one way to increase productivity and improve farmers' welfare. In this practice, farmers combine coffee farms with other crops, such as trees, to produce high-quality coffee products and maintain environmental welfare; (4) Technological innovation: Technological innovations in coffee farming, such as the development of innovation-based coffee plantations, can help increase crop productivity and reduce adverse impacts on the environment (Hafif et al., 2013); (5) Human resource development: Developing farmers' skills and awareness on coffee cultural management is essential to improve their competitiveness and understanding of financial record keeping (Andani et al., 2016); (6) Training and education: Training and education on coffee cultivation techniques, especially technical and financial aspects, can help farmers improve the quality of their coffee products and generate higher income (Andani et al., 2016); (7) Supply chain development: Establishing a good supply chain, from farmers to wholesalers, can help maintain the quality of coffee products and improve competitiveness in the international market. By developing and managing coffee cultivation techniques in various aspects, Indonesia can increase the comparative value of coffee in the international market and maintain the position of the world's leading coffee exporter (Mayrowani, 2013).

In the research (Suyanti Kasimin, Bagio Bagio, 2021), it is mentioned that increasing the competitiveness of arabica coffee can be achieved through increasing added value and cooperation between stakeholders in the development of organic arabica coffee agribusiness in Aceh. Analysis of comparative advantages and advantages Competitiveness is also an important factor in improving coffee competitiveness in the international market. In addition, (Prasetia, 2012) research also shows that international trade, market distribution, and competitiveness have an influence on the growth of Indonesia's coffee export value. From the results of these studies, it can be concluded that the provision of coffee farming infrastructure, increasing added value, cooperation between stakeholders, as well as international trade factors, market distribution, and competitiveness are important factors in increasing the competitive value of coffee in the international market. Thus, coffee farming infrastructure development, value-added improvement, and cooperation between stakeholders can be effective strategies in improving coffee competitiveness in the international market.

Providing capital to coffee farmers can increase their competitive value in the international market through various strategies. In West Java, improving the quality of coffee farmers through community service activities has proven effective in strengthening the coffee farming community network, which in turn will increase the added value of coffee farmers (Sekarningrum et al., 2022). In addition, the target costing approach can be used to improve the efficiency of ground coffee production, so that companies can compete in the market with competitive prices. On the other hand, to increase Indonesian coffee exports to the EU market, it is necessary to increase productivity, farming efficiency, product quality, and farmer resilience, as well as cooperation between stakeholders in coffee agribusiness development (Suyanti Kasimin, Bagio Bagio, 2021). In addition, increasing capital, labor, technology, and land area also positively affect the production and income of coffee farmers in Kintamani, Bangli Regency (Bagus Gde Yogi Jenana Putra & Ketut Sudibia, 2023). Thus, strategies involving quality improvement, production efficiency, stakeholder cooperation, and capital improvement can help coffee farmers increase their competitive value in the international market.

CONCLUSIONS

In general, Indonesia's coffee production is among the four largest in the world, but it does not yet have a competitive advantage when compared to the other three countries. The main cause of the low export value received by Indonesia is inseparable from the low quality of the coffee itself. This can be caused by most of the coffee that Indonesia exports in the form of unprocessed raw materials and post-harvest handling that tends to be less precise and still uses traditional tools. In addition, on the production side, although Indonesia's coffee area is the largest after Brazil, its production is still lower than Colombia and Vietnam.

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The Nexus between Institutional Environment and Academic Performance of Public Secondary Schools in Nyamira County, Kenya



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ABSTRACT: The institutional environment, including staff competence, resource use, and school culture, significantly contributes to student failure, as these factors are major macro-environmental factors. The institutional environment can therefore play a positive role in students' academic performance and improvement. This study examined the complex relationship between core competencies, institutional culture, resource utilization, and academic performance in the field of education. The independent variables consisted of core competencies such as teacher experience, in-service training, and teaching methods; institutional culture, which included rules and regulations, mission and vision, and school routines; and resource utilization, which encompassed instructional materials, infrastructure, and compensation. The dependent variable was academic performance, assessed through student academic scores, transition rates, and completion rates. A qualitative approach was utilized, employing desktop analysis of secondary data. The results revealed significant correlations between core competencies, institutional culture, resource utilization, and academic performance. Educators with extensive experience and relevant training, operating within a supportive institutional culture characterized by clear rules and regulations and a compelling mission and vision, were associated with improved student academic scores, higher transition rates, and increased completion rates. Furthermore, proper allocation of resources, including high-quality instructional materials, robust infrastructure, and competitive compensation for educators, positively influenced academic performance outcomes. These findings emphasize the importance of investing in teacher development, cultivating a positive institutional culture, and optimizing resource allocation to enhance academic performance and promote student success. The study recommends targeted interventions to improve core competencies among educators, foster a supportive institutional environment, and prioritize resource allocation to support effective teaching and learning practices. By implementing these recommendations, educational institutions can create an environment conducive to academic excellence and enhance positive student outcomes.

KEYWORDS: Institutional Environment, Core Competencies, Institutional Culture, Resource Utilization, Academic Performance.

1.0 INTRODUCTION AND CONCEPTUALIZATION

Academic performance is a global goal of educational systems, measured by standardized exams and grade attainment (Yoo et al., 2022). Understanding predictors can inform educational setups and interventions. However, the institutional environment, including staff competence, resource use, and school culture, significantly contributes to student failure, as these factors are major macro-environmental factors. The institutional environment can therefore play a positive role in students' academic performance and improvement (Wenglinisky, 2001). The environment can affect students' learning, grooming, emotional and ethical development. The school environment engages students in positive activities, which are helpful for students. With the support of the school environment, students become supportive, caring, responsible, honest, and well-mannered, and they avoid using foul language and violence and solving behavioral problems (Monteiro et al., 2021). However, the lack of resources in developing countries makes it difficult for them to provide schools with the equipment and training needed to meet the needs of their pupils. As a result, when the government fails to construct schools, parents and neighborhood associations frequently fill the gap. These institutions usually lack adequate personnel and material resources (OECD, 2017).

Numerous studies have demonstrated how important teacher competency is to students' academic achievement. They note that twenty-first-century changes have completely remade the school system and increased demands on teachers' competency. Therefore, the main focus of investigations is on how well teachers are able to provide quality education in the face of swift

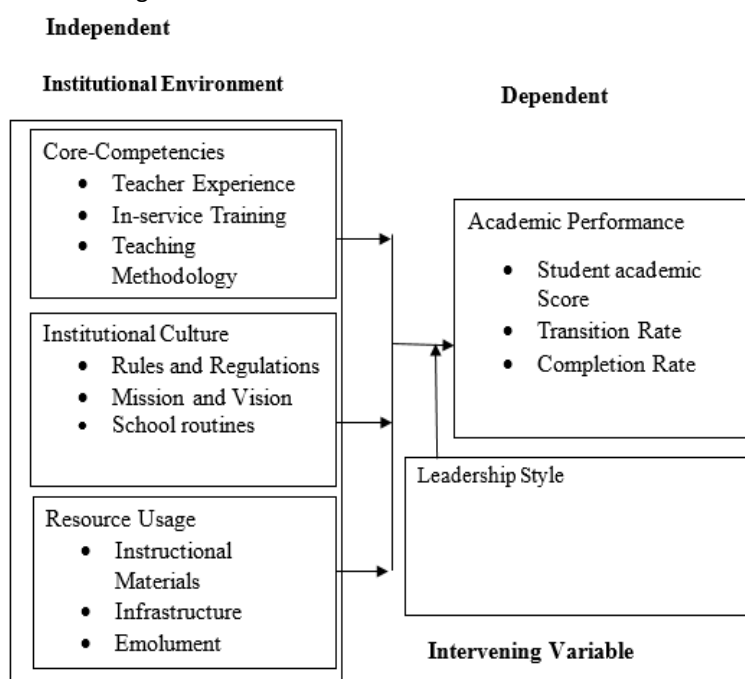
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changes. In the United States of America, Shernoff et al. (2017) studied the role of teacher competencies in the implementation of integrated approaches to STEM education. In Taiwan, Fan (2022) examined the link between teacher competencies and academic performance. In Europe, Costes-Onishi and Kwak (2023) examined how teacher competencies and strength contribute to inquiry-based learning. Despite the fact that teachers must conduct formal instruction in classrooms, most teaching occurs outside of these spaces as a result of interactions between students and their surroundings (Arievitch, 2020).

To ensure alignment with the school's goals, educational institutions establish a culture. By doing this, schools associate themselves with specific guidelines, policies, goals, and visions, or they admit students based on predetermined standards. Studies on the institutional culture on academic performance are fairly distributed globally. For example, Ohlson et al. (2016) examined the school culture and student outcomes via a performance framework in Southeastern United States. Rachman et al. (2023) conducted a study on the influence of school culture, principal instructional leadership, and work motivation on the teacher performance of elementary schools in Indonesia. In Mogadishu, Mohamed (2023) conducted a study on the relationship between head teachers' school rules' implementation and student academic performance in secondary schools. In Bulowa et al. (2023), a study was conducted on school culture and academic performance in public secondary schools in Trans Nzoia County, Kenya.

Effective instruction, on the other hand, depends on the allocation of resources. These resources are commonly spent on building physical facilities, purchasing instructional materials, and dealing with emoluments (Stanley & Better, 2023). The amount allocated to education in African nations is typically less than what is considered appropriate (Ohaegbulem, 2023). As a result, parents and other stakeholders are compelled to chip in to supplement the limited appropriation-in-Aid in schools in Africa (Mmassy, 2023). Therefore, the majority of resource utilization studies are conducted in the third world. These studies include the study conducted by Adebunmi (2017) and Alao & Ukpong (2020) in Nigeria and Ndemo and Kwaba (2023) and Ongere and Ogochi (2023) in Kenya. These studies focused on instructional resources and pupil academic achievement in public secondary schools. Remarkably, this study was conducted against the backdrop of reduced school allocations by the Ministry of Education. For instance, education stakeholders in Kenya are concerned about the Sh. 18,101,294,80 total amount owed to schools for the Financial Year 2022–2023. For the 2023–2024 Fiscal Year, the government provided a meager 14% of the required amount—that is, sh3, 327.87 per child—instead of Ksh 22,244. This trend runs counter to the government's pledge to offer free primary and secondary education.

The government regulates the quality of teacher preparation, which is provided by institutions that hold accreditation from the commission on university education. In an effort to bridge the growing teacher-student divide, the government is anticipated to place graduates in classrooms (Amimo, 2016). However, since every school has its own distinct culture, it is challenging to standardize them. But a number of events, such as strikes that are frequently reported in Kenya, pose a threat to the school cultural attack. Nevertheless, it is difficult to standardize school cultures as different schools identify with unique behavior. The cultural attack is, however, threatened by a number of factors, including strikes which are commonly reported in Kenya. Thus, the study has made an effort to determine the links between selected institutional factors and academic performance. The constructs of this study can be demonstrated in the figure below.



Source: Researcher (2023)

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This conceptual framework shows the interplay between core competencies, institutional culture, resource usage, and academic performance in the educational context. Core competencies consist of teacher experience, in-service training, and teaching methodology. Institutional culture encompasses rules and regulations, mission and vision, and school routines. Resource usage includes instructional materials, infrastructure, and emolument. The dependent variable is academic performance, which is measured through student academic scores, transition rates, and completion rates. It proposed that academic performance was influenced by core competencies, institutional culture, and resource utilization. It was hypothesized that effective core competencies, a supportive institutional culture, and sufficient resource utilization would have a positive impact on academic performance indicators such as student academic scores, transition rates, and completion rates.

1.2 Objectives of the Study

The study was guided by the following three objectives:

- i. To establish the influence of core-competencies on the performance of public secondary schools in Nyamira county.
- ii. To examine the influence of institutional culture on the performance of public secondary schools in Nyamira county.
- iii. To establish the influence of resource usage on the performance of public secondary schools in Nyamira county.

2.0 EMPIRICAL REVIEW

2.1 Core-Competencies and Performance of Public Secondary Schools

Fan (2022) conducted a study in Taiwan on the importance of teachers' core competencies for implementing maker education in primary and secondary schools. In her study, Fan found that teachers' experience is generally recognized as important for core competencies. The study suggests that core competencies in maker education require teachers to work in their professional fields, gain technology knowledge and skills, and build interdisciplinary connections to facilitate project-based learning. The study employed a two-step investigative approach: a focus group discussion and a performance self-assessment survey. Descriptive statistics and analysis of variance were used in this study. While the current study examined the effects of core competence on the performance of secondary schools using mixed research methods in Nyamira County, Kenya, Fan's study focused on maker education in primary and secondary schools using qualitative methods in Taiwan.

Shernoff, Sinha, Bressler, and Ginsburg (2017) conducted a study on teacher education and professional development needs for implementing integrated approaches to STEM (science, technology, engineering, and mathematics) education in the East Coast of the USA. The findings revealed numerous challenges in implementing STEM education. The study used a qualitative, ground-up approach to gather data. However, the current study utilized mixed research methods to determine the effects of core competence on the performance of secondary education in Nyamira County, Kenya.

In another study, Johnson, Wendell, and Watkins (2017) examined the influence of teachers' experience on addressing students' demands in engineering training. The findings indicated that engineering design poses unique challenges to teachers due to unanticipated obstacles arising from an increasing number of students. The study recommended further research and professional development to support teachers in responding to their students' engineering needs. Qualitative research methods, specifically analytical methods based on the grounded theory approach, were employed in this study. However, our study aimed to use desktop qualitative research methods to determine the effects of core competence on the performance of secondary schools in Nyamira County, Kenya, as opposed to engineering training.

Additionally, Love and Wells (2018) investigated the relationship between select technology and science preparation experiences of technology and engineering (T&E) teachers in the United States (US) and their teaching of science content and practices. The study utilized a fully integrated mixed methods design. A random sample of 55 Foundations of Technology (FoT) teachers from 12 US county school systems within an International Technology and Engineering Educators Association consortium state participated in an online survey, leading to the purposeful selection of eight teachers for classroom observations. Data collected from surveys, classroom observations, curriculum content analyses, and interviews were analyzed to examine the relationships between various preparation factors and the teaching of science content and practices. Love and Wells' study aimed to inform the preparation needs of US T&E educators, while our current study sought to determine the effects of core competence on the performance of secondary schools in Nyamira County, Kenya.

Furthermore, Ross and Cozzens (2016) conducted a study on the essential core competencies for instructional leadership and their impact on school climate. The study identified 13 core competencies necessary for effective principal leadership that influenced school climate. Among these competencies, the study found that the greatest impact on school climate was associated with principals respecting the ideas of others and eliminating biases. Although 11 of the 13 core competencies were statistically significant in the perceptions of private and public teachers, a Bonferroni adjustment revealed that only five core competencies were significant. However, the analyses showed no statistically significant evidence to support differences in teachers' perceptions

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of school climate between private and public schools. Ross and Cozzens' study was quantitative, focusing on core competencies for instructional leadership and their impact on school climate, while our current study used desktop qualitative research approaches to determine the effects of core competence on the performance of secondary schools in Nyamira County, Kenya.

2.2 Institutional Culture and Performance of Public Secondary Schools

Fitria (2018) examined the influence of organizational culture and trust on teacher performance in private secondary schools in Palembang, Indonesia. This quantitative study used path analysis technique. The sample consisted of 326 teachers from 1,773 private junior high school teachers in Palembang. The findings showed a direct positive effect of organizational culture on teacher performance. In contrast, the current study investigated the effects of institutional culture on the performance of public secondary schools using desktop qualitative research methods in Nyamira County, Kenya.

Van, Mosoge, Swanepoel, and Coetsee (2005) explored organizational culture and academic achievement in secondary schools using qualitative methodologies. The study identified organizational culture as a key factor characterized by many variables. The research findings indicated that high-achieving schools had a healthy and positive organizational culture, while low-achieving schools did not. A positive organizational culture had an exceptionally positive influence on school members and guided their behavior towards achieving the school's goals. However, the current study focused on the effects of institutional culture on the performance of public secondary schools in Nyamira County, Kenya.

Additionally, Zhou, Bundorf, Le Chang, Huang, and Xue (2011) aimed to measure perceptions of organizational culture among employees of public hospitals in China and examine whether these perceptions were associated with hospital performance. The study collected data from hospital, employee, and patient surveys conducted in 87 Chinese public hospitals in 2009. Quantitative data was analyzed using factor analysis to measure organizational culture. The findings showed that employees perceived Chinese public hospitals as having a stronger emphasis on internal rules and regulations, but weaker in empowerment. Hospitals that emphasized cost control were more profitable and had higher rates of outpatient visits and bed days per physician per day, but lower patient satisfaction levels. On the other hand, hospitals with perceived customer-focused cultures had longer length of stay but lower patient satisfaction. In contrast to Zhou, Bundorf, Le Chang, Huang, and Xue's study on public hospitals in China, the current study focused on the effects of institutional culture on the performance of public secondary schools in Nyamira County, Kenya.

Furthermore, Mwangi and Waithaka (2018) conducted a study on organizational culture and performance of public universities in Kenya. The data was collected through questionnaires and analyzed both quantitatively and qualitatively. The study involved 66 deans of schools, 172 heads of departments, and 28 leaders, and the Statistical Package for Social Studies (SPSS) was used for analysis. The study found a significant and positive effect of organizational culture on the performance of public universities in the Mount Kenya Region. In contrast to Mwangi and Waithaka's study on public universities, the current study focused on the effects of institutional culture on the performance of public secondary schools.

2.3 Resource Utilization and Performance of Public Secondary Schools

Akinsolu (2012) conducted a study to evaluate whether public secondary schools in Nigeria effectively use allocated resources to produce graduates with minimal wastage. The study employed a correlational design and utilized stratified random sampling to select 250 Local Government Areas (LGAs) from the six geo-political zones, representing 32% of the total LGAs. From the 250 sampled LGAs, 136 public secondary schools were selected using the sample proportion to size method. To collect data on the independent and dependent variables, the study used the Resource Utilization Questionnaire (RUQ) and the Internal Efficiency Questionnaire (IEQ), respectively. The instruments were pre-tested using the test-retest method. The findings indicated that resources play a crucial role in the educational system's production function. Unlike Akinsolu's quantitative design, the current study employed a desktop qualitative design to examine the impact of resource utilization on the performance of public secondary schools in Nyamira County, Kenya.

In a study conducted by Ong'amo, Ondigi, and Omariba (2017) in Siaya District, the effects of biology teaching and learning resource utilization on students' academic performance in public secondary schools were investigated. The researchers sampled twenty-three schools out of ninety-two public secondary schools, using stratified random sampling. Teacher respondents were either purposively or randomly selected. Various data collection methods were employed, including questionnaires, checklists, observation schedules, and interview guides for head teachers. The study found that textbooks were the most commonly used teaching and learning resources, while audiovisual resources were the least used. However, the research also revealed that academic performance was not solely determined by resource availability or utilization. Factors such as teacher qualification, pedagogy, attitudes, and students' entry behavior also influenced academic performance. In contrast to Ong'amo, Ondigi, and

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Omariba's study on biology teaching and learning resource utilization in Siaya District, the current study focused on the effects of resource utilization on the performance of public secondary schools in Nyamira County, Kenya.

Additionally, Konyango (2011) conducted a study on the impact of resource utilization on the performance of physics in KCSE in public secondary schools in Ugunja/Ugenya districts, Kenya. The study sampled schools based on their boarding, day, and mixed status using random and stratified random sampling techniques. Data was collected through questionnaires for students and teachers, as well as interviews with principals. Both descriptive and inferential statistics were used to analyze the data. The findings indicated that schools which effectively utilized resources showed improved performance in physics. While Konyango focused on the utilization of resources and its effect on performance, the current study examines the effects of resource utilization on the performance of public secondary schools in Nyamira County, Kenya.

Similarly, Adeniran (2020) conducted research on the influence of teaching and learning resources on students' performance in senior secondary schools in Gusau Local Government, Zamfara State, Nigeria. The study utilized a descriptive design and collected data through questionnaires to obtain responses from the participants in order to answer the research questions and hypotheses. The population of the study included all teachers in Senior Secondary Schools in Zamfara State, Nigeria. A total of 50 teachers were selected using stratified sampling technique from five selected Senior Secondary Schools in Gusau metropolis of Zamfara State, Nigeria. The study revealed that teaching and learning materials were not adequately available, and the limited resources that were available were not efficiently utilized by teachers due to their lack of skills and knowledge in resource utilization. The study employed a quantitative research design to examine the influence of teaching and learning resources on students' performance in senior secondary schools in Gusau Local Government, Zamfara State, Nigeria, while the current study uses a desktop qualitative research methodology to explore the effects of resource utilization on the performance of public secondary schools in Nyamira County, Kenya.

Besides, Pitan (2012) conducted a study that explored the relationship between human resource utilization and internal efficiency in secondary schools in the Ibadan North Local Government Area of Oyo State, Nigeria. The study used a descriptive survey design and employed purposive sampling to select eight out of 22 public secondary schools in the local government area. Data analysis involved simple percentages and Pearson Product Moment Correlation. The results indicated a significant positive relationship between student-teacher ratio (STR) and wastage ratio ($r = .7959$; $p < 0.05$). However, no significant relationship was found between teacher quality (in terms of qualification), teachers' workload, and wastage ratio ($r = -0.121$; $p > 0.05$ and $r = -0.127$; $p > 0.05$, respectively). Utilizing an input-output analysis of the sampled schools, the study revealed a highly positive relationship between resource utilization and internal efficiency of the school system ($r = 0.8367$; $p < 0.05$). The performance of students in public examinations demonstrated a high level of wastage (students' failure), indicating an inefficient system. Pitan's study focused on the relationship between human resource utilization and internal efficiency in secondary schools in Ibadan North Local Government Area of Oyo State, Nigeria. In contrast, the current study aims to examine the impact of resource utilization on the performance of public secondary schools in Nyamira County, Kenya.

3.0 CONCLUSION

The following conclusions were drawn from this study's analysis of the empirical research on the relationships between academic performance, institutional culture, resource utilization, and core competencies: First, core competencies—like teaching experience, professional development, and instructional strategies—have a major influence on academic performance. Educators who possess extensive experience and receive relevant training are more likely to employ effective teaching methods, resulting in improved student academic scores, higher graduation rates, and increased completion rates. Secondly, efficient resource allocation, including instructional materials, facilities, and compensation, is essential to support effective teaching and learning practices. Institutions that prioritize resource allocation to provide high-quality instructional materials, robust facilities, and competitive compensation for educators tend to achieve better academic performance outcomes. Thirdly, institutional culture plays a crucial role in shaping educational outcomes. Educational institutions that have clear policies and procedures, a compelling mission and vision, and well-established school routines provide a conducive learning environment, which fosters student success and academic achievement. Fourthly, the academic performance of students, which includes their academic scores, graduation rates, and completion rates, serves as a crucial indicator of the overall effectiveness of educational systems. Higher academic performance is typically linked to a combination of effective core competencies, a supportive institutional culture, and optimal utilization of resources.

4.0 RECOMMENDATIONS

Government funding should be allocated towards investments in teacher development. Universities and colleges should prioritize ongoing professional development programs, such as TPAD, to enhance teachers' experience and skills. By sponsoring innovative

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teaching approaches and providing opportunities for in-service training, educators can deliver high-quality instruction and improve student outcomes.

It is important for schools to cultivate a positive institutional culture. This can be achieved by the school administration fostering a strong institutional culture that includes well-defined procedures, a compelling goal and vision, and clear rules and regulations. By establishing a welcoming and inclusive learning environment, student motivation, engagement, and academic performance can be enhanced.

Institutions should strategically allocate their resources to ensure an adequate provision of teaching materials, infrastructure, and honorarium. Prioritizing investments in materials that directly support instruction and learning can raise educational standards and improve student achievement.

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Multiple Streams Approach and Implementation of Road Safety Policy Measures in Kisii and Kisumu Counties, Kenya



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ABSTRACT: This study aimed to assess the implementation gaps in road safety policy measures in Kisii and Kisumu counties, Kenya, using the multiple streams framework. The study aimed to determine the impact of problem, policy, and politics on the implementation of road safety policy measures. A sample size of 335 was used, and interviews were conducted with traffic base commanders, county matatu owners' associations, and county directors. The reliability and validity of the study instrument were assessed using Cronbach's alpha, factor analysis, and expert opinion. Data was analyzed using descriptive and inferential statistical methods, with quantitative data examined through multilinear regression approaches and Pearson correlation analysis, and qualitative data using thematic content analysis. The findings showed a moderate influence of the multiple streams framework on the implementation of road safety policy measures among matatu operators. The study concluded that multiple streams significantly influence the implementation of road safety policy measures in Kenya.

KEYWORDS: Multiple Streams Approach, Implementation, road safety policy measures.

1.0 INTRODUCTION

Countries have implemented road safety policies to reduce accidents and injuries. However, gaps in implementation persist, especially at later stages. Effective implementation requires convergence of problem, policy, and politics streams. (Hawkins, & McCambridge, 2020). Policy studies assume that policies will be implemented once developed (Howlett, 2019), but this is not always the case in developing nations where bureaucracies and broad policies hinder their execution. (Zahariadis and Exadaktylos, 2016). Political priorities and the environment for policy implementation are often obscured by interest groups, political parties, and those affected by the policies (Jamroz, et al, 2019). Understanding the political aspects of implementation is crucial for successful policy implementation. Europe, under the Vision Zero philosophy, is a global leader in reducing road traffic deaths, but poor political good will, is associated with 93% of road traffic deaths in low- and middle-income countries (Safarpour, & Mohammadi, 2020).

Kenya has implemented various policies and intervention measures to address road safety issues (Olemo, 2016). The Integrated National Transport Policy 2009 aimed to improve accessibility to safe and secure road transportation (Isaac, 2019). The National Road Safety Council developed a five-year National Road Safety Action Plan to reduce traffic fatalities by 50% by 2014. The National Transport and Safety Authority (NTSA) was founded in 2012 to coordinate the activities of major road transport departments and reduce fatality rates from traffic accidents (Kabue, 2018). The NTSA has implemented legal, regulatory, and institutional reforms in the management of Public Service Vehicles, including registration under SACCOs for collective responsibility, driver education, testing, licensing, speed limits, drunk driving interventions, pedestrian safety projects, public awareness campaigns, and ICT solutions (Gachanja & Mose 2017). However, the implementation of these policy measures has been experiencing gaps, leading to persistent traffic accidents in Kenya.

Kenya's counties, Kisii and Kisumu, have implemented road safety policies to reduce traffic accidents. However, statistics show a rising trend in mortality and morbidity rates. Kisii County has seen an average annual increase of 7.5% in deaths and 47% in serious injuries since 2001, while Kisumu County has experienced a notable prevalence rate of accidents since 2013. In 2018, Kisumu County led with about 50% of road deaths in South Western Kenya (NTSA, 2018). Muguro, Sasaki, Matsushita, and Njeri (2020) assessed accidents data in Kenya between January 2015 and January 2020, the analysis indicted that fatalities and injuries rose by 26% and 46.5%, respectively. Besides, Kenya registered 4,347 deaths through road crashes in 2021, up from 3,707 fatalities in

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2020, representing 14.7% increase. There were 4,515 fatalities in 2022, representing about 9.6 % increase with 16,343 serious injuries up from 15,249 representing 9.3 % increase (Murkomen, 2023). The success of road safety policies in Kenya is attributed to their enactment progression (Hunter, & Peckham (2019). Studies such as Amugsi, Muindi, and Mberu 2022; Manyara 2016; Mitullah and Asingo 2014) indicate that implementation failure is a significant issue, even if the government focuses on creating new policies or amending existing ones. This study examines the implementation of road safety policies in Kenya's Kisii and Kisumu counties using a multiple-stream approach, highlighting the need for improved execution of these policies.

2.0 OBJECTIVES

This study was guided by the following objectives

- i. To assess the extent to which problem stream affects the implementation of road safety policy measures in Kisii and Kisumu counties, Kenya.
- ii. To examine the extent to which policy stream affects the implementation of road safety policy measures in Kisii and Kisumu counties, Kenya.
- iii. To establish the extent to which politics stream affects the implementation of road safety policy measures in Kisii and Kisumu counties, Kenya.

3.0 THEORETICAL REVIEW

3.1 Multiple Streams Framework

While Lasswell's conventional linear policy process is still in use today, John W. K. introduced the multiple streams model in 1984 (Cattaneo, 2018). This model explains how national government policies are formulated and implemented in ambiguous conditions, acknowledging three parallel but related sets of dynamic activities in any policy system: problem, policy, and political (Birkland, 2019). The multiple streams framework is a universal theory applicable to various policy subsystems globally, despite criticism from Exworthy and Powell (2004). It has been used to assess mobile hospital policies in Zambia (Kabwe, 2019), African policies (Ridde, 2009), and to address injuries caused by vehicle traffic in low- and middle-income economies (Kassam & Merali, 2019). Fowler (2019) examined the problems, politics, and policy streams in the implementation of national environmental policy in the United States. The multiple streams model was crucial to the current study in explaining the concept and implementation of road safety in light of the multiple streams model in Kenya's context, and indeed, Kisii and Kisumu counties. The theory provided insights on how road safety policy emanates through a myriad of activities, finds itself in the government's agenda setting, is translated into policy, and is eventually implemented.

3.2 Punctuated Equilibrium

The punctuated equilibrium attempts to explain why lengthy moments of relative calm are interrupted by short periods of extreme change in public policies (Baumgartner, Jones, & Mortensen, 2018). This model clarifies why governments can be transparent at times to debates and statistics that lead to changing road safety legislation and subsequent implementation, while at other times they appear to be resistant to change and only willing to make minor tweaks (Masse, 2018). The PE model was appropriate with the aim of explaining why implementation of road safety policies wavered, hence creating implementation gaps in Kisii and Kisumu counties.

4.0 EMPIRICAL REVIEW

4.1 Implementation of Road Safety Policy Measures

Traffic safety is a government policy aimed at reducing the impact of road crashes on human life. It involves regulating and moderating road user behavior through preventative, persuasive, and punitive measures (Castillo et al, 2019). Traffic accidents have significant morbidity, mortality, and economic consequences (Akinyemi, 2020). The World Health Organization reports that traffic accidents kill nearly 1.35 million people globally, harm 20 to 50 million people, and negatively impact countries' GDP. The global economy is estimated to lose 3% of GDP due to traffic injuries and deaths. Iran lost 2.19% of GDP in 2019 (Yohannis, 2019); South Africa lost 3.5% of GDP in 2017 (World Bank, 2018); Ghana lost 1.6 of GDP in 2020 (Boateng, 2021); Nigeria loses 80 million Naira yearly to road accidents (Atubi, 2017); Uganda lost 5% of GDP in 2018 (WHO, 2020); and Kenya loses up to 5% of GDP to road traffic accidents (NTSA, 2020).

Road safety policy measures have a long history dating back to the early 20th century. The introduction of traffic signals in London in 1868 became a cornerstone of road safety worldwide. Speed limits were introduced in 1901, with Connecticut being the first American state to do so. Seat belt laws were introduced in the USA in 1968, and today, most countries have mandatory seatbelt

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use. Traffic laws, including DUI, reckless driving, and distracted driving, are enforced worldwide to mitigate risks. Advanced technologies like Automatic Emergency Braking (AEB), lane departure warning, and adaptive headlights have been introduced in vehicles. Road safety campaigns have been launched worldwide to encourage safe driving practices, such as the "Click It or Ticket" campaign for seat belt use, "Drive Sober or Get Pulled Over" campaign to discourage drunk driving, and "Stop, Look, and Listen" campaign to encourage pedestrian safety (Norton, 2017).

Road safety programs have gone through several stages of development throughout the years. These stages demonstrate a growing understanding of the complexity of road safety, as programs have expanded from emphasizing driver accountability alone to include systemic interventions, infrastructure upgrades, and international cooperation. Initially, in the 1950s, the focus was primarily on the responsibility of the driver. This shifted in the 1960s and 1970s towards infrastructure improvements and enhancing vehicle safety systems. The following phase, spanning the 1980s and 1990s, emphasized systemic interventions to develop action programs aimed at reducing road accidents. The fourth phase, occurring from 2011 to 2020, coincided with the United Nations' proclamation of the Decade of Action for Road Safety. During this period, a global plan was established with four pillars, with a primary emphasis on implementing road safety measures across different countries (Burlacu, Racanel, & Burlacu, 2017). Moving forward, the fifth phase, known as the United Nations Global plan, spans from 2021 to 2030. This strategy aims to halve road traffic fatalities by 2030 through collaborative efforts among all stakeholders to implement policies and initiatives (European Commission, 2021).

4.2 Multiple Streams Approach and Implementation of Road Safety Policy Measures

Harris and Morris (2017) conducted a study focusing on the influence of the multiple stream approach on the outcome of the marijuana movement in Texas, USA, particularly at the grass-roots level. Despite the presence of a well-organized campaign advocating for policy change, the study revealed that political power exerted only a minimal effect on marijuana policy decisions. Factors such as conservative political influence, concerns over reelection and potential primary challenges, fear of political backlash, resistance from law enforcement entities, and prevailing perceptions within legislative bodies collectively contributed to the limited impact observed. However, the current study the current research examined political streams on the implementation and road safety policy measures in Kenya, a developing country.

Shawar, Truong, and Shiffman's 2022 study examined the rise of child sexual abuse (CSA) as a national political priority in the UK. The study used a multiple streams public policy model and found three key events that led to CSA prioritization: high-profile scandals, the reframing of CSA survivors as deserving of support, advocates creating evidence-based alternatives, and a policy window opening due to the Prime Minister's concern. Besides, Helfer (2016) conducted research on the political stream, media, and agenda setting in Switzerland using an experimental design with a quantitative approach. The study found that media attention to an issue leads to politics, with factors such as media coverage, political agenda, and election cycle playing a role. In Australia, Whiteford et al. (2016) examined how mental health was included in the 2011 Federal Policy Agenda. Results showed that socio-political factors, such as political pressure and advocacy from prominent policy entrepreneurs, shaped youth mental health initiatives.

Hoe et al. (2019) conducted a study in Turkey to understand why tobacco use is considered a serious policy problem, rather than road traffic injuries. The study used cross-case design and purposeful sampling to identify respondents. Results showed that tobacco use was put on the government's agenda due to statistics showing 44% of the population smokes. Health activists conducted workshops and courses to highlight tobacco use as a problem. On the other hand, road safety data showed a decreasing trend in deaths and injuries. On the other hand, Odonkor, Mitsotsou, and Dei (2020) conducted a study in Ghana to evaluate the impact of policy streams on road safety policies in Africa, specifically in Ghana. The study used qualitative methodology and purposeful sampling to identify participants. The findings revealed that despite six daily road deaths, road safety is not considered a policy issue due to lack of political priority and prominent policy entrepreneurs. The study aimed to understand how problem streams relate to national road safety policy development and the impact of political streams on road safety measures.

Mauti et al.'s 2019 study aimed to understand why HiAP in Kenya didn't make the government's agenda. Using a qualitative method, they found that government ministry staff were not knowledgeable about HiAP due to lack of studies and ignorance of local implementation of international declarations and policies. Despite acknowledging the impact of social and economic variables on health concerns, some interviewees believed it was insufficient. Kitheka's 2014 study examined the impact of amended traffic regulations on traffic crashes in Nairobi's transportation sector. Using mixed model design and quota sampling, the study revealed disparities in policy implementation due to lack of political good will. The study used institutional theory and Farralle's human factors theory, while the current study used multiple stream framework model and punctuated equilibrium model.

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5.0 METHODOLOGY

This study used a descriptive survey design with mixed methodologies to describe the association between problem stream frameworks and the implementation of road safety policy measures. Applying a mixed method approach allows triangulation of research approaches (Maarouf, 2019). The research used a descriptive survey design and pragmatic research philosophy while embracing mixed research approaches. The study utilized census, simple random sampling, and stratified random sampling, purposive sampling, and systematic random sampling techniques in drawing a representative sample. A sample size of the study was 335 of target population using Yamane’s formula where, 327 matatu operators administered questionnaire. The study interviewed 8 traffic base commanders, 2 county matatu owners’ association and 2 NTSA county directors. The study also employed both participatory and non-participatory observation to collect supplementary data. Data was analysed using descriptive and inferential statistical methods. Quantitative data was examined by means of multilinear regression approaches and Pearson correlation analysis. Hierarchical multiple regression was used to analyze the moderating variable. Qualitative data was analysed using thematic content analysis based on the derivatives from the objectives. The study then presented quantitative data using tables and figures while qualitative data was reported in continuous prose.

6.0 DISCUSSION AND FINDINGS

6.1 Descriptive Statistics

This section provided results of descriptive statistics on data obtained from respondents based on each study objective using means, and standard deviation.

5.1.1 Problem Stream

Table 5.1 Descriptive Statistics on Problem Stream

Item	N	\bar{x}	SD
I obey road safety policies (such as wearing of seatbelts etc.) as a result of incidences of tragic road accidents.	327	3.73	1.185
I observe road safety policies because of protests in response to the sluggish enforcement of road safety policies.	327	3.79	1.122
I follow road safety measures when a well-known person is involved in a road accident.	327	3.64	1.240
I follow road safety policies because of the regularity with which road accidents occur.	327	3.82	1.058
I obey road safety policies because of the number fatalities	327	3.97	.899
I observe road safety policies because of the periodical data	327	3.86	1.132
Regular reviews of road safety policy make me observe road safety	327	3.86	.934
I obey road safety measures when I am given an opportunity to participate in their evaluation	327	3.52	1.230
I observe road safety policies when my opinions are considered	327	3.77	1.032
Average		3.77	1.092

Source: Field Data (2021)

The findings above ($\bar{x} = 3.8069$, $SD = 1.185$) show that protests and demonstrations arising from sluggish implementation of road safety policy measures compelled matatu operators to observe the road safety policy measures. The results of this study support Mostafa's (2021) contention that official statistics in Bangladesh showed a 25.56% increase in traffic accidents between 2016 and 2017, whereas the overall rate increased by 15.82%. In addition, on July 29, 2018, two primary school children died in a fatal accident after being struck by trucks that were being driven by unlicensed drivers, which sparked widespread outrage. The government's refusal to put road safety policy measures into action prompted students to organize protests. As a response, the government strengthened its regulations regarding road safety and began targeting unlicensed drivers. Further, this study underscores Odonkor, Mitsotsou, and Dei's (2020) proclamation that in Ghana, the public took to the streets to protest against poor coordination, inadequate funding, ineffective civil services, and corruption that occasioned the slow implementation pace of the road safety policy.

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In response to the question whether protests and demonstrations have any significant impact on the adoption of measures to improve road safety, interviewees KISO, KSMC2, and KSMC4 all agreed that they did. Regarding the same, KISO added:

Protests and demonstrations halt matatu operations, particularly if they are directed against a certain matatu Sacco or route. In most cases, public outrage influences our Saccos' behavior. Each matatu Sacco acts to ensure that road safety initiatives are followed in order to avoid backlash from the public.

KSMC2 and KSMC4 concurred, saying:

Protests and demonstrations force PSV to adhere to road safety rules. [...] If wananchi (citizens) happen to stage protests because of relaxation in enforcement of safety policies, it definitely compels us to step up vigilance to address their concerns. [...] Public pressure compels matatu operators to follow road safety rules.

The result ($\bar{x} = 3.66$, $SD = 1.240$) also showed that increased incidences or number of tragic road accidents prompted matatu operators to follow the laid-out policy measures. This finding corresponds with Jurecki and Jaśkiewicz (2012), who conducted a study in Poland and determined that when the number of traffic accidents in Poland grew, surpassing 50 thousand in 1990 reaching 54 thousand and 66 thousand in 1991 and over 100 in 1998, the Polish government enacted stringent measures to halt this alarming trend of accidents. Further, this study findings underscore Zhang (2021) observation that the end of January 2008, his Majesty King Abdullah II asked his administration set out a comprehensive strategy to reduce accidents and casualties in Jordan, as a result of a dramatic spike in traffic accident casualties and after a horrible bus accident on the Irbid-Amman highway. The provision of regular and accurate data on road safety is very helpful in the implementation of evidence-based policies and in monitoring progress. Road accident incidences and the number of tragic road accidents can be verified using correct data (Regmi, 2021). However, the study observed that the majority of the matatu Saccos who took part in the study lacked ICT systems and did not keep track of the number of accidents, fatalities, or injuries they had experienced (Field Notes, November 2021). Thus, this threatened effective implementation of safety policies.

Besides, the findings ($\bar{x} = 3.64$, $SD = 1.122$) revealed that when well-known people are involved in road accidents, matatu operators apply road safety policies more vigorously. This study substantiates Bhalla and Shotten (2019) findings that when involvement of Argentina's former President Raul Alfonsino in a near-fatal crash prompted the majority of public transport operators to implement road safety policies where public service vehicles were keen on speed limits, vehicles were well fitted with seatbelts and driver's behaviors were kept on check. This study finding is also consistent with Ombagi and Muna (2019) who conducted a study in Kenya and established that when Kibaki, the presidential candidate, was involvement in road crashes prior to the 2002 elections necessitated the reforms and subsequent implementation of Michuki rules after Kibaki won the presidency in 2002.

Opinions on whether accidents involving well-known people affected the implementation of road safety measures varied among interviewees KSMO and KISC2. While KISC2 disagreed, KSMO agreed that such accidents prompt people to follow traffic safety policies. KSMO illustrated his point thus:

If a matatu vehicle from Sacco X causes a traffic accident involving a prominent person's car, other Saccos will undoubtedly become more attentive to road safety laws [...] For example, a PSV driver from our county stopped and dropped a passenger at the wrong side of the road. That passenger dashed to cross the Maai Mahiu Road oblivious to the presence of an oncoming vehicle. A Governor's car which happened to be following the matatu then hit the passenger who had disembarked the matatu. The matatu sped away from the scene of the accident, but do you know what happened next? To avoid recurrence of similar tragedies, all matatus that plied that route were forced to be dropping off passengers at specified bus stops.

However, KISC2 had a contrary opinion, stating:

[...] enforcement of road safety policies is not influenced by who gets involved in an accident.

Equally, findings ($\bar{x} = 3.86$, $SD = .497$) showed that periodic updates on road accident occurrences provided by relevant government agencies such as NTSA and Traffic department influenced matatu operators to enforcement of road safety policy measures to a great extent. This finding corresponds to Odonkor, Mitsotsou, and Dei (2020) observation that traffic accident reporting is generally regarded as the most crucial aspect of road safety for it frequently provides significant aspects of information regarding the collision, such as how it occurred, where it occurred, and who was involved. These findings moreover underline Kingdon's MSF model premise that statistics, frequency, and fatality rate trigger policy change (Kingdon, 2003). Further, these results confirm Värnild, Larm, and Tillgren (2019) findings that deduced that when the Sweden government released yearly road accidents report, which showed an increased number of accidents, fatalities and injuries, the report prompted the government to focus on Zero Vision Policy (road safety policy philosophy). Accident records are important in enlightening the level of road safety policy implementation. (Galdino, Santana, & Ferrite, 2019).

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In addition, the study findings ($\bar{x}=3.85$ SD = .541) showed that number fatalities and frequency or the regularity with which road accidents occur ($\bar{x}=3.98$, SD = .521) prompted matatu operators to obey road safety policy measures. This study findings corresponds with Muguro, Sasaki, Matsushita, and Njeri (2020), who found that fatalities and injuries increased by 26% and 46.5 percent, respectively, from January 2015 to January 2020, based on trend analysis. As a result, the Kenyan government enforced traffic rules such as introduction of a breathalyzer (alcohol blow) to detect alcohol content in drivers, and police kept a close eye on reckless driving, and excessive speeding particularly among matatu vehicles throughout the country. Besides, the UN report from 2018 on Uganda stated that the accident severity index for that country showed that 24 people died in every 100 traffic accidents and that Uganda had the highest rate of road crash fatalities in East Africa, losing 10 people per day on average. These data caught the eye of the United Nations Road Safety Performance Review for Uganda, which sought to assess Uganda's development in managing its performance in terms of road safety (UN, 2018). However, the statistics supplied did not reflect reality on the ground because the information provided was insufficient and incomplete (Field Notes, November, 2021).

The findings ($\bar{x} = 3.86$, SD = 0.934) further revealed that regular reviews of road safety policy measures encouraged matatu operators to observe road safety policy measures especially when they have participated in the evaluation ($\bar{x} = 3.52$, SD = 1.230) and their opinion taken into consideration ($\bar{x} = 3.77$, SD = 1.032). This finding is congruent with Vasconcellos (2013) that involving PSV crews in the evaluation of the Brazilian Transit Code (CTB) resulted in an increase in the number of public service vehicle operators adhering to road safety policy measures, resulting in a decrease in road accidents despite an increase in the size of the vehicle fleet in Brazil. This study also agrees with Nguyen, Foster, and Arnold, (2019), who conducted research in Canada and revealed that involving stakeholders (PSV operators included) in decision-making allowed them to use their information discreetly, resulting in better organizational decisions and, eventually higher organizational performance in this case operation of matatu SACCOs and PSV vehicles.

6.1.2 Policy Stream

Table 5.1 Descriptive Statistics on Policy Stream

	N	\bar{x}	SD
Road safety policy measures are generally acceptable	327	3.87	1.051
Road safety policy measures are easy to observe	327	3.74	1.009
Road safety policy measures are fair and impartial	327	3.53	1.041
Road safety policies have worked in other counties	327	3.62	1.083
I learn how to observe road safety measures from other counties	327	3.49	1.134
I have an opportunity of sharing about road safety measures.	327	3.74	1.063
Someone benefits when I observe road safety policy measures	327	3.51	1.264
I observe road safety measures because it is my responsibility	327	3.85	1.081
I observe road safety measures because I fear government costs (such as arrests, penalties/fines, revocation of licenses etc.)	327	3.08	1.378
Average		3.60	1.122

Source: Field Data (2021)

The findings ($\bar{x} = 3.87$, SD = 1.051) in table 4.9 showed that most matatu operators affirmed that the existing road safety policy measures were generally acceptable and easy to observe ($\bar{x} = 3.74$, SD = 1.009) because such policies were fair and impartial ($\bar{x} = 3.53$, SD = 1.041). This finding corresponds to Lindquist, Van der Heijden, Kuhlmann, and Wellstead (2021) in reference to Kingdon principles that that a policy option must meet the criteria of technical feasibility, value acceptance among policy experts, bearable costs, and political and public acceptance. These results, however, are inconsistent with those of Van den Berghe and Christie (2022), who in their study argued that policy measures in the area of road safety are not easily implemented as a result of inflated costs and/or alleged weaker public backing. The study opines that it is challenging for road users to adhere to the policies due to the limitations of mobility, the discriminatory nature of some of the rules, and biased government interventions. The respondents in Van den Berghe and Christie also mentioned that people are less aware of the need for stricter or tougher policy regulations that could affect their mode of transportation if they feel safer when utilizing a certain mode of transportation. Data from interviews showed that the existing road safety policy measures were not generally acceptable to matatu operators. This finding implied that those who had reservations on the existing road safety measures could easily and intentionally flout them, and therefore that compromised the safety of road users in general. KSMO added:

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[...] the rule that required matatu drivers and conductors to be employed on a permanent basis is not practical [...] it could reduce productivity when compared to when they are paid on a contract basis [...] Installing all the needed road safety equipment in matatus is costly, and passengers routinely mishandle seatbelts, resulting in high replacement costs. In addition, the findings ($\bar{x} = 3.62$, $SD = 1.083$) indicated that road safety policy measures had worked in other counties and matatu operators had an opportunity to learn experiences on what others had done ($\bar{x} = 3.74$, $SD = 1.063$). However, matatu operators were not committal as to whether they borrow road safety policy implementation policy experiences ($\bar{x} = 3.49$, $SD = 1.134$). Glaser, Bertolini, Te Brömmelstroet, Blake, and Ellingson, (2022) cite that a number of levels of government are encouraged to do policy transfer and policy learning, or practice learning from others (elsewhere). Thus, counties are more likely to emulate policy implementation experiences from others with similar policy preferences (Pacheco & Maltby, 2017). However, while Olsson and Hysing (2012) contend that individual public officials work strategically from within public administration to influence government policy and action in line with a civic engagement and value commitment, individual matatu operators lack the ability to transfer policies from other jurisdictions since they are street-level bureaucrats who do not work from within public administration, though they ensure implementation of road safety policy.

In responding to whether the current road safety policy measures were fair and impartial, responses from interview were inconsistent with those obtained from the questionnaires. The key informants felt that the existing road safety policies do not factor in the interests of people with special needs, such as passengers that are physically challenged and the aged. This finding suggested that the probability of such groups inadvertently flouting road safety measures was very high. KSMO reiterated that, saying:

The elderly and the disabled aren't taken into account by the current traffic laws. PSVs are made with seatbelts that are not suitable for some disabled people to use, considering their design. Policymakers are rather biased.

Moreover, as much as matatu operators were indifferent as to whether they observed road safety policy measures for fear of government punishment such as arrests, imposing of fines, or revocation of operating licenses ($\bar{x} = 3.08$, $SD = 1.378$), majority of matatu operators confirmed that they observed road safety policy measures as an obligation ($\bar{x} = 3.85$, $SD = 1.081$) despite the fact that majority of them believed that someone else with personal vested interests stood to benefit ($\bar{x} = 3.51$, $SD = 1.264$). These findings are inconsistent with the observations made by research participant who did notice that matatu operators offloaded excess passengers as they approached the police checkpoint, but then carried them back as they by passed them. This indicated that matatu operators merely observed road safety policies to avoid being arrested, fined, or having their operating licenses revoked (Observation, November 23, 2021). However, these findings validate a study conducted in Jordan by Zhang (2021) which revealed that increasing traffic enforcement and enforcing traffic laws with harsh penalties had a significant favorable influence on the implementation of road safety policies.

6.1.3 Politics Stream

Table 5. 2 Descriptive Statistics on Politics Stream

Item	N	\bar{x}	SD
Non-state actors (NGOs and private sector) persuade me to follow to road safety measures	327	3.42	1.195
I observe road safety policy measures when there is political stability	327	3.26	1.318
Politicians always encourage observance road safety policy measures	327	3.10	1.305
During election campaigns, political parties outline how they intend to improve enforcement of road safety policies	327	3.01	1.373
The ruling party has consistently support adherence to road safety policies through government agencies.	327	3.64	1.078
Opposition parties push for the enforcement of road safety measures	327	2.98	1.218
I observe road safety policy measures because others have said	327	2.85	1.245
I observe road safety policy measures because media said.	327	3.05	1.294
I observe road safety measures because it is a beneficial practice	327	3.88	1.086
Average		3.21	1.071

Source: Field Data (2021)

The findings showed that matatu operators were neutral as to whether non-state actors (NGOs and private sector) at a mean of ($\bar{x} = 3.42$, $SD = 1.195$) persuaded them to follow to road safety measures. Hysing (2021) argues that governments are increasingly

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using new modes of governance to persuade non-state actors to voluntarily take responsibility for societal problems because the ability of states to maintain a strong regulatory presence is being questioned due to a lack of democratic legitimacy and effectiveness. Hysing adds that the traditional command-and-control regulation is increasingly being supplemented with new modes of governance in which state actors facilitate, engage, and support these non-state actors (Dunn & Miller, 2007). According to Tomkinson (2020) private sector's inaction in implementing road safety policy measures allows governmental officials like the NTSA and NPS officers to abuse their discretion either by avoiding making decisions that will help policy implementation or delaying policy implementation, or only partially implementing policy (Gilson, 2015).

Similarly, matatu operators were neutral in their response as to whether they observed road safety policy measures when there was political stability in the county at the mean of ($\bar{x} = 3.10$, $SD = 1.305$). Likewise, matatu operators were indifferent as to whether politicians always encouraged them to observe road safety policy measures at the mean of ($\bar{x} = 3.26$, $SD = 1.318$). Kassam, & Merali (2019) highlight that political stability is predominantly required for agenda item prioritization. According to Tingvall, et al, (2022), political declarations by member states help to reduce traffic-related deaths and injuries by 50% by 2030 is a significant step toward improving road safety and fostering sustainable mobility. Political commitment and determination are crucial for long-term road accidents prevention in the realm of motor vehicle accidents (Peden et al, 2004).

On the other hand, matatu operators demonstrated that they were not sure as to whether political parties highlighted how they intended to improve implementation of road safety policy measures as priority during campaigns ($\bar{x} = 3.01$, $SD = 1.373$). However, the findings at the mean of ($\bar{x} = 3.64$, $SD = 1.078$) established that the ruling party had consistently supported implementation of road safety policy measures. These findings are corresponding with Ombagi and Muna (2019) argument that prior to 2002 general elections in Kenya, NARK committed in their manifesto to address road safety and after they won, the government released Legal Notice No. 161 of 2003, which helped to reduce road accidents by 73% after implementation (Mungai, 2019). On the contrary, in Uganda, road safety was inconsistent on political manifestos; in 2011-2015 NRM manifesto mentioned road safety as an agenda item but in the NRM's 2016-2021 manifesto road safety conspicuously missed and yet road accidents were rampant across the country (Hassam & Merali, 2019). This is assertion is congruent with Jadaan et al.(2018) that despite the rising number of people killed in traffic collisions, and road safety remained a low political priority in cities around the world.

Further, the study indicated that opposition parties have not consistently pushed for the enforcement of road safety measures at the mean of ($\bar{x} = 2.98$, $SD = 1.218$). These findings are incongruent with Kristianssen, Andersson, Belin, and Nilssen's (2018) findings that showed that both the opposition and the ruling party parliament supported Vision Zero (road safety policy vision) in Sweden where all parliamentary parties including opposition parties voted in favor of it except the Green Party which objected to the decision to replace the existing traffic safety objectives. Kumar (2018) contends that opposition parties in Bangladesh took the lead in promoting implementation of road safety regulations by forming road safety movements.

Additionally, majority matatu operators indicated that they obeyed road safety policy measures because they believed it was beneficial practice for everyone ($\bar{x} = 3.88$, $SD = 1.086$) and at a mean of ($\bar{x} = 2.85$, $SD = 1.245$) showed that they did not observe road safety policy measures because others had said the measures were good. These study findings agree with Oyoo, Wamalwa, and Kihara, (2022) who opines that traffic road accidents affects the socio and economic and well-being of Kenya and her citizens. This seems to cut across Africa as Verster and Fourie (2018) noted, a high number of accidents on South African roads not only cause the loss of human life and the ensuing pain, grief, and suffering but also have a detrimental impact on the socioeconomic development and general well-being of South Africans.

Matatu operators were neutral at a mean of ($\bar{x} = 3.05$, $SD = 1.294$) that they observed road safety policy measures because mass media said. This finding is inconsistent with Gupta, Kakar, Peden, Altieri, and Jagnoor's (2021) who observed that in India, media coverage of road traffic collisions (RTCs) influences preventive actions and plays advocating role by focusing on human stories and documenting the experiences of those injured in RTCs, which definitely ends up prompting the implementation of road safety policy measures. Conversely, Kenyan media lacked specialized initiatives to educate the public about the implementation of regulations for road safety (Amugsi, Muindi, & Mberu, 2022)

6.1.4 Implementation of Road Safety Policy Measures

Table 4. 2 Descriptive Statistics on Implementation of Road safety Policies

Item	N	\bar{x}	SD
I always observe PSV road safety policy measures	327	2.51	1.134
I always ensure total observance of road safety policy in the matatu	327	2.09	1.105
Posters on road safety in matatus trigger enforcement of safety rules	327	3.69	1.073

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Our matatus are always in compliance with all road safety measures.	327	3.26	1.127
Traffic police officers respond quickly when road accident occurs	327	2.42	1.024
With absence of traffic officer, I'm less likely to follow road rules.	327	4.02	1.009
Level of enforcement of road safety rules in matatu is adequate	327	2.19	.912
I am well-versed with all road safety measures	327	3.48	1.098
Passengers have role of ensuring matatu crews comply with safety rules.	327	3.82	1.122
Average		3.20	1.069

Source: Field Data (2021)

The findings revealed that matatu operators neither followed ($\bar{x} = 2.51$, $SD = 1.134$) nor encouraged passengers to observe the laid-out road safety policy measures ($\bar{x} = 2.09$, $SD = 1.105$). However, posters and adverts in PSV stimulated them to comply with the road safety policy measures ($\bar{x} = 3.69$, $SD = 1.073$) to a larger extent. These results are consistent with Oburu's (2015) assertion that the toa sauti campaign, which aimed to promote road safety in Kenya, was popular with both the general public and matatu drivers because of the emotive images and posters plastered inside the vehicles triggered enactment of road safety policies. Raynor and Mirzoev (2014) argued that matatu sector disregard road safety because it puts financial demands on drivers and produces an excessive amount of competitiveness, which leads to risky driving. However, Okwako (2017) contended that matatu crews had an obligation of ensuring passengers adhere to road safety policy measures.

The findings indicated that traffic police officers were sluggish in their response ($\bar{x} = 2.42$, $SD = 1.024$). The matatu crews confirmed that they could flout road safety policy measures when traffic police officers are absent from police check points ($\bar{x} = 4.02$ $SD = 1.009$) lowering the level of implementation compliance ($\bar{x} = 2.26$, $SD = 1.127$). On traffic police sluggishness, the findings underscore Cheche and Kariuki (2017) determination that traffic police officers, at 53%, and NTSA officers, at 32%, are the biggest obstacles to the execution of policy measures for improving road safety. These findings also back up Mitullah and Asingo (2014) observation that road users only comply to traffic laws when the traffic police officers are round. As such, many traffic accidents occur at night and on weekends when traffic officers are absent from police checkpoints (NTSA (2020). Besides, Cheche and Kariuki in their study opined that 32% of matatu operators disregard safety rules when police are not at the vicinity. Sidha, Asingo, and Magutu (2021) observe that violations of road safety policies are frequent during hours of the day and/or days of the week when there is a low police presence on the roads. However, Chitere and Kibua (2012) in their findings in Nairobi, Mombasa, and Kisumu, Nakuru, Machakos, Kwale, Migori, Kakamega, Bungoma, and Kilifi revealed that matatus were likely to flout road safety policy measures at the presence of traffic police officers.

Additionally, matatu operators, recognized that passengers took central role in compliance of the road safety policy measures ($\bar{x} = 3.82$ $SD = 1.122$). the findings however showed that matatu operators ($\bar{x} = 3.48$ $SD = 1.098$) were not adequately conversant with road safety policy measures as spelt out in the traffic act Cap 403 of the laws of Kenya and National Transport and Safety Authority Act, 2012 and thus, the levels of enforcement of the road safety policy measures were inadequate ($\bar{x} = 2.19$, $SD = .912$). This study's findings are inconsistent with those of Cheche and Kariuki (2017), who did a study in Kiambu, Kenya, and established that 80% of the operators in the matatu industry were aware of the existence of government rules on road safety. Besides, Transparency International Kenya (2018) findings opined that majority of matatu operators in Nairobi, Kiambu, Kajiado, and Machakos were conversant with Kenya traffic laws. On the awareness of existing road safety policy measures.

6.2 Inferential Statistics

6.2.1 Correlation Analysis

The study examined the relationship between multiple streams framework and implementation of road safety policy measures conclusions by means of correlation analysis.

Table 5. 3 Correlation matrix of matatu operators' study variables

		Problem stream	Policy stream	Politics stream	Implementation of road safety policy measures
Problem stream	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	397			
Policy stream	Pearson Correlation	.368**	1		

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	Sig. (2-tailed)	.000			
	N	397	397		
Politics stream	Pearson Correlation	.336**	.425**	1	
	Sig. (2-tailed)	.000	.000		
	N	397	397	397	
Implementation of road safety policy measures	Pearson Correlation	.119*	.372**	.335**	1
	Sig. (2-tailed)	.018	.000	.000	
	N	397	397	397	397

Source: Field Data (2021)

The findings (sig.0.018, $\rho = 0.119$) showed a weak positive but statistically significant relationship between the problem stream and the implementation of road safety policy measures in Kisii and Kisumu counties. Similarly, there was a strong positive and statistically significant relationship between the political stream and the implementation of road safety policy measures (sig. = 0.000, $\rho = 0.372$). Furthermore, the findings demonstrated a moderate positive but statistically significant relationship between the policy stream and the execution of road safety policy measures (sig. = 0.000, $\rho = 0.335$).

6.2.2 Regression Analysis

The study adopted multiple linear regression to examine the influence of multiple streams on implementation of road safety policy measures. To establish this, the study used multiple linear regression model: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$ where: Y- Implementation of road safety policy measures, X_1 -Problem Stream X_2 -Policy Stream, X_3 -Politics Streams, ϵ -Error term.

Table 5.4 Model Summary for Multiple Streams Framework and Implementation of Road safety Policy Measures

	Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
Matatu Operators	1	.411 ^a	.169	.161	.39430

Source: Field data (2021)

The results ($R^2 = 0.169$) showed multiple streams framework counted for 16.9 % of variance in implementation of road safety policy measures in Kisii and Kisumu counties, leaving 83.1 % to be explained by exogenous factors. Adjusted R square was 0.012, thus the study predicted 1.2 percent influence of multiple streams on the implementation of road safety policy measures. The correlation between multiple streams framework and implementation of road safety policy measures was moderate and positive at 0.411 level implying that multiple streams framework moderately influenced implementation of road safety policy measures. These findings correspond with Ridde (2009) assertion that multiple streams framework has significant influence on the implementation of public policy and that it could be helpful in forecasting, comprehending, and explaining challenges relating to implementation of public policy and the framework can be used to predict the outcome of policy implementation (Zahariadis, 2014).

The study examined the goodness of fit of the model using ANOVA, table 5.6

Table 5. 5 ANOVA on Multiple Streams Framework and Implementation of Road Safety Policy Measures

	Model	Sum of Squares	df	Mean Square	F	Sig.
Matatu Operators	1 Regression	10.198	3	3.399	21.864	.000 ^b
	Residual	50.218	323	.155		
	Total	60.415	326			

Source: Field data (2021)

Matatu operators' data was run in SPSS and regression output showed ($F = 1,323 = 21.864$, $P = 0.000 < 0.05$) which indicated that model was good. It showed multiple streams predicted implementation of road safety policy measures outcomes. It is interpretable, therefore, that problem stream, policy stream, and politics stream jointly explained variance in implementation of road safety policy measures in Kisii and Kisumu counties. These findings are congruent with Ridde (2009) findings that the multiple-streams framework may be used to examine public policy implementation at the local level (decentralized units). These findings are also

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consistent with Zahariadis' (2014) claim that multiple streams framework can be used to predict the outcome of policy implementation.

In addition, the study examined the coefficients of multiple-streams framework.

Table 5.6 Coefficients for Multiple Streams Framework and Implementation of Road Safety Policy Measures

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients		t	Sig.	
			B	Beta			
Matatus Operators	1	(Constant)	2.008	.147		13.627	.000
		Problem stream	-.060	.041	-.088	-1.463	.145
		Policy stream	.200	.041	.310	4.849	.000
		Politics stream	.118	.034	.208	3.482	.000

Source: Field data (2021)

The findings demonstrate in the result ($B = -0.060$, $P=0.145 >0.05$) that when role of problem stream is computed alongside other variables, results thereof depict an insignificant effect on implementation of road safety policy measures. However, the findings, revealed that when policy stream is computed with other streams the findings, ($B=.200$, $P=0.000 < 0.05$), policy stream had significant influence on the implementation of road safety policy measures and when the politics stream is computed alongside other variables, the results ($B=.118$, $P=0.000 < 0.05$), revealed that politics stream had significant influence on the implementation of road safety policy measures in Kisii and Kisumu counties. Hence, the model equation is $Y = 2.008 + -0.060 X_1 + 0.200 X_2 + 0.118 X_3$. This implied that when problem stream increased by 1 implementation of road safety decreased by 0.060 units and when policy stream is increases by 1 unit, implementation of road safety increased by 0.200 units while when politics stream is increased by 1 unit, implementation of road safety increased by 0.118 units. Consequently, these findings suggested that the problem stream did not appeal to matatu operators in the implementation of road safety policy measures. This observation collaborates with Birkland (2019) who argued that problem stream constructs such as focusing events, statistics and feedback on points out that there is underling problem that needed to addressed but does not question the enactment of policy. On policy stream, this implied that the policy experts considered the viability, technical feasibility, congruence with social values of community members, public acceptability, and receptivity to the host people as Zahariadis (2014) proposes. Additionally, the study showed that the politics stream constructs shaped the implementation of road safety policy measures in Kisii and Kisumu counties to a greater extent. This finding is consistent with Hoe et al. (2019), observation that there was a link between political priority and results of implementing road safety policies and socio-political elements such as budgetary restrictions, has a major impact on the success or failure of public policy implementation (De Wals, Espinoza, and Béland, 2019).

7.0 CONCLUSION AND RECOMMENDATIONS

The study found that Problem Stream significantly influenced the implementation of road safety policy measures. Matatu operators were required to adhere to these measures if they were provided with information on focusing events, accident statistics, and opportunities to engage in road safety studies. However, Saccos, NPS, and NTSA lacked accurate accident records. To effectively implement road safety policy measures, entities responsible for enacting policies must understand Problem Stream aspects and ensure public information dissemination.

The study also concludes that existing road safety policies are generally accepted by matatu operators, but they only observe them due to fear of government punishments. They are also reluctant to learn from other peers' implementation experiences, which could be one reason why Kisii and Kisumu counties are leading in road accidents. This suggests that the policy stream has a significant impact on the implementation of road safety measures. Further, the study noted that political factors, such as party politics and public mood, significantly influenced the implementation of road safety policies, despite the survey showing that political actors rarely expressed interest in these issues.

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Co-Production of Public Services and Performance of Counties in Kenya: Does Literacy Matter?



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ABSTRACT: The benefits of an educated citizenry have been acknowledged widely as their contribution to governance is apparent including their participation in the production of services. As a result, citizens are increasingly involved in critical decisions of the state through public participation. It is on this basis that the study sought to examine the role of literacy levels on the relationship between coproduction and performance. Data was obtained from round 9 of the Afrobarometer survey. A sample of 2400 respondents was identified using a stratified random sampling technique. The sample was spread across the 47 counties of Kenya. A total of 8 Enumeration Areas (EAs) of 300 samples were selected. Probability Proportionate to Population Size (PPPS) was used to randomly choose population Sampling Units (PSUs). Data was collected using a structured questionnaire and administered by research assistants. The study established that the performance of county governments was below the citizens expectation. Nevertheless, there was a significant relationship between co production and performance for the respondents with basic and tertiary education clusters as opposed to those with informal education. The finding builds the existing literature on co production, literacy and performance and helps stakeholders to create policies to support the co production framework and establish an environment for promoting literacy of citizens.

KEYWORDS: Co-production, literacy, performance, services.

1. BACKGROUND

Citizen participation in nation-building has been constrained in developing economies, especially in sub-Saharan Africa. Thus, elected representatives and regular service providers often suppress the client's contribution to the service process in this setup. However, many reforms are underway to recognize the roles played by citizens under the co-production structure. This can be achieved through reforms in service processes and governance structures. In Kenya, for example, the constitution review process allowed citizens to participate in the decision-making process in what is commonly referred to as public participation. In the public sector, public participation is a good example of the co-production of services. The constitution ushered in an era of co-production with citizen involvement in service processes. Co-production denotes abandoning the consumer dimension of citizenship and understanding people as contributors of resources to generate shared value in collaboration with regular producers (Rosentraub & Harlow, 1983).

In this arrangement, citizens are organized to participate in programs and projects. Here, individual citizens and interest groups offer their expertise, influence, and experience in designing and implementing projects. Coproduction allows citizens to become coworkers with the government in fulfilling its mandate. This way, complex tasks can be easily realized, including combating disease outbreaks and malnutrition, formulating policies and laws, project planning, and budgeting. Citizens and civil societies can also check the government and improve its accountability, transparency, and effectiveness. Using coproduction, citizens can detect non-conformities, support the service providers, and recommend adjustments. Co-production has been credited with improved citizen well-being, inclusivity, peace, and improved service delivery have been reported in many countries, including economic empowerment of vulnerable women in Bangladesh (Babu, Alwi & Kamal, 2020); improvement of access to housing in the informal settlements in Zimbabwe (Chavunduka & Chaonwa-Gaza, 2021), and Climate Smart Agriculture Multi-Stakeholder Platform in Kenya (CSA-MSP) as reported by Kirina & Groot, 2022).

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Much information on coproduction was built in the 1970s and the 1980s. During this time, scholars sought to link coproduction with outcomes including performance, citizen well-being, and efficiency, among others. The majority of the studies establish a relationship between coproduction and performance. Most of the investigations were in public administration (Miller & Wyborn, 2020), with other disciplines (i.e., health sciences, technology, Sustainability, and business) domesticating the concept in the twenty-first century. In these studies, the use of inclusion, gender, and age as intervening variables is predominant. However, a dearth of knowledge exists on how intervening variables such as the literacy of citizens influence the relationship between coproduction and performance of services.

The study's contribution will be threefold: empirical, theoretical, and practical. In practice, the study will attempt to show citizens' contributions to county government services and how their role can be enhanced. In theory, the study will seek to draw on the postulations of collaboration theory where individuals or organizations work together irrespective of the structures in their context. The theory proffers that collaborations can also exist at intraorganizational, or inter-organizational levels where civil society organizations can support the work of government. Empirically, the study shall seek to establish the moderating role of literacy on the relationship between coproduction and performance.

2. EMPIRICAL LITERATURE

2.1 Co-production and Performance

The concept of services emerged out of the seminal work of Baumol in 1967 when labour was critically required in agricultural farms in most parts of the world. Initially, services were "provider-centric," with the producers perceived as predominant players in the process. In 1970, Brudney and England wrote an article on the coproduction concept that elicited a discussion on clients' role in the service process. To Brudney and his colleague, clients were not mere bystanders in the service journey but essential actors. They believed that there was an overlap between the roles of the participants—regular producers (e.g., service agents, public administrators) and consumers (e.g., citizens, neighborhood associations). In the twenty-first century, coproduction emerged as a concept for understanding the interactions between service providers and clients. It is during this period that other disciplines adopted the concept (i.e., public administration; Science and Technology; Sustainability Science, Health Sciences) in service processes as observed by Miller and Wyborn (2020).

The multidisciplinary nature of the concept is reflected in the works of Lember et al., 2019; Yuan et al., (2021) who, for example, studied co-production in science and technology; while Hyde & Davies (2004,2012 Marsilio (2021) studied health sciences; Casidy, Leckie, Johnson et.al., (2022); Chathoth et al., (2013); Yalley (2022) in business studies; Allen et al., (2020); Bovaird (2007); Gazley et al., (2020); Liu et al., (2022); Ma & Wu (2020); Masiya and Davids, (2019); Mnguni (2018) in public administration. Miller and Wyborn (2020) focused their investigation on sustainability studies. Research has attempted to establish the nexus between coproduction and performance in diverse fields. In the field of marketing, for example, collaborative efforts in designing and producing services with consumers have been utilized to engage the public and market demands, either as a force for good or as a means to maintain a desired public image. In an inquiry made by Mnguni (2018) co-production was found to improve the performance of new products and services among Small and Medium Enterprises (SMEs) in China. In the public sector, Allen and Tamindael (2020) found that co-production with Korean citizens increased the performance of projects. In Nigeria, (Landi & Russo, 2022) observed that the inclusion of non-state actors in waste management co-production brought about increased public awareness and performance in garbage collection. Therefore, the literature points to the nexus between co-production and performance.

2.2 Literacy and Performance

Performance is a crucial parameter in the public sector. It allows organizations to demonstrate their responsibility towards internal, and external users and is a catalyst for continual improvement. It is becoming a common debate in public management theory and practice. Performance denotes output, outcome, efficiency, and effectiveness. It is noteworthy that studies have focused on the link between the various forms of literacies on performance including financial (Istan, 2023), computer (Khan & Ullah,2023), and health (Price, 2021). As a result, there has been interest in establishing the link between literacy and performance. The studies established a significant relationship between literacy level and performance.

Although public participation was perceived as a window of inclusion of the citizenry into public services, it is now emerging that the citizens are becoming co-producers of services with the state, most of whom possess low literacy levels (Ferguson & Roofe, 2020). Cases of involvement of citizens in co-production are replete in literature and range from participation in budgeting (Affandi & Marijan 2023), provision of utilities (Landi & Russo, 2022)including garbage collection, performance management (Akanbang & Abdallah, 2021), as well as making laws and regulations (Mouter & Itten 2021). This development is posing a challenge to the

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quality of government-citizen involvement. Inquiries into the contribution of literacy to the relationship between co-production and performance remain unclear.

3. METHODS

3.1 Population and Sampling

The current study obtained data from the round 9 Afrobarometer study conducted in Kenya in 2022. The Afrobarometer study obtained its sampling frame from the 2019 Kenya National Census survey. The Investigators also collaborated with the Kenya Bureau of Statistics to provide data on urban centers. A total of 21,610,995 citizens were used as the universe for the study. This universe was identified from the population that were of voting age from the 47 counties although those from areas that were deemed inaccessible such as parks and places experiencing unrest were excluded. A total of 2400 was used as the sample for the study.

Sampling was done in multiple stages. In the first stage, the sample was stratified into urban and rural Enumeration Areas. In the second stage, households were sampled using a randomly selected pattern through a map provided by the KNBS. In the third stage, men and women respondents were selected randomly. The software was used to randomly select between a man and a woman in the household. In case a man is selected, a woman is selected in the subsequent interview. This way, all social demographics were given a chance of included in the study. A total of 8 clustered 8 Enumeration Areas (EAs) of 300 samples were selected. Probability Proportionate to population size was used to randomly choose population Sampling Units (PSUs).

3.2 Tools

The round 9 Afro barometer questionnaire (<https://www.afrobarometer.org/survey-resource/kenya-round-9-questionnaire-2021>) was used in data collection. The tool covered demographics which included age, gender, educational level, etc. of the respondents. There were questions on constructs such as public participation and the performance of county governments in Kenya. Co-production (public participation) had 5 Likert scale items beginning with "Very Easy" to "Don't Know" whereas the performance of county government had 6 Likert scale items starting with "Improved a lot" to "Don't know. Performance was measured by education, health, nutrition, housing, labor force, transparency and accountability, rule of law, and effectiveness.

3.3 Data Collection

Data was collected electronically using the SurveyToGo which was installed in data collection gadgets. The study had 4 categories of data collection officials—fieldworkers, field supervisors, and fieldwork managers who were in charge of 4 fieldworkers, and National investigators. The NI recruited and trained field supervisors and fieldworkers in a 5-day workshop. The fieldwork personnel then traveled to the enumeration areas.

The supervisors kept a daily written log of sampling and interview conditions as well as contextual notes. University of Nairobi Data Management Team offered technical support to the field officials during data collection. The data collected was submitted in real-time to the server at the University of Cape Town. The fieldwork supervisors held daily debriefings with the field workers. The interviews were conducted in a language of the respondent's choice using electronic tablets and took about an hour with their responses strictly treated confidentially.

3.4 Data Management

Data was uploaded to the server as soon as it was collected. After electronically capturing the data, the network data managers (NDM) produced a clean data set that met the prescribed criteria clearly labeled (i.e., -1) missing data, and was internally consistent. The Electronic data capture software substantially reduced the data cleaning process although data cleaning started with the field work and culminated with the network data managers. Data coding into SPSS began with assigning key identifiers for Kenyan respondents. The surveyToGo was used to assign KEN (code that represents Kenya) which was followed by the number of the respondent's data.

The final step in the data cleaning process was data verification. It involved devising external checks that compare the data set to the original sample i.e., urban vs rural, gender distribution weighted distribution with regards to ethnicity, education, etc. was done through the cleaning process. Afro barometer common template was used in the development of the final SPSS data set. For purposes of the current study, the data was separated into subpopulations according the respondents' literacy levels. Three subpopulations were identified: inform, basic and tertiary levels of education. All the datasets were then analyzed using descriptive statistics (i.e., Mean and SD), and inferential statistics (simple linear regression). Analyzed outputs were presented in tables, and figures and written in continuous prose.

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4. Findings

4.1 Demographic Profiles of Respondents

Key study described how the population was structured in terms of age, gender, educational level, and employment status of the 2400 sampled respondents was analyzed, and findings are presented in Table 1.

Table 1: Demographic Distribution of Respondent

		Frequency	Percent
Gender	Male	1200	50.0
	Female	1200	50.0
	Total	2400	100.0
Residence	Urban	840	35.0
	Rural	1560	65.0
	Total	2400	100.0
Age (in Years)	18-25	698	29.1
	26-35	641	26.7
	36-45	394	16.4
	46-55	312	13.0
	56-65	214	8.9
	Over 65	139	5.8
	Total	2400	100
Education Level	Informal	391	16.3
	Basic education	1477	61.5
	Tertiary	532	22.2
	Refused	4	0.2
	Total	2400	100.0
Employment Status	Unemployed	1430	59.6
	Part-Time	398	16.6
	Full-Time	572	23.8
	Total	2400	100

Source: Afro Barometer Survey (2022)

Table 1 shows a near gender parity among sampled respondents at 50%. Close to a third (35%) of the population was residing in the urban areas compared to two-thirds (65%) in the rural areas. Most participants were youthful with 29.1% being 18-25 years old, 26.7% being 26-35 years, 16.4% being 36-45 years and those over 65 were the fewest at 5.8%. Majority of the respondents had basic education (61.5%) with primary and secondary qualifications, followed by those with tertiary education (22.2%) with college, postgraduate diploma, and postgraduate studies, those who had informal education were 16.3% of the sample population. 59.6% of the respondents had no employment with 23.8% having full-time employment while 16.6% had part time employment.

4.2 Descriptive Statistics

Descriptive statistics were used to describe the perception of the participants towards the selected services. It also presents findings on the perceived levels of performance over a period of 5 years in the 47 counties. Table 2, presents the means and Standard Deviation (SD).

Table 2: Descriptive Statistics

Item	N	Mean	SD
Public Participation			
Ease participation in county budgeting, planning	2400	3.32	1.040
Ease access to county budgets, legislation, and project plans	2400	3.32	1.096

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Ease influencing county decision-making	2400	3.43	1.028
Performance of Counties			
Education	2400	3.56	1.338
Healthcare	2400	3.39	1.277
Nutrition	2400	2.79	1.484
Housing	2400	2.71	1.458
Labour force	2400	1.98	1.296
Transparency and accountability	2400	2.52	1.693
The rule of law	2400	2.89	1.664
Government effectiveness	2400	2.95	1.800

Source: Afro Barometer Survey (2022)

Table 2, shows that it was difficult for members of the public to participate in county budgeting and planning (Mean=3.32, SD=1.040). This was also the case for access to budgets, legislation, and project plans (Mean=3.32, SD=1.096). Similarly, findings show that it was difficult for members of the public to influence county decision-making (M=3.43, SD=1.028). On the other hand, Table 2 shows that service delivery in education had somewhat improved over 5 years (Mean=3.56, SD=1.338). However, there was no meaningful change in the delivery of services in the Healthcare (Mean=3.39, SD=1.277), Nutrition (Mean=2.79, SD=1.484), and Housing (Mean=2.71, SD=1.458) sectors across the country over five years. Parameters of performance including transparency and accountability (Mean=2.52, SD=1.693), rule of law (Mean=2.89, SD=1.664), and government effectiveness (Mean=2.95, SD=1.8) had also remained the same over the past 5 years except for services in the labour force (Mean=1.98, SD=1.296) which had worsened.

4.3 Hypothesis Testing Results

Simple linear regression was used to determine the influence of literacy levels on the relationship between coproduction, and performance. The regression establishes how much of each predictor variable has to do with the regression (Tabachnick & Fidel, 2013). Using this regression analysis, the contribution of literacy levels, coproduction, and performance were measured in the model summary table (Table 3) whereas, the predictive power of the constructs is presented in Table 4. The significance levels of the relationship were measured using the coefficients which are presented in Table 5.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Informal	.060 ^a	.004	.001	1.23985
Basic Education	.071 ^a	.005	.004	.88259
Tertiary	.180 ^a	.033	.031	.85570

Source: Afro Barometer Survey (2022)

Table 3 presents the model summary results. For the informal education cluster, it was observed that co production had the least (R square=0.004) contribution to performance. There was a slight improvement with basic education where the contribution of coproduction was 0.05%. In the tertiary education cluster, the study observed that co-production contributed 0.3% to the performance. When the contribution of the three clusters was summed up, it was observed that literacy contributed a total of 0.38% to the performance which can be considered negligible.

ANOVA presented in Table 4 shows coefficients indicating the predictive strength of coproduction in performance as represented by F coefficients and significant levels.

Table 4. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
Formal	Regression	2.137	1	2.137	1.390	.239 ^b
	Residual	597.984	389	1.537		

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	Total	600.121	390			
Basic Education	Regression	5.846	1	5.846	7.504	.006 ^b
	Residual	1148.984	1475	.779		
	Total	1154.830	1476			
Tertiary	Regression	13.016	1	13.016	17.776	.000 ^b
	Residual	387.349	529	.732		
	Total	400.365	530			

Source: Afro Barometer Survey (2022)

Coproduction was found to possess sufficient predictive power on the degree of performance for basic education ($F=7.5046$; $df=1$, $sig.=.006<0.05$); tertiary education ($F=17.776$ $df=1$, $sig.=.000<0.05$). However, coproduction was not found to possess sufficient predictive power on the performance of counties for those with informal education ($F=1.39.660$; $df=1$, $sig.=.239>0.05$).

Table 5 illustrates indices (t coefficients and sig. levels) that were utilized to test the hypothesis (the study accepted or rejected the hypothesis when the p-value was $p<0.05$ and vice versa).

Table 5. Coefficients on Coproduction and Performance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
Informal	(Constant)	2.745	.175		15.715	.000
	Co-production	.054	.046	.060	1.179	.239
Basic Education	(Constant)	3.092	.097		31.795	.000
	Co-production	-.078	.029	-.071	-2.739	.006
Tertiary	(Constant)	3.578	.183		19.546	.000
	Co-production	-.226	.054	-.180	-4.216	.000

Source: Afro Barometer Survey (2022)

On basic education, findings ($\beta = -.078$, $t = -2.739$, $p = 0.006 < 0.05$) indicated that there was a significant relationship between co-production and the performance of county government services. Similarly, the findings ($\beta = -.226$, $t = -4.216$, $p = 0.000 < 0.05$) show that there was a significant relationship between co-production and the performance of county government services for those participants who had tertiary education., the null hypothesis was also rejected. The findings obtained at the basic and tertiary education levels are consistent with those of Xie (2020) and Allen et al., (2020) who observed a relationship between co-production and performance. However, findings ($\beta = 0.54$, $t = 1.179$, $p = 0.239 > 0.05$) show that there was no significant relationship between co-production and the performance of county government services for those participants who had informal education. As a result, the study failed to reject the null hypothesis on informal education cluster.

5. RESEARCH IMPLICATIONS

5.1 Implication to Theory

The study contributes to the collaboration theory as partnerships in the public sector are becoming inevitable. As the state continues to collaborate with other players including the private sector, the citizen's participation is becoming more prevalent. The collaborative theory holds that each player injects value and participates from a standpoint of information to make services meaningful. This study confirms this assertion as the contribution of citizens in coproduction is directly proportional to their literacy levels. The study also contributes to the theory of performance, literacy, and co-production, where the nexus between the variables was established. The role of literacy in the relationship between co-production and performance was also established and a comparison between informal, basic, and tertiary education made.

5.2 Implication to Practice

The benefits of an educated citizenry have been acknowledged widely. The current study confirms that the contribution of literacy is apparent in governance. The findings of the current study are useful to many stakeholders including policymakers in the national and county governments, academia, and nonstate actors. Firstly, the study establishes the nexus between co-production and performance and encourages policymakers to promote this governance practice. Secondly, a clear distinction is made between

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the literacy levels where those who are informally educated do not make any meaningful contribution to the quality of the coproduction of services and even performance. The findings call on the policymakers to promote access to education among the citizens.

6.0 CONCLUSION

Although public participation is envisaged in Article 10 (2) of the Constitution of Kenya 2010, the study establishes that citizens had difficulty participating in the budgeting process, legislation, project planning, and decision-making. This notwithstanding, counties were able to improve access to basic education between 2017-2022, although Healthcare, Nutrition, and Housing had not improved in the same period. Nevertheless, there was a significant relationship between co production and performance for the respondents with basic and tertiary education clusters as opposed to the informal education cluster.

7.0 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

7.1 Recommendations for Practice

Based on the findings the study makes the following recommendations:

1. Increased efforts to enhance access to education including civic education for the citizens to improve their contribution to governance
2. County government to recognize the contribution of public participation in service delivery

7.2 Limitations and Recommendations for Future Research

The study encountered several limitations. For example, the investigators did not recognize lifelong learning as a form of education that is prevalent among the citizens. Instead, the study was focused on the acquisition of formal education. This limitation hinders the application of the study. As a result, the study recommends further investigation where lifelong learning is taken into consideration.

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Navigating the Wicked Policy Problem: An In-Depth Analysis of Policy Dilemmas and Innovative Approaches for Effective Problem Solving



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ABSTRACT: The UN established the 17 Sustainable Development Goals (SDGs) to address a variety of social, economic, and environmental issues in order to ensure a more equitable future for all. These issues are to be addressed through policy and various relevant programs. However, some policy problems are hardly fixed despite the fact that many public policies are ostensibly being developed to address them. Wicked problems keep on piling up. Policy issues such as road safety, corruption, poverty and inequality, unemployment, land disputes, environmental degradation, gender equality, and so on have drawn a growing number of policies in an effort to address them, but these issues are recognized as being essentially amorphous and stubborn, hence creating policy dilemmas. This article offers a greater grasp of the alternatives for fixing wicked problems. It considers policy networks, policy entrepreneurship, collaborative governance, data-driven decision-making, policy diffusion, decentralization, and strategic placement of street-level bureaucrats as key strategies for tackling complex policy issues. This article makes the case that an integrated policy package is best suited to address wicked policy issues. This implies that addressing wicked problems requires a multifaceted and adaptive approach, as no single problem-solving technique can consistently and reliably provide a wide-ranging result.

KEYWORDS: Wicked Problem, Policy Diffusion, Policy Network, Collaborative Governance, Policy Entrepreneurship.

1.0 INTRODUCTION

Decision-makers frequently encounter extreme complexity and unpredictable results when tackling wicked policy issues (Wright, Cairns, O'Brien, & Goodwin, 2019). Wicked problems are highly intricate, interconnected, and resist straightforward solutions (Hannigan & Coffey, 2011). Alternative strategies may be required if conventional approaches prove to be insufficient. In order to address wicked policy problems, alternative approaches must be creative and flexible in order to acknowledge the complex character of the problems at hand (Roberts, 2000). These alternative approaches frequently place an emphasis on policy networks, policy entrepreneurship, collaborative governance, data-driven decision-making, policy diffusion, decentralization, and strategic placement of street-level bureaucrats to traverse the inherent complexity and unpredictability associated with wicked policy problems.

The concept of wicked policy problem was first mentioned by Horst Rittel and Melvin Webber in 1973 in their presentation entitled 'Dilemmas in a General Theory of Planning', during a conference at the University of Berkley in California. In their presentations, Rittel and Webber classified policy problems as wicked and tame problems. The authors noted that wicked problems are social and organizational planning issues that cannot be solved using conventional linear, analytical approaches as opposed to tame problems.

Wicked policy problems exist in all organizations that deal with public policy planning (Head, 2019). This policy problem camouflages in various terms in various establishments. Terms such as intractable problem, persistent problem, recalcitrant problem, or chronic problem refer to wicked policy problem. What is a wicked policy problem?

An analogy for a wicked policy problem would be a tangled knot. It is intricate, convoluted, and challenging to untangle, just like a knot. There are many intertwined threads in it that represent many parties, interests, and viewpoints. Patience, ingenuity, and careful examination of the position and influence of each thread are necessary to untangle the knot. Moreover, attempting to address a problem by pulling on one thread could unintentionally tighten another area of the knot, adding to the complexity of

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the situation. Similar to a twisted knot, wicked policy issues can defy straightforward fixes and necessitate an all-encompassing strategy to adequately handle them.

Ritchey (2013) opines that planners who attempt to address problems may suffer terrible unintended effects because problems are wicked in the sense of being severely cunning. Ritchey continues to observe that wicked problems are those complex, ever-changing societal and organizational planning problems that you haven't been able to treat with much success, because they won't keep still. They're messy, devious, and they fight back when you try to deal with them.

As connoted above, and as Johanna and Katrien (2021) pointed out, Rittel, and Webber (1973) in their seminar paper described natural science problems as tame problems that are well-defined and that can be addressed through linear, reductionistic problem-solving approaches. Social science problems, on the other hand, were described as wicked. Ritchey (2013) in citing Rittel and Webber (1973) described the wicked problems as follows: there is no definitive formulation of a wicked problem; wicked problems have no stopping rule, i.e., there is no point in time at which the process of addressing a problem is completed; solutions to wicked problems are not true-or false, but good-or-bad; there is no immediate and no ultimate test of a solution to a wicked problem; every solution to a wicked problem is a 'one shot' operation; wicked problems do not have an enumerable or exhaustively describable set of potential solutions, nor is there a well-described set of permissible operations for addressing wicked problems; every wicked problem is essentially unique; every wicked problem can be considered to be a symptom of another problem; the analyst's world view is the strongest determining factor for explaining differences in descriptions of wicked problems and preferences for how they should be addressed; and the planner has no right to be wrong.

This study is rife to the fact that this description of wicked problems has been criticized for resting on a flawed assumption of wicked (Turnbull, & Hoppe, 2019). Nonetheless, scholars—including those who contest the definition of a wicked problem—generally agree that all organizations involved in public policymaking have wicked challenges (Termeer, Dewulf, & Biesbroek, 2019). While Johanna and Katrien (2021) acknowledge that scholars have contended that labeling issues as wicked could cause inactivity and dissuade interested parties from trying to resolve them, this isn't always the case since, for some, it can serve as a catalyst to pursue a policy issue to its ultimate conclusion.

2.0 STATEMENT OF THE PROBLEM

The goal of public policy is to address social issues that impact communities. Governments at all levels have, in fact, developed and put into effect a variety of policies. But many of the policy issued that are identified in today's policy-making environments are complicated, multifaceted and mutative in nature. As a result of this, conventional policy approaches frequently fail to resolve these issues in an effective manner, calling for innovative approaches and new perspectives. This study sought to establish the influence of integrated implementation policy framework strategies on addressing wicked policy problems.

3.0 SIGNIFICANCE OF THE STUDY

This research will provide valuable insights for politicians, citizens, business leaders, non-state actors, as well as policymakers at both national and local levels, and academics. It aims to enhance their understanding of the complexities inherent in wicked policy problems and to help them assess innovative methods for tackling such challenges effectively.

4.0 METHODOLOGY

The study opted to use a qualitative design to come up with its body of reliable knowledge in this topic of study.

5.0 OBJECTIVES

This study was guided by the following objectives

- i. To explore the limitations of conventional approaches to addressing wicked policy problem
- ii. To evaluate alternative innovative approaches that demonstrate promise in navigating wicked policy problems

6.0 EMPIRICAL REVIEWS

6.1 Limitations of Conventional Approaches to Addressing Wicked Policy Problem

Mueller (2020) observed that the failure of public policies is ubiquitous. He attributes this failure to public policies' complicated systemic structure. However, it is hard to define what is a policy failure. Some public initiatives are obviously considered failed because they either manifestly injure people or have unforeseen or unintended repercussions (Berger & Carlson, 2020). But in many cases, it is not so clear whether the policy has rightly failed. Many policies have different dimensions, so that some

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dimensions can meet their targets while others can miss. Mueller (2020) contend that what is a failure to one person might be a success to another, as different people have different policy preferences. A policy fails, even if it is successful in some minimal respects, if it does not fundamentally achieve the goals that proponents set out to achieve, and opposition is great and/or support is virtually non-existent (McConnell, 2015). All policies fail, but not all of them do so for the same reasons. Many policies fall short due to a combination of poor leadership, corruption, incapacity, and/or resource scarcity, but they would still be extremely susceptible to failure even in the absence of these issues (Okolie & Edo, 2023).

However, innovative techniques such as prediction markets, experimentation and trial-and-error, 'bucket testing' and the 'mullet Strategy,' are appropriate in business and government when it comes to handling complicated issues (Watts, 2011). These approaches frequently leverage new information technologies to get past roadblocks and allow answers to emerge from the bottom up (Hayek, 2013). These remedies, however, are not panaceas for every policy objective. Mueller (2020) contends that the inherent complexity of the issue persists and that these techniques only address a portion of the issue, not the whole policy problem. Such implementation techniques have been applied but failed a number of policies. For instance, Microcredit. Microcredit is a policy that offers small loans to poor people, often women, who lack access to official or private credit. It aims to promote entrepreneurship and reduce poverty by providing them with a foundation to build human, financial, and social capital. Founder Muhammad Yunus of the Grameen Bank in Pakistan introduced the idea in 1983. This model has been widely adopted worldwide, addressing poverty and focusing on communities, making it gender-sensitive and a significant problem in humanities (Phan, Vo, & Vo, 2023). Despite initial enthusiasm, as the policy matured and a track record became available, doubts arose about the effectiveness of microcredit in delivering its intended benefits to its beneficiaries, as it was unclear if the expected benefits were actually being realized (Jiang, Paudel, & Zou, 2020).

7.0 ALTERNATIVE INNOVATIVE APPROACHES AND WICKED POLICY PROBLEMS

7.1 Policy Networks Approach and Wicked Policy Problem

In contrast to hierarchies, policy networks are more suited for handling wicked problems because of their complexity, multidimensionality, lack of conclusive solutions, and conflicting values or interests among stakeholders (Klasche, 2021; Lutz-Ley et al, 2021). Policy networks include a broad range of players from various sectors, including government agencies, non-profit organizations, corporations, and civil society groups, in contrast to hierarchical arrangements, where decision-making authority is centralized at the top (Santori & Jin, 2023).

These policy players collaborate, exchange expertise, and offer comprehensive answers so that everyone may make sound choices and address wicked issues. The holy book reads, 'just as a body, though one, has many parts, all its many parts forms and function on one body.' This is the similar way in which policy networks ought to function. A network of relationships connecting various policy actors and stakeholders—each with a distinct role—is assembled to form policy networks in order to create and implement policies (Wang & Ran, 2023). The group of actors can comprise government and non-government entities working together towards the common objective (Locatelli et al., 2020). This implies that there are policy issues that can't be fixed by a single entity. For example, policy issues like environmental deterioration, conflicts over land, inequalities and poverty, corruption, road safety, and youth unemployment cannot be addressed comprehensively by single entity. Sydelko, Espinosa and Midgley (2023) contend that it requires the combined efforts and interactions of several policy actors to address complex policy issues.

Carlsson (2000) indicate that policy networks are a collective action. Participants bring forth diverse needed expertise, additional resources, and alternative perspectives to policy issues. According to Knoke (2019), policy networks collaborate, communicate, negotiate, and exchange information in order to create and implement policies that address wicked issues. Policy network analysis focuses on the connections and interdependencies between the government and other social actors in an effort to understand the process of developing public policy and its outcomes (Adam & Kriesi, 2019). In this regard, Sydelko, Espinosa, and Midgley (2023) observe that wicked problems necessitate cross-agency government answers and are beyond the purview of a single agency. For instance, terrorism, money laundering, child trafficking, goods smuggling, climate degradation necessitates a complete systemic strategy that transcends boundaries and includes individuals and stakeholders in the co-production of policy and its implementation for positive results. Yet, misaligned actions taken by a single organization can have unfavorable consequences (Ferlie et al., 2011; Urquhart et al., 2023). Furthermore, Turnbull and Hoppe (2019) claim that policy networks offer already linked pathways for problem-solving and are able to handle problems, coordinate resources, create learning opportunities, and address shared goals (McGann & Whelan, 2020). This is because policy networks are adaptable, effective, and creative hybrids of organizational structures that allow members to work together to achieve objectives that would be impossible for them to achieve separately (Adam & Kriesi, 2019).

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Contrastingly, although there is a growing body of research examining money laundering and the laws designed to prevent it, Gerbrands, Unger, Getzner, and Ferwerda (2022) find that it is still unclear how successful these laws are overall. Money laundering and terrorism have generated great interest internationally because of their implications for economies and financial institutions worldwide. Money laundering undermines the integrity of financial systems, results in a loss of control over an economy's policies, distorts the financial system, creates instability in investments, and reduces government tax revenue (Segovia-Vargas, 2021). On the other hand, tiny economies are particularly hard hit by the financing of terrorism (Sunarmi & Lubis, 2020). In order to counteract terrorism and money laundering through practice and policy, cooperation amongst policy networks is required (Segovia-Vargas, 2021).

In Peru, as a case study, Locatelli et al. (2020) demonstrated that policy network analysis is a useful method to evaluate the degree of internal climate policy integration in the land-use sector (wicked issue). In Peru, national government institutions play a pivotal role in climate change policy networks that demonstrate national ownership of the issue. Conversely, private sector organizations and subnational actors exhibit the least involvement in climate change information sharing and collaboration. Although players from many levels and sectors are engaging in both adaptation and mitigation, which is encouraging for climate policy integration, the mitigation policy subdomain predominates in Peru's climate change policy network. In the climate change policy network, there is a good chance for multi-actor coordination and collaboration, despite the homophily in some groups and the dominance of particular actors. In addition to serving as the focal point of each subdomain, actors with the ability to connect the two policy subdomains also fill in any structural gaps that exist between them.

Locatelli et al. (2020)'s case study takes as back to the analogy of the functioning of human body with many different parts but all working together harmoniously and collaborate to achieve a common goal. Policy networks consist of diverse actors and stakeholders, each playing a unique role and interconnected in a web of relationships to develop and implement policies. Therefore, policy network approach to solving obstinate policy problems is critical in the formulation and implementation of public policies.

7.2 Multiple Streams Approach and Wicked Policy Problem

Kingdon's multiple streams approach can help to address wicked policy problem, which are multifaceted, incredibly unpredictable, and involve a number of parties with competing interests. The MSA suggests that for meaningful policy change to take place, three distinct streams—problem, policy, and politics—need to merge (Béland, 2016). After the coupling of the streams, the policy window open, an opportunity which the policy entrepreneur seizes and manipulate to bring forth policy change (Herweg, Zohlnhöfer, & Zahariadis, 2019). Omweri, Muna, and Njoroge (2023) contend that the multiple streams approach provides a useful lens for understanding the complex interactions between social, political, and economic factors that influence the formulation and implementation of wicked policy.

Kingdon's (1984) work introduced policy entrepreneurship as a theoretical concept about the individual's role in policy change. Studies have identified and described policy entrepreneurs as innovative individuals or groups from the private, public, or third sectors who are willing to invest resources—time, energy, expertise, or money—to either advocate for major policy changes or resist them. They are characterized as energetic actors who work with others in and around policymaking venues, leveraging resources to promote a favored policy change. They exploit opportunities to influence policy outcomes—without having the resources required to achieve this goal alone. If necessary, they risk their reputations and the loss of their investment in order to promote a policy they favor in hopes of a future return. Once they identified the issue, they provide recommendations, work to get them on the political agenda, legitimate them, make it easier for them to be put into practice, and promote evaluation (Frisch, Cohen, & Beerli, 2020).

Kingdon further argues that policy solutions are made while waiting to find policy problems and then policy entrepreneurs complete the cycle by attaching solutions to these problems (Béland & Howlett, 2016). Further, The MSF captures the role or activities involved in identifying problems that require a solution, finding circulating policies that address those problems, and navigating the political climate in the policy community as well as the general sentiment of the country (Omweri, Muna, & Njoroge, 2023). A savvy and resourceful actor (policy entrepreneur) will take advantage of any window of opportunity to bring together all three streams and push for a change in policy (Harrison, 2023).

Every stream is essential to solving the wicked policy issue. Firstly, the problem stream focuses on to the identification and characterization of wicked policy issues. Having multiple interrelated components, being hard to define, and lacking a final answer are characteristics of wicked situations (Ritchey, 2013, in citing Rittel and Webber, 1973). The multiple streams strategy acknowledges the value of framing, agenda-setting, and problem awareness in drawing attention to wicked problems and making them prominent for policymakers (Herweg, Zahariadis, & Zohlnhöfer, 2023).

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Secondly, the policy stream entails developing possible fixes for difficult-to-solve issues. In this stream, specialists and policy entrepreneurs create and advance alternative policies that can deal with the wicked issues (Fowler, 2019). In order to achieve this goal, such policy alternatives must meet the criteria Lindquist et al. (2021) advances that policy choice needs to satisfy the following requirements: it must be technically feasible, have value acceptance among policy specialists, have reasonable costs, and be accepted by the public and politicians. This suggests that in the event that this requirement is not met, the policy will remain resistant to policy fixes.

Thirdly, According to Fitch, Fairbrass, Fitch, & Fairbrass (2018), the politics stream focuses on the political landscape and the setting in which policies are developed. It is centered on the political environment, power relationships, and the existence of either helpful or detrimental policy actors (Zahariadis, 2019). Wicked problems often involve diverse and conflicting interests, (Rittel and Webber, 1973), making the politics stream central to addressing such obstinate policy issues. Therefore, policy entrepreneurs should be astute, rally support from key parties, and align their suggested policy solutions with the reality of politics.

Based on the aforementioned analysis, this study concludes that policymakers are more likely to act when a wicked problem garners public attention (problem stream), there are workable policy options (policy stream), and the political environment is conducive (politics stream). Policymakers can better comprehend the complexity of wicked policy challenges and create solutions by applying the multiple stream approach. In order to enable a more thorough and successful policy response to wicked problems, a holistic approach that takes into account the interactions between issues, politics, and policies are critical.

7.3 Strategic Placement of Street-Level Bureaucrats Approach

Setegn (2018) state that public policies made at the top will have to be implemented at local level by street-level bureaucrats who enjoy a considerable degree of autonomy and discretion in the execution of their duties. Lipsky (1980, [2010]) describes street-level bureaucrats as public employees- front lines- who interact directly with citizens. Lipsky contend that these are workers who work in schools, lower courts, legal services officers and other agencies whose workers interact with and have wide discretion over dispensation of benefits or allocation of public sanctions. Street-level bureaucrats aid the execution of policies and the resolution of complex policy issues are greatly (Tummers, & Bekkers, 2014). They play critical roles in tackling intricate and multifaceted problems that are difficult to solve and frequently include conflicting interests and ideals (Tucker, Hendy, & Chrysanthaki, 2022).

Though street-level workers can take many different shapes and forms and they develop coping mechanisms in performing their duties in implementation of public policies, the jobs typically could not be performed according to the highest standards of decision making in the various fields because street-level workers lacked the time, information, or other resources necessary to respond properly to the individual case. Instead, street-level bureaucrats manage their difficult jobs by developing routines of practice and psychologically simplifying their clientele and environment in ways that strongly influence the outcomes of their efforts. Mass processing of clients is the norm, and has important implications for the quality of treatment and services (Lipsky, 1980).

Consequently, street-level workers with insufficient resources, time, information, and mass client processing have serious and dire consequences to implementation of public policy (Visintin, et al., 2021). For instance, firstly, the ability to carry out public policies efficiently may be hampered by a lack of resources, including infrastructure, personnel, and finance. It is necessary to implement policies pertaining to critical services—like waste management, firefighting, emergency services, utilities, food, health, and finance—as swiftly and without any interruptions as possible. Secondly, street-level officials frequently deal with heavy workloads and time constraints, which can make it difficult for them to provide each client the proper attention and care. This could result in hasty judgments, mistakes, and an incapacity to handle complicated or unusual situations. For example, it could be difficult for a teacher who has a heavy schedule at school to successfully execute the curriculum within the allotted time frame and achieve the desired results in each learner. Thirdly, street-level bureaucrats may find it difficult to make wise decisions or offer suitable services if they do not have access to timely and correct information in the implementation of public policies. This may lead to inconsistencies, inefficiencies, and possible harm to the desired policy outcomes. Fourth, when dealing with a huge volume of clients, street-level officials may turn to expedient, standardized processing techniques in the policy implementation. This could lead to a propensity to prioritize speed over quality as well as a lack of expert care and assistance in the process of putting policy into practice (May, & Winter, 2009).

These consequences, as demonstrated above, compromise the fairness and efficiency of the execution of public policy and services. Therefore, it is necessary for policymakers to set aside sufficient funds, offer sufficient guidance and assistance, and give top priority to supplying street-level bureaucrats with correct and timely information if the intended outcomes of policies are to be achieved. Providing the street level workers with such essentials, culminates to positioning them strategically in executing public policies, hence addressing wicked policy problems. This is further demonstrated in study Setegn (2018) conducted to

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explore the factors which influence street-level bureaucrats in the implementation of public policies in Land bank and transfer office of Addis Ababa. The study showed that factors- problem of resources, clarity of goals and objectives and control measures, influenced the role of the officers and the decisions they take in providing access to land for the public through tender. It was further noted that the officers were not equipped with the necessary resources which in turn influence the extent to which they provide the necessary services to the public. The findings also revealed that the officers' level of experience and education has a significant influence on the extent to which they are able to develop coping mechanisms when the situation calls for it. Street-level officials can be strategically positioned to solve wicked policy issues. Strategic positioning means training street-level workers in fundamental knowledge and skills. It is imperative for policy makers to provide unambiguous policy objectives and organizational frameworks that facilitate activity (Frisch, Beerli, & Cohen, 2021).

7.4 Data-Driven Decision-Making Approach and Wicked Policy Problem

The concept of using evidence to guide policymaking has its roots in ancient Greece, when Aristotle proposed that different fields of knowledge ought to guide decision-making (Aernoudt, 2020). Idris, IMensah, and Gavkalova (2021) contend that this approach combines information from science, practical application, and values-driven thinking.

In Aernoudt (2020) work he states:

'Evidence-based policy is about making decisions based on knowledge with a certain degree of confidence what works, at achieving which outcomes, for which groups of people, under what conditions, over what period, and at what cost. For policymaking and implementation purposes, it is as essential to establishing that an intervention does not work, as it is to know that it does work. Hence, we need information and data that can confirm, or reject, our assumptions about a policy's anticipated effectiveness and how it is best achieved.'

Munro (2014) reports that evidence-based approach to policy took precedence in UK from the earlier 1997 under the Blair administration to end ideologically driven politics to replacing it with rational decision making. Through the white paper in 1999, the government committed to produce policies that real deal with problems; that are forward looking and shaped by evidence rather than a response to short-term pressures; policies that tackle causes not symptoms. Additionally, Nutley and Davies (2000) and Sutcliffe and Court (2005) argued that evidence-based approach led to the integration of experience, judgement and expertise with the best available external evidence from systematic research hence shifting from opinion-based decision making towards evidence based.

On the contrary, most developing countries make policies that are not anchored on evidence. As a result, such policies have failed to address the real problems such countries are facing, hence continuing to witness wicked policy problems. For instance, in their study, Howes, Betteridge, Sause, and Ugyel (2018) argued that the prerequisites or conditions for evidence-based policy making have received relatively little attention, and it is unclear whether or not these requirements are generally more or less likely to exist in developing nations. According to Howes, Betteridge, Sause, and Ugyel (2018), an environment that supports evidence-based policy making includes strong incentives for the adoption of good policies, a ready supply of such policies, a variety of domains into which they can be adopted, institutions that are capable of putting them into practice, and a variety of domains into which good policies can be adopted. However, the study came to the conclusion that these conditions are more likely to exist in developed countries as opposed to developing ones based on the development literature, their personal experience, and the comparison of Australia and Papua New Guinea. Oronje, Murunga, & Zulu (2019) outlines that having adequate financial and human resources is critical for enabling evidence use. Behague et al. (2009) contend that the majority of poor countries struggle to implement sound evidence-based policies because they lack sufficient funding, have to constantly ask partners and donors for money, and typically are unable to secure the necessary funding. This is despite the fact that EBPM in developing countries are intended to help provide relevant solutions to help in reducing poverty and improve economic performance (Sutcliffe & Court, 2005).

Eden, and Wagstaff (2021) conducted a study on evidence-based policymaking and the wicked problem of SDG 5 Gender Equality. In their study they stated that decisions are successful when informed by evidence. Eden, and Wagstaff (2021) add that blending insights from the evidence based policymaking and wicked problem provide actionable and practical policy advice to governments for dealing with wicked problems. Oronje, Murunga, and Zulu (2019), however, assert that the ability to apply evidence to decisions on policies and programs is limited. Civil servants' competencies can be enhanced through training and mentorship programs in evidence use, which can support and enhance initiatives to develop capacity for using evidence.

Though the complexity and uncertainty associated with wicked policy problem question the reliability of empirical evidence and diverse perspectives and values involved lead to disagreements various actors on which evidence to prioritize and how to interpret it, evidence-based policymaking play a variable role in addressing wicked problems (Head, 2022). Evidence provides policymakers

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with potential strategies, and enables understanding of the likely impacts of different interventions (Al-Ubaydli, Lee, List, & Suskind, 2021).

7.5 Decentralization Approach and Wicked Policy Problem

Political and ethnic disputes, and unequal distribution of resources have been, and still are, serious wicked issues in many nations (Juma & Arudo, 2016). Federalism and political decentralization contribute for the reduction of ethnic conflicts in many countries. It also helps in solving secessionist movements (Tan, 2022). Lodén and Bingmark (2022) contend that global wicked problems require management outside government at multiple levels of governance. Organizations are encouraged to handle wicked challenges in conjunction with stakeholders rather of trying to solve them on their own, even when there are conflicting degrees of authority, viewpoints, and values among the stakeholders. Due to globalization, the private sector has begun to play a role in governance, resulting in the involvement of many parties while resolving wicked problems (Glass & Newig, 2019).

Bayu (2021) contends that ethnic federalism, opted in 1991, indeed paved the way for the recognition, accommodation, and institutionalization of ethnocultural diversity for the first time in the country's history since its modern existence in Ethiopian. Thum (2019) highlights that Singapore separated from Malaysia to become an independent and sovereign state as the result of deep political and economic differences between the ruling parties of Singapore and Malaysia, which created communal tensions that resulted in racial riots in July and September 1964. At the height of never-ending political tensions in Singapore that seemed to weigh down peace and development, it was decided Malaysia becomes an independent state from Singapore. The intention of separation was to relieve of all the tensions that had dogged these two regions for a long time (Lim, 2015).

The issue of unequal distribution of resources is yet another wicked policy problem which has been source of potential instability in African countries like Kenya. This resulted to pressure for a devolved form of government from the numerically smaller communities organized around the political party KADU (Kenya African Democratic Union) during earlier years after independence (Kanyinga, 2019). The fearing that large groups would dominate them and their land after independence, they supported a regional form of government to avoid the dominance of these groups. KADU membership comprised ethnic minorities such as the various Kalenjin subgroups, the Maasai, and the Miji Kenda groups at the coast. These are also the groups that favored devolution of power to the region because they feared domination by the large groups, such as the Kikuyu and Luo, who were in KANU (Kivuva, 2021). Infrastructure and other national resources were witnessed during the Moi Regime; where the Kalenjin ethnic group have been perceived to have benefit more than the other ethnic groups. However just like for the Kikuyu community, not all the Kalenjin have enjoyed in the Moi era and then yet again Kikuyu community during in Kibaki and Uhuru eras (Kivoi, Yogo, Luseno, & Malicha, 2022).

8.0 CONCLUSION AND RECOMMENDATIONS

Five main strategies were examined in this analysis: policy networks, multiple streams, strategic placement of street-level bureaucrats, data-driven decision-making approaches, and decentralization. This study believes that a systematic grasp of the intricate nature of the issues at hand as well as the capacity to create novel solutions for efficient problem solving are essential for navigating wicked policy challenges. This suggests that no single tactic is independently reliable enough to be applied alone. This study recommends that it is crucial to implement these alternative strategies complementarily. Nonetheless, the political, cultural, legal, and environmental framework of the policy must be taken into account as a benchmark to determine the best strategy of implementation. For instance, decentralization and devolution have reduced ethnic tension in Kenya, but federalism is considered the source of ethnic conflicts in Ethiopia. Ethnic federalism complicates state-society relationships, creating a favorable environment for ethnic confrontation and conflict. It erodes coexistence values and hard ethnic boundaries, leading to conflicts like the Oromo and Somali conflicts. Territorial recognition and institutionalization of ethnicity allow for the emergence of 'ethnic like and ethnic others' thinking, making minorities victims of politics and restricting constitutional rights. This has created new problems of ethnic tensions and conflict across Ethiopia. The study reveals that while multinational federation plays a crucial role in accommodating and institutionalizing ethnocultural diversity, the notion and implementation of federalism instigate ethnic conflict in the Ethiopian context (Bayu, 2021).

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Domestic Energy Options and Household Health-Care Expenditures: Does Income-Driven Consumption Matter?



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ABSTRACT: Many people who live in rural areas with low disposable income are unable to acquire clean energy. This means that they are exposed to respiratory diseases and are more likely to encounter unbearable healthcare expenditures. But when stakeholders are responsive, they create a healthcare system that offers affordable and accessible and encourages the use of clean energy. When health care expenditure is high, many poor households struggle to access the services, particularly for households not covered by health insurance. Therefore, the current study sought to examine the moderating role of income on the relationship between domestic energy options and healthcare expenditure. The study used a cross-sectional research design and collected data from a random sample of 384 households from Kisii County. The data was collected using a structured questionnaire. Data was analyzed using descriptive and inferential statistics. Findings show that most of the households were earning less than Ksh. 30,000 a month. Similarly, more than two-thirds of the households relied on solid biomass including firewood and charcoal for cooking. Findings show that domestic energy options have a significant relationship with healthcare expenditure for households in Kisii County. However, income does not moderate the relationship between domestic energy options and healthcare expenditure. The findings help policymakers to improve the uptake of clean energy options among households by subsidizing the cost of clean energy or removing tax on the products. The findings also encourage the uptake of universal healthcare among poor populations to reduce incidences of catastrophic healthcare expenditure.

KEYWORDS: Domestic energy options, Households, healthcare expenditure, consumption, income

1. BACKGROUND

Clean cooking energy is associated with healthy living and reduced healthcare expenditure. On one hand, this addresses nature loss by reducing the demand for firewood and ensuring that when new trees are planted, they are not cut down. This challenge can effectively be addressed at the household level, where cooking decisions are made. Thus, household units can be important players in the ongoing energy transition processes (Lekavičius, Bobinaitė, Galinis, Pažėraitė, 2020). Nearly two-thirds of the global population relied on solid fuels, including firewood and charcoal, in 2023 (Ritchie, H., Rosado, P., & Roser, M. (2024). Most of them come from 30 countries in the developing world with low disposable income to acquire clean energy. The situation is aggravated for those who stay in rural areas where logistical challenges and poor electricity connections hinder the acquisition of clean energy. As a result, the majority of rural households use rudimentary stoves as well as firewood which exposes them to pollution that leads to health risks.

The World Health Organization (WHO) indicated that as of 2021, about 7.3 billion people lived in a polluted environment and were exposed to unsafe average annual PM_{2.5} concentrations, 80 percent of whom live in low- and middle-income countries. The State of Air Quality and Health Impact study in Africa reported that in 2022, 5 countries including Niger, Nigeria, Egypt, Mauritania, and Cameroon had the highest levels of population exposed to pollution. Out of those who were exposed, 3.55 million deaths were reported in the same year with 1.1 million deaths occurring in Africa, Ali, Yousaf, Munir, and Wong (2021). Sadly, the dead were mostly women and children due to their higher exposure to domestic activities such as cooking.

The countries that bear the burden of respiratory diseases are mostly those in sub-Saharan Africa (Gyasi & Phillips, 2020); in Kenya, for example, the 2022 Household Demographic Survey revealed that 66 % of the population relies on solid biomass for cooking, with 24% using clean energy technology. Of those who use clean energy, 59% come from urban areas, compared to 6% of the population in rural areas. For the population that uses solid, 62% use firewood, and 48% use charcoal. In the report, 54% of the

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urban population falls in the highest wealth quintile, compared to 3% in rural households, who are most likely unable to meet high healthcare expenses. With the poor acquisition of clean energy, the members of the households may acquire life-threatening infections from pollution and spend their meager resources on medical expenses, worsening their economic conditions. This is because there is strong evidence that acute respiratory infections in children and chronic obstructive pulmonary disease in women are associated with indoor biomass smoke (Kamal, Srivastava, Kesavachandran, Bihari, 2022). Lung cancer, for example, in women has been associated with household coal use. Other conditions, such as chronic obstructive pulmonary disease in men and tuberculosis, could also be associated, although evidence is scarce (Carlos Torres-Duque, Darío Maldonado, Rogelio Pérez-Padilla, Majid Ezzati, (2008). For example, Apergis, Bhattacharya and Hadhri (2020) observes that a 1% increase in CO₂ emissions increased healthcare expenditure by 2.5%. Specifically, healthcare expenditure in the low-income, low-middle-income, high-middle income, and high-income groups increased by 2.9%, 1.2%, 2.312%, and 2.6% respectively. Despite the risks associated with indoor air pollution, its causal effect on health is severely understudied. Imelda (2019) attributes this to data and methodological challenges, as its effects are often confounded by unobserved health determinants associated with its exposure.

On realizing this danger, stakeholders continue to increase efforts to suppress or reduce indoor exposure, including subsidizing clean energy and distributing improved stoves. These changes primarily affect households that are sensitive to expenditure due to low income. One of the challenges of the clean energy transition is the attitudes and perceptions embedded in the households which depend on their disposable income which affects their behavior when seeking health services. Consequently, solutions are required through the commitment and active participation of governments, scientific societies, nongovernmental organizations, and the general community.

Focusing on this behavior helps to establish mechanisms to promote the acquisition of clean energy among rural households. Additionally, the study will contribute to improving consumer behavior theory. The study will use the consumer behavior model to show how families decide on cooking energy fuels. This will help to build evidence on the energy acquisition process. The paper is segmented into three sections. Section 1 describes the relevant literature on the antecedent role of energy options on health expenditure. Section 2 discusses the methodology used in data collection, sampling, and analytical approaches. Section 3 provides the findings, discussions, conclusion, contribution, and recommendations.

2. LITERATURE REVIEW

2.1 Domestic Energy options and Health care Expenditure

Approaches in domestic energy studies are twofold. The first type explores the use of the two major sources of energy including solid biomass or clean energy on health outcomes from a medical or public health perspective. This literature shows that solid biomass causes air pollution which is one of the most significant environmental health risks. As a result, households that use solid biomass expose themselves to noncommunicable diseases such as cardiovascular and respiratory diseases. The works of Konduracka and Rostoff, (2022); and Miller & Newby (2020) contain the link between cardiovascular disease and biomass use in households. While, Turner, Andersen, Baccarelli, and Diver (2020) as well as Pritchett and Spangler (2022) observed that solid biomass leads to lung cancer. The scholars also observed a striking convergence of the cases with the burden of diseases on households in low-income countries.

A study by Krutilla and Graham (2023) indicated that any unitary increase in pollution attracts double expenditure and burden in healthcare. It is estimated that the burden is much higher in low-income countries such as sub-Saharan Africa. Ali, and Minier (2021), for example, found that there was a 30% mortality rate from diseases caused by air pollution in Saharan Africa which is mainly attributed to cooking energy, as CO₂ emission particulate matter is estimated at (PM_{2.5}). The emission emerges from the use of kerosene and biomass (wood, charcoal, crop residues, and animal manure (Rosário, Urrutia-Pereira & Cecchi, 2021). The burden of air pollution in Africa falls on women and children whose life expectancy is lowered by 4-5 years (Mlambo, Ngonisa, Ndlovu, 2023).

2.2 Income-driven Consumption and Healthcare Expenditure

The second type of research is on the effect of domestic energy options on healthcare expenditure from social and economic perspectives. These research studies are focused on the contributory role of age, education, illness reporting, income, and head of households on expenditure. Other scholars have examined the role of household size. Literature also depicts a research trend where studies compare the expenditure of rural, semi-urban, and urban areas as studies have consistently shown a variance in the use of domestic energy between urban and rural demographics. Other studies observe that expenditure is driven by the changes in hospital care and preventive care costs, Vrutika Hasmukh Shah (2023) and Azorliade, Twerefou, and Dovie (2022).

The current study investigates the moderating role of income in the relationship between domestic energy options and healthcare expenditure. But integrates the perceptions of the semi-urban and rural populations. Income is perceived as a definitive factor of

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consumer behavior Khan (2020). Income refers to the monetary and natural value, which a person receives from other people or organizations for covering personal expenditures. It includes wages, salary, and other types of income from activity (after the tax payment); including transfers, net income from the business or agricultural activity, property (rent), dividends, and others. There are three major classifications of consumers based on class: Low-income, middle-income, and high-income customers (Kim, Hong, Park & Kim, 2020). Those in the lower-income class are characterized by low qualifications and are wage workers, unemployed, pensioners, and housewives. The middle class on the other hand are self-employed workers in the production and service sphere, farmers, students, and semiskilled wage workers. High-income consumers are business executives, chief executives, and other consumers who prioritize luxury, exclusivity, and quality spending

This strand of research arises from the realization that affordable healthcare is at the center of global development. Responsive health systems, therefore, strive to provide comprehensive healthcare systems that are affordable and accessible. Thus, the proportion of income spent on healthcare is of critical concern among scholars and practitioners (Adebisi, Umah, Olaoye & Lucero-Prisno, 2020). When health care expenditure is high, many poor households struggle to access the services, particularly for households not covered by health insurance. If the households are met with catastrophic expenditure, then they are likely to seek alternative ways of meeting the costs or avoid healthcare services. Therefore, the effect of income on the consumption of health services is not just a pressing issue for policymakers and marketers but also a crucial one in other fields including economics and psychology (Tanner, Vann & Kizilova, 2020).

The concern for health expenditure falls at the center of sustainable development which human beings have long sought to meet increasing their health reserves. The empirical findings on the relationship between income and health expenditure are diverse although the causal relationship between the constructs remains unclear (Rana, Alam & Gow, 2020). As a result, several scholars have investigated the nexus between the constructs. Raghupathi (2020) and Zikidou and Hadjidema, (2020), for example, established that healthcare expenditure increases with personal income. However, Mulaga, Kamndaya, and Masangwi, (2021) observed that households with low income experienced lower levels of incidence of high health expenditure and had decreased risk of facing Catastrophic Health Expenditures (CHEs) compared to high-income households. Although the literature is rich on the nexus between domestic energy options and health expenditure, few scholars have explored the role of income in this relationship. Confounding factors affect mortality in epidemiological studies, particularly in health care expenditure.

2.3 Hypothesis Development

Health expenditure has been a matter of great concern in low-income countries. This is because health infrastructure in these countries is weak and affordability of health care is low. There are low levels of government health spending per capita in Kenya where expenditure is as low as 4.29% annually. Even as the health expenditure remains low, citizens particularly those from rural areas continue to suffer from respiratory diseases emerging from domestic air pollution. Stakeholders can use a two-pronged approach to deal with the problem at hand. Firstly, deal with the use of dirty energy among rural households by incentivizing the acquisition of clean energy. Secondly, increasing access to medical care through investment in healthcare.

To augment the approaches, stakeholders need to deal with the consumption behavior of households by countering attitudes, perceptions engrained in the families towards clean energy. This way, the uptake of clean energy is likely to increase among rural households. Therefore, in response to the interconnectedness of the three constructs, the study proposed two hypotheses:

H0₁: There is no statistically significant relationship energy pollution and household health care expenditure

The hypothesis deals with the direct relationship between domestic energy pollution and household expenditure in Kenya. The study will use correlation and simple linear regression to analyze data. The study will use P values to interpret results.

H0₂: Income-driven consumption does not statistically moderate the relationship energy pollution and household health care expenditure.

The study will seek to test an indirect relationship among the constructs. Income driven consumption is deemed as a moderating variable. The study will use hierarchical regression to analyze data. The study will use P values to interpret results.

3. METHODOLOGY

3.1 Population and Sampling Characteristics

The investigation was based on a cross-sectional research design. Using the design, the relationship among the three constructs: domestic energy pollution, healthcare expenditure, and income was established. The sample was drawn from the number of households declared in the 2019 Kenya population Census. According to the report, there are 308,054 households in Kisii County. Using Krejcie and Morgan's Table, the study sampled 384 households. A total of 9 enumeration areas were selected which were developed into clusters using a process of household listing and geo-referencing.

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3.2 Survey Instruments and Validation

The survey instrument was structured with questions dealing with population demographics. Questions on domestic fuels dealt with both clean i.e., liquefied petroleum gas, and dirty energy sources (i.e., charcoal and firewood). The income dealt with the sources and amount earned by the participants. The expenditure on the other hand was estimated by the costs incurred for respiratory diseases. The data collection process followed an established structure with a data enumerator, supervisor, and a driver. The supervisor coordinated field data collection activities, including activities such as management of the field teams, supplies and equipment, maps, finances, and listings, coordinating with local authorities concerning the survey plan, and making travel arrangements. Data was collected was sent to the central server on a real-time basis.

3.3 Data Management

Data were downloaded from the central servers and checked against the expected returns to account for all data. The software was used to generate field check tables to monitor progress and flag any errors, which were then communicated to the field teams for correction. Afterward, secondary editing was done by members of the central office team. The team resolved errors that were not corrected by field teams during data collection. After the preliminary checks, data was entered into the Statistical Package for Social Sciences (SPSS V21) for analysis. Of the 384 households selected for the sample, of which 201(52%) participated in the study. The data was analyzed using frequencies, means, standard deviation, simple regression, and hierarchical regression methods.

4. FINDINGS

4.1 Demographics

The study described how the population was structured in terms of income, choice of domestic energy, and their expenditure on healthcare. Their frequencies are presented in Table 1.

Table 1: Demographical Distribution of the Population

	F	%
Monthly Income		
<5000	71	36.6
5001-10,000	34	17.5
10001-15000	20	10.3
15001-20,000	19	9.8
20,001-25,000	9	4.6
25001-30,000	16	8.2
>30,000	25	12.9
Total	194	100.0
Domestic Energy Options		
Clean Energy	38	19.6
Dirty Energy	156	80.4
Total	194	100.0
Health Care Expenditure		
<500	77	39.7
501-1000	63	32.5
1001-2000	32	16.5
2001-5000	18	9.3
>5000	4	2.1
Total	194	100.0

Source: Survey Data (2022)

Sources of income were measured from earnings obtained from business, permanent employment of casual labour. Findings show that slightly more than one-third (36.6%) of the participants indicated that they earn below Ksh.5000 monthly to support their households, followed by 17.5% who were earning between Ksh.10,001 and Ksh. 15,000 and 12.9% earning above 30,000. Those earning between Ksh.15,001 and Ksh.20,000 were 10.3%. Few (4.6%) participants were earning between Ksh. 20,001 and Ksh. 25,000. The use of domestic energy varied between liquid petroleum gas which is described as clean energy and biomass which is described as dirty energy (i.e., charcoal & firewood). Less than one-fifth (19.6%) of the participants used clean energy for domestic cooking while more than two-thirds (80.4%) used dirty energy

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for cooking. Majority (39.7%) of the participants had incurred less than Ksh. 500 for outpatient services while 39.7% had spent between 501 and Ksh 1000. 16.5% of the participants incurred between Ksh. 2001 and Ksh. 5000. Those who spent above Ksh. 5000 were 2.1% albeit a government subsidy for outpatient expenditure for children and the elderly in Kenya.

4.2 Correlation Results

The study examined the association between domestic energy options, income and healthcare expenditure as shown in Table 2.

Table 2: Correlation Analysis

		1	2	3
1. monthly income	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	194		
2. Energy Option	Pearson Correlation	-.718**	1	
	Sig. (2-tailed)	.000		
	N	194	194	
3. Health Care Expenditure	Pearson Correlation	.219**	-.288**	1
	Sig. (2-tailed)	.002	.000	
	N	194	194	194

Source: Survey Data (2022)

The results show that income negatively but significantly correlated with domestic energy options ($r=-.718$, $P<0.05$). It was however observed that it was positively and significantly correlated with healthcare expenditure ($r=.219$, $P<0.05$). The positive correlation between income and health expenditure was also observed in an empirical assessment of OECD countries for the period 1995-2015 by Raghupathi (2020). Energy options, on the other hand, negatively but significantly correlated with healthcare expenditure ($r=-.288$, $P<0.05$). These findings however differ from those of Rosário, Urrutia-Pereira (2021) where a positive correlation was established.

4.3 Hypothesis Testing Results

Hierarchical regression was used to determine the influence of income, domestic energy options and healthcare expenditure. Hierarchical regression establishes how much of each predictor variable has to do with the regression (Tabachnick & Fidel, 2013). Using this regression analysis, the contribution of income and domestic energy on healthcare expenditure were measured in the model summary table (Table 3) whereas, the predictive power of the constructs is presented in Table 4. The significance levels of the relationship were measured using the coefficients which are presented in Table 3.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.288 ^a	.083	.078	1.01810
2	.289 ^b	.084	.074	1.02019

Source: Survey Data (2022)

The results in Table 3, show that domestic energy options explain 8.3% (R square 0.083) of the changes in healthcare expenditure. When household income was introduced in the relationship, the contribution was enhanced slightly by 0.1% (R Square; =0.084 - .083). The strength of the relationship was however weak according to the results, nevertheless, there was a relationship among the constructs. When Rana, Alam, and Gow (2020) tested the relationship between income and healthcare expenditure, the study observed that income contributes 43% to the healthcare expenditure. Rana and colleagues also observed that expenditure was low among low-income countries compared to the developed nations.

Therefore, the study proceeded to test the predictive power of income, and domestic energy options on healthcare expenditure among households. ANOVA table was used as presented in Table 4. Its coefficients were used to show the predictive strength of domestic energy options on healthcare expenditure as represented by F coefficients and significance levels.

Table 4: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	17.938	1	17.938	17.306	.000 ^b
	Residual	199.015	192	1.037		
	Total	216.954	193			

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2	Regression	18.165	2	9.082	8.727	.000 ^c
	Residual	198.789	191	1.041		
	Total	216.954	193			

Source: Survey Data (2022)

The first model of the ANOVA table shows that domestic energy options had a predictive power on healthcare expenditure ($F=17.306$, $P<0.05$). In the second Model, findings revealed that income could also predict healthcare expenses ($F=8.727$, $P<0.05$). The findings provided room for the study to test the hypothesis as shown in Table 5.

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.398	.340		9.987	.000
	Domestic Energy Option	-.766	.184	-.288	-4.160	.000
2	(Constant)	3.169	.598		5.297	.000
	Domestic Energy Option	-.677	.265	-.254	-2.556	.011
	monthly income	.023	.049	.046	.466	.642

Source: Survey Data (2022)

In the first model, the results ($\beta = -.766$, $t=-4.160$; $p<0.05$) show that there was a significant relationship between domestic energy options and healthcare expenditure, therefore, the null hypothesis was rejected. Vrutika Hasmukh Shah (2023) as well as Azorliade, Twerefou, and Dovie (2022) also observed that there was a significant relationship between domestic energy options and healthcare expenditure among Chinese and Ghanian participants respectively.

In the second model, the results ($\beta = .023$, $t=.466$; $p>0.05$) show that the income of households does not moderate the relationship between domestic energy options and healthcare expenditure. Therefore, the study failed to reject the null hypothesis. The findings however differ from those of Azorliade, Twerefou, and Dovie (2022) who observed that households with low income experienced lower healthcare expenditure and likelihood of catastrophic health expenditure.

5. RESEARCH IMPLICATIONS

5.1 Implication to Theory

Given the erratic economic condition globally, high health expenditure is bound to occur. This strains poor households who have to meet other basic needs. This implies that healthcare expenditure is a major concern to poor households. Policymakers and academia are also concerned about healthcare expenditure. There are instances when policies have been developed to avert catastrophic healthcare expenditures. However, few have tried to deal with the causative nature of diseases such as respiratory diseases. The findings of the current study trace the expenditure of poor households to energy options. This helps to build up the existing theory of the causation of healthcare expenditure.

Expenditure in healthcare depends on household disposable income. It is anticipated that income creates demand for goods and service and increases uptake as well as expenditure for healthcare services as held by consumer theory. However, the study refutes this long-held claim as their relationship between the constructs was not established. This then, depicts healthcare services as inelastic. This means that those who seek the services have limited options than to look for funds to meet the costs when they arise. On this basis, there is a need to cushion the population from catastrophic expenditure which is bound to occur.

5.2 Implication to Practice

The current research offers insightful implications for practitioners. The findings provide evidence to help managers adopt clean energy options to reduce the occurrence of respiratory diseases which effectively reduces healthcare expenditure. Additionally, the study demonstrates that income does not affect healthcare expenditure which essentially indicates that the burden of healthcare on poor households continues regardless of their disposable income. Therefore, policy choices should focus on the use of cleaner fuel options including sustaining and extending the access of the rural and poor populations to liquefied petroleum gas, solar, and electricity. It offers the basis for enhancing programs meant to promote the use of clean energy and discourage the use of dirty fuels. Policymakers can also strengthen universal healthcare among the poor population to cushion them against high healthcare expenditures.

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6. CONCLUSION

Findings show that the majority of the participating households were of low income and relied on solid biomass including firewood and charcoal for cooking. Although most of the households incurred less than Ksh. 500 in their outpatient healthcare expenditure there were cases where expenditure was high. The study also observed that domestic energy options drive healthcare expenditure. However, income does not moderate the relationship between domestic energy options and healthcare expenditure.

7. RECOMMENDATIONS

Based on the findings the study makes the following recommendations:

1. Policymakers should seek to improve the uptake of clean energy options among households in Kenya. This can be achieved by subsidizing the cost of clean energy or removing tax on the products
2. There should be a sensitization program on the hazards of dirty cooking energies to the population.
3. The government and other players can encourage the uptake of universal healthcare among poor populations to reduce incidences of catastrophic healthcare expenditure.

8. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Although it offers several theoretical and practical implications, it experienced limitations. For instance, the study adopted a cross-sectional research design with a structured questionnaire which may have not produced accurate results about healthcare expenditure, domestic energy options, and household income. Further still, the study collected data from urban and rural households. The differences espoused by the rural and urban populations could have distorted the findings. To overcome this limitation, the study recommends future research on a population that is homogeneous.

9. ACKNOWLEDGMENTS

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10. CONFLICT OF INTEREST

The authors declare that there is no conflict of interest

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Regulating the Element of Harming the State Economy in Corruption Offenses in Indonesia



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ABSTRACT: The separation between state financial losses and the state economy shows that there is a different character between the two terms so that there are also differences in the fulfillment of the elements of state financial losses and state economic losses. The Constitutional Court Decision No. 25/PUU-XIV/2016, has decided that the fulfillment of the elements of state financial losses or the state economy must be determined with real and certain (actual loss). The existence of real and certain requirements that are also applied to the fulfillment of the elements of the state economy, needs to be studied further considering that at the level of law enforcement practices of corruption crimes committed in Indonesia, more is done on the fulfillment of the elements of state financial losses. On this basis, a research was conducted on the "Arrangement of the Element of Harm to the State Economy in the Offense of Corruption in Indonesia", to then focus on analyzing how the arrangement of the element of loss to the state economy in law enforcement of corruption in Indonesia? This research includes normative juridical research, with a statutory approach, case approach, historical approach, and conceptual approach, to then be analyzed qualitatively, and presented descriptively in the form of an article. The results of the study indicate that the legislation in force in Indonesia only provides strict arrangements relating to State Finance, while there is no law specifically regulating the State Economy or called the Law on the State Economy. The legal norm of the definition of the State Economy is also not specifically regulated in the norms of the body of legislation, but is found in the General Elucidation of Law Number 31 of 1999 as amended by Law Number 20 of 2001. The placement of the definition of the State Economy in the General Elucidation clearly does not have the same normative position as the placement in the Article provisions of a statutory regulation. With this condition, it is necessary to reform the regulation of the state economy specifically so that it can then be used as a legal basis in determining the elements of losses to the state economy in corruption crimes.

KEYWORDS: Delict; State Economic Loss; Corruption Crime.

A. INTRODUCTION

Criminal law academics define the definition of corruption from several sources, such as from the history of the birth of the word corruption in parts of the world to the birth of corruption laws. Etymologically, the word corruption comes from the Latin *corruptio* or *corruptus* which is also derived from the word *corrumpere*, an older Latin. That Latin descended into many European languages such as English, corruption, corrupt, French, corruption, and Dutch, *corruptie* (*korruptie*). Thus, it can be concluded that the word "corruption" in Indonesian comes from Dutch.¹

Corruption is literally rottenness, ugliness, depravity, dishonesty, bribery, immorality. It's like the bad life in prison that is often referred to as the corrupt life, where all kinds of criminal acts occur. According to Black's Law Dictionary, corruption is an act committed with the intent and purpose of providing an advantage with the rights obtained from others, abusing his position or to obtain an advantage for himself or others.²

According to Lubis and Scott as cited by IGM Nurdjana, in his view of corruption, it is stated that, "in a legal sense, corruption is behavior that benefits self-interest to the detriment of others, by government officials who directly violate the legal boundaries

¹ Andi Hamzah, 2007, *Pemberantasan Korupsi Melalui Hukum Pidana Nasional dan Internasional*, PT. Raja Grafindo Persada, Jakarta, p. 4.

² Masruchin Ruba'i, *et.all.*, 2014, *Buku Ajar Hukum Pidana*, Bayumedia Publishing, Malang, p. 83.

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of such behavior, while according to government norms it can be considered corruption if the law is violated or not in the business of such actions is despicable". So the view of corruption is still ambivalent, only called punishable or not and as a despicable act.³

Corruption is one of the crimes considered as an extra ordinary crime. This identification is appropriate considering that the impact of the crime of corruption does not only result in state financial losses, but it is also possible that it will result in widespread losses to the state economy. The consequence of such an impact will certainly lead to widespread disruption of the economic conditions of the country's society.

Juridically, the definition of corruption, both in meaning and type, has been formulated in the Corruption Law. The definition of corruption is not limited to acts that fulfill the formulation in the offense that can harm state finances or the state economy, but includes acts that fulfill the formulation of the offense that can harm the public or individuals. The existence of losses to state finances or the state economy is an element of the offense of corruption as stipulated in Article 2 and Article 3 of Law Number 20 of 2001 concerning Amendments to Law Number 31 of 1999 concerning Eradication of Corruption (Corruption Law), namely:⁴

Article 2 of the Anti-Corruption Law reads:

"Every person who unlawfully commits an act of enriching himself or herself or another person or a corporation that may harm the state finances or the state economy, shall be punished with life imprisonment or imprisonment for a minimum of 4 (four) years and a maximum of 20 (twenty) years and a fine of at least Rp.200,000,000.00 (two hundred million rupiahs) and a maximum of Rp.1,000,000,000.00 (one billion rupiahs)".

Article 3 of the Anti-Corruption Law reads:

"Every person who with the aim of benefiting himself or herself or another person or a corporation, abuses the authority, opportunity or means available to him or her because of his or her position or position which may harm the state finances or the state economy, shall be punished with life imprisonment or imprisonment for a minimum of 1 (one) year and a maximum of 20 (twenty) years and a fine of at least Rp.50,000,000.00 (fifty million rupiahs) and a maximum of Rp.1,000,000,000.00 (one billion rupiahs)".

The phrase "may" before the phrase "harming state finances or the state economy" in these articles causes this corruption offense to be qualified as a formal offense, so that the existence of losses to state finances or the state economy is not a result that must actually occur (potential loss).⁵ However, after the decision of the Constitutional Court Number 25 / PUU-XIV / 2016, which basically eliminates the phrase "may" in Article 2 paragraph (1) and Article 3 of Law Number 20 of 2001 concerning Amendments to Law Number 31 of 1999 concerning Eradication of Corruption, which makes the qualification of corruption offenses that harm state finances or the state economy at this time must be interpreted into material offenses, the consequence of which is that the prohibited consequences in these articles, namely "harming state finances or the state economy" must be interpreted as a real and certain loss or actual loss.

The General Elucidation of Law Number 20 Year 2001 on the Amendment to Law Number 31 Year 1999 on the Eradication of Corruption, provides an explanation that state finances are all state assets in any form, separated or non-separated, including all parts of state assets and all rights and obligations arising from:

- a. Being in the possession, management, and accountability of State officials, both at the central and regional levels;
- b. Being in the control, management and accountability of State-Owned Enterprises/Region-Owned Enterprises, foundations, legal entities, and companies that include state capital, or companies that include third party capital based on agreements with the State.

The definition and scope of state finances in efforts to deal with corruption crimes, in terms of legislation, are not only based on Law Number 20 of 2001 concerning Amendments to Law Number 31 of 1999 concerning Eradication of Corruption Crimes, but also based on state financial arrangements specifically regulated in Law Number 17 of 2003 concerning State Finance, Law Number 1 of 2004 concerning State Treasury, and Law Number 15 of 2004 concerning Audit of State Financial Management and Responsibility.

Based on the definition of state finances as stated in the General Elucidation of Law Number 20 of 2001 Concerning the Amendment to Law Number 31 of 1999 Concerning the Eradication of Corruption, and also mentioned in the special regulation on state finances, it is clearly stated that the determination of the occurrence of real and certain state financial losses (actual loss) can be carried out in law enforcement efforts against the crime of corruption.

³ IGM Nurdjana, 2009, *Sistem Hukum Pidana dan Bahaya Laten Korupsi*, Total Media, Yogyakarta, p. 15.

⁴ Republik Indonesia, *Undang-Undang Nomor 20 Tahun 2001 tentang Perubahan atas Undang-Undang Nomor 31 Tahun 1999 tentang Pemberantasan Tindak Pidana Korupsi*.

⁵ R. Wiyono, 2008, *Pembahasan Undang-Undang Tindak Pidana Korupsi Edisi Kedua*, Sinar Grafika, Jakarta, p. 27-28.

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However, the existence of real and certain requirements (actual loss) which are also applied to the fulfillment of the elements of the state economy, needs to be studied further considering that at the level of law enforcement practices of corruption crimes carried out in Indonesia more are carried out on the fulfillment of the elements of state financial losses. Therefore, based on this background, the author raises a legal issue regarding how the regulation of the state economy element in corruption offenses in Indonesia.

B. RESEARCH METHOD

This research is a normative juridical research, because the research conducted is in order to analyze the legal rules governing the element of harming the state economy in the crime of corruption in Indonesia. The research approach taken in this research is by using a statutory approach, case approach, historical approach, and conceptual approach. The legal materials in this research consist of primary legal materials, secondary legal materials, and tertiary legal materials, all of which are related to the regulation of the element of harming the state economy in corruption offenses in Indonesia. All legal materials that have been collected through literature studies, then arranged systematically to be discussed and then analyzed qualitatively, not using statistical data, and presented in descriptive form, in order to answer the problems discussed and the results are made in the form of articles.

C. RESULT AND DISCUSSION

Corruption is a part of criminal law, which is outside the general criminal law that applies to people and certain actions. In its position outside the general criminal law, the crime of corruption is one of the special criminal offenses which is therefore regulated in special regulations.

The term corruption implies the misappropriation or misuse of state (company, etc.) money for personal or other people's benefit.⁶ According to Lubis and Scott, corruption is behavior that benefits self-interest at the expense of others, by government officials who directly violate the legal limits on such behavior.⁷ Meanwhile, Robert Klitgaard states that corruption is behavior that deviates from the official duties of a state position because of the benefits of status or money that concerns individuals (individuals, close family, own group), or violates the rules of implementation of some personal behavior.⁸

Based on the definition of corruption above, it can be clearly identified that corruption contains actions that have violated applicable laws and regulations and resulted in state losses. With the impact of this act of corruption, regulations have been made on the prohibition of committing acts of corruption. When the prohibition is violated, it will lead to the crime of corruption.

The crime of corruption is an act to enrich oneself or a group, which is an act that is very detrimental to other people, the nation and the state.⁹ In Indonesia, the prohibition against acts of corruption has been specifically regulated in Law Number 20 of 2001 concerning Amendments to Law Number 31 of 1999 concerning Eradication of Corruption. According to Article 2 paragraph (1) and Article 3 of Law Number 20 of 2001 Concerning the Amendment to Law Number 31 of 1999 Concerning the Eradication of the Crime of Corruption, it can be identified that what is meant by corruption related to losses to state finances or the state economy, namely:¹⁰

- a. Any person who unlawfully commits an act of enriching himself or herself or another person or a corporation that may harm state finances or the state economy (Article 2 paragraph (1));
- b. Any person who with the aim of benefiting himself or herself or another person or a corporation, abuses the authority, opportunity, or means available to him or her because of the position or position or the means available to him or her because of the position or position that may harm the state finances or the state economy (Article 3).

In its development, the phrase "may" which follows "harm to state finances or the state economy" as stipulated in the provisions of the Article above with the issuance of Constitutional Court Decision No. 25/PUU-XIV/2016 has changed, the fulfillment of the element of loss to state finances or the state economy must be determined with real and certain (actual loss). This real and certain requirement (actual loss) is a requirement to determine whether or not an action that is declared an unlawful act or abuse of authority, opportunity, or means available to him has caused losses to state finances or the state economy.

In relation to criminal acts that cause losses to the state economy, at a practical level in Indonesia after the issuance of the Constitutional Court Decision Number 25 / PUU-XIV / 2016, there have been several efforts to enforce corruption crimes that also

⁶ 2000, *Kamus Besar Bahasa Indonesia*, Edisi Ketiga, Balai Pustaka, Jakarta, p. 597.

⁷ Jawade Hafidz Arsyad, 2017, *Korupsi dalam Perspektif HAN*, Sinar Grafika, Jakarta, p. 168.

⁸ Robert Klitgaard, 2001, *Membasmi Korupsi*, Yayasan Obor Indonesia, Jakarta, p. 31.

⁹ Chatrina Darul Rosikah dan Dessy Marriani Listianingsih, 2016, *Pendidikan Anti Korupsi*, Sinar Grafika, Jakarta, p. 6.

¹⁰ Republik Indonesia, *Undang-Undang Nomor 20 Tahun 2001 tentang Perubahan atas Undang-Undang Nomor 31 Tahun 1999 tentang Pemberantasan Tindak Pidana Korupsi*.

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make elements of state economic losses the basis of charges made by the Public Prosecutor, for example the Corruption Crime committed by the Former Governor of Southeast Sulawesi, the defendant NA in early 2018, related to the issuance of a Nickel Mining Business License (IUP) to PT. Anugrah Harisma Barakah in Kabaena Island, Southeast Sulawesi, where the Public Prosecutor has accumulated material state financial losses that have been proven by an investigative audit from BPKP amounting to Rp. 1.5 trillion, which was then accumulated with non-material losses, namely environmental economic losses consisting of ecological, economic aspects, and environmental rehabilitation costs totaling 2.7 trillion.

In 2022, the Deputy Attorney General for Special Crimes also investigated the alleged corruption of PT Duta Palma Group's palm oil business activities, which cost the state Rp. 104.1 trillion. Most of the losses in the case, namely Rp. 99.2 trillion, are losses to the state economy.

Starting from the application of the two corruption cases mentioned above, although it is not comparable to the efforts to enforce corruption law based on the identification of state financial losses, it has nevertheless shown the phenomenon that law enforcement officials continue to make efforts to use the means of state economic losses to hold criminal responsibility for the perpetrators of existing corruption crimes.

Furthermore, the phenomenon of law enforcement practices on the application of the element of harm to the state economy also occurred in the case of the Cooking Oil corruption case (CPO export license) which previously became hot in the news due to the difficulty of the community in obtaining cooking oil, and then followed up with law enforcement efforts against several people suspected of having committed corruption crimes which resulted in losses to the state economy. However, on January 3, 2023, the Panel of Judges of the Jakarta Corruption Court convicted the five defendants of the cooking oil corruption case (CPO export permit) by deciding that the five defendants were guilty of committing a criminal act of corruption with a prison sentence of 1-3 years and a fine of Rp. 100 million. However, although the five defendants were found guilty of corruption, the panel of judges did not find them guilty of harming the state economy.¹¹ This phenomenon clearly arises from the weakness of the regulation of the element of harm to the state economy in the crime of corruption.

Etymologically, loss comes from the word loss which means less than the purchase price or capital, not getting profit; less than capital; not getting benefits (benefits), not getting something useful; something that is not good (unfavorable), harm. Meanwhile, loss means to bear or suffer loss; subject to loss; something that is considered to cause loss; compensation.

The definition of loss above, when connected to the concept of the element of loss to the state economy, which in this case has been regulated in Law Number 39 of 1999 as amended by Law Number 20 of 2001 concerning Eradication of Corruption, namely in the provisions of Article 2 paragraph (1) which states that the crime of corruption is "every person who unlawfully commits an act of enriching himself or herself or another person or a corporation that can harm the state's finances or economy." and the provisions of Article 3 which states "corruption is a crime of corruption, " and the provisions of Article 3 which states "every person who with the aim of benefiting himself or herself or another person or a corporation, abuses the authority, opportunity, or means available to him or her because of his or her position or position which may harm the state finances or the state economy".

Based on the definition of loss and corruption above, conceptually, it can be identified that the loss of the state economy is the loss experienced by the state to the existing state economy, so that when it is carried out, it will lead to the occurrence of corruption crimes. The object of the loss is certainly not the loss to state finances, but the loss referred to here is the loss to the state economy.

According to the General Elucidation of Law Number 20 of 2001 concerning Amendments to Law Number 31 of 1999 concerning Eradication of Corruption, it is explained that the State Economy is an economic life that is structured as a joint effort based on family principles or independent community efforts based on Government policies, both at the central and regional levels in accordance with the provisions of applicable laws and regulations aimed at providing benefits, prosperity and welfare to all people's lives.

The definition of the state economy mentioned above, in terms of its placement, cannot be used as a norm that can be used in the application of regulating acts of a legislation so that it can be stated as a norm about the state economy. General explanations and explanations of articles in the science of legislation are not norms that have binding legal force, which is why the value of the definition of the state economy cannot be considered as a norm as contained in the provisions of the article of a law.

However, regardless of the weakness of the placement of the definition of the state economy in the explanation above, of course the definition of the economy can at least be known as the definition intended by the legislator in explaining the state

¹¹ Refki Saputra, *Kerugian Perekonomian Negara dalam Tindak Pidana Korupsi*, <https://www.kompas.id/baca/opini/2023/01/31/kerugian-perekonomian-negara-dalam-tindak-pidana-korupsi>.

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economy, although later when seen the content of the definition of the economy, it is still abstract, which according to the Researcher, this shows that the value of the measure to determine the loss of the state economy is not the same as the value of the measure in determining state financial losses, which can be definite in accordance with the results of audit calculations conducted by an authorized examining agency or a designated public accountant. However, based on the definition of the state economy contained in the General Elucidation of Law Number 39 of 1999 as amended by Law Number 20 of 2001 on the Eradication of the Crime of Corruption, it is at least an initial concept to determine that the loss of the state economy referred to in the Law on the Crime of Corruption is a loss to the state economy that causes losses to the common economic life that will affect the achievement of the success of the policies and objectives of the Government both at the central and regional levels, so that it is identified as a criminal act of corruption.

Furthermore, has the regulation of the state economy also been regulated in other laws and regulations? Judging from the history of regulation, it is known that prior to the issuance of Law Number 31 Year 1999, Law Number 3 Year 1971 on the Eradication of Corruption, through the explanation of Article 1 paragraph (1) sub a, explicitly states that what is meant by actions that can harm the state economy are criminal offenses against regulations issued by the Government in its field of authority as referred to in MPRS Decree No. XXIII/MPRS/1966 ". This MPRS Decree No. XXIII/MPRS/1966 is an MPRS decree on the Renewal of Economic, Financial and Development Foundation Policy. However, currently Law No. 3 of 1971 is no longer valid because it was revoked through Law 31 of 1999, while MPRS Decree No. XXIII/MPRS/1966 has also been revoked based on MPR Decree No. 1 of 2003 concerning the Review of the Material and Legal Status of MPRS Decrees and MPR Decrees from 1960 to 2002. However, at this time Law No. 3 of 1971 is no longer valid because it was revoked through Law 31 of 1999, while MPRS Decree No. XXIII/MPRS/1966 has also been revoked based on MPR Decree No. 1 of 2003 concerning the Review of the Material and Legal Status of MPRS Decrees and MPR Decrees of 1960 to 2002. However, even though the Law and the MPRS Decree have been revoked, at least the acts that are detrimental to the state economy as described in Law No. 3 of 1971 will be able to become a recommendation or reference of regulatory content material if it is necessary to prepare legislative material on acts that are detrimental to the state economy.

According to I Komang Ugra Jagiwirata, and I Gusti Ayu Stefani Ratnah Maharani, there are several things that must be considered when postulating the concept of loss to the state economy, namely:¹²

1. The definition of harming the state economy in the Corruption Eradication Law essentially has the same meaning as the norm in Article 33 of the 1945 Constitution;
2. In interpreting the element of harming the state economy, it is not the same as interpreting state financial losses, which can be clearly seen in the State Compensation Law, the State Finance Law and the Supreme Audit Agency Law, in interpreting the element of harming the state economy can be broader;
3. According to the perspective of economics, the explanation of the Corruption Eradication Law on the concept of the state economy can be interpreted as the Indonesian economy seen in terms of state/national income whose parameter is the Gross Domestic Product (GDP).

However, it is necessary to provide recommendations for the preparation of regulatory materials governing acts that harm the state economy. In criminal law, it is known that a rule or legal norm in accordance with the principle of legality in criminal law must be formed with the principles of *Lex Scripta*, *Lec Stricta*, and *Lex Certa*, which are written, clear, and not multi-interpretive. The juridical implications of the application or legal interpretation of a term whose meaning and elements have not been clearly normed in a law can result in the deprivation of the constitutional right to legal certainty.¹³ In this position, then the norming of the absolute rule of law is determined in writing, clear and not multi-interpretive, so that law enforcement efforts against violations or criminal acts of existing regulations do not result in new violations of the law.

Theoretically, it is understood that law enforcement is actually an action taken in the life of the state to ensure that the law can run in accordance with predetermined norms so that order and justice are realized in people's lives.

Furthermore, in terms of the subject, law enforcement can be carried out by a broad subject and can also be interpreted as law enforcement efforts by subjects in a limited or narrow sense. In a broad sense, the law enforcement process involves all legal subjects in every legal relationship. Anyone who carries out normative rules or does something or does not do something based on the norms of the applicable legal rules, means that he is carrying out or enforcing the rule of law. In a narrow sense, in terms of the subject, law enforcement is only defined as the efforts of certain law enforcement apparatuses to guarantee and

¹² I Komang Ugra Jagiwirata dan I Gusti Ayu Stefani Ratna Maharani, *Pengaturan Kerugian Perekonomian Negara Dalam Undang-Undang Nomor 20 Tahun 2001 tentang Pemberantasan Tindak Pidana Korupsi*, Jurnal Kertha Semaya, Vol. 11, No. 10, 2023, p. 2295.

¹³ Duwi Handoko, 2017, *Asas-asas Hukum Pidana dan Hukum Penitensier di Indonesia*, Hawa dan Ahwa, Jakarta, p. 67.

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ensure that a particular law is enforced. to guarantee and ensure that a rule of law runs as it should. runs as it should. In ensuring that the law is upheld, if necessary, the law enforcement apparatus is allowed to use force. use force.¹⁴

Apart from being viewed from the subject angle above, law enforcement can also be viewed from the object angle, namely in terms of the law. In this case, the definition also includes broad and narrow meanings. In a broad sense, law enforcement also includes the values of justice contained in the sound of formal rules and the values of justice that live in society. However, in a narrow sense, law enforcement concerns only the enforcement of formal and written regulations. Therefore, the translation of the word 'law enforcement' into Indonesian in using the word 'law enforcement' in a broad sense and the term 'enforcement of regulations' in a narrow sense can also be used. 'rule enforcement' in the narrow sense.¹⁵

The concept of total law enforcement requires that all values behind legal norms be enforced without exception. values behind legal norms are also enforced without exception. The concept of full concept requires the need to limit the total concept with a formal law in order to protect individual interests. a formal law in order to protect individual interests.¹⁶ In such a position, an error in understanding a legal understanding can have fatal consequences for justice seekers, especially if the wrong understanding becomes a decision which then becomes the basis for the next judge's thinking in a similar case, errors in interpreting understanding not only cause legal uncertainty but also reach the higher side of the law, namely justice.¹⁷ In deciding cases, Judges do et officio have an obligation to explore, follow and understand the legal values and sense of justice that live in society as stipulated in Law Number 48 of 2009 concerning Judicial Power and if the judge is faced with a case where the legal provisions are unclear or unclear then because of this obligation the judge has the discretion to make legal discoveries in deciding a case either by interpretation or other methods.¹⁸

In the end, in order to fulfill law enforcement efforts that will be able to guarantee legal certainty and justice, the regulation of acts that are declared as detrimental to the state economy must be given a clear and concrete regulation in the existing laws and regulations, so that it can then be used as a firm foundation in the context of law enforcement efforts for corruption crimes related to acts detrimental to the state economy.

D. CONCLUSIONS

The laws and regulations in force in Indonesia only provide explicit arrangements relating to State Finance, while there is no law specifically regulating the State Economy or called the Law on the State Economy. The legal norm of the definition of the State Economy is also not specifically regulated in the norms of the body of the legislation, but is found in the General Elucidation of Law No. 31 of 1999 as amended by Law No. 20 of 2001. The placement of the definition of the State Economy in the General Elucidation clearly does not have the same normative position as the placement in the Article provisions of a statutory regulation.

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¹⁴ *Ibid*, p. 46

¹⁵ Agus Rahardjo, 2003, *Cybercrime Pemahaman dan Upaya Pencegahan Kejahatan Berteknologi*, Citra Aditya Bakti, Bandung,, p. 76.

¹⁶ *Ibid.*, p. 79.

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¹⁸ Hwan Christianto, 2010, *Batasan Perkembangan Penafsiran Ekstensif dalam Hukum Pidana*, 3 Pamator, Jakarta, p. 102.

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Liberalization and Global Business Dilemma in Third World Countries: A PEST Analysis



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ABSTRACT: Global business plays a critical role in advancing the Sustainable Development Goals (SDGs) set forth by the United Nations. The SDGs represent a universal call to action to end poverty, protect the planet, and ensure prosperity for all by 2030. Global businesses collaborate with governments, civil society organizations, and other stakeholders to address complex global challenges and achieve the SDGs. By fostering partnerships and multi-stakeholder initiatives, they contribute to SDG 17 (Partnerships for the Goals) by leveraging resources, expertise, and networks to drive sustainable development. Many global businesses are increasingly adopting sustainable practices to minimize their environmental footprint and promote responsible consumption and production. By implementing sustainable supply chain management, reducing waste, and adopting eco-friendly technologies, they contribute to SDG 12 (Responsible Consumption and Production). Liberalization and global business are interrelated processes that shape the dynamics of international trade, investment, and economic integration. While liberalization creates opportunities for global businesses to expand their operations and access new markets, it also presents challenges related to competition, regulation, and sustainability that require careful management and policy responses in third world countries. This has elicited a mixed reaction on the role of global business on development of nations. Based on this, the purpose of this study is to examine the extent to which liberalization has impacted the political, economic, social, and technological advancement of third world countries. A literature review has been adopted for this purpose. The study concludes that the impact of liberalization of global business on third world countries is complex and varies depending on factors such as governance structures, economic policies, social dynamics, and technological capabilities. This study recommends that by adopting a holistic approach that takes into account the interplay between political, economic, social, and technological factors, governments in third world countries can maximize the benefits of liberalization while mitigating potential risks and promoting sustainable development.

KEYWORDS: Liberalization, Globalization, Third World, Global Business, Political, Economic, Social, Technological advancement

1.0 INTRODUCTION

Liberalization of global business has been a gradual process that has evolved over several centuries, with significant milestones occurring in the 20th and 21st centuries. Mercantilism economic theory of 16th to 18th centuries, dominated European trade policies during the Renaissance and early modern period. Mercantilist policies emphasized protectionism, with nations seeking to export more than they imported in order to accumulate precious metals. Trade was thus heavily regulated, and colonial empires were established to secure resources and markets (Philipp, 2020). Mercantilism was influential during its time and contributed to the economic and geopolitical dynamics of the period. However, it also faced criticism and was eventually superseded by the rise of classical economics and the theories of Adam Smith and David Ricardo, which laid the groundwork for free trade and laissez-faire capitalism in the 18th and 19th centuries (Levitt, 2021).

The Industrial Revolution, of late 18th to early 19th centuries, brought about significant changes in production techniques and transportation, leading to increased trade between nations. It was characterized by a profound shift in production techniques, particularly with the advent of mechanization and the utilization of steam power. This transformation had far-reaching effects on various aspects of society, including economy, culture, and politics. Traditional manual labor gave way to mechanized processes, greatly increasing efficiency and output. This led to the establishment of factories and the mass production of goods on a scale never seen before. The development of new transportation technologies played a crucial role in facilitating increased trade between nations. The introduction of steam-powered trains and ships revolutionized transportation, making it faster, cheaper, and more reliable (Stearns, 2020; Groumos, 2021). Nations were able to specialize in the production of certain goods based on their

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comparative advantages and trade them with other nations for goods they lacked. This not only spurred economic growth but also fostered greater interconnectedness between nations and cultures. However, trade was still heavily regulated and protectionist policies remained dominant (Atack, Margo & Rhode, 2022; Hahn, 2020).

The mid-19th century indeed marked a significant period for the rise of classical liberalism and the advocacy of free trade principles. The repeal of the Corn Laws in Britain in 1846 is a landmark event in this context. These laws led to higher food prices and exacerbated poverty among the working class. The repeal of the Corn Laws marked a shift towards a more laissez-faire economic policy, where the government played a minimal role in regulating trade and commerce. This move towards free trade was influenced by the ideas of classical liberal thinkers, who argued for the benefits of unrestricted trade and the division of labor. The repeal of the Corn Laws in Britain was a significant step towards establishing free trade as a guiding principle of economic policy, and it had a profound impact on the development of global trade and commerce in the decades that followed (Andriot, 2023).

The interwar period, between World War I and World War II, indeed witnessed a resurgence of protectionist policies in many countries. The Treaty of Versailles imposed significant economic burdens on Germany, contributing to global economic instability. Many countries responded to this instability by implementing protectionist measures to shield their domestic industries from foreign competition and to bolster their own economies. Furthermore, the Great Depression of the 1930s exacerbated economic hardships worldwide, leading to a further increase in protectionist sentiment. Countries sought to protect their domestic industries and preserve jobs by imposing tariffs, quotas, and other trade barriers. These protectionist measures contributed to a breakdown in international trade and worsened the global economic situation (Wu, 2020; MacIsaac & Duclos, 2020; Tang, 2020). In the aftermath of World War II, the Bretton Woods Conference was held. The primary goals of the conference were to establish a framework for economic cooperation among nations, prevent the competitive devaluations that had contributed to the Great Depression, and facilitate the reconstruction and development of war-torn economies. Key outcomes of the conference included the creation of the International Monetary Fund (IMF) and the International Bank for Reconstruction and Development (IBRD), which later became part of the World Bank Group. The IMF was tasked with promoting international monetary cooperation, exchange rate stability, and balanced economic growth, while the IBRD was established to provide financial and technical assistance for the reconstruction and development of war-ravaged countries. While the Bretton Woods system eventually collapsed in the early 1970s due to various economic pressures, the institutions created at the conference continue to play significant roles in global finance and development. The IMF provides financial assistance and policy advice to member countries facing economic crises, while the World Bank focuses on providing loans and grants for development projects (Edwards, 2023; Pittaluga, 2021 Fowler, 2022).

The General Agreement on Tariffs and Trade (GATT) was indeed established in 1947 with the primary goal of reducing barriers to international trade through negotiations among member countries. It was created in response to the protectionist trade policies that had contributed to the Great Depression and aimed to promote economic growth and stability by facilitating international trade. In 1995, GATT was replaced by the World Trade Organization (WTO), which expanded its scope beyond the reduction of tariffs to include trade in services, intellectual property rights, and investment measures. The WTO continues to oversee global trade agreements and provides a forum for member nations to negotiate trade deals and resolve disputes (Irwin, 2017; Jaime, Cardona-Montoya & Herrero-Olarte, 2023)

From late 20th century, regional trade agreements (RTAs) have become increasingly common. These agreements involve two or more countries within a specific region that agree to reduce trade barriers and promote economic cooperation. For example, North America Free Trade Agreement (NAFTA) established in 1994, aimed to eliminate tariffs and other trade barriers among the United States, Canada, and Mexico, creating one of the world's largest free trade zones. The European Union (EU) is a unique economic and political union comprising 27 European countries that have agreed to establish a single market, with common regulations and free movement of goods, services, capital, and people. The EU has deepened economic integration among its member states and has its own currency, the euro, used by 19 of its members. Association of Southeast Asian Nations (ASEAN) is a regional intergovernmental organization comprising ten Southeast Asian countries that promote economic growth, social progress, and cultural development in the region. ASEAN has facilitated trade liberalization and economic integration through agreements like the ASEAN Free Trade Area (AFTA). These regional agreements have contributed to increased trade flows, economic growth, and investment within their respective regions. They have further integrated regional economies and reduced barriers to trade. However, they also raise questions about potential trade diversion, as goods and services from non-member countries may face higher barriers compared to those from member countries. Additionally, there's ongoing debate about the compatibility of regional agreements with the multilateral trading system governed by WTO (Kennedy, 2021; Haosheng, & Canyu, 2022 Baldwin & Wyplosz, 2022).

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The advent of the internet and digital technologies in the late 20th and early 21st centuries have facilitated global trade by reducing transaction costs and enabling greater connectivity between businesses and consumers worldwide (Acs, 2021). Digital technologies have significantly lowered the costs associated with conducting international transactions enabling businesses of all sizes to engage in global trade. The internet has facilitated greater connectivity between businesses and consumers worldwide. Through e-commerce platforms, businesses can reach customers in distant markets without the need for physical presence or extensive distribution networks. This has opened up new opportunities for small and medium-sized enterprises (SMEs) to participate in global trade. (Roeck, Sternberg & Hofmann, 2020). Digitalization of businesses have expanded market access for businesses by breaking down geographical barriers. With online marketplaces and digital advertising platforms, companies can target and reach potential customers across the globe, tapping into new markets that were previously inaccessible (Neumeayer, Santos & Morris, 2020). Digitalization has made it easier for businesses to collaborate with partners, suppliers, and customers located in different parts of the world. Tools such as video conferencing, cloud computing, and collaborative software platforms enable real-time communication and collaboration, fostering innovation and knowledge sharing on a global scale (Luo, 2021).

The development of liberalization policies reflects a broader shift towards market-oriented economic policies aimed at promoting economic growth, efficiency, and competitiveness. However, achieving the benefits of liberalization while addressing its associated challenges remains a complex and ongoing process for policymakers around the world. Debates continue regarding the impact of globalization on inequality, environmental sustainability, and national sovereignty (Baylis, 2020). Based on this, this review sought to examine the impact of political, economic, social and technological advancements of liberalization of global business on third world nations.

2.1 Liberalization of Global Business and Political Development in Third World Countries

Reports indicate that when global businesses are liberalized, particularly through policies such as free trade agreements and economic openness, there are both positive and negative impacts on the political development of third world countries. This has impacted the political development of third world countries in several ways including democratic governance (Arezki, Dama, & Rota-Graziosi, 2021). After the fall of apartheid in South Africa, the country embarked on a path of liberalization and democratization. This transition began with negotiations between the apartheid government and various anti-apartheid movements, culminating in the historic multiracial elections of 1994. The post-apartheid South African government pursued liberalization policies aimed at opening up the economy to global trade and investment. This included dismantling many of the barriers that had previously restricted international trade and foreign investment. The government also implemented various reforms aimed at addressing the inequalities and injustices inherited from the apartheid era (Adam & Moodley 2023; Davi Constantino, Dias da Silva & Flexor, 2021).

The liberalization of the telecommunications sector in Brazil in the 1990s had a transformative impact on civil society by enhancing its capacity to advocate for political reforms and social justice. Mobile phones and the internet provided new tools and platforms for communication, networking, advocacy, and accountability, empowering civil society organizations to play a more significant role in shaping the country's democratic processes and policies. Communication and networking among civil society organizations, empowered them to advocate for political reforms and social justice (Yoshida & Gil-Herrera, 2020; Castillo, M. 2021).

Vietnam's economic liberalization, commonly referred to as Doi Moi, began in the late 1980s and marked a significant shift in the country's economic policies. This reform program aimed to transition Vietnam from a centrally planned economy to a more market-oriented one. The Doi Moi reforms included measures such as deregulation, privatization of state-owned enterprises, trade liberalization, and opening up to foreign investment. The economic growth resulting from Doi Moi contributed to several positive outcomes, including political stability and social cohesion. The strong economic performance fostered by Doi Moi helped to stabilize Vietnam politically. Economic growth provided the government with resources to address social needs, maintain law and order, and invest in infrastructure and public services. A stable political environment, in turn, encouraged further investment and growth, creating a positive cycle of development. The economic development brought about by Doi Moi reduced the risk of internal conflicts in Vietnam. As living standards improved and economic opportunities expanded, grievances related to poverty and inequality were mitigated. Additionally, the government's focus on economic development helped to address regional disparities and promote inclusion, reducing the potential for social unrest (Path, 2020).

Mexico's entry into the North American Free Trade Agreement (NAFTA) in 1994 indeed facilitated deeper economic integration with the United States and Canada. NAFTA strengthened diplomatic relations among the member countries. By fostering economic interdependence, the agreement incentivized greater cooperation and collaboration on various fronts, including security, immigration, and environmental issues. Regular dialogues and mechanisms for dispute resolution established under NAFTA helped to promote understanding and resolve conflicts that arose between the member states. Additionally, the agreement contributed to regional stability by creating a framework for economic growth and development. The increased economic opportunities

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provided by NAFTA helped to alleviate poverty and reduce inequality in Mexico, thereby contributing to social stability and reducing pressures for migration. Overall, NAFTA played a significant role in strengthening diplomatic relations among its member countries, contributing to regional stability and political cooperation in North America (Zepeda, 2021; Meylor & Kulkarni, 2022).

Liberalization of global businesses has led to increased dependency on foreign corporations, which can wield significant political influence. This can undermine the sovereignty of third-world countries and weaken their ability to pursue independent political agendas. For example, many African countries heavily depend on multinational corporations for investment and employment, which can limit their policy options and bargaining power. Foreign corporations may also exert political influence in host countries. This could include lobbying efforts, campaign contributions, or even direct involvement in political processes. As a result, the sovereignty of the host country may be compromised, as decisions are influenced by external interests rather than domestic priorities. In the context of African countries, many have experienced varying degrees of dependency on multinational corporations for selfish interests. While such investment can contribute to economic growth and development, it also poses challenges in terms of maintaining sovereignty and pursuing independent political agendas. (Dyson & Humphreys, 2023; Vu & Nguyen, 2022).

When domestic markets are liberalized, local industries often face intense competition from more established and technologically advanced foreign counterparts. As a result, many local businesses, particularly small and medium-sized enterprises, may struggle to compete and eventually face closure. This can lead to widespread unemployment, as workers lose their jobs when local industries shrink or shut down. In the case of the textile industry in Bangladesh and India, the liberalization of trade policies has led to increased competition from foreign textile manufacturers, particularly from countries with lower labor costs. As a result, many local textile mills have been unable to compete effectively, leading to closures and job losses affecting millions of workers. The consequences of such economic changes extend beyond just unemployment. Social unrest and political instability can arise as affected communities grapple with the loss of livelihoods and worsening economic conditions. Displaced workers may protest against government policies or seek alternative means of income, leading to demonstrations, strikes, and other forms of civil unrest (DiMenna, 2022; Berwal, R. (2020).

In countries like Brazil and Mexico, which have implemented significant liberalization policies in recent decades, income inequality has indeed been a persistent challenge. Liberalization has led to significant income disparities, contributing to social unrest and political polarization. While economic growth has occurred, the benefits have often been concentrated among the wealthy, leading to social discontent, frustration, and distrust in the political system. Social unrest and political polarization can arise as marginalized communities perceive that the economic system is rigged against them, leading to demands for greater equity, social justice, and redistribution of wealth. This inequality can fuel social discontent and undermine trust in the political system (Gomado, 2023; Bandeira, Swart & Jordaan, 2021; Osinubi & Olomola, 2020).

Global business when liberalized often leads to increased dependency on foreign investment and multinational corporations (MNCs). This can weaken the bargaining power of local governments and undermine their ability to implement policies in the interest of their citizens. In many African countries, the exploitation of natural resources by foreign companies has indeed been a source of economic dependency and political instability. Governments often face pressure to attract foreign investment to stimulate economic growth, but this can come at the expense of environmental sustainability, social justice, and long-term development goals. Economic dependency on foreign investment and MNCs can also contribute to political instability, as governments may prioritize attracting and retaining foreign investment over addressing domestic concerns or implementing policies that benefit their citizens. This can lead to public dissatisfaction, social unrest, and political tensions, undermining the stability of governments and institutions. In many African countries, the exploitation of natural resources by foreign companies has indeed been a source of economic dependency and political instability (Asiamah, et al. 2022; Anderer, Dür & Lechner, 2020; Frynas & Buur, 2020).

When global business is liberalized this may result in the erosion of national sovereignty as international trade agreements and investment treaties often impose constraints on government policies (McBride & Fry, 2022). Many trade and investment agreements include Investor-State Dispute Settlement (ISDS) mechanisms, which allow foreign investors to sue host governments for alleged breaches of treaty obligations. These mechanisms enable investors to challenge government regulations, policies, or decisions that they perceive as harmful to their investments. Critics argue that ISDS provisions give undue power to foreign investors and can deter governments from enacting or enforcing regulations in the public interest for fear of facing costly legal challenges (Thakur, 2021). In the context of agreements like the Trans-Pacific Partnership (TPP) or NAFTA, concerns about the erosion of national sovereignty have indeed been raised. Critics argue that these agreements prioritize the interests of multinational corporations and investors over those of ordinary citizens, limiting governments' ability to regulate in the public interest and exacerbating social and economic inequalities (Velut, et al. 2022).

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In addition to enhancing inequality, liberalization can also have social and political repercussions. As income inequality grows, marginalized communities may feel increasingly disenfranchised and marginalized, leading to social unrest and political instability. This can manifest in protests, demonstrations, and even civil unrest as people demand greater economic justice and opportunities for all members of society (Le, 2021). Latin America provides a stark example of how liberalization can contribute to social and political upheaval. During the 1980s and 1990s, many countries in the region pursued neoliberal policies, including market liberalization, privatization, and deregulation. While these policies were intended to spur economic growth and development, they often disproportionately benefited the wealthy elite while exacerbating poverty and inequality. The resulting discontent among marginalized communities fueled widespread protests and social movements against neoliberalism and the perceived injustices it entailed. These movements often called for greater state intervention in the economy, redistribution of wealth, and protection of workers' rights (Rodríguez, 2021). Liberalization, particularly when not accompanied by appropriate checks and balances, can indeed undermine democracy by concentrating economic power in the hands of a few elites and reducing government accountability to citizens. This concentration of economic power can translate into disproportionate political influence, allowing elites to shape policies and regulations in their favor. As a result, the interests of the elite may supersede the needs and preferences of the broader population, undermining the democratic principle of equal representation (Milner, 2021). In countries rich in natural resources, liberalization policies that encourage foreign investment and resource extraction can exacerbate corruption and undermine democratic governance. Foreign companies may engage in corrupt practices such as bribery, kickbacks, and sweetheart deals with government officials to secure lucrative contracts and concessions. This can result in the mismanagement of natural resources, environmental degradation, and the diversion of public funds away from essential services and infrastructure projects. Nigeria and Venezuela serve as pertinent examples of how the extraction of natural resources by foreign companies can fuel corruption and weaken democratic institutions. In both countries, the oil industry has been a major source of revenue, but mismanagement, corruption, and lack of transparency have led to widespread economic inequality, social unrest, and political instability (Castillo, 2021).

2.2 Liberalization of Global Business and Economic Development of Third World Countries

The liberalization of global business has several impacts on the economic development of third world countries. Ghana's liberalization efforts in the telecommunications sector have yielded positive outcomes, contributing to improved efficiency, transparency, and economic development. By embracing privatization and deregulation, Ghana has successfully attracted private investment, expanded telecommunications infrastructure, and enhanced access to telecommunication services across the country. Liberalization introduced competition into the telecommunications sector, encouraging efficiency and innovation among service providers. With multiple operators vying for market share, consumers have benefited from improved service quality, expanded coverage, and lower prices. Private investment in the telecommunications sector has facilitated the expansion of infrastructure, including the deployment of mobile networks, fiber-optic cables, and internet connectivity. This expansion has helped bridge the digital divide, particularly in rural and underserved areas, by extending access to telecommunication services to previously unreachable populations. The influx of private investment in the telecommunications sector has created employment opportunities and stimulated economic growth. From network deployment and maintenance to retail and customer service, the telecommunications industry has become a significant source of employment and economic activity in Ghana (Williams & Kwofie, 2022; Diedong, 2021).

China's economic liberalization marked a significant departure from the centrally planned economy towards a more market-oriented approach. This influx of Foreign Direct Investment (FDI) played a crucial role in China's rapid economic growth, leading to the emergence of export-oriented industries, modernization of infrastructure, and job creation. China's economic reforms aimed to open up the country to foreign investment and trade. Special Economic Zones (SEZs) were established to provide preferential policies and incentives for foreign investors. These measures successfully attracted significant FDI inflows. FDI played a crucial role in the development of China's export-oriented industries, which became key drivers of economic growth. Foreign companies established factories and production facilities in China to take advantage of its large labor pool, relatively low wages, and increasingly favorable business environment. This led to the emergence of China as the "factory of the world" and a major exporter of manufactured goods. FDI also contributed to the modernization of China's infrastructure, including the development of transportation networks, ports, and telecommunications systems. Foreign investment in infrastructure projects helped address bottlenecks and improve connectivity, facilitating trade and economic integration both domestically and internationally. The availability of employment opportunities in urban areas attracted rural migrants seeking better economic prospects, leading to significant urbanization and demographic shifts. Foreign companies brought capital contributing to the upgrading of China's industrial capabilities and competitiveness (Wong, Lee, Zhao & Pei, 2020; Fan, W., & Hao, 2020).

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The African Growth and Opportunity Act (AGOA) provided duty-free access to the U.S. market for eligible African countries. This access boosted exports from these countries, creating employment opportunities and stimulating economic development (Jacob, Elgahm & Halidu; 2020). On the other hand, India's economic liberalization in the 1990s attracted multinational corporations to establish operations in the country. India's liberalization policies, which aimed to open up the economy, remove barriers to trade and investment, and encourage private sector participation, played a crucial role in transforming the country's economic landscape. India's economic reforms attracted multinational corporations to establish operations in the country, particularly in the IT and software services sector. Companies from countries United States, Europe, and Japan set up development centers, research labs, and outsourcing hubs in India to take advantage of its large pool of skilled labor, lower operating costs, and increasingly favorable business environment (Noronha, & D'Cruz, 2020).

The presence of multinational corporations in India facilitated technology transfer, knowledge exchange, and skill development. Indian professionals working in multinational companies gained exposure to cutting-edge technologies, best practices, and global business processes, which helped enhance their expertise and capabilities. Multinational corporations made significant investments in research and development (R&D) activities in India, leveraging the country's talent pool and innovation ecosystem. These investments contributed to the development of indigenous technologies, products, and solutions, fostering innovation and entrepreneurship in the IT sector (Guo, 2020). Economic liberalization also enabled Indian IT companies to expand their presence globally and compete in international markets. Companies like Infosys, Tata Consultancy Services (TCS), and Wipro emerged as global players, providing a wide range of IT services to clients around the world. The success of these Indian IT firms further enhanced India's reputation as a global hub for IT and software services. The growth of the IT and software services sector fueled job creation and economic growth in India. The sector became a major source of employment for skilled professionals, attracting talent from diverse backgrounds and contributing to India's demographic dividend (Anderer, Dür & Lechner, 2020; Subramanian & Felman, 2022).

Malaysia's liberalization efforts in the 1970s and 1980s focused on diversifying its economy beyond agriculture. The country attracted foreign investment in manufacturing, electronics, and high-tech industries, reducing its reliance on commodity exports and promoting sustainable economic growth (Rasiah, 2022). On the side, Mexico's liberalization under the North American NAFTA encouraged competition and efficiency improvements in various industries. NAFTA, aimed to promote trade and investment among the United States, Canada, and Mexico by eliminating tariffs and reducing barriers to trade. This facilitated increased competition by opening up Mexico's markets to foreign investment and imports. This led to greater market access for domestic producers and increased competition among firms, which in turn incentivized efficiency improvements, innovation, and productivity gains. Liberalization encouraged Mexican industries to become more efficient and competitive. Firms were forced to streamline their operations, adopt modern production techniques, and invest in technology and skills to remain competitive in the face of increased competition from foreign firms. Increased competition and efficiency improvements resulting from NAFTA led to lower prices for consumers in Mexico. As domestic producers became more competitive and imported goods became more accessible, consumers benefited from a wider variety of products at lower prices, contributing to improvements in living standards and consumer welfare (Denata, Luthfiani & Zahro, 2023). NAFTA played a significant role in stimulating economic growth in Mexico by promoting trade, investment, and industrial development. The agreement attracted foreign investment, particularly in sectors such as manufacturing, automotive, and electronics, leading to the creation of jobs, expansion of export-oriented industries, and diversification of the economy. This organization facilitated Mexico's integration into global value chains, enabling the country to become a key production and export platform for North American and global markets. Mexican manufacturers and exporters became increasingly interconnected with their counterparts in the United States and Canada, leading to greater specialization, efficiency, and competitiveness (Velut, et al. 2022).

Vietnam's economic liberalization has played a significant role in attracting foreign investment, particularly in infrastructure projects. The implementation of Doi Moi in the late 1980s marked a shift towards a more market-oriented economy, opening up opportunities for foreign investors to participate in the development of Vietnam's infrastructure. Doi Moi policies created a more favorable investment climate, encouraging foreign investors to participate in infrastructure projects in Vietnam. This resulted in significant inflows of foreign direct investment (FDI) into sectors such as transportation, telecommunications, energy, and real estate. Foreign investment in infrastructure projects has contributed to the development of key infrastructure networks in Vietnam, including roads, ports, airports, railways, telecommunications networks, and energy facilities. Enhanced infrastructure has facilitated trade and investment flows in Vietnam by reducing transportation costs, improving logistics efficiency, and increasing connectivity with regional and global markets. Improved transportation networks, such as highways and ports, have facilitated the movement of goods and people, while modern telecommunications infrastructure has facilitated communication and data exchange. Investment in infrastructure has been a key driver of economic growth in Vietnam, supporting productivity gains, employment generation, and income growth. Improved infrastructure has helped attract investment in manufacturing, export-

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oriented industries, tourism, and services, contributing to sustained economic expansion and poverty. Better infrastructure has improved access to essential services in both urban and rural areas. Enhanced transportation networks have reduced travel times and improved mobility, while access to modern telecommunications has expanded information access and connectivity (Path, 2020; Ho, 2023; Ha, 2021).

In Bangladesh the liberalization of the garment industry has indeed led to the creation of jobs and has been a significant driver of economic growth and poverty reduction in the country. Bangladesh has emerged as one of the world's largest exporters of ready-made garments, with the industry accounting for a substantial portion of the country's GDP and export earnings. The garment industry in Bangladesh has been a major source of employment, particularly for women from rural areas who often have limited opportunities for formal employment. Millions of people, predominantly women, work in garment factories across the country, providing them with economic independence and opportunities for self-sufficiency. The rapid expansion of the garment industry has contributed significantly to Bangladesh's economic growth and industrial development. The industry has attracted investment, stimulated demand for raw materials and services, and generated foreign exchange earnings through exports. This has contributed to overall economic expansion and helped position Bangladesh as a manufacturing hub in the global apparel market. The industry's competitiveness in global markets, coupled with preferential trade agreements and low labor costs, has enabled Bangladesh to capture a substantial share of the global garment market. Many workers employed in the industry come from low-income backgrounds and are able to lift themselves and their families out of poverty through steady employment and income generation (Swazan & Das, 2022; Rahman & Chowdhury, 2020; Mujeri & Mujeri, 2020).

Financial sector liberalization in countries like Kenya and Nigeria has played a crucial role in improving access to finance for businesses and entrepreneurs, particularly small and medium enterprises (SMEs). By reducing regulatory barriers, promoting competition, and encouraging innovation in the financial sector, liberalization has facilitated greater access to credit, investment, and financial services, enabling SMEs to expand, innovate, and contribute to economic development. Financial sector liberalization has led to the emergence of a more diverse and competitive financial services landscape, with a greater variety of financial institutions and products available to SMEs. This has improved access to credit, equity financing, and other financial services, enabling SMEs to invest in growth, expand their operations, and pursue new opportunities. Greater access to finance has facilitated entrepreneurship and the formation of new businesses in Kenya and Nigeria. By providing funding and support to aspiring entrepreneurs, financial sector liberalization has helped unlock the potential of SMEs as engines of economic growth and development. Financial sector liberalization has encouraged the development and adoption of innovative financial technologies (fintech) in these countries. These innovations have enhanced efficiency, reduced transaction costs, and expanded access to financial products and services for SMEs. By providing employment opportunities, income generation, and skills development, SMEs help lift people out of poverty and contribute to social and economic inclusion. Financial sector liberalization has supported SME growth and expansion, thereby contributing to broader objectives of poverty alleviation and sustainable development. Access to finance enables SMEs to invest in productivity-enhancing technologies, equipment, and human capital, thereby enhancing their competitiveness and sustainability (Bello & Mustapha 2021; Megersa, 2020; Effiom, & Edet, 2022).

Kenya's liberalization efforts, including reforms aimed at attracting private investment and fostering competition, have led to significant investments in infrastructure projects such as the Standard Gauge Railway (SGR), which has had notable effects on economic integration and growth. Infrastructure investments, such as the Standard Gauge Railway in Kenya, enhance connectivity by providing faster, more reliable, and efficient transportation links. The SGR has improved connectivity between major cities and ports, facilitating the movement of goods and people and reducing travel times. Efficient infrastructure reduces logistics costs by streamlining transportation and distribution networks. This can lead to cost savings for businesses, making products more competitive in domestic and international markets. Investments in infrastructure like railways, roads, and ports can help further lower transportation costs and improve supply chain efficiency. Infrastructure investments promote economic integration by connecting regions, countries, cross-border movement, enhancing regional cooperation and integration within the East EAC and beyond (Irandu & Owilla, 2020).

The liberalization of global business, while aiming to promote economic growth and integration, can have detrimental effects on the economic development of third-world countries. In many cases, third world countries become overly dependent on foreign investment to sustain their economic growth. When this investment declines or ceases, it can lead to economic instability and hinder long-term development. For instance, several Latin American countries experienced economic crises in the 1980s due to a sudden withdrawal of foreign capital (Bresser-Pereira & Nakano, 2020). Also, during the Asian financial crisis of 1997, countries heavily reliant on foreign investment faced severe economic downturns (Athreye, Saeed & Baloch, 2021). Third world countries that heavily rely on exports for revenue can be vulnerable to fluctuations in global commodity prices or changes in market demand. For example, many African nations that heavily dependent on oil exports faced economic downturns when global oil prices plummeted in recent years (Okoro, 2021). Liberalization can also lead to the domination of domestic markets by multinational

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corporations, stifling the growth of local industries. This can result in a loss of competitiveness for domestic firms and hinder the development of indigenous industries. For example, the liberalization of retail markets in India has led to the dominance of large multinational retail chains, marginalizing small local businesses (Sutradhar & Das, 2020).

Economic liberalization often benefits wealthier segments of society more than the poor, exacerbating income inequality within third world countries. For instance, in many Latin American countries, liberalization policies led to the concentration of wealth in the hands of a few wealthy elites, while poverty rates remained high among the majority of the population. (Sánchez-Ancochea, 2021). In pursuit of lower production costs, multinational corporations may exploit cheap labor in third world countries, leading to poor working conditions, low wages, and labor rights abuses. For example, garment factories in Bangladesh have faced scrutiny for unsafe working conditions and low wages despite the country's economic liberalization efforts (Frenkel, Rahman & Rahman, 2022). Furthermore, rapid industrialization driven by global business interests can result in environmental degradation and resource depletion. For instance, deforestation, pollution, and water scarcity are common environmental issues faced by many third world countries undergoing economic liberalization ((DiMenna, 2022). Opening up to global financial markets can also expose third world countries to financial volatility and speculative attacks. For example, many Southeast Asian countries experienced severe financial crises in the late 1990s due to currency speculation and unsustainable levels of foreign borrowing (Buckley, Avgouleas & Arner, 2020).

Liberalization can lead to the flooding of domestic markets with cheaper goods from developed countries, making it difficult for local industries in third-world countries to compete. For instance, after liberalization in the 1990s, many African textile industries collapsed due to competition from cheaper imported goods (Kariuki, 2021). Global business liberalization often benefits multinational corporations and wealthy elites more than the general population. This exacerbates income inequality within third-world countries, as the benefits of economic growth tend to be concentrated in the hands of a few, while the majority of the population struggles to make ends meet. Multinational corporations may exploit cheap labor in third-world countries, paying low wages and providing poor working conditions to maximize profits. This not only perpetuates poverty but also contributes to social unrest. For example, garment factories in Bangladesh have faced criticism for their harsh working conditions and low pay, despite being crucial to the country's export-driven economy (Frenkel, Rahman & Rahman, 2022). Liberalization can further lead to the exploitation of natural resources in third-world countries by multinational corporations. This often occurs without adequate environmental safeguards, resulting in environmental degradation and loss of biodiversity. For instance, oil extraction in the Niger Delta has caused extensive pollution and devastation of local ecosystems, harming the livelihoods of indigenous communities (Ozundu, & Egbunike, 2023). Liberalization can also expose third-world countries to financial speculation and instability. Deregulation of financial markets can lead to speculative bubbles and sudden capital outflows, causing currency devaluations and economic crises. For instance, Mexico's economy suffered a severe recession in the early 1980s after a debt crisis triggered by financial liberalization (Vázquez-Fariñas, 2023).

2.3 Liberalization of Global Business on Social Cultural Development of Third World Countries

Liberalization promotes cultural exchange by facilitating the flow of ideas, people, and goods across borders. This can lead to greater cultural diversity and understanding. The expansion of global trade and tourism, for example, allows people from different cultures to interact and learn from each other, fostering cultural appreciation and respect (Sarmento, 2020). Liberalization often leads to the expansion of telecommunications and internet connectivity, providing people in third world countries with greater access to information and educational resources. For example, the proliferation of mobile phones and internet access has allowed people in rural areas to access educational materials and online courses, contributing to their social and cultural development (Myovella, Karacuka, & Haucap, 2020). Again, liberalization can provide opportunities for the promotion and preservation of traditional industries and crafts. For example, liberalization policies that support fair trade practices enable artisans and craftsmen in third world countries to market their products globally, preserving traditional craftsmanship and cultural heritage (Rathnayake & Grodach, C. (2022). Liberalization can also stimulate cultural tourism by attracting visitors interested in experiencing the unique cultural heritage of third world countries. Revenue generated from cultural tourism can support the preservation and promotion of cultural landmarks, traditions, and festivals. For example, UNESCO World Heritage Sites in countries like Egypt, India, and Peru attract tourists interested in exploring rich cultural histories (Pau, Contu & Rundeddu, 2022).

Liberalization can empower indigenous communities by providing them with opportunities to participate in global markets while preserving their cultural identity and traditions. For example, fair trade initiatives support indigenous artisans and farmers by providing them with fair wages and market access for their traditional products like handicrafts and organic foods (Kinanti, Wiko, & Nurhani, 2023). Liberalization creates opportunities for cultural entrepreneurship, allowing individuals and communities to leverage their cultural assets for economic development. For example, cultural festivals, music, dance, and cuisine can be promoted internationally, generating income and employment opportunities for local communities (Montoya & Stasiewicz, 2020).

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In addition, liberalization fosters cross-cultural collaboration and innovation by bringing together people from different backgrounds to work on creative projects. The international collaborations, for example, in fields like music, film, art, and literature result in the exchange of ideas and the creation of new cultural expressions that enrich societies globally (CNK, 2023).

Globalization of business and also lead to adverse effects on social development in third world countries. Liberalization often facilitates the entry of multinational corporations into new markets, enabling the widespread distribution and consumption of Western consumer products. Global fast-food chains, multinational retail brands, and entertainment media from the West can flood local markets, overshadowing indigenous products and cultural expressions. The proliferation of Western consumer products and media can contribute to the homogenization of culture, as local traditions and practices are supplanted by Western norms and preferences. This can erode cultural diversity and lead to the loss of unique cultural identities, languages, and traditions. Critics argue that the dominance of Western cultural products and values perpetuates a form of cultural imperialism, wherein Western cultural hegemony marginalizes and subordinates' non-Western cultures. Western media and consumer products often promote values such as individualism, consumerism, and materialism, which may clash with local cultural values and traditions. The influx of Western consumer products and media can also have adverse effects on local industries and cultural producers. Small-scale artisans, craftsmen, and cultural practitioners may struggle to compete with mass-produced Western goods and media, leading to the decline of traditional crafts and cultural practices. While liberalization can facilitate the spread of Western cultural products and values, it can also give rise to resistance and cultural hybridization. Local communities may resist the encroachment of Western cultural hegemony and strive to preserve their cultural heritage through various means, including cultural activism, cultural festivals, and the promotion of local products and traditions (Ullah & Ming, 2021).

Liberalization policies, particularly in developing countries, have often exacerbated social inequalities by concentrating wealth and economic opportunities among a small elite while leaving marginalized groups behind. This widening gap between the rich and the poor has frequently resulted in social tensions and unrest. The widening gap between the rich and the poor, coupled with feelings of injustice and marginalization, can fuel social tensions and conflicts within society (van der Straaten, Narula & Giuliani, 2023). Marginalized groups may express their grievances through protests, strikes, and civil unrest, challenging the legitimacy of the political and economic system and demanding social and economic reforms. Liberalization policies often prioritize market deregulation, privatization, and reduction of trade barriers, which can disproportionately benefit wealthy individuals and large corporations. As a result, economic resources and opportunities become concentrated among a small elite, while marginalized groups struggle to access economic opportunities and resources. Marginalized groups, such as low-income workers, rural populations, ethnic minorities, and women, often face systemic barriers that prevent them from benefiting from liberalization. Factors such as lack of access to education, healthcare, financial services, and discriminatory practices further exacerbate their exclusion from economic opportunities (Sharma & Vidyapith, 2023). Exploitation of labor, including sweatshop labor and human rights abuses, is a real issue that often occurs in the context of multinational corporations taking advantage of lax labor regulations in third world countries. The example of garment factories in Bangladesh is particularly illustrative of this phenomenon. Labor exploitation in the form of sweatshop labor can lead to a range of human rights abuses, including violations of workers' rights, child labor, forced labor, and unsafe working conditions. Workers in sweatshops may face exploitation, discrimination, and physical or verbal abuse. The garment industry in Bangladesh has faced widespread criticism for labor rights violations, including unsafe working conditions, low wages, and poor labor standards, despite economic liberalization efforts. Tragic incidents such as factory fires and building collapses, such as the Rana Plaza collapse in 2013, have highlighted the dire consequences of labor exploitation in the garment industry (Blauberger & Schmidt, 2023).

The spread of Western cultural values and norms, facilitated by liberalization policies, can indeed marginalize local cultural expressions and languages, potentially eroding cultural identity and diversity. Liberalization policies often result in the liberalization of media and entertainment industries, allowing for the unrestricted flow of Western cultural products such as films, television shows, music, and digital content into local markets. As a result, Western media and entertainment often dominate the cultural landscape, shaping public discourse, consumer preferences, and societal norms. The pervasive influence of Western cultural values and norms can contribute to the erosion of cultural identity and traditions, particularly among younger generations. Exposure to Western media and consumer culture may lead to the adoption of Western lifestyles, attitudes, and values, potentially displacing or diluting indigenous cultural practices and beliefs. The dominance of Western cultural products and values can contribute to the homogenization of global culture, as local cultural diversity gives way to a more uniform, Western-oriented cultural landscape. This can lead to a loss of cultural richness, diversity, and distinctiveness, as well as undermine efforts to preserve and promote indigenous cultures. Despite these challenges, many communities actively resist cultural marginalization and work to revitalize and preserve their indigenous cultures. Cultural activism, community-based initiatives, and the promotion of indigenous languages and arts play a crucial role in preserving cultural diversity and fostering cultural resilience in the face of globalization (Miller, 2021).

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2.4 Liberalization of Global Business and Technological Advancement in Third World Countries

On a positive side, globalization encourages foreign direct investment (FDI) and collaboration with multinational corporations, leading to the transfer of technology, expertise, and best practices to third world countries. For example, the automotive industry in Mexico has benefitted from technology transfer agreements with multinational car manufacturers, resulting in the establishment of advanced manufacturing processes and R&D centers (Crossa & Ebner, 2020). Liberalization promotes access to innovative technologies and research developments from around the world. Third world countries can adopt and adapt these technologies to meet their specific needs and challenges. For instance, the adoption of mobile banking technology in Kenya has revolutionized financial services and expanded access to banking for millions of people, contributing to financial inclusion and economic development (Karanja, 2020).

Liberalization attracts investment in infrastructure projects such as telecommunications, transportation, and energy, laying the foundation for technological advancement. For example, foreign investment in telecommunications infrastructure in countries like India and Nigeria has led to the expansion of mobile networks and internet connectivity, enabling greater access to information and communication technologies (ICTs) (Akpobasa & Ishioro, 2022 Sarangi, & Pradhan, 2020). Liberalization further fosters entrepreneurship and innovation ecosystems by creating a conducive environment for startups, research institutions, and technology hubs to thrive. For example, countries like India have seen the emergence of vibrant startup ecosystems in cities like Bangalore and Hyderabad, driven by liberalization policies that encourage foreign investment, intellectual property protection, and venture capital funding (Deshpande, 2021). Furthermore, liberalization encourages investment in education and skill development, leading to the creation of a more technically skilled workforce. This enhances the capacity of third world countries to absorb and utilize advanced technologies effectively. For example, educational reforms in South Korea following liberalization have led to significant improvements in STEM (science, technology, engineering, and mathematics) education and workforce readiness, driving technological innovation and economic growth (Lanzona, 2022).

Globalization has many negative impacts on third world countries as far as technology is concerned. Liberalization can indeed contribute to a situation where third world countries become overly dependent on imported technology and expertise, which in turn inhibits their ability to develop indigenous technological capabilities. Liberalization policies, such as trade liberalization and foreign direct investment, may encourage the importation of foreign technology and expertise to meet immediate development needs. While this can provide short-term solutions and stimulate economic growth, it can also create a dependency on imported technologies and know-how. Technological dependency can discourage domestic investment in research and development (R&D) and innovation. If third world countries rely primarily on imported technologies, there may be less incentive for local firms and institutions to invest in developing indigenous technological capabilities or conducting R&D activities. Technological dependency can also undermine a country's sovereignty and autonomy. Reliance on foreign technologies and expertise may entail the adoption of foreign standards, regulations, and intellectual property rights regimes, limiting the country's ability to pursue its own development agenda and priorities (Moran, et al. 2021; George, 2023). For example, many African countries heavily rely on imported technology for their infrastructure projects, which can limit their ability to innovate and develop sustainable technological solutions locally (Yongabo & Göransson, 2022).

Liberalization can indeed exacerbate brain drain, as skilled professionals and researchers from third world countries may be attracted to opportunities in more developed countries, leading to a loss of talent and expertise in their home countries (Cakor, 2021). Liberalization policies often lead to the opening up of job markets and the expansion of opportunities, particularly in more developed countries with stronger economies. Skilled professionals from third world countries may be attracted to these opportunities, which offer higher salaries, better working conditions, and greater career advancement prospects than what is available in their home countries. Skilled professionals who migrate to more developed countries often face barriers to returning to their home countries, including limited job prospects, lower salaries, and fewer opportunities for career advancement (Hamdaoui, Ayouni & Maktouf, 2022). The emigration of skilled professionals and researchers represents a loss of talent and expertise for third world countries, particularly in critical sectors such as healthcare, education, science, and technology. This brain drain can hinder technological development, innovation, and economic growth back home, as countries struggle to retain and utilize their skilled human capital. Brain drain can undermine development efforts in third world countries, as the loss of skilled professionals and researchers weakens institutions, reduces productivity, and impedes progress in key sectors. This can perpetuate a cycle of underdevelopment and dependency, further exacerbating inequalities and hindering efforts to achieve sustainable development goals (Oliinyk, et al. 2021).

Weak Intellectual Property Rights regimes in third world countries can indeed be exploited by multinational corporations to protect their technologies and inhibit local innovation, leading to various adverse consequences, including hindrances in addressing public health challenges. Liberalization often encourages the adoption of international standards for intellectual property protection, which may not always align with the developmental needs and priorities of third world countries. Multinational corporations may

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exploit weak IPR regimes in these countries to obtain patents and monopolies on essential technologies, thereby limiting competition and innovation in key sectors. Weak IPR regimes may discourage local innovation and production of essential medicines and other critical technologies. Local manufacturers may face legal barriers, licensing restrictions, and patent disputes that impede their ability to develop and produce affordable generic versions of patented medicines or innovate in other sectors. This can stifle technological development, economic growth, and industrial diversification in third world countries (Khouilla & Bastidon, 2023).

The pursuit of economic growth often takes precedence over environmental sustainability, leading to environmental degradation that can indeed hinder technological advancement in the long run. Unregulated industrial activities, particularly in third world countries, can result in pollution, deforestation, habitat destruction, and other forms of environmental damage. Liberalization-driven industrialization tends to prioritize economic growth and industrial expansion, often at the expense of environmental considerations. Governments and businesses may focus on increasing production, exports, and GDP growth, without adequately addressing the environmental impacts of industrial activities. In the absence of stringent environmental regulations and enforcement mechanisms, industrial activities in third world countries may proceed with minimal regard for environmental protection. Industries may engage in practices such as pollution emissions, improper waste disposal, deforestation, and land degradation, leading to significant environmental damage (Fernandes, et al. 2021).

3.0 CONCLUSION

Liberalization of global business has had multifaceted impacts on third world countries politically, economically, socially, and technologically.

3.1.1 Political Impact

Liberalization has led to shifts in political dynamics in third world countries, often influencing governance structures, policy formulation, and international relations. While some countries have experienced increased political stability and democratization as a result of liberalization, others have faced challenges such as governance deficits, corruption, and social unrest.

3.1.2 Economic Impact

Economically, liberalization has resulted in increased trade, investment, and integration of third world countries into the global economy. While some countries have witnessed economic growth and development, others have faced disparities in wealth distribution, widening income gaps, and vulnerability to external economic shocks.

3.1.3 Social Impact

Socially, liberalization has brought about changes in lifestyles, cultural exchange, and social mobility. While some segments of society have benefited from increased access to goods, services, and opportunities, others have experienced social inequalities, displacement, and cultural homogenization.

3.1.4 Technological Impact

Technologically, liberalization has facilitated access to advanced technologies, knowledge transfer, and innovation. However, it has also led to technological dependence, brain drain, unequal access to technology, and displacement of local industries in some cases.

In conclusion, the impact of liberalization of global business on third world countries is complex and varies depending on factors such as governance structures, economic policies, social dynamics, and technological capabilities. While liberalization has brought opportunities for growth and development, it has also posed challenges that need to be addressed through inclusive and sustainable policies to ensure equitable benefits for all segments of society.

3.2 Recommendations

Based on the discussed impacts of liberalization of global business on third world countries politically, economically, socially, and technologically, the following recommendations are critical:

3.2.1 Liberalization of Global Business and Political Development

When considering recommendations for liberalizing global business activities, third world countries should adopt the following strategies:

Promote transparency and accountability by implementing measures to enhance transparency and accountability in governance systems to prevent corruption and ensure that benefits from liberalization are distributed equitably.

Strengthen democratic institutions by supporting the development and strengthening of democratic institutions, including electoral systems, legislative bodies, and independent judiciaries, to ensure political stability and participation.

Encourage civil society engagement by fostering an enabling environment for civil society organizations to participate in decision-making processes, advocate for the rights of marginalized groups, and hold governments and businesses accountable.

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Invest in political education and civic engagement by promoting initiatives that empower citizens to actively participate in political processes, voice their concerns, and hold elected officials

Promote conflict resolution mechanisms by establishing effective conflict resolution mechanisms to address disputes that may arise from the liberalization of global business activities, including mechanisms for mediation, arbitration, and reconciliation.

Support capacity building by providing technical assistance and capacity-building support to government institutions, civil society organizations, and other stakeholders to effectively implement and monitor policies related to liberalization.

Address socio-economic inequalities by addressing socio-economic inequalities that may exacerbate political tensions and instability by implementing policies that promote inclusive growth, equitable distribution of resources, and poverty reduction.

Promote regional cooperation by encouraging regional cooperation and integration initiatives among third world countries to strengthen their collective bargaining power in negotiations with global business entities and to address common political challenges.

Monitor and evaluate impact of liberalization by establishing robust monitoring and evaluation mechanisms to assess the impact of liberalization policies on political development, and use evidence-based findings to inform policy adjustments and improvements.

3.2.2 Liberalization of Global Business and Economic Development

When considering recommendations for liberalizing global business activities the third world countries should:

Invest in infrastructure development by prioritizing investments in infrastructure such as transportation, energy, and telecommunications to facilitate trade, attract foreign investment, and support economic growth.

Promote access to finance by establishing and strengthening financial institutions and mechanisms to improve access to finance for small and medium-sized enterprises (SMEs), entrepreneurs, and marginalized communities, fostering entrepreneurship and economic diversification.

Foster trade liberalization by advocating for the reduction of trade barriers, tariffs, and non-tariff barriers to promote international trade and integration into global value chains, enhancing export opportunities and market access for third world countries.

Encourage foreign direct investment by creating an attractive investment climate by implementing investor-friendly policies, providing incentives for FDI, and streamlining bureaucratic processes to attract foreign investors and promote technology transfer and knowledge spillovers.

Support human capital development by investing in education, healthcare, and skills training to enhance the productivity and competitiveness of the workforce, ensuring that individuals have the necessary skills and capabilities to participate in and benefit from global business activities.

Promote innovation and research development by fostering innovation ecosystems by supporting research and development initiatives, technology parks, and incubators to stimulate innovation, entrepreneurship, and the creation of high-value-added industries.

Ensure social safety nets by implementing social safety net programs to protect vulnerable populations from the adverse effects of liberalization, including unemployment, income inequality, and poverty, ensuring that economic growth is inclusive and equitable.

Strengthen regulatory frameworks by developing and enforce transparent and predictable regulatory frameworks that protect consumer rights, ensure fair competition, and safeguard environmental sustainability, providing a conducive environment for business growth and investment.

Facilitate economic diversification by encouraging economic diversification by supporting the development of non-traditional sectors such as information technology, renewable energy, and creative industries, reducing dependency on volatile commodity markets.

Promote south-south cooperation by fostering collaboration and partnerships among third world countries through South-South cooperation initiatives, sharing best practices, knowledge, and resources to address common development challenges and promote mutual economic growth.

By implementing these recommendations, third world countries can harness the opportunities presented by liberalizing global business activities to promote sustainable economic development, reduce poverty, and improve the well-being of their populations.

3.2.3 Liberalizing Global Business and Social Development

When considering recommendations for liberalizing global business activities to promote social and cultural development, third world countries should:

Preserve and promote indigenous cultures by implementing policies and initiatives to preserve and promote indigenous cultures, languages, and traditions, ensuring that they are not eroded by the influx of global business activities.

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Promote cultural exchange and diversity by encouraging cultural exchange programs, festivals, and events that celebrate diversity and foster mutual understanding among different cultural groups within third world countries and with the global community.

Support cultural industries by providing support and incentives for the development of cultural industries such as arts, crafts, music, and literature, which contribute to economic growth, job creation, and the preservation of cultural heritage.

Ensure inclusive development by ensuring that the benefits of liberalizing global business activities are shared equitably among all segments of society, including marginalized communities, women, and indigenous peoples, to promote social cohesion and reduce inequalities.

Promote ethical business practices by encouraging global businesses to adhere to ethical standards and corporate social responsibility (CSR) principles, including respect for human rights, cultural diversity, and environmental sustainability, in their operations and supply chains.

Invest in education and cultural awareness by investing in education and cultural awareness programs to promote understanding, tolerance, and appreciation of diverse cultures, religions, and lifestyles among individuals and communities.

Protect cultural heritage sites by strengthening regulations and enforcement mechanisms to protect cultural heritage sites, monuments, and artifacts from exploitation and destruction by global business activities, ensuring their preservation for future generations.

Foster community engagement by facilitating meaningful engagement and consultation with local communities affected by global business activities, empowering them to participate in decision-making processes and voice their concerns about potential social and cultural impacts.

Promote cultural tourism by developing and promoting cultural tourism initiatives that showcase the unique cultural heritage and traditions of third world countries, generating income for local communities and preserving cultural identity.

Facilitate cultural exchange programs by facilitating cultural exchange programs and partnerships between third world countries and developed nations to share knowledge, expertise, and resources for the promotion of cultural development and mutual understanding.

3.2.4. Liberalization of Global Business and Technological Development

Based on the reviewed literature on liberalizing global business activities to promote technological development, third world countries should pursue the following strategies:

Promote technology transfer by facilitating technology transfer agreements between multinational corporations and local businesses or research institutions to enable the transfer of knowledge, skills, and technologies from developed to third world countries.

Encourage foreign direct investment (FDI) in Technology by attracting foreign investment in technology-intensive industries by offering incentives such as tax breaks, subsidies, and favorable regulatory environments to multinational corporations willing to invest in research and development (R&D) and technology infrastructure.

Strengthen intellectual property rights (IPR) Protection by enhancing intellectual property rights (IPR) protection laws and enforcement mechanisms to incentivize innovation, creativity, and investment in technology development, while also safeguarding the rights of local inventors and entrepreneurs.

Support research and development (R&D) Initiatives by allocating resources and funding to support domestic research and development (R&D) initiatives in strategic sectors such as information technology, biotechnology, renewable energy, and advanced manufacturing, fostering innovation and technological breakthroughs.

Promote collaboration and partnerships by fostering collaboration and partnerships between government agencies, academic institutions, research organizations, and private sector entities to leverage expertise, resources, and networks for technology development and commercialization.

Invest in STEM Education by strengthening education systems and curriculum to emphasize science, technology, engineering, and mathematics (STEM) education from an early age, preparing the workforce with the necessary skills and competencies for the digital economy.

Develop technology incubators and innovation hubs by establishing technology incubators, innovation hubs, and startup accelerators to provide support, mentorship, and funding for aspiring entrepreneurs and innovators, nurturing a culture of entrepreneurship and technological innovation.

Expand access to Information and Communication Technologies (ICTs) by investing in expanding access to affordable and reliable internet connectivity, mobile technology, and ICT infrastructure in rural and underserved areas to bridge the digital divide and enable broader participation in the digital economy.

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Promote open data and open innovation by encouraging the sharing of data, research findings, and technological solutions through open innovation platforms and initiatives, facilitating collaboration, co-creation, and the rapid dissemination of knowledge and best practices.

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Exploring Terahertz COMPLEMENTARY METAL OXIDE SEMICONDUCTOR Integrated Circuits: Advancements and Obstacles



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ABSTRACT: The text provides a description of the characteristics of several NMOS and CMOS circuit approaches, as well as an explanation of the limitations associated with each technology. Next, the CMOS domino circuit, a novel form of circuit, is explained. This entails interconnecting dynamic CMOS gates in a manner that enables the activation of all gates in the circuit simultaneously using a single clock edge. Consequently, there is no need for intricate clocking methods, allowing the dynamic gate to operate at its maximum speed. This circuit features a basic mode voltage-controlled oscillator operating at 135 GHz in 80-nm COMPLEMENTARY METAL OXIDE SEMICONDUCTOR, a 405 GHz push-push voltage controller in 38-nm COMPLEMENTARY METAL OXIDE SEMICONDUCTOR with an on-chip patch antenna, a 128 GHz Schottky diode frequency doubler, a 170 GHz Schottky diode detector, a 600 GHz plasma wave detector in 122-nm COMPLEMENTARY METAL OXIDE SEMICONDUCTOR and a 40 GHz phase-locked loop with a frequency doubled output at 110 GHz. Given this and the trends in performance of n METAL OXIDE SEMICONDUCTOR transistors and Schottky diodes produced in complementary metal-oxide semiconductors, we lay out a plan for terahertz COMPLEMENTARY METAL OXIDE SEMICONDUCTOR systems and circuits, highlighting critical challenges that need to be addressed. With the advent of terahertz COMPLEMENTARY METAL OXIDE SEMICONDUCTOR

KEYWORDS: Schottky diode, voltage controller oscillator.cmos,nmos

I. INTRODUCTION

Spectroscopy, passive imaging and active for the detection of hidden weapons, biological agents, and chemicals, short-range radars, and secured high data rate communications have all made use of electromagnetic waves in the terahertz (250 GHz-2 THz) region of the spectrum or sub-millimetre wave [1]-[2]. Figure 1 shows a simplified block design of a THz spectrometer for chemical detection. It includes a transmitter, an antenna, and a tunable signal generator. The receiver, also with mixer, a detector, a low noise filter /amplifier/ and an antenna, completes the circuit. As a general rule, a signal generator will include a tunable signal source that operates at around 20 GHz, a series of III-V Schottky diode frequency multipliers, and one or two amplifiers spaced along the channel [3]. In order to lower the input signal to an intermediate frequency, the detector often employs a Schottky diode mixer. A one-way communication system is analogous to the system. An example of sub-millimetre wave systems is shown in Fig. 2. Few people have used these apps because of how expensive they are and how poorly integrated the gadgets are. The devices are bulky because waveguides link them. Thanks to advancements in complementary metal oxide silicon (COMPLEMENTARY METAL OXIDE SEMICONDUCTOR) ICs and silicon graphene heterostructure transistor (Sige HBT) technology, silicon technology may now be considered as a potential option for the realisation of cost-effective and competent systems operating at 200 GHz and beyond. Antennas, signal sources, and detectors for sub-millimetre wave systems that operate between 100 and 700 GHz are constructed using the basic circuit building blocks of these systems, which are discussed in this study [4]. Using them as a starting point, the article lays out the obstacles to and potential solutions for terahertz COMPLEMENTARY METAL OXIDE SEMICONDUCTOR circuits and systems.

II. DIODES AND TRANSISTORS IN CMOS

The scalability of COMPLEMENTARY METAL OXIDE SEMICONDUCTOR allows for the study of circuits operating at terahertz frequencies. In order to construct sub-millimetre wave systems in COMPLEMENTARY METAL OXIDE SEMICONDUCTOR,

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this section provides a concise overview of the current and future high frequency performance of diode and transistor architectures.

III. DIODES AND TRANSISTORS IN CMOS

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A. Speed Performance of n METAL OXIDE SEMICONDUCTOR Transistor

Manufacturing plans for nMETAL OXIDE SEMICONDUCTOR transistors, as well as InP hetero-junction bipolar transistors and SiGe, are shown in Fig. 3. These plans include high frequency performance requirements. The International Roadmap for Semiconductors (ITRS) from 2008 is where these graphs are taken from [5]. It is anticipated that 510 GHz will be the frequency requirement for n METAL OXIDE SEMICONDUCTOR unity power gain by 2013.

The operational frequency of silicon amplifiers may be raised from 140–160 GHz to over 300 GHz with the help of these transistors [6, 7].

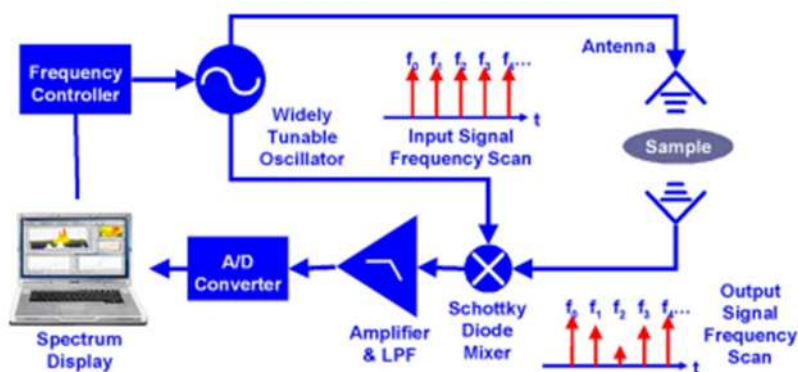


Fig 1 block diagram of spectrometer

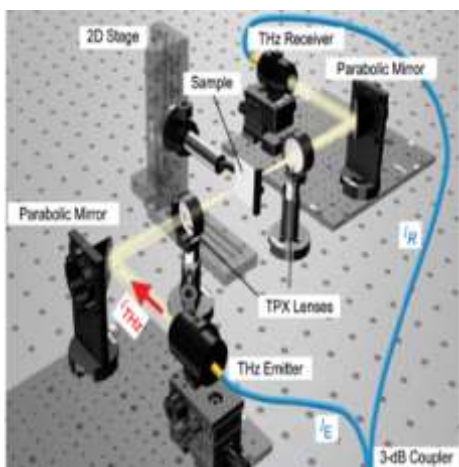


Fig 2-millimetre wave system picture

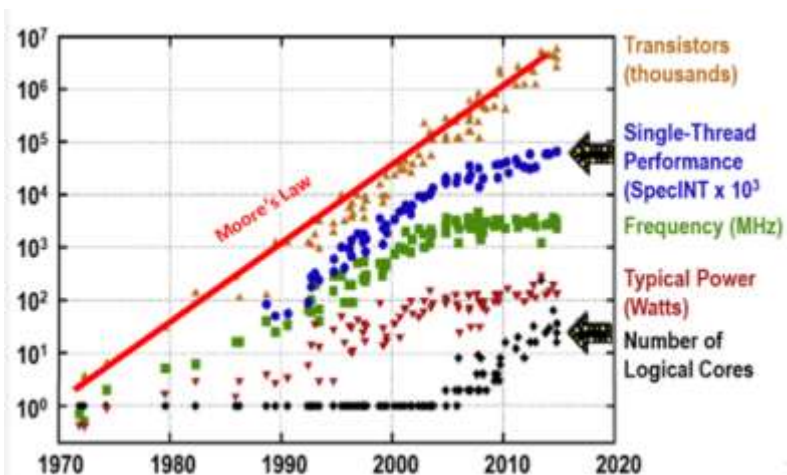


Fig 3 papers published in the the same work from 1970

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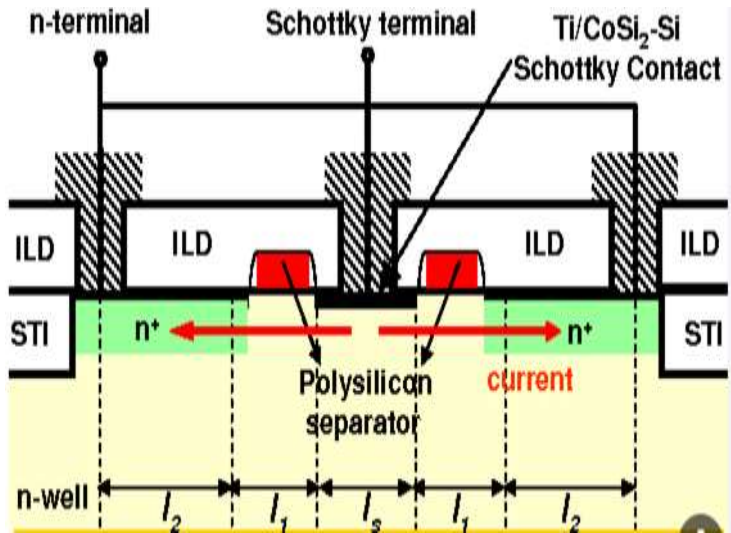


Fig 4 Schottky diodes in COMPLEMENTARY METAL OXIDE SEMICONDUCTOR

B. Schottky Diodes Operation

Achieving amplification with n METAL OXIDE SEMICONDUCTOR transistors at frequencies greater than 400 GHz will be challenging in the near future. Passive detectors and frequency multipliers, which are often used for sub-millimetres THz systems, may be used to address this issue [2]. Specifically, Schottky diodes find extensive use in this field. The integration of THz diodes in complementary metal oxide semiconductor logic does not need any changes to the manufacturing process. A cross-section is shown in Figure 4. In the absence of source or drain implants, the Schottky contact forms on the diffusion zone. To create an n-terminal, ohmic contacts are applied to n implanted portions of an n-well. Using a 130 nm complementary metal oxide semiconductor technology, it was possible to create a diode with a Schottky junction of silicon and cobalt [10]. In order to maximise the cut-off frequency, the Schottky contact area is adjusted to the lowest. Submillimeter wave signals may be generated using frequency multiplication with these diodes as well [8, 9,10].

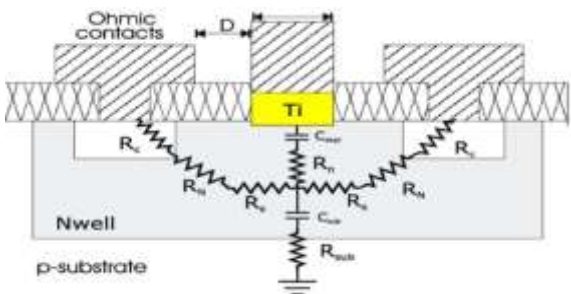


Fig 5 separated Schottky barrier diode.

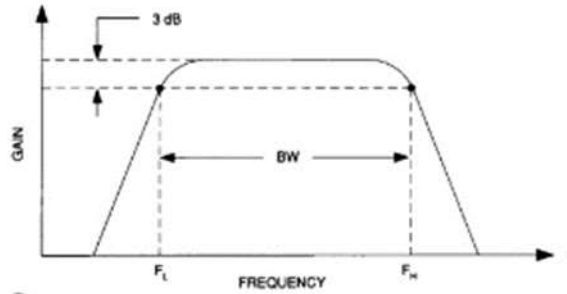


Fig 6 cut-off frequency is 2 THz

IV. COMPLEMENTARY METAL OXIDE SEMICONDUCTOR APPROACH

The talks in Section II suggest that the n metal oxide semiconductor transistors and Schottky diodes probably have enough bandwidth to operate at the sub-millimetre/terahertz/ wave frequencies, which is a complementary antiparallel diode pair. A natural concern is the rationale of relying on COMPLEMENTARY METAL OXIDE SEMICONDUCTOR, given its subpar passive and transistor performance in comparison to the highly optimised components used in III-V based technologies. The reasons are the ones you already know. These are quite similar to the ones used in RF and MW complementary metal oxide semiconductor. If digital complementary metal oxide semiconductor logic technologies, or a variant of complementary metal oxide semiconductor with some simple tweaks, can be used, the expenditure on technology development and fabrication infrastructure may be reduced or even eliminated, as they will be covered by digital applications. In addition, you will have access to all of complementary metal oxide semiconductor's other capabilities, like its small size, digital calibration that fixes imperfections for better performance and higher yield, built-in self-test, and integration of sub-millimetre wave circuits with baseband digital and analogue. The ability to sustain enough practical performance, rather than the ultimate performance, is more critical for complementary metal oxide semiconductor 's viability. with the definition of a modest volume terahertz application, cmos

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technology might pave the way for small, inexpensive, and practically useful terahertz devices. Finally, complementary metal-oxide semiconductors are ideal for high-density 2-dimensional arrays because they can accommodate chip areas larger than 2 cm². Only technological advancements in silicon might make these systems a reality.

V. SIGNAL GENERATORS

A signal generator is an essential component of many sub-millimetres wave systems, as previously stated. Methods for complementary metal oxide semiconductor signal generation in the terahertz and sub-millimetres wave bands are detailed here.

A. Push-Push VCO

Push methods, which double the output frequency, may further enhance the frequency of the signal produced in complementary metal oxide semiconductor this method may also be used to decrease the fundamental frequency of voltage driven oscillators, which can be used to improve the range of output frequencies and decrease phase noise by increasing the varactor factor. The concept of a 405-GHz push-push VCO built in 45-nm complementary metal oxide semiconductor. Identical to the 180-GHz basic VCO, the push-push VCO boosts the output frequency by removing the buffers from the fundamental outputs. The second harmonic signal may be recovered at the virtual ground nodes because the antiphase fundamental signals cancel each other out. the common-mode nodes with the lowest value and greatest Q iterate to ground. The result is a maximum impedance at the resonant frequency, which makes the node an ideal site for extracting the push-push output. It is common practice to boost the second harmonic's amplitude while dampening the basic signal by using a quarter-wave transmission line set to the second harmonic frequency.

Thanks to the grounded coplanar waveguide (GCPW) construction, the transmission line is created. The ground plane lowers insertion loss and separates the signal line from the lossy silicon substrate, in contrast to the traditional CPW. Layer 2 of shunting metal forms the ground plane, whereas layer 1 of the top bond pad metal forms the lines.

B- Locked Loop -Phase (LLP)

Just producing a free-running high-frequency signal won't cut it. A phased-locked loop is required to stabilize the signal. In response, researchers have shown that a 130-nm logic complementary metal oxide semiconductor process can implement a fully integrated PLL with adjustable frequencies between 45.9 and 50.5 GHz, as well as the ability to produce the second-order harmonic at frequencies ranging from 91 to 100 GHz. A 50-GHz PLL block schematic [12] an injection-locked frequency divider and A 2/513 static frequency divider are both used in the circuit. A phase detection technique with three states is used by the phase frequency detector (PFD). The PLL is of third order, whereas the loop filter is of second. Two metal-oxide-semiconductor capacitors and a single polysilicon resistor make up the loop filter. With a phase margin of 70 degrees, the desired loop bandwidth is 500 kHz.

C- Schottky Diodes and Frequency Multiplication

Similar to how discrete-component sub-millimeter wave systems often use Schottky barrier diodes for frequency multiplication [2], complementary metal oxide semiconductor devices may also be employed to enhance signal frequency. a diode frequency multiplier, similar to the push approach, may reduce phase noise and extend the output frequency range. it has already been stated that complementary metal oxide semiconductor schottky diodes have a substantial substrate resistance and a large cathode to substrate capacitance (45 ff for a 1.55 m anode area and 6.7 ff Schottky junction capacitance, to name a few). These employ a series topology to multiply frequencies which is challenging in complementary metal oxide semiconductor. A balanced architecture using two shunt diodes with grounded cathodes is used for the complementary metal oxide semiconductor implementation [12], [13] to circumvent this issue and boost output power. achieving a minimal conversion loss (cl) of roughly 8 db at input power of 8.5 dbm, equivalent to 15% efficiency, is achieved by the 130-nm complementary metal oxide semiconductor doubler using two shunt SBDs (0.60 m unit cell area with of 640 GHz and of 0.2). The circuit uses diodes with bigger unit cells to minimise CL, which is greater than what would be achieved with the lowest sized cells. A maximum of 1dBm of output power is achieved at 120 GHz. The fact that CL is unaffected by input powers up to 7.5 dBm implies that the doubler can handle input signals with greater calibrated powers, allowing for even larger output powers. It ought to be feasible to produce somewhat efficient outputs at 505-705 GHz using the 2-THz diodes. In the table 1 show us some important features of vco 412 – GHZ

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Table 1 the performance of VCO

2 nd order harmonic	-50 db
Mismatch loss	1 db
The consumption of power	18 mW
The loss of antenna	6 db
Back calculated push- bush	-50 db

V. CHALLENGES IN THE PATHS TO THZ COMPLEMENTARY METAL OXIDE SEMICONDUCTOR CIRCUITS AND SYSTEMS

It seems feasible to develop icate signal detectors and generators that can function at sub-millimeter wave and high millimetre wave frequencies. But this is just the beginning. We need to find out whether complementary metal oxide semiconductor circuits can handle real-world sub-millimeter wave/terahertz systems. In fact, the cankaya Analogue Centre of Excellence at the University of cankaya , Dallas is looking into the possibility of using complementary metal-oxide semiconductor circuits in a home-use 180-300 GHz spectrometer that can identify a number of the hazardous compounds listed by the Environmental Protection Agency, with funding from Semiconductor Research Corporation.

VI. CONCLUSION

A novel and efficient circuit design approach has been introduced for use in CMOS technology. This technique, known as the domino CMOS technique, produces circuits with a tiny size that is equivalent to static NMOS circuits. It has been shown that signal generators and detectors operating at high sub-millimeter wave frequencies millimeter wave and can be manufactured using a popular foundry logic complementary metal oxide semiconductor technology. But this is just the first step; there are many technological obstacles to overcome before a complementary metal oxide semiconductor sub-millimeter/terahertz system can be considered viable. The terahertz complementary metal-oxide semiconductor presents a novel and intriguing research opportunity for the field of silicon integrated circuits, thanks to its technological hurdles and hopefully significant safety, security, and healthcare applications.

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Projectile Load Design Development and Construction comparing OCW, Ladder, Chronograph, and barrel acceleration FFT Methods for Numerical Models



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ABSTRACT : The research and development of new materials and technologies orient the design, development, and construction of new sport optics products across the globe. With each improvement, whether in a riflescope or accessories, the final product must function without fail in the customer's hand and under the required specification conditions. Therefore, before the product is placed on the market it must be subject to a series of procedures, which involve both performing numerical analysis and physical tests to increase confidence and reliability. Numerical analyses require input data, and that must be consistent with real actions that influence the product to react. In the development of shooting equipment, the rifle recoil is considered the primary reaction for riflescopes, rifles, and accessories alike and is the most significant factor that could cause failure. For this reason, it is essential to use a load development process to have consistent energies, velocities, recoil curves, and reactions. This paper will present, discuss, and analyze the efficacy of the Optimum Charge Weight (OCW), ladder, chronograph, and barrel acceleration Fast Fourier Transform (FFT) load development methods and the results of each in load development.

KEYWORDS : Load development, Optimum Charge Weight, OCW, Projectile, Barrel tuning, Barrel timing

1 INTRODUCTION

The main reason for a custom load is shot consistency and increased accuracy. With a custom load, a shooter can tune their ammo in terms of the powder charge and overall cartridge length to obtain the best results from their gun and projectile. It is known that competitive bench rest shooters must be able to place a five-shot group within a diameter of 6.35 mm (0.250") at 91.5 m (100 yards). That would be an impossible task with factory ammo due to high bulk production processes and ammo generalization, which bring significant variations to shot consistency and accuracy[1].

There are two main methods for load development, the Optimum Charge Weight method (OCW) and the Ladder method, also known as the Creighton Audette's Ladder Test. This work aims to compare both approaches along with the Chronograph and barrel acceleration Fast Fourier Transform (FFT) based methods to verify which one is optimal and under what circumstances.

Fundamentally, load development is the process of finding the harmonics of a round with the barrel by varying one variable at a time (eg. powder charge, round length, among others). Figure 1 shows a standing sine wave with its nodes that are stationary while the anti-nodes move from one extreme to the other. Ideally, a node would be placed at the tip of the barrel so that it does not influence the trajectory of the projectile. Since this is not possible for several reasons, mainly it would make firearms impractical. The second-best option is to approximate a node as close to the barrel tip as possible and reduce the wave amplitude. Lastly, the barrel should be timed. Barrel timing or tuning is the process of systematically firing the projectile and having the vibration wave at the same position during the projectile exit. This way a systematic deflection on the projectile may be easily adjusted or compensated for using other means such as the riflescope adjustment turrets.

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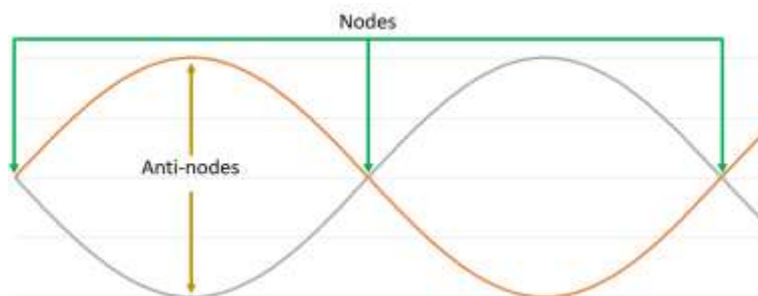


Figure 1 – Nodes and antinodes of double sine wave

Figure 2 below shows a deformed barrel with 4 nodes throughout the barrel length and an antinode at the muzzle. It should be noted that a barrel can be tuned to the load or vice versa. If a stress wave reaches a mechanical discontinuity in the object it is traveling in, such as the muzzle end of the barrel, or the butt pad, it will reflect back in the opposite direction.[2]

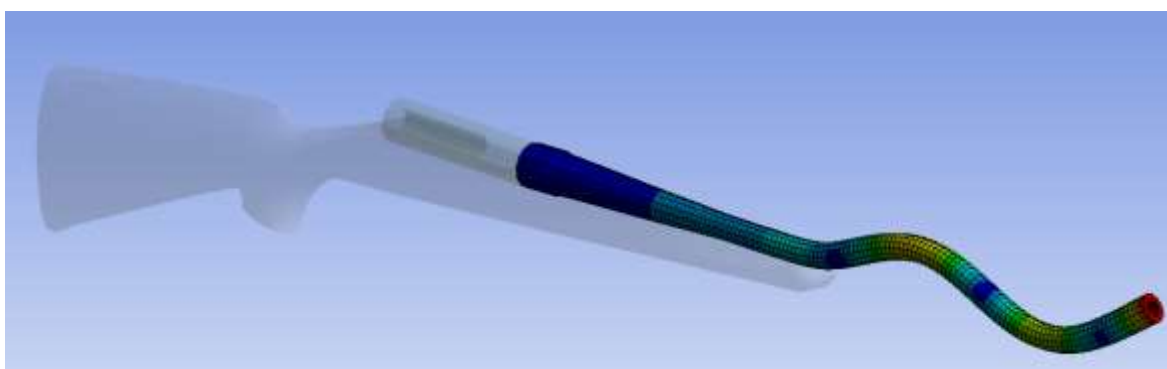


Figure 2 – Deformed barrel with 4th harmonic nodes and antinodes

After charting the data for any defined method, it is possible to find the loading charges that have small variations between its direct neighbors. These charges are also called nodes. The nodes are the ideal zones to set the reloading parameters because it is where several rounds agglomerated despite having slight variations. Consequently, this would allow slight variations during the reloading process while maintaining the required precision [1], [3].

Regardless of the used method, when deciding between two loads for accuracy and precision, the higher load should always be chosen due to the load density theory explained by RSI[4]. For further understanding, it is important to note that powder weight with regards to reloading is always given in grains worldwide, where 1 grain[gr] is equal to 0.0648 grams[g] or 1 gram[g] is equal to 15.4324 grains[gr].

1.1 OCW Method

The Optimum Charge Weight method (OCW) is the better-known method and was developed by Dan Newberry. It evaluates load performance at the target and is based on shot placement and precision group sizes [5].

For the OCW, the user should first select the projectile and the powder to use for testing. The only one variable should be changed at a time, in this case the powder charge. The powder or projectile manufacturer has reference tables of minimum and maximum powder quantities that should be used. A minimum of 3 rounds is required for each powder charge for grouping. The groups should start at 5-7 percent of the maximum charge and increase by one increment, or 0.3 grains [1], [5]. After reloading all rounds, testing should begin at the shooting range where each group is fired at a different target. Time should be given between shots to let the firearm cooldown so that temperature and expansion do not influence the following shots [5]. Once all groups have been fired, the targets are used to identify the group size by drawing the smallest circle possible that encompasses all shots. Figure 3 shows an example target with a 5 shot group of 40 mm in diameter. The OCW load or node would be the one with the tightest or smallest grouping while also having its neighboring loads overlap the Point of Impact (POI) [5].



Figure 3 – Example 5 shot group with Ø40 mm

1.2 Ladder Method

The Ladder Method is less known in areas other than competition shooting. The powder loads and increments are comparable to the Optimum Charge Weight method (OCW), but only one round of each charge is necessary. Once loaded all rounds should be labeled for easy identification. For testing, the rounds should all be placed on the same target and point of aim in ascending order and the Point of Impact (POI) of each should be identified. The velocity of each round should be measured with a chronograph to assist with identifying the nodes [6]–[10].

It is necessary to only account for the vertical displacement of the POIs when analyzing the target as this is directly correlated to the powder charge, any lateral displacement is due to external factors such as wind [11], [12]. Ideally, the POIs should have a rising tendency on the target and should form several small groups of at least 3 POIs. These groups are the accuracy nodes [6]–[9].

For less ideal targets, it is possible to merge the Chronograph method to the ladder method. For the Chronograph method, it is necessary to rely on the velocity data acquired from the chronograph for each round. When the velocities are charted and at least 3 consecutive projectile velocities are closer together, this would also be the velocity node, where the ideal charge weight is equal to the charge weight of the median velocity round [6]–[9].

If more than one round is fired for each charge weight, the ideal charge weight should have an extreme spread below 15 and a standard deviation in the single digits [6].

1.3 Acceleration FFT Method

The acceleration Fast Fourier Transform (FFT) method is proposed in this article and is object of analysis. The method is described as follows. An accelerometer of insignificant mass, in order to not interfere in the system, is coupled to the end of the barrel. The barrel's natural frequency should be measured by impacting the barrel with a metallic rod and measuring its acceleration curves. By calculating an FFT of the measured data, the frequency with the highest peak should be the natural frequency of the barrel.

The same data recording and FFT calculation should be performed for each round.

The ideal round will have the lowest acceleration frequency in the barrel's natural frequency range.

2 METHODS

There are various variables that may be changed when developing a load. These are the primer, bullet, powder, overall length, casing, and the crimp [13]. When developing a load only one variable should be changed at a time to understand its influence on the system's precision and accuracy.

Load development was performed for all load development and selection methods. The load consists of a .260 Cartridge, primer, powder, and projectile. The cartridge dimensions are shown in Figure 4.

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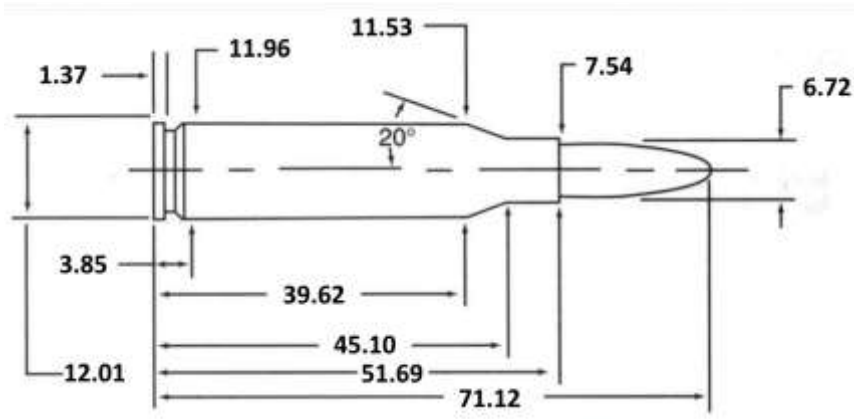


Figure 4 - .260 Rem. cartridge dimensions[14]

The recommended starting powder charge of 42 grains and max powder charge of 45.9 grains was referenced from the Vihtavuori data catalog [15]. Using a powder increment of 0.3 grains between loads, yielded a total of 14 different powder loads. The powder quantity in each load is shown in Table 1.

Table 1 - Powder charge in each load (in grains)

Load #	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Powder Charge	42.0	42.3	42.6	42.9	43.2	43.5	43.8	44.1	44.4	44.7	45	45.3	45.6	45.9

2.1 Reloading

Reloading was done using RCBS brand dies and press. The process used is described in the most common reloading brand manuals including the RCBS and Lyman [1], a process flow chart is shown in Figure 5 and described below. In this regard, it is important to always use safe practices and keep concentration while reloading. Bob Shell suggests that incorporating feel in the reloading process can detect many abnormalities in the process that may affect cartridge accuracy.[16]

First, the brass is cleaned using an ultrasonic cleaner or tumbler to remove any carbon deposits so that these do not create indentations or gaps in the final assembly. Next, each case is lubed and re-sized using dies and a press. The cases are later trimmed to the correct length and de-burred. The cases are then pressed with a new primer, should be even with the bottom of the case.

The powder is dispensed, and its mass measured before funneling the powder into each case. It is crucial that each case has the correct amount of power, too little and the projectile could stay lodged in the barrel. Each case is then pressed with a projectile and the final length is measured for consistency. Lastly, each case or batch should be clearly labeled for identification.

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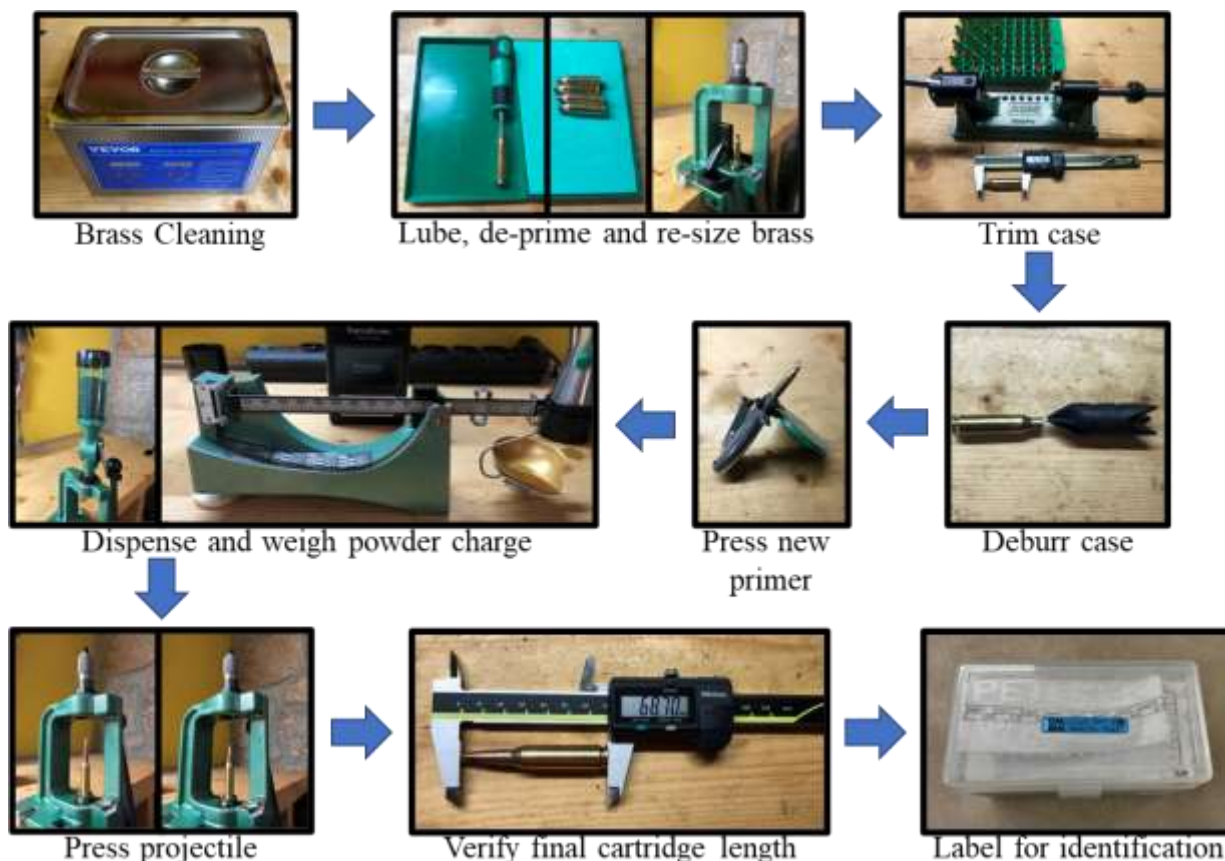


Figure 5 - Reloading process flow chart

2.2 Range tests

At the shooting range, the rifle was properly supported on a benchrest with sandbags. The barrel was fouled with a few shots, and the riflescope was sighted. All shots were taken at 100 meters.

For the OCW method, the group size was measured as the distance between the 2 furthest shots on target, or, in other words, the smallest diameter that fit all shots from the same group.

For the ladder method, the vertical distance from the center of the target and the point of impact of each shot was measured. This vertical displacement is used in the results to find the grouped loads and thus the optimum load. For the velocity method the projectile speed was measured using the magnetospeed [17]. Bryan Litz from Applied Ballistics compared the magnetospeed chronograph with other chronographs. In his findings, he calculated the theoretical resolution on a 914.4 m/s shot to be 0.55 m/s (+/-0.27 m/s).[18], [19]

Lastly, for the acceleration FFT method, an ADXL372Z accelerometer from ANALOG DEVICES was coupled to the end of the barrel to record the recoil vibrations and barrel movements during the tests. The ADXL372Z is a micro-electromechanical system (MEMS) 3-axis accelerometer capable of reading at a frequency of 3,200 Hz and can reliably measure up to ± 200 G [20], [21]. Over-sampling is possible up to 6,400 Hz.

The microcontroller used to acquire and save the readings to memory was the Arduino Mega along with an adapted source code provided by ANALOG DEVICES. The source code was created to be used with the Arduino Uno [22], but due to the minute available memory onboard an adaptation to the Arduino Mega was needed. The Arduino Uno could only handle 100x3 data points while the Mega's internal memory allows to save 400x3 data points. External memory could not be used as this would drastically increase the time between samples and a high data sample rate could not be achieved.

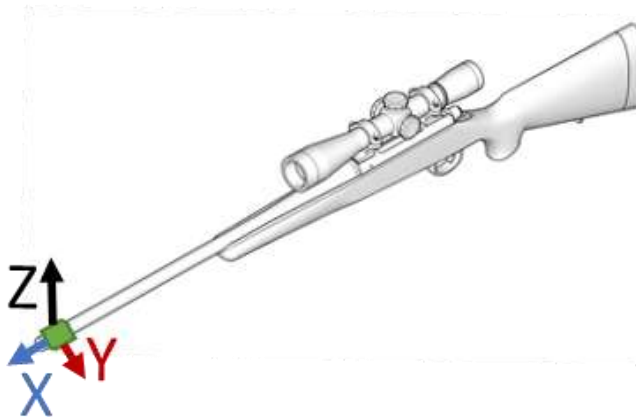


Figure 6 - Accelerometer position and orientation on the barrel

Figure 6 shows a free body diagram of the sensor on the barrel. The positive X axis is pointing in the direction of the target, the positive Y axis is toward the left of the shooter and the positive Z axis is pointing up.

The recorded acceleration data for each round will then be graphed over time. The acceleration data will also be integrated to calculate the barrel velocity. The velocity data will also be integrated to calculate the barrel deformation. The FFT analysis will then be performed to verify the dominant frequencies in the barrel through the power spectral density plot and check if any correspond to the barrel’s natural frequency.




The natural frequency of the barrel will be measured by impacting the barrel with a metallic rod, measuring the acceleration data and calculating the FFT curve. The FFT curve will indicate the frequencies present in the barrel and the one with the highest magnitude will be the dominant or natural frequency of the barrel.




Naturally, if necessary, the data may be subjected to a data filter to reduce any noise read by the sensor.

3 RESULTS





Table 2 shows the load along with the group size diameter (in millimeters) and the replica image of the target with the POIs.





Table 2 - OCW groups size results

Load #	Powder Charge [grains]	Group diam. Size [mm]	Target Image
1	42	126	
2	42.3	63	
3	42.6	24.5	

Load #	Powder Charge [grains]	Group diam. Size [mm]	Target Image
8	44.1	44	
9	44.4	38	
10	44.7	42.5	

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Load #	Powder Charge [grains]	Group diam. Size [mm]	Target Image
4	42.9	51	
5	43.2	62	
6	43.5	33.2	
7	43.8	47.5	

Load #	Powder Charge [grains]	Group diam. Size [mm]	Target Image
11	45	55	
12	45.3	30	
13	45.6	75	
14	45.9	151	

Analyzing the targets and the group size of each, it is possible to see a node between the range of load 6 and load 12. All group sizes are below 50mm except for load 11. To choose an ideal load, the difference in group size from one load to its neighboring loads should be as small as possible. From the recorded values, load 9 is the ideal load because it is one of the tightest groups recorded and the group size difference to load 8 is 6 mm and to load 10 is 4.5 mm.

The ladder test on target was shown to be inconclusive because 3 consecutive load groups were not achieved. This could be either from user or environmental error, which is notorious while firing one shot load.

Table 3 - Ladder test results

Load #	Powder Charge [grains]	Vertical distance to center [mm]
1	42	-2
2	42.3	-28
3	42.6	-12
4	42.9	40
5	43.2	24
6	43.5	-25
7	43.8	16

Load #	Powder Charge [grains]	Vertical distance to center [mm]
8	44.1	-15
9	44.4	21
10	44.7	38
11	45	47
12	45.3	-19
13	45.6	66
14	45.9	74

A visual representation of the ladder method target is shown in Figure 7. The center circle has a radius of 10 mm, and the subsequent circles have an increment of 10 mm for each radius.

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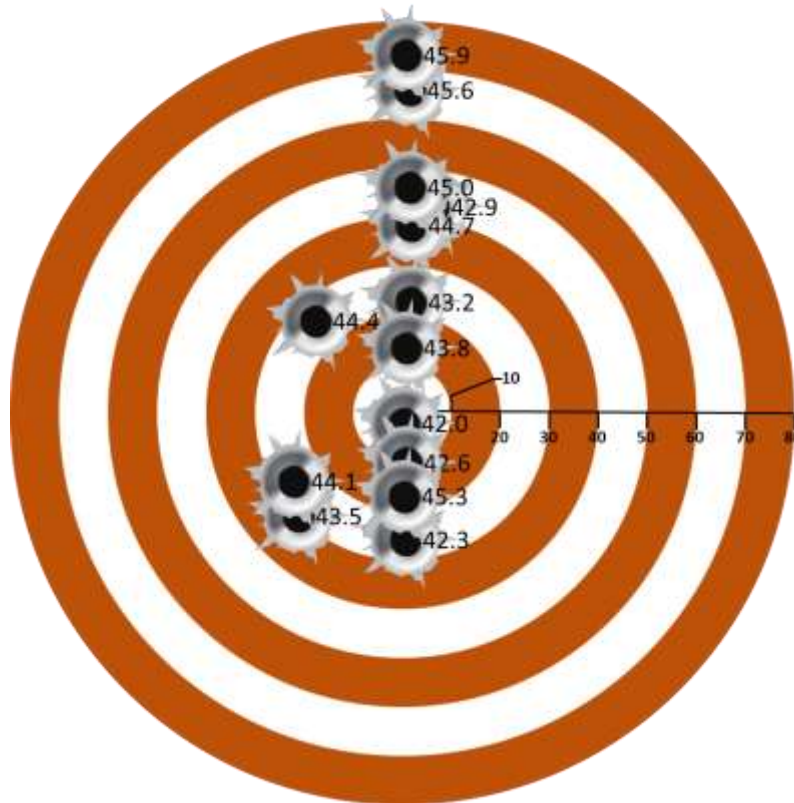


Figure 7 - Ladder target results

Consequently, it was necessary to analyze the velocity reading for the various loads. The velocity data shown in Table 4 is for the 3 round loads used in the OCW method. This was done to gather more data on each load and to reduce the impact of any outliers. Table 4 shows the velocity for the 3 shots of each load, along with the average and median velocities and the standard deviation of each load and corresponding range or also known as the extreme spread.

Table 4 – Ladder Velocity results

Load #	Powder Charge [grains]	Shot 1 [m/s]	Shot 2 [m/s]	Shot 3 [m/s]	Avg. [m/s]	Median [m/s]	SD [m/s]	Range [m/s]
1	42	819	823	817	820	819	3	5
2	42.3	814	821	822	819	821	4	8
3	42.6	815	822	828	822	822	6	12
4	42.9	836	841	833	837	836	4	8
5	43.2	829	836	837	834	836	4	8
6	43.5	854	849	849	851	849	3	5
7	43.8	853	856	853	854	853	2	3
8	44.1	859	861	863	861	861	2	5
9	44.4	865	867	866	866	866	1	2
10	44.7	883	884	908	892	884	14	25
11	45	899	904	915	906	904	8	16
12	45.3	898	900	902	900	900	2	3
13	45.6	911	907	926	915	911	10	19
14	45.9	915	913	892	907	913	13	23

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The velocity data for the ladder method is plotted in Figure 8 for easier understanding and visual analysis. From the chart it is possible to visualize 3 velocity nodes. The first one between loads 1 and 3 (i.e., 42.3 grains), the second between loads 6 and 9 (i.e., 43.6 and 44.4 grains), and the last between loads 13 and 14 (i.e., 45.6 and 45.9 grains).

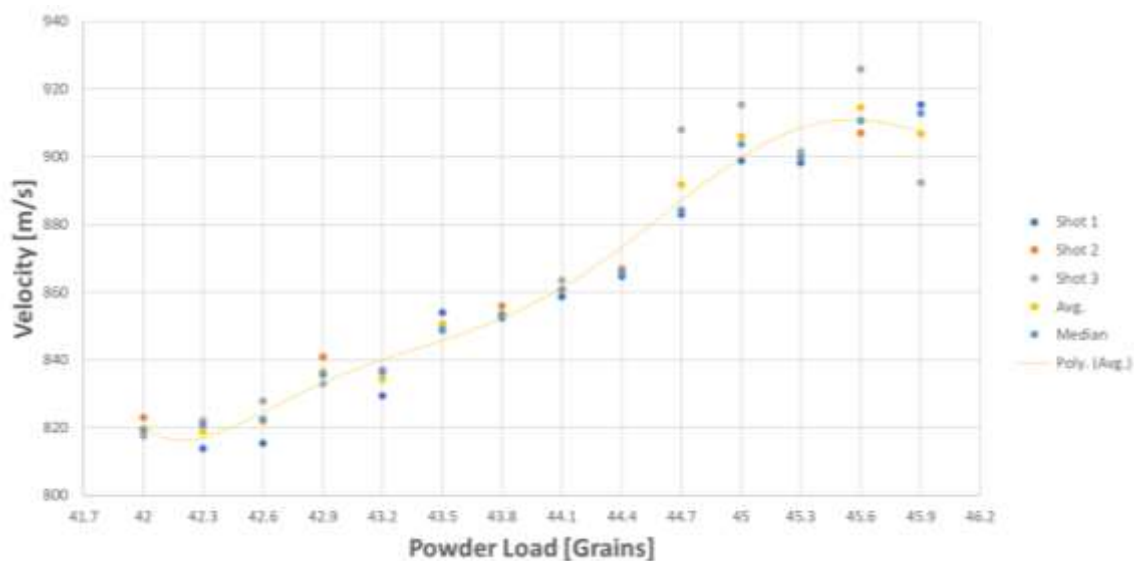


Figure 8 - Charted ladder velocity points

None of the loads that comprise the lowest node have a range lower than 15, and the higher node is only composed of 2 loads where their range is also much higher than 15. Therefore, the only viable node is the middle one, between loads 6 and 9. Load 8 would be a very forgiving load because its neighboring loads are very close and have low ranges and standard deviations. Load 9 has a much lower range of velocities and a standard deviation of 3.5 m/s which is less than 50 percent of load 8. Therefore, load 9 would be the ideal load for more consistent shooting.

For the described FFT method, the ADXL372Z accelerometer would start to record data at 5,000 Hz after suffering an impact greater than 5G. On average it takes 71.6 ms. for the maximum reading to return to below 5G.

Figure 9 shows the resultant acceleration of the 3 axes. It is possible to detect that the graph curves start out in a random manner and after about 8.2 ms the curves start to follow a channel.

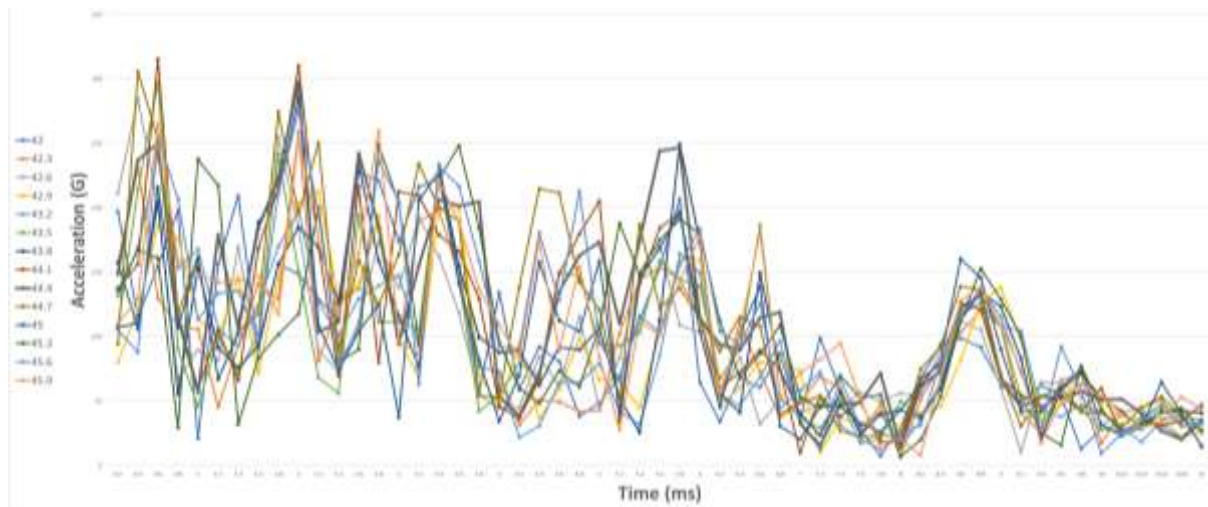


Figure 9 - Resultant tri-axial acceleration data

Figure 10 and Figure 11 show respectively the X and Y axis graphs, plotted on their own. Here it is not possible to relate any curves. The data points seem erratic thus making the graph difficult to read, interpret and derive any logical conclusions.

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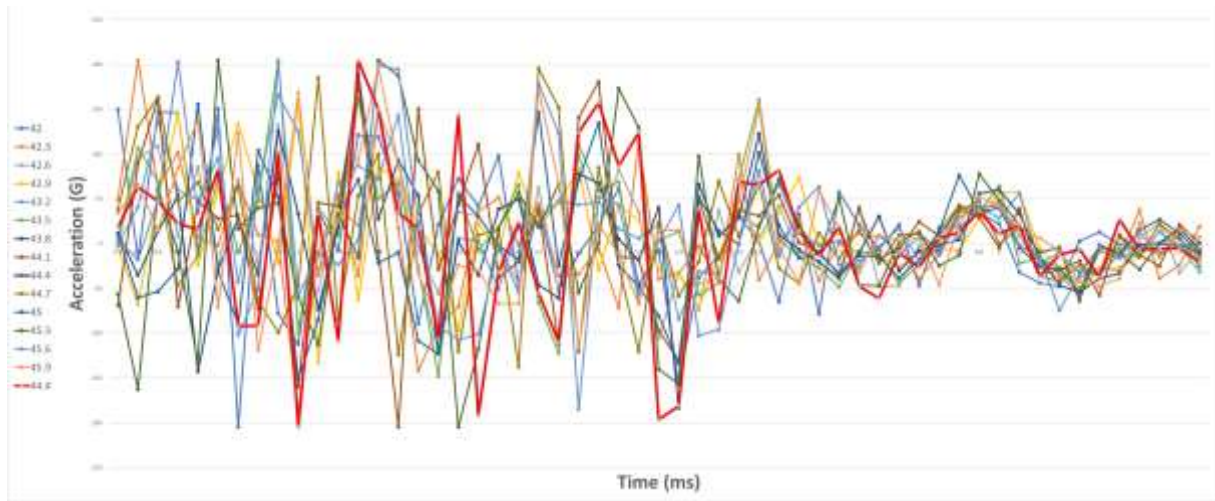


Figure 10 - x-axis acceleration data

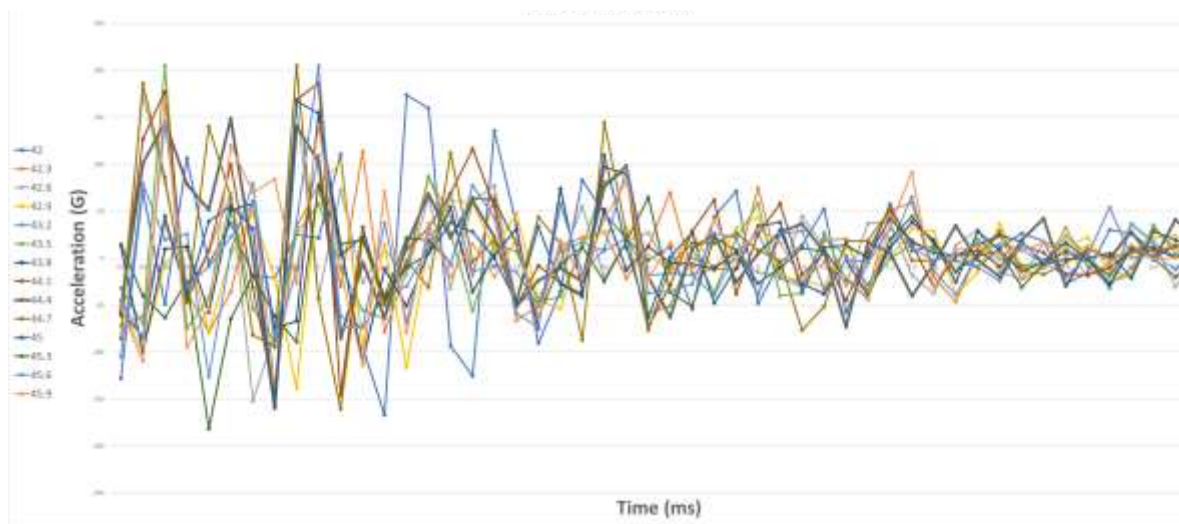


Figure 11 - y-axis acceleration data

On the other hand, Figure 9 illustrates the Z axis graph, here the data is very consistent between loads. Indeed, all loads follow a nice clean channel, the curves are smooth and well defined.

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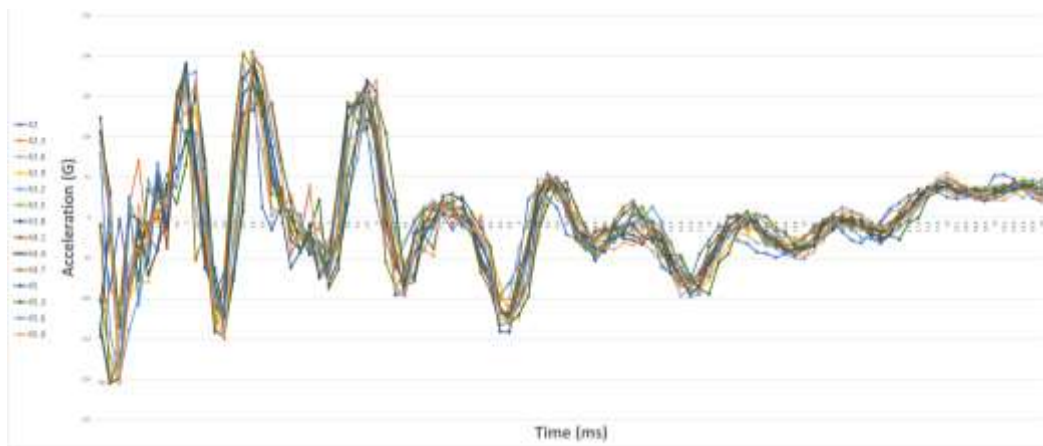


Figure 12 - z-axis acceleration data

For the FFT calculation, only the x axis was analyzed due to the nature of the data. The Y and Z axis are perpendicular to the barrel axis, while the X axis is parallel. The Z axis was not included, since it also incorporates barrel jump in the measurements. Thus, the recorded acceleration is very consistent in each round.

4 CONCLUSION

From the collected data results, it is possible to conclude that both the OCW and the ladder test indicate that load 9 would be the ideal and most consistent load for the setup. The Ladder Method is preferred to get a consistent shot and, in turn, allows obtaining reliable readings of recoil, acceleration, and deformation of the rifle setup. It can find the optimal load with standard deviations in the single digits.

The OCW method is not recommended as it is prone to user error during shot placement. Although, OCW can complement the ladder method when obtaining a precise group as the projectile may be deflected by the barrel harmonics, causing a large deviation at the target distance.

From a scientific point of view, the ladder method is preferred as it brings a measurable value that can be used to verify the results and to use the data in further calculations and analyses.

The erratic nature of the data points on the X and Y axis acceleration charts most probably indicates that the sampling frequency was not high enough to correctly sample all the necessary data points to correctly define the curves. The data acquisition frequency must be much higher, and it is not possible with the current setup to fully characterize the curves.

Although the data was filtered with a low pass filter at 2,500 Hz to eliminate antialiasing as the acquisition frequency is at 5,000 Hz, thus a sampling factor of 2 as required by the Nyquist -Shannon theorem. Harry Jol discuss in his work [23] the importance of using a sampling factor of 6 to minimize the data amplitude error, while Dossi et al. [24] recommended in their work to use a sampling factor of 12 for a maximum amplitude acquisition error of 5%.

Figure 13 shows the power spectral density(PSD) plots calculated using the FFT. A harmonic is shown across all curves at around 500Hz, where the optimal load of 44.4 grains happens to be the highest. 500 Hz is also a sampling factor of 10, approximate to the recommended sampling frequency by [24].

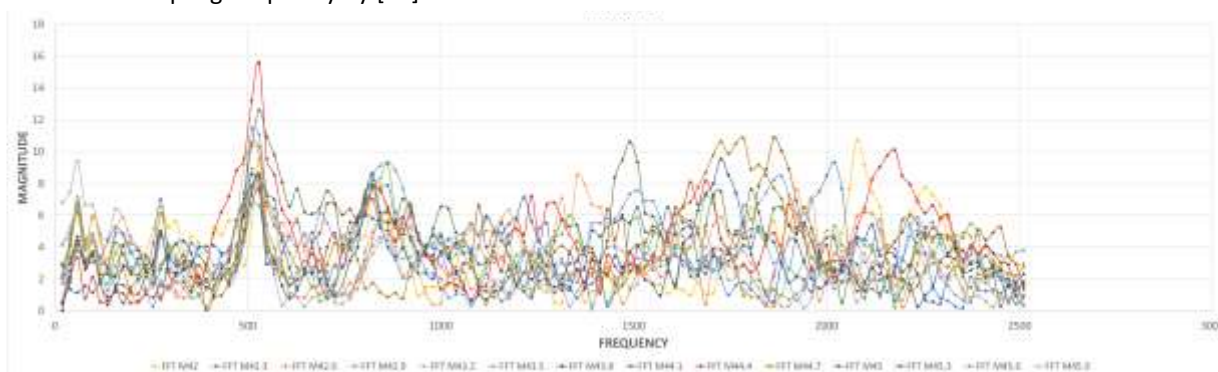


Figure 13 - FFT for the x axis data

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To obtain data with a larger sampling factor, the x axis data must be filtered using a Butterworth low-pass filter of 500 Hz (Figure 14) and 1,000 Hz (Figure 15) respectively, yielding a sampling factor of 10 and 5 respectively.

With lower frequencies, the acceleration curves form sinusoids and are well defined with multiple points and approximating the curve amplitude to the real-world signal amplitude. The various load curves now seem to align, like the previously shown Z axis chart in Figure 12.

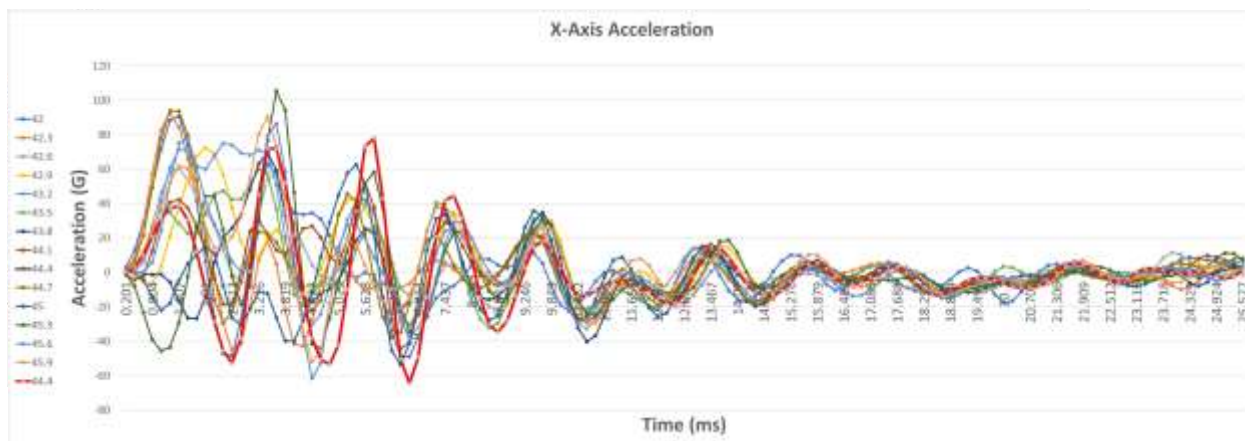


Figure 14 - x-axis acceleration with 500Hz filter

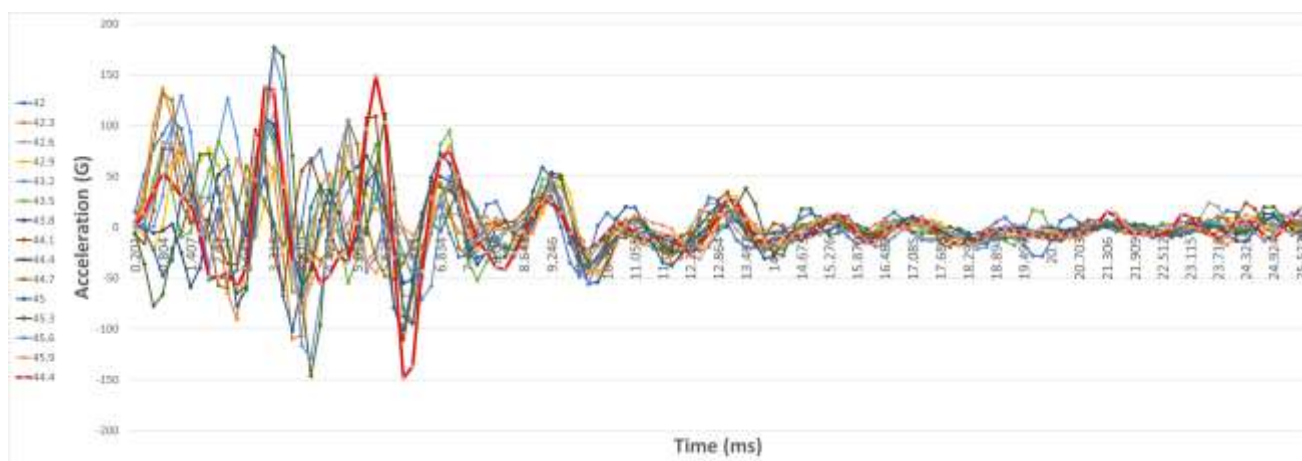


Figure 15 - x-axis acceleration with 1,000Hz filter

The z axis is consistent, and all curves form a similar pattern, a channel, over time. These acceleration curves most likely characterize the barrel movement or jump as these create a large displacement at lower frequencies.

The power spectral density (PSD) plots allow to conclude that some rounds produced vibrations at the barrel's natural frequency of 60Hz. Coincidentally, the optimal load had one of the lowest magnitudes at 60Hz.

From the barrel displacement calculation, it is possible to conclude that the 44.4 grain load had one of the smallest displacements at just 0.06mm just behind the 42.6 load at just 0.02mm of displacement. The PSD plot also showed that the 44.4 grain load tended to have higher frequency waves. Higher frequency waves have a less significant impact on displacement than low frequency, or slower moving waves.

It is interesting to note that the ideal powder charge selected in both the OCW, and Ladder methods has the peak acceleration on the x axis much later than the other charge weights, 2.6 ms compared to the others ranging from 0.4 – 1.8 ms. Thus, possibly indicating that a lagging acceleration curve improves accuracy on target.

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School Principal Leadership Style and Organizational Performance in Improving the Quality of Education



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ABSTRACT: Leadership means the process of influencing group activities in the context of formulating and achieving organizational goals. There are two things that characterize leaders in carrying out achievements, namely openness and willingness to serve. Leadership always gives an interesting impression because leadership requires a style and attitude that is appropriate to the organizational climate and educational unit where this cannot be separated from performance. Organizational performance is the result obtained by an organization, whether the organization is profit centric or non-profit centric, which is produced over a period of time and is work performance that can be measured in relation to the ability and strength of the organization as a whole to achieve organizational goals. This research aims to describe the leadership style of school principals and organizational performance in improving the quality of education at MI Ma'arif NU Teluk Purwokerto Indonesia. This research is a qualitative descriptive type of research. The results of the research show that in improving the quality of education, MI Ma'arif NU Teluk has attempted to optimize teacher performance which is supported by the leadership of the school principal through strengthening the cognitive, psychomotor and affective competencies of teachers and supported by the existence of a teacher certification program.

KEYWORDS: Organizational Performance, Principal Leadership, Quality of Education.

I. INTRODUCTION

The concept of principal leadership concerns the role and ability of the principal in carrying out management functions. The principal as the leader of the educational unit carries out a dimensional role. Leadership of the Madrasah/School head as: creator, visionary, curriculum developer, professionalization driver, change agent, and effective communicator. Therefore, leadership is a person's ability to influence and motivate other people to do something according to a common goal. An effective leader is a leader whose members can feel that their needs are met, whether for work, motivation, recreation, health, clothing, food, shelter, or other needs that they deserve. Studies on the concept of leadership have long been carried out by management experts. Leadership is defined as the ability to direct and convince colleagues or staff to voluntarily carry out collaborative activities to achieve organizational goals in accordance with the organization's vision and mission. Leadership or leadership includes groups, applied sciences from the social sciences. Because the principles, the formula and its postulates are useful in improving human welfare. As a branch of science, Leadership has an important role in optimizing management. Because the role of a leader is basically a description of a series of leadership functions. Apart from that, a leader must be able to make decisions. Decision making is a prerequisite for determining action, is also the causa (cause) for the response (action).

Meanwhile, the leadership function itself is actually one of the manager's roles in order to invite or encourage all subordinates or colleagues, so that with full will provide dedication in achieving organizational goals according to the abilities of the subordinates to the maximum. If leadership is defined as a person's ability to influence other people so that they follow his will, then a person can be said to have influence on other people, this influence is called power or authority. The term power in this case refers to a person's ability to influence other people or parties, while authority is the power of a person or group of people who receive support or recognition from society. In the current era of globalization, what leadership is and who can exercise it has changed. Leadership competency remains constant, but our understanding of its meaning, how does it work, and the ways in which people learn to apply have changed. We do have the beginnings of a general theory of leadership and leadership skills were once thought to be innate. Leaders are born, not to be called through a number of unimaginable processes, but this view cannot be proven. Along with the dynamic process of life and the complexity of an institution or

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organization. Therefore, leadership requires a style and attitude that is appropriate to the climate of the educational institution and educational unit. Because whether an organization is successful or not depends on how its leaders implement management optimally so that they can improve the quality of education. According to Law Number 20 of 2003 concerning the National Education System, it is mandated that every citizen aged 7-15 years is required to attend basic education, known as the Nine Year Compulsory Basic Education Program. The consequence of this is that the government is obliged to provide educational services for all students at the basic education level.

Therefore, the leadership of the school principal and organizational performance is one of the important factors that influences the implementation of education and is expected to be able to improve the quality of education, so that the output satisfies the education customer.

II. RESEARCH METHODS

This research at MI Ma'arif NU Teluk Purwokerto uses qualitative methods which are based more on phenomenological philosophy which emphasizes appreciation (*verstehen*) of human behavior (Cook and Reichard, 1982: 10). Data collection techniques use observation, interviews and documentation and triangulation as data validity testing techniques where researchers try to gain data credibility by combining observation, documentation and interview techniques for the same data collection. Djama'an Satori and Aan Komariah (2009: 22) state that qualitative research is research that emphasizes quality or the most important thing about the nature of a good service. Meanwhile, according to Sugiyono (2013), qualitative research methods are suitable for researching research problems that are unclear, still unclear, or perhaps still dark. This kind of condition is suitable for research using qualitative methods, because qualitative researchers will go directly into the object, carry out exploration using Grand Tour Questions, so that the problem can be found clearly and for strengthening and completing research data collection, researchers also used a tape recorder as a tool in collecting data and recording non-verbal information.

III. LITERATURE REVIEW

A. Leadership

Definition of Leadership and Main Duties of a Leader

Leadership comes from the root word "leader" which means a person who is known and tries to influence his followers to realize the Vision and Mission of the organization he leads. Leadership for each person in various activities of human life naturally continues and grows along with the application of individual abilities and roles as social creatures. This process is characterized by communication between individuals which results in mutual influence as an effort to fulfill their desires or for one goal in a particular community. This understanding can be viewed as leadership as a process of mutual influence of the activities of a person or leader to fulfill a desire. In line with the above understanding, leadership is a continuous process, which makes all members of the organization passionate and empowered to understand and achieve the goals determined by the leader (Munawir, 1993).

Leadership is any action carried out by an individual or group to coordinate within a certain forum to achieve predetermined goals (Danim, 2004). So, a leader is someone who is in a group, as a task giver or as a director and condition relevant group activities, and as the main person responsible and can set an example both in the service and in daily life so that the organization becomes conducive. So essentially leadership can be understood as the ability to influence other parties. The success of a leader depends greatly on their ability to collaborate and communicate appropriately with other people to influence them.

According to Syaiful Sagala, the components of educational leadership include: (1) the process of a series of actions in the education system (2) influencing and setting an example (3) giving orders in a persuasive and humane way but still upholding the discipline and rules that are guided (4) followers obeying orders according to their respective authorities and responsibilities (5) using authority and power within the limits permitted (6) mobilizing and mobilizing all personnel in the institution to complete tasks so that goals are achieved, improving working relationships between personnel, fostering cooperation, mobilizing organizational resources, and provide work motivation (Sagala, 2008). Thus, leadership can be interpreted as a person's ability to influence other people with the aim of moving these people to be willing to follow the leader's wishes. There are things that characterize leaders in carrying out their duties, namely openness and willingness to serve.

Leadership activities in an organization are the main steps of the organization or the main tasks that must be carried out by everyone who has the responsibility to lead the organization. This is part of an effort to influence the people around them so that they continue to carry out their duties well, have dedication to the organization and they are still obliged to achieve organizational goals or educational goals with good management. Apart from that, there is a need for optimization in education

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management. Meanwhile, educational management is a science that studies how to organize resources to achieve goals and empower existing human resources according to their field, so that organizational goals can be achieved.

Therefore, in order for the organizational implementation process to be carried out effectively, the arrangement of various educational resources and the creation of a conducive atmosphere must be carried out. For this reason, educational leaders must master the work area of educational management. With reference to this concept. Educational management is a science that studies forms and the process of collaboration between colleagues and leaders to achieve educational goals. The main duties of leadership consist of: (1) plan, (2) organize, (3) move, (4) coordinate, (5) control (Broto, 2004). Meanwhile, according to Syaiful Sagala (2008), the basic task of a leader is to create and maintain an environment where people work together in a well-organized group, completing tasks to achieve predetermined goals. Apart from that, a leader must be able to maintain trust, carry out his duties in accordance with the regulations.

Social Change and Leadership Style

Humans are living creatures who have the image of "never ending". Yesterday's success is also today's struggle, while today's success is tomorrow's struggle. The struggle for human life implies continuous change, so that the philosophy "change is something eternal" becomes a permanent characteristic of human life and other creatures (the only thing of permanent is change). The changes that humans continuously experience in living their lives have given rise to theoretical thoughts about human change, known as social change.

Social change as it is eternal in nature, will always happen and is bound to happen. Likewise, organizations as open organizations are characterized by groups of people working in synergy to achieve common goals, experiencing theories of organizational change starting from orientation, technology, structure and management. This is where the role of a manager must be maximized.

Managerial skills and leadership are two different roles. A good manager is someone who is able to handle organizational complexity, is an honest strategic and operational planning expert, is able to organize organizational activities in a coordinated manner, and is able to evaluate reliably and validly. Meanwhile, an effective leader is able to build staff motivation, determine direction, handle change correctly, and become a catalyst who is able to color staff attitudes and behavior (Aan Komariah & Cepi Triatna, 2004). Therefore, the function of a leader is to facilitate the cooperative achievement of goals among followers and at the same time provide opportunities for their personal growth and development.

According to Syaiful Sagala (2008), various leadership styles include: (1) Autocratic, that is, the leader makes his own decisions, because power is centralized in one person, he assumes full responsibility and authority. The autocratic style is based on the position that all activities in the organization will be able to run smoothly and successfully achieve the goals that have been determined if everything is done smoothly. The points are decided or determined by the leader. (2) Democratic means that the leader consults with the group regarding problems that interest them to which they can contribute something. The democratic style is based on the idea that activities in the organization will be able to run smoothly and achieve the goals that have been set if the various problems that arise are decided jointly between the officials involved. lead and the officials they lead. (3) Free control, namely the leader gives power to subordinates, the group can develop its own goals and solve its own problems, there is no or little direction. The free control style originates from the idea that all activities in an organization can run smoothly and successfully achieve predetermined goals if subordinates in carrying out their work are given the freedom to decide what they want and then carry it out according to their wishes. This free control style is usually useless, but can be effective in groups of highly motivated professionals.

Meanwhile, educational leadership can be classified into four types, including: *First*, the authoritarian type is the "authoritarian" type of leadership. In authoritarian leadership the leader acts as a dictator towards the members of his group. *Second*, the Laissez-faire type is that in this type of leadership the leader actually does not provide leadership, he allows his subordinates to do as they please. *Third*, the Democratic Type is a leader who is a democratic type who interprets his leadership not as a dictator, but as a leader among the members of his group. Fourth, the pseudo-democratic type. This type is also called pseudo-democratic or diplomatic manipulation (Lecturer Team Majoring in Education Administration, 2005).

Leaders in Decision Making and Organizational Performance

Leaders in effective educational management lead their group members so that they feel their needs are met and satisfying educational customers and leaders themselves also feel that their needs are satisfied so that organizational goals are achieved. A leader is a person who is trusted and has good characteristics, attitudes and styles to manage or manage other people. Therefore, in the world of leadership, it is no longer strange that "make good decisions" is one of the many points that a leader

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must have. In social life, there are definitely problems that are relatively complicated and difficult to solve. This is where the wisdom of a leader is required in making decisions so that problems can be resolved well.

According to Van Vollenhoven, stated that: a decision is a unilateral legal action in the field of government and is carried out by a legal entity based on its extraordinary authority. Meanwhile, in the management concept, the result of the management process is a decision that can be determined as a direction of action that is chosen consciously from available alternatives with the intention of achieving a desired result (Sagala, 2000). A decision will not have a strong level of accuracy if it is not supported by various existing information and proven with valid data, From the various input information received, it will be analyzed comprehensively by the organization's management to form an alternative decision recommendation and then the alternative decision offered will be taken whichever is the best. Decision is a problem tracing process that starts from the background of the problem, identification of problems to the formation of conclusions or recommendations (Fahmi, 2010). The birth of a decision does not immediately take place in such a simple way, because a decision is always born based on a process that takes time, energy and thought until finally a crystallization occurs, and the decision is born.

Furthermore, what is considered important is the responsibility of the decision itself to the interested parties. In every decision made there are always risks that arise, in principle, this risk cannot be avoided and whatever form it takes, it always and inevitably arises. This is called the impact of a decision. Risky decision making is the production of a decision that contains more than one possible outcome based on several alternative decisions taken, and because there are several alternatives, there are automatically several equally big opportunities. To overcome risks that arise in an organization, both profit and non-profit, is to implement "risk management". Apart from that, there needs to be a continuous assessment of leadership performance, because it will be the basis for efforts to improve and readjust all school sub-systems according to the necessary improvements. Leadership performance assessment is the process of determining whether organizational performance is good or bad, programs, activities achieve previously established goals. The strategy that leaders must develop is the effectiveness of the assessment process in order to produce improvements to programs, procedures and efforts to achieve organizational goals.

Therefore, a leader must be careful in making decisions, so that the decision is good, does not harm personnel within the organization and does not harm the organization. And a leader in making decisions refers to the goals of the organization he leads, to achieve that, the leader makes optimal use of organizational resources, especially human resources in the organization, who are empowered optimally according to their field.

Then, an organization is formed to achieve a common goal, but to achieve this goal requires reliable and professional performance from the officers or employees of the organization concerned. Performance comes from the words Job Performance or Actual performance which means work performance or actual achievements achieved by somebody. The definition of performance (work performance) is the quality and quantity of work results achieved by an employee in carrying out his functions in accordance with the responsibilities given to him. Performance is the result or output of a process (Nurlaila, 2010). Performance is an activity that a worker has achieved in carrying out the tasks and work given to him. In the Big Indonesian Dictionary, performance is defined as something that is achieved, achievements shown, or work ability. Performance is the result obtained by an organization, whether the organization is profit oriented or non-profit oriented, which is produced over a period of time (Fahmi, 2010). According to Indra Bastian (2001), performance is a description of the level of achievement of an activity/program/policy in realizing the goals, objectives, mission and vision of an organization as stated in the formulation of a strategic scheme (strategic planning) organization. According to Nanang Fattah (2000), work performance is an expression of ability which is based on knowledge, attitudes and skills and motivation in producing work.

Meanwhile, according to Keban (2004), organizational performance is something that describes the extent to which a group has carried out all the main activities so that it can achieve the vision and mission of the institution. From various opinions by experts, regarding the performance above, it can be concluded that organizational performance is the results obtained by an organization, both profit oriented and non-profit oriented organizations which are produced over a period of time and are work achievements that can be measured, related to the ability and strength of the organization as a whole to achieve organizational goals.

Concept and Factors that Influence of Improving Organizational Performance

Performance can also be said to be a result (output) of a certain process carried out by all components of the organization regarding certain resources used (input). Furthermore, performance is also the result of a series of process activities carried out to achieve certain organizational goals. For an organization, performance is the result of collaborative activities between members or components of the organization in order to realize organizational goals. Simply put, performance is a product of administrative activities, namely cooperative activities to achieve goals whose management is usually referred to as management. As a product of organizational and management activities, organizational performance, apart from being

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influenced by input factors, is also greatly influenced by administrative and management processes taking place. No matter how good the available input, it will not produce a satisfactory performance product if the administration and management processes cannot run well. Between input and process have a close relationship and are very determining in producing a performance output that meets expectations or not. As we all know, the ongoing management process is the implementation of management functions, namely Planning, Organizing, Actuating, and Controlling (POAC). Meanwhile, according to Irham Fahmi (2010), the function of performance management is to try to provide enlightenment and answers to various problems that occur in an organization, both caused by internal and external factors, so that what is currently experiencing does not have a negative influence on the company's activities at that time. this and the future.

The dominant factors that influence the performance of an organization include management efforts in translating and aligning organizational goals, organizational culture, and effective leadership. Meanwhile, the factors that have a direct influence on the level of performance achievement are as follows: 1) Technology which includes work equipment and methods used to produce products or services produced by an organization. The higher the quality of the technology used, the higher the level of performance of the organization. 2) The quality of inputs or materials used by the organization. 3) The quality of the physical environment which includes work safety, room arrangement and cleanliness. 4) Organizational culture as a pattern of behavior and work patterns exists in the organization concerned. 5) Leadership is an effort to control organizational members to work in accordance with organizational standards and goals.

These factors can be caused by internal organizational factors or external organizational factors. There are those who question equipment, infrastructure or technology as the dominant factor, there are those who question the quality of human resources owned by an organization, and there are those who question work mechanisms, organizational culture and the effectiveness of leadership in an organization. According to organizational experts, the unequal and suboptimal performance of an organization is caused by ineffective leadership patterns and styles, which ultimately lead to low overall organizational performance. Leadership is considered as a factor that fills the gaps in existing structures, streamlines work mechanisms, and is able to provide effective motivation for employees to work and provide high work performance. Levine et al in Dwiyanto (1995) put forward 3 concepts that can be used as a reference for measuring the performance of public organizations, namely: 1) Responsiveness refers to the alignment between programs and service activities provided by public organizations with the needs and desires of the community. The more people's needs and desires are programmed and implemented by public organizations, the better the organization's performance. 2) Responsibility explains the extent to which the implementation of public organization activities is carried out in accordance with correct administrative principles or in accordance with organizational policies, both implicit and explicit. The more a public organization's activities are carried out in accordance with administrative principles, regulations and organizational policies, the better its performance will be considered. 3) Accountability refers to the extent to which the policies and activities of public organizations are subject to political officials elected by the people. In this context, the performance of a public organization is considered good if all or at least most of its activities are based on efforts to fulfill the hopes and desires of its members. people's representatives.

Purpose of Performance Appraisal

Performance assessment is basically used to assess the success or failure of implementing activities, programs and/or policies in accordance with the targets and objectives that have been set in order to realize the vision and mission of government agencies. Performance measurement includes determining performance indicators and determining the achievement of performance indicators. According to Pasolong, the objectives of performance appraisal are: 1) As a basis for providing adequate compensation to employees with its performance. 2) As a basis for carrying out promotions for employees who have good performance. 3) As a basis for demotion of employees who are lacking or do not have good performance. 4) As a basis for dismissing employees who are no longer able to do their work. 5) As a basis for providing training to employees, in order to improve their performance as a basis for accepting new employees who are suitable for the jobs available. 6) As a basis for knowing the success or failure of an organization (Pasolong, 2007).

According to Handoko (1994), the function of holding performance assessments in each organization is as follows: 1) As a basis for determining payroll decisions. 2) As a basis for feedback on the performance of a person or group. 3) Identify the strengths and weaknesses of the employees being assessed. 4) As a basis for consideration for promotion decisions. 5) As a basis for consideration for transfer and dismissal decisions. 6) As a basis for consideration for training and development decisions. 7) As a basis for consideration for award decisions. 8) As a tool to motivate and improve performance.

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B. Quality of Education

Understanding Education Quality

The definition of quality, quality means the degree (level) of excellence of a product (result of work/effort) in the form of goods or services, both tangible and intangible. In the educational context, the meaning of quality, in this case refers to the educational process and educational results. The definition of quality has various connotations depending on the person who uses it. The word quality is taken from the Latin "Qualis" which means what kind of (depending on what word follows it). The definition of quality according to Deming is conformity to needs. Meanwhile, according to Juran, quality is suitability to needs. Sallis (2003) suggests that quality is an absolute and relative concept. Absolute quality is quality that has high ideals and high standards that must be met, with high prestigious product characteristics. Meanwhile, relative quality is a tool that has been determined and must meet the standards that have been created.

The definition of education according to Republic of Indonesia Law Number 20 of 2003 concerning the National Education System or National Education System, article 1 (paragraphs 1 and 4), that "education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, noble morals, self-control, intelligence, personality, and skills needed for oneself, society, nation and state."

According to Hoy, Jardine, & Vood (2000: 10), quality in education is an evaluation process education through increasing the need to reach and develop customer talent processes and finding a standard set of client accountability that pays for or outputs from the educational process. Researchers and practitioners in the field of education view the quality of education in terms of input quality, process quality, and product quality (Hoy & Miskel, 2001). This is in accordance with Anonymous (2002) who views the quality of education as including educational input, process and output.

First, Educational Input. Anonymous (2002) views educational input as everything (in the form of resources, software, and expectations) that must be available because it is needed for the process to take place. Resource inputs include; humans (principals, teachers, students, other employees) and others (infrastructure, money, materials, etc.). Software input includes school organizational structure, statutory regulations, task descriptions, plans, work programs, and so on. Input expectations in the form of vision, mission, goals and targets to be achieved. Input readiness will influence the progress of the process well. Input quality is measured by the level of readiness of resources, software and expectations available for the process to take place.

Second, Educational Process. It is the changing of something into something else. Something that influences the progress of the process is called input, while something resulting from the process is called output. In micro-scale education (school level), processes include decision-making processes, institutional and program management processes, teaching and learning processes, and monitoring and evaluation processes. The quality of the process can be seen from the level of coordination and harmonization as well as the harmonious integration of school input, so that it is able to create a pleasant learning situation (enjoyable learning) is able to encourage motivation and interest in learning, and is truly able to empower students.

Third, Educational Output. Educational output as school performance. School performance is school achievement resulting from school processes/behavior. School performance can be measured from quality, effectiveness, productivity, efficiency, innovation, quality of work life and work morale. School output is said to be of quality if school achievement, especially student learning achievement, shows high achievement in: (a) academic achievement, in the form of general test scores, national exams, scientific works, academic competitions, and (b) non-academic achievement, in the form of IMTAQ, honesty, politeness, sports, skills and other extracurricular activities. School quality is influenced by many stages of interconnected activities (processes) such as planning, implementation and supervision. If quality is in the form of fulfilling and exceeding customer needs, it is necessary to know who the customer is. If quality is in the form of fulfilling and exceeding customer needs, it is necessary to know who the customers are. In this case, internal educational customers include teachers and other educational staff.

Next are external customers, which consist of three groups: 1) primary external customers, namely students; 2) secondary external customers, namely parents and government leaders; and 3) tertiary external customers, namely the job market, government and the wider community (Sallis, 2003). In simple terms, Cotton (2004: 4) states that external customers are who consume the product or service offered." External customers are those who use the product or service. Schools should be able to guarantee the satisfaction of the community of users, by guaranteeing that within the school both teachers and students will display the best performance. This condition requires five pillars that stand firmly on beliefs and values that are influenced by many interconnected stages of activities (processes) such as planning, implementation and supervision. The five pillars, as stated by Arcaro (2005), include: 1) focus on customers, 2) total engagement, 3) measurement, 4) commitment, and 5) continuous improvement. If quality consists of meeting and exceeding customer needs, it is necessary to know who the customer is. customer is, "Anyone to whom a product or service is provided." A customer is someone to whom a product or service is provided.

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Customers in education consist of internal and external customers (Burnham, 2007). An educational institution is said to be of quality if it has the following characteristics: 1) Students demonstrate a high level of mastery of learning tasks (learning tasks) as formulated in educational goals and objectives, including academic learning outcomes expressed in learning achievement. 2) The results of student education are in accordance with the demands of students' needs in their lives, so that apart from knowing something, they are also able to do something functionally for life. 3) The educational results of students are in accordance with environmental needs, especially the world of work. Therefore, relevance is an indicator of quality. Thus, the benchmark for good quality is not an absolute quality benchmark, but a relative benchmark, namely one that suits customer needs. The quality of a school will be good if the school/madrasah can provide services that suit the needs of its customers.

Factors of Influence Improving the Quality of Education

To improve the quality of education in schools/madrasahs, Sudarwan Danim said that if an institution wants to improve the quality of education is a must at a minimum involves five dominant factors, namely: 1) Leadership. School principals must have and understand a clear work vision, be able and willing to work hard, have a high work drive, be diligent and steadfast in their work, provide optimal services, and have strong work discipline. 2) Teacher. Maximum teacher involvement, by increasing the competence and professional work of teachers in workshop activities, seminars, workshops, training, and so on, so that the results of these activities applied in universities. 3) Participants Educate. The approach that must be taken is "the child as the center" so that the competencies and abilities of students can be explored so that the school/madrasah can inventory the strengths of the students. 4) Curriculum. The existence of a consistent, dynamic and integrated curriculum can enable and facilitate the expected quality standards so that goals can be achieved effectively maximum. 5) Collaboration network. The collaborative network is not only limited to the school/madrasah environment and the community alone but also with other organizations, such as schools both domestic and foreign, companies or government agencies so that the output from schools/madrasahs can be absorbed into the world of work.

IV. RESULT AND DISCUSSION

Based on the results of interviews, observations and documentation, researchers found that there was planning in the school principal's leadership activities and organizational performance in improving the quality of education. The school principal's planning to improve the quality of education is carried out by conducting a SWOT (Strength, Weakness, Opportunity and Threat) analysis. Planning carried out in order to improve teacher performance at MI Ma'arif NU Teluk Purwokerto through leadership meetings and teaching and education staff. In this meeting, several agendas were discussed, including: the objectives of improving teacher performance in improving the quality of education, the time schedule for improving teacher performance, targets to be achieved, supporting facilities and infrastructure, activity agenda, and financing. The strategies for improving teacher performance at MI Ma'arif Teluk Purwokerto include:

1. Increased Knowledge

Knowledge such as teachers' "stockpile of basic necessities in business". A teacher must make serious efforts in the intellectual development of his students. In increasing this knowledge, MI Ma'arif NU Teluk Purwokerto in one year has a research program, community service, seminars, training, upgrading, workshops, panel discussions, conferences, symposiums and in this program all lecturers carry it out so that they can improve their performance. The more knowledge a teacher has, the more teachers will have insight into the knowledge their students need, because the teacher's role is as a transmitter of knowledge transfer, educator, director and also mentor.

2. Capacity Building

A professional teacher must have a level of capability or competency which is a set of skills so that he or she is able to realize professional performance achievements. The teacher performance competencies that have been determined must refer to the Regulation of the Minister of National Education of the Republic of Indonesia Number 16 of 2007 concerning standards for academic qualifications and teacher competencies, namely pedagogical competence, personality competence, social competence and professional competence. Each ability should also be based on cognitive, affective and performance criteria as well as productive and exploratory. The expected abilities must be in line with and relevant to the work demands that have been determined. Apart from that, a lecturer is expected to have entrepreneurial values and spirit which means that an educator has a creative, innovative spirit, is able to find solutions to problems that occur, create new things, and has high motivation and enthusiasm.

3. Skills Improvement

Teachers are educators, so the presence of lecturers is not only obliged to transfer material or transfer knowledge (transfer of knowledge) to their students but is also obliged to teach aspects of skills and values (transfer of skills and transfer of values).

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Skills are elements of ability that can be learned. Teaching skills are a combination of knowledge and abilities that educators need in the teaching process. Thus, the presence of skills is expected to increase teacher professionalism. The development of teacher professionalism at MI Ma'arif Teluk Purwokerto is related to work effectiveness with the principle that the work done today is better than yesterday and the work tomorrow must be better than today. These principles always encourage teachers at MI Ma'arif Teluk Purwokerto to be more creative, innovative, dynamic and critical and open to improving quality and high work productivity.

4. Improving Self Attitude

Each person is born as a unit of individuals and grows and develops to become a person with character, who becomes a whole from before birth, then becomes a baby and then interacts with the environment. As an individual, he has the right to autonomy to be able to determine his life path, but apart from being an individual, every person also needs the help of other people, which is called social nature as a social and cultural creature who lives in the midst of the environment, both the family environment and the community environment. So, a person's attitudes, behavior and habits can be formed from the atmosphere of the environment around them. Likewise, a child is able to start learning to know himself through his closest environment, namely his parents at home.

5. Teacher certification

Teachers have strategic roles, functions and tasks in national development, especially in the field of education, so lecturers need to develop themselves into professional staff. With teacher certification, teacher performance and teacher welfare can be improved at MI Ma'arif NU Teluk Purwokerto. Therefore, teachers need to be equipped with academic qualifications and abilities that are in accordance with the specified standards. The Law on Teachers and Lecturers states that certification is part of improving the quality and level of welfare for lecturers. Therefore, with the certification program it is hoped that lecturers will become professional individuals, competent as agents of reform which can be proven by having a teacher certificate. If they are professional teachers are entitled to receive rewards in the form of professional allowances from the government.

V. CONCLUSIONS

Whether an organization will succeed or fail is largely determined by the leadership of that institution, especially in implementing management within that institution. A leader is someone who is in a group, as a task giver or as a director and condition relevant group activities, and as the main person responsible and can set an example both in the service and in daily life so that the organization becomes conducive. There are two things that characterize leaders in carrying out their duties, namely openness and willingness to serve. Organizational goals are not only known by the leader or group, but it must be socialized to all education customers so that the organization's goals are quickly achieved in accordance with the Vision and Mission.

An educational institution is said to be of quality if it has the following characteristics: 1) Students demonstrate a high level of mastery of learning tasks (learning tasks) as formulated in educational goals and objectives, including academic learning outcomes expressed in learning achievement; 2) The results of student education are in accordance with the demands of students' needs in their lives, so that apart from knowing something, they are also able to do something functionally for life; 3) The educational results of students are in accordance with environmental needs, especially the world of work. Therefore, relevance is an indicator of quality.

Strategies to improve quality include building bureaucratic level capacity, schools and classes. Apart from that, teachers must master and be able to implement four competencies, to realize their professional performance in educational institutions, namely pedagogical competence, personality competence, professional competence and social competence. Thus, good quality benchmarks are not absolute quality benchmarks, but relative benchmarks, namely those that suit the needs of "education customers". The quality of the school will be good if the school can provide services that suit the needs of educational customers. Educational success is measured by the level of the educational program's ability to develop an individual's ability to change for the better and MI Ma'arif NU Teluk has attempted to optimize teacher performance which is supported by the leadership of the school principal through strengthening the cognitive, psychomotor and affective competencies of teachers and supported by the existence of a teacher certification program.

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Teachers' Occupational Stress and Coping Mechanisms



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ABSTRACT: Teachers often experience high levels of stress in their work, but they are equipped with effective coping mechanisms to navigate through it. This study aimed to explore the relationship between teachers' occupational stress and coping mechanisms in public elementary settings. It sought to assess occupational stress based on working, living, and subject-related conditions while also evaluating teachers' emotion-focused and problem-focused coping mechanisms. Additionally, it aimed to establish significant relationships between occupational stress and these coping mechanisms. A descriptive correlational involving 145 public elementary teachers in Opol-West District, Misamis Oriental, utilized universal sampling. The study utilized an adapted and modified instrument from Cayao and Arenga (2021) and achieved a reliable Cronbach alpha of 0.855 to validate the survey questionnaire. Statistical tools, including mean, standard deviation, and Pearson correlation coefficients, were employed to analyze the data. Results showed that teachers feel some stress in their living conditions, but report challenges bring extreme stress. They also have moderate stress from subject-related conditions. It was concluded that teachers wanting to grow professionally can occasionally add stress to their overall work pressure. It was recommended that, implement strategies for teachers by coming up with better ways to submit reports.

KEYWORDS: Emotion-Focused Coping, Living Conditions, Problem-Focused Coping, Working Conditions

I. INTRODUCTION

One of the most crucial elements for human survival is work. Due to the competitive nature of the workplace, most individuals spend their time working, which is very stressful. A minor stress can help the employee stay alert, motivated, and focused when they face obstacles at work. Long hours, strict deadlines, and rising demands can, nevertheless, leave workers stressed, exhausted, and overworked in today's busy environment.

The International Labor Organization (ILO) defines occupational stress as stress related to a job or occupation. It is regarded as the primary cause of adult stress and has an impact on all nations, professions, and worker categories. Moreover, The World Health Organization defines occupational stress as a series of reactions that happen when people are given work expectations that are not compatible with their knowledge, abilities, or capacities and that test their capacity to cope.

Teaching is the career that has been helping many individuals succeed in all aspects of life, even though other occupations might be seen as being equally significant for human development (Solomon et al., 2017). Notwithstanding the challenges they face, teachers and school administrators are expected to give the greatest quality of education, which has led to a tremendous deal of pressure, anxiety, and stress among them as well as the pupils and parents (Sagales et al., 2020).

Republic Act 10533, otherwise known as Enhanced Basic Education Act of 2013 or the 12 Years of Basic Education in the Philippines, causes a significant shift to the job description of teachers (Romero & Bantigue, 2016). With the changes that start the improvement of the educational system, it is seen that teachers are expected to perform well while doing the trend of heavy paperwork, teacher's workload, pupils' behavior management, sudden system changes, attending seminars and trainings are just a few examples of the many things that can contribute to stress. More so, in their regular duties, teachers are expected to perform a variety of jobs. Evaluator, curriculum planner, implementer, information supplier, role model, facilitator, and trainer are a few examples of these positions. Stress will always be an element of the teaching profession because of managing these numerous tasks.

Occupational stress has been linked to a high turnover rate, absenteeism, disengagement from work, and demotivation. It can influence teachers' efficacy in the classroom. Everyone may experience the adverse impacts of stress, and it

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is an unavoidable aspect of life. Recognizing that stress is an inevitable part of existence, it becomes essential to assess stress and the diverse coping strategies employed by teachers.

On the other hand, a coping mechanism refers to a method for managing and reducing stress and its impacts, encompassing cognitive, emotional, or behavioral approaches. Moreover, coping is the action that happens when a person has had time to consider the circumstances, evaluate his or her thoughts, and take a more objective or disengaged stance toward the issue. The researcher decided to focus on this study because it is important for teachers to be aware that stressors are always present as they carry out their duties.

The demanding nature of the teaching profession often leads to an accumulation of stressors that affect teachers' overall well-being. The researcher observed that teachers in Opol West District often find themselves juggling numerous responsibilities, such as developing lesson plans, evaluating pupils, attending meetings, conducting extracurricular activities, and fulfilling administrative duties. This heavy workload prevented them from adequately dedicating time to self-care and personal lives, leading to increased stress levels.

To address these concerns, the researcher aimed to explore the occupational stress and coping mechanisms experienced by public elementary teachers in Opol West District.

This study was anchored on the theory of Albert Bandura about Social Cognitive Theory (1986), which contends that learning takes place in a social setting because of a dynamic and reciprocal interplay between the person, their environment, and their behavior. The fundamental idea of this paradigm is referred to as triadic reciprocal determinism, which outlines how a person regulates in relation to shifting external conditions to achieve desired results (Schiavo et al., 2019).

There are numerous useful ideas in the Social Cognitive Theory, such as behavioral capability, observational learning, reinforcements, expectations, and self-efficacy. A person's actual capacity to carry out a behavior through necessary knowledge and abilities is referred to behavioral capability. The modeling of behavior can be used to demonstrate observational learning. Reinforcement can assist in ensuring that the advised behavior is maintained. Expectations include measures that convey details about the potential outcomes of the conduct and the most important personal trait for influencing behavior is believed to be self-efficacy (Devi et al., 2022).

In Social Cognitive Theory, coping self-efficacy is a critical self-regulatory cognition that drives the perception and belief in one's ability to control environmental demands and successfully implement coping mechanisms (Schiavo et al., 2019). When it comes to personality research and stress vulnerability, self-efficacy is considered as a resource. Moreover, according to Marcionetti & Castelli (2022), self-efficacy affects people's behaviors and ambitions. Particularly, efficacy beliefs affect the choices of activities, the amount of effort put into an activity, and how long a person would persist in the face of challenges. Those who have strong self-efficacy beliefs are, therefore, expected to put themselves in more demanding situations, which may also increase their success in both their professional and personal lives.

The fundamental ideas of teacher stress include its sources, effects, and coping mechanisms; all these things have an impact on how a teacher manages stress. The goal of this study is to ascertain the effects of teacher stress on elementary school teachers and the workplace environment. The researcher also wants to discover more about the relationship between self-efficacy and stress and look into how teachers' behavior, capacity, and expectations affect how they handle stress at work.

II. METHODOLOGY

The research methodology employed in the study was a descriptive correlational. This study design offers a precise representation or explanation of the traits of a specific person, circumstance, or group. Descriptive correlational research encompasses several forms of fact-finding studies and surveys. The goal of descriptive correlational research is to provide an explanation for the status of the circumstances (Mishra & Alok, 2022).

This approach relates to the scope of the phenomenon or qualities like emotion or attitude and provides a precise and methodical description of it. In addition, it provides a methodical portrayal of an individual, collective, or society. The teacher respondents completed a survey by answering questions about their sources of occupational stress related to their living, working, and subject-related conditions. This allowed them to identify their coping mechanisms, which included problem- and emotion-focused coping. The researcher administered the survey that was used to gather the data. This study involves value analysis and result interpretation in addition to data collection, tabulation, and computation. As a result, all of the data acquired from the respondents was arranged, totaled, tabulated, and displayed in a set of tables.

In addressing the research questions, the researcher applied the following statistical tools. To analyze Problems 1 and 2, Mean and Standard Deviation were employed to assess the extent of occupational stress and the coping mechanisms utilized by public elementary teachers. For Problems 3 and 4, the Pearson Product Moment Correlation (r) was employed to ascertain the

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meaningful connection between occupational stress and emotion-focused coping, as well as the significant relationship between occupational stress and problem-focused coping.

III. RESULTS AND DISCUSSION

Problem 1. What is the level of occupational stress of public elementary teachers based on the following:

- 1.1 working conditions;
- 1.2 teachers' living conditions; and
- 1.3 subject-related conditions?

Table 1. Overall teachers' level of occupational stress

Variables	Mean	SD	Description	Interpretation
Working Conditions	2.71	0.89	Somewhat	Moderately stressed
Teachers' Living Conditions	2.79	0.89	Somewhat	Moderately stressed
Subject Related Conditions	2.47	0.85	Somewhat	Moderately stressed
Overall	2.66	0.88	Somewhat	Moderately stressed

Note: 1.00 – 1.74 Not at all stressed 1.75 – 2.44 occasionally stressed 2.45 – 3.24 Moderately stressed
3.25 – 4.00 Extremely stressed

Table 1 displays the collective level of occupational stress among teachers. It reflects an overall Mean of 2.66 with SD=0.88, characterized as somewhat and interpreted as a moderately stressed. This suggests that teachers are undergoing a moderate degree of stress with some individuals experiencing stress levels higher or lower than the average, highlighting the diversity of stress experiences among the teachers. It implies that many teachers are likely facing stress that could impact their well-being and potentially affect their work performance. This level of stress still warrants attention and intervention to support teachers' occupational well-being.

As observed, addressing occupational stress in teachers could involve implementing strategies such as stress management programs, fostering a supportive work environment, providing resources for coping mechanisms, and promoting work-life balance. Recognizing and addressing these stress levels is crucial to ensure the well-being and effectiveness of teachers in their roles.

The study by Cox et al. (2019) emphasized that it is an integral component of teachers' well-being that is connected to their physical health, the stability of the school, their efficacy, and the academic success of their pupils. The functioning and efficiency of an educational system are interdependent with the significance of teachers' health. To increase the overall effectiveness of education, tackling occupational stress should go hand in hand with advocating for mental health.

Moreover, the variable, *Teachers' Living Conditions*, has the highest Mean of 2.79 with SD = 0.89, which is described as somewhat and interpreted as moderately stressed. This means that teachers are experiencing a moderate level of stress in terms of their living conditions. It implies that various aspects such as the struggles when there were lots of reports to be submitted, the pressure to attain personal achievement, financial problems, or other factors influencing their living situations. As noticed, teachers appear to be under a great deal of stress in their living conditions, which may be related to their inability to manage their personal, professional, and well-being. Additionally, stress related to living conditions can impact their ability to focus on teaching effectively. Indeed, Ansley et al. (2018) asserted that teachers regularly contend with substantial stress, which resonates deeply within the teaching profession. Teachers consistently face numerous stressors resulting from various aspects of their roles.

On the other hand, the variable, *Subject-Related Conditions*, got the lowest Mean of 2.47 with SD = 0.85, which is described as somewhat and interpreted as Moderately stressed. It means that teachers experience moderate stress related to subject-related conditions. It implies that teachers experience moderate stress related to subject-related conditions. This stress could be associated with factors such as trainings and seminars related to the subjects, curriculum challenges, teaching materials, classroom dynamics, or difficulty in conveying subject matter effectively. It affects teachers' enthusiasm for teaching specific subjects or influence the learning experience for pupils in those subjects.

As noticed, the stress experienced by teachers, particularly related to subjects or specific aspects of their teaching, often emerges from a complex interplay of factors. Trainings and seminars, while intended for professional development, can sometimes add pressure due to increased workload or expectations to swiftly implement new methodologies. According to Cox et al. (2018) that occupational stress significantly impairs teachers' ability to perform their jobs underscores a widespread

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challenge within the teaching profession. Occupational stress manifests as a prevalent issue that profoundly impacts various aspects of teachers' roles and well-being.

Problem 2. What is the level of coping mechanisms used by public elementary teachers in terms of the following:

- 2.1 emotion-focused coping; and
- 2.2 problem-focused coping?

Table 2 exhibits overall teachers' level of coping mechanism. It reveals that it has an overall Mean of 3.08 with SD=0.91, which is described as Most of the time and interpreted as Frequently use coping mechanism. It means that teachers employ coping mechanisms quite frequently to manage stress or handle challenging situations in their professional lives. It implies that the use of coping mechanisms is common and prevalent among the surveyed teachers.

As stated, teachers frequently employ coping mechanisms as essential tools to navigate the multitude of stressors and challenging situations inherent in their professional lives. These coping strategies serve as adaptive responses to manage the demands of teaching, including heavy workloads, classroom dynamics, administrative pressures, and the ever-evolving landscape of education. From seeking social support among colleagues to practicing mindfulness, time-management techniques, or even using humor to diffuse tension, teachers draw upon a diverse array of coping mechanisms. These strategies enable them to mitigate stress, maintain resilience, and effectively handle the complexities of their roles. It suggests that many teachers resort to various coping strategies when faced with stressors or difficulties. Also, it signifies that the success of teacher's coping mechanisms has an impact on their health, happiness, and dedication to teaching (Gurvich et al., 2021).

Table 2. Overall teachers' level of coping mechanism

Variables	Mean	SD	Description	Interpretation
Emotion Focused Coping Mechanism	3.06	0.90	Most of the time	Frequently use coping mechanism
Problem Focused Coping Mechanism	3.09	0.91	Most of the time	Frequently use coping mechanism
Overall Mean	3.08	0.91	Most of the time	Frequently use coping mechanism

Note: 1.00 – 1.74 Rarely or never use coping mechanism 1.75 – 2.44 Occasionally use coping mechanism
2.45 – 3.24 Frequently use coping mechanism 3.25 – 4.00 Consistently and effectively use coping mechanism

Moreover, the variable, *Problem-focused coping mechanisms*, has the highest Mean of 3.09 with SD = 0.91, which is described as Most of the time and interpreted as Frequently use coping mechanism. This suggests that teachers often resort to problem-focused coping mechanisms. It indicates that the regular use of problem-focused coping strategies is a common practice among the surveyed teachers. While widely adopted, it may not be the predominant approach for every teacher in handling stressors.

As observed, the frequent consistency indicates that teachers recognize the value of directly addressing stressors but also acknowledge the relevance of other coping mechanisms in certain situations. The adaptability underscores teachers' ability to tailor their responses to the diverse demands of teaching, utilizing problem-focused strategies when needed while embracing a flexible approach that harnesses various coping methods to effectively navigate the complexities of their roles.

The study of Diponegoro (2021) supports the finding of the study as he emphasized that encouraging and fostering problem-solving skills, providing resources for effective problem-solving, and offering support in addressing the root causes of stressors could further enhance teachers' resilience and ability to manage stress effectively in various situations within the educational setting. It is anticipated that problem-focused techniques will mitigate the adverse impacts of the stressor.

On the other hand, the variable, *Emotion-focused coping mechanisms*, got the lowest Mean of 3.06 with SD = 0.90, which is described as Most of the time and interpreted as Frequently use coping mechanism. It means that teachers still frequently utilize emotion-focused coping mechanisms. It implies that the use of emotion-focused coping strategies is prevalent and consistent among the surveyed teachers. Despite having the lowest mean among the variables, it still suggests that many teachers regularly engage in these coping methods. Teachers often employ coping strategies not only to address the practical aspects of stressors but also to manage the emotional impact of these challenges in their professional lives.

Emotion-focused coping, as outlined by Raypole (2020), serves as a stress management technique aimed at mitigating the adverse emotional reactions triggered by stressors. This approach doesn't directly address the root causes of stress but rather concentrates on managing the emotional impact it generates. Strategies within emotion-focused coping encompass a

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range of techniques, such as seeking social support, practicing mindfulness or relaxation exercises, reframing thoughts to alter perspectives, or engaging in activities that alleviate emotional distress.

Problem 3. Is there a significant relationship between the occupational stress and emotion-focused coping?

Table 3. Test correlation on occupational stress and emotion-focused coping mechanism

Variables	<i>r</i> -value	<i>p</i> -value	Level of Correlation	Decision	Interpretation
Working Conditions	0.6533	0.000	Moderate	Reject Ho	Significant
Teachers' Living Conditions	0.5116	0.001	Moderate	Reject Ho	Significant
Subject Related Conditions	0.6012	0.000	Moderate	Reject Ho	Significant

Note: significant at $p < 0.05$ alpha level

Table 3 reveals the test correlation between occupational stress and emotion-focused coping mechanisms. It shows the *r*-values of the following variables: working conditions (0.6533), teachers' living conditions (0.5116), and subject-related conditions (0.6012). All three variables exhibit a description of a moderate positive correlation and are statistically significant at the 0.05 level. This signifies a meaningful relationship between teachers' occupational stress and their utilization of emotion-focused coping mechanisms. Consequently, the null hypothesis is rejected. This implies that the particular facets of teachers' working conditions, living conditions, and subject-related conditions are significantly linked to the adoption of emotion-focused coping strategies in response to occupational stress.

As observed, amid mounting pressures from new administrative directives and an overwhelming workload, some of the teachers at a school collectively feel emotionally drained and stressed. Instead of having avenues to address the root causes of their stress, they find limited support in terms of workload management or structural changes. Feeling constrained by the circumstances, the teachers begin relying heavily on emotion-focused coping mechanisms. They engage in informal gatherings during breaks, where they discuss their shared stressors, express their emotions openly, and offer mutual support and empathy.

Additionally, they start practicing mindfulness exercises, encouraging each other to focus on relaxation techniques, meditation, or recreational activities to alleviate their stress levels. While these emotion-focused coping mechanisms help them momentarily alleviate stress and provide emotional relief, they do not address the underlying causes of their occupational stress, resulting in a reliance on these coping strategies to manage ongoing stress without fundamental changes to their work environment.

When working conditions are challenging—such as high additional assigned workload, extra-curricular activities, classroom management or additional ancillary works—it tends to influence how teachers cope with the stress they encounter. They rely more on emotion-focused coping mechanisms like seeking emotional support from colleagues, friends, or engaging in activities aimed at regulating their emotions to handle the stressors within their workplace.

As noticed in a school that undergoes severe budget cuts in MOOE, this leads to reduced funding for classroom materials and decreased support for teachers. The teachers, feeling overwhelmed by these changes that directly impact their ability to provide quality education, find themselves in a situation beyond their control. Recognizing the limitations imposed by the budget cuts, they turn to emotion-focused coping mechanisms to manage their stress. Teachers organize support groups among themselves, providing a safe space for sharing emotions, frustrations, and concerns. They engage in relaxation techniques, mindfulness exercises, and wellness programs to alleviate stress and anxiety.

Moreover, they establish informal social events and team-building activities to foster a sense of community and mutual support among the staff. While these coping mechanisms offer emotional relief and solidarity in the face of challenging working conditions, they do not directly address the root cause of the issue—the inadequate resources resulting from budget cuts. Aldrup et al. (2017) highlighted the significance of social support as a coping mechanism used by individuals to manage stress. When teachers discuss their challenges, concerns, or stressors with friends, family members, or coworkers, they are engaging in what is known as seeking social support. By talking about issues with friends, family, or coworkers, teachers can effectively manage stressors through the support, advice, and perspectives they receive. This social support plays a crucial role in maintaining emotional well-being and resilience within the teaching profession.

Aspects related to teachers' living conditions, such as the struggles when there are lots of reports to be submitted, the pressure to attain personal achievement, financial stability, or commute distance from home to work, significantly influence the strategies they use to cope with stress, particularly in an emotional context. As observed, some of the teachers in the district of Opol-West live in areas with high living costs, struggling to make ends meet due to relatively low take home pay. The financial strain leads to difficulties in affording basic necessities and causes stress and anxiety among the teachers. Feeling overwhelmed

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by their financial situation, they employ emotion-focused coping mechanisms to manage their stress. They form support groups among themselves where they discuss their financial challenges, share tips on budgeting, and provide emotional support to one another.

Additionally, they engage in stress-relief activities such as group exercise classes, meditation sessions, or social gatherings to alleviate the emotional toll of financial strain. While these coping mechanisms offer emotional support and a sense of community, they do not directly address the underlying issue of low salaries and high living expenses impacting the teachers' living conditions. If teachers face challenges related to financial stress, or have long commutes, these factors impact how they cope with stress emotionally. They may resort more frequently to emotion-focused coping strategies, such as seeking emotional support from friends or engaging in leisure activities to manage the emotional strain caused by their living conditions. Guanlao (2022) emphasizes the importance of teachers incorporating physical activity and various stress relief practices into their routines for the betterment of their emotional and physical well-being. It's essential to promote a supportive environment that values self-care and provides opportunities or resources for teachers to engage in these practices, ultimately benefiting their emotional and physical health.

When teachers encounter challenges related to their specific subject conditions—such as difficulty in teaching certain topics, lack of resources, low internet connectivity for researching various ideas or complex curriculum—it impacts their emotional responses to stress. In response to these subject-related stressors, they tend to rely more on emotion-focused coping strategies. These strategies could involve seeking emotional support, finding ways to regulate their emotional responses, or engaging in activities to alleviate stress specifically related to teaching those subjects.

As noticed, teachers work in a school with minimal resources for technology-based subjects. Lacking adequate computers, software, and updated technology, the teacher finds it challenging to deliver comprehensive lessons and practical applications to the pupils. Frustrated by the constraints, the teacher feels emotionally drained and stressed, knowing the pupils are missing out on vital learning experiences. To cope with these subject-related conditions, the teacher engages in emotion-focused coping mechanisms. They seek solace by connecting with online communities or forums for computer science educators, where they share their challenges, seek advice, and find emotional support from peers facing similar resource limitations.

Additionally, the teacher practices mindfulness exercises and relaxation techniques to manage stress and maintain a positive mindset while navigating the constraints of delivering the subject effectively. While these coping mechanisms offer emotional support and a sense of solidarity, they do not directly address the fundamental issue of resource scarcity, which affects the teacher's ability to teach the subject comprehensively. Holland (2020) points out that while some stressors are beyond direct control, individuals can employ various practices to manage their responses to stress effectively. Practices like meditation, introspection, and fostering positive self-dialogue play a vital role in empowering individuals to navigate stress more effectively. Teachers can also find solace in accepting sympathy and understanding from someone, such as a co-teacher.

Problem 4. Is there a significant relationship between the occupational stress and problem-focused coping?

Table 4. Test correlation on occupational stress and problem-focused coping mechanism

Variables	r-value	p-value	Level of Correlation	Decision	Interpretation
Working Conditions	0.6773	0.000	Moderate	Reject Ho	Significant
Teachers' Living Conditions	0.4322	0.018	Weak	Reject Ho	Significant
Subject Related Conditions	0.5611	0.000	Moderate	Reject Ho	Significant

Note: significant at $p < 0.05$ alpha level

Table 4 displays the correlation test results between occupational stress and problem-focused coping mechanisms. The variables present the following r-values: working conditions (0.6773), teachers' living conditions (0.4322), and subject-related conditions (0.5611). Among these, working conditions and subject-related conditions demonstrate a moderate positive correlation with occupational stress, while teachers' living conditions show a somewhat weaker but still positive association with occupational stress. All values are deemed significant at the 0.05 level, indicating a meaningful relationship between teachers' occupational stress and problem-focused coping mechanisms. Consequently, the null hypothesis is rejected. This implies that all three factors—working conditions, teachers' living conditions, and subject-related conditions—are associated with increased levels of occupational stress, although to varying degrees.

As observed, in a school that implements a new curriculum that demands substantial changes in teaching methods and content delivery, The teachers, initially overwhelmed by the increased workload and the pressure to adapt, recognize the need

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for immediate action. They form task forces and committees to systematically analyze the new requirements and share strategies to efficiently integrate the changes into their teaching. Collaboratively, they attend specialized workshops and professional development sessions focused on the new curriculum.

Moreover, they allocate regular team meetings to discuss challenges and brainstorm effective solutions. Teachers proactively communicate with administrators, advocating for additional support and resources needed to implement the changes effectively. Their problem-focused coping mechanisms involve a structured approach to tackle the root causes of stress, aiming to adapt and excel within the new curriculum framework by actively problem-solving and seeking solutions collaboratively.

When teachers face challenges in their working conditions—such as high additional assigned workload, extra-curricular activities, classroom management or additional ancillary works—it influences their approach to problem-solving in response to stress. They are more likely to employ problem-focused coping strategies, aiming to directly address the root causes of stress or difficulties within their work environment.

As noticed, in a school facing a surge in pupil enrollment, specifically in the big schools, teachers find themselves in overcrowded classrooms, and some big schools have two-shift classes, which are morning and afternoon, making it challenging to provide individual attention and maintain a conducive learning environment. Recognizing the immediate need to address this issue, the teachers convened to implement problem-focused coping mechanisms. They organize meetings with school administrators to discuss the impact of overcrowded classrooms on student learning and teacher workload. Collaboratively, they propose solutions such as rearranging schedules, advocating for additional teaching assistants, or requesting modular classrooms to alleviate overcrowding.

Additionally, teachers actively engage parents and the local community, advocating for support and resources to improve classroom conditions. Their problem-focused coping mechanisms involve proactive actions aimed at addressing and resolving the root cause of the challenging working conditions—the overcrowded classrooms. Purnawati et al. (2021) emphasize the effectiveness of problem-focused coping stress management programs in addressing stress both in the workplace and classroom settings. This approach targets the root causes of stress and aims to equip individuals with effective coping mechanisms. Implementing problem-focused coping stress management programs in both work and educational settings equips individuals, including teachers and pupils, with practical tools to address stress effectively.

When teachers experience challenges related to their living conditions—such as the struggles when there are lots of reports to be submitted, the pressure to attain personal achievement, financial stability, or commute distance from home to work—it impacts their approach to problem-solving in response to stress. They are more likely to engage in problem-focused coping strategies, aiming to directly address or find solutions to the stressors stemming from their living situations.

As observed in a school where teachers struggle with low salaries compared to the cost of living, especially those who are not financially stable due to loans, many teachers find it challenging to make ends meet. The financial strain affects their ability to afford daily expenses such as groceries, transportation, and healthcare. Recognizing the immediate need to address these financial constraints, the teachers employ problem-focused coping mechanisms. They initiate financial literacy workshops and seminars within the school community, inviting financial advisors or experts to provide guidance on budgeting, saving, and managing expenses.

Moreover, teachers form support groups where they share cost-saving tips, such as group buying, to help each other navigate their financial challenges. These problem-focused coping mechanisms aim to tackle the root cause of financial strain by actively seeking solutions and supporting networks to alleviate the impact of low salaries on teachers' daily living conditions. Cayao and Arenga (2021) highlighted a coping mechanism used by teachers wherein they actively seek to find positive aspects or the bright side within challenging situations to alleviate stress. By actively attempting to find positive elements within stressful situations, teachers utilize a coping mechanism that contributes to a more optimistic outlook and aids in managing the emotional impact of stressors within their professional roles. This approach aligns with resilience-building practices and promotes a healthier mindset to navigate challenging circumstances.

When teachers encounter challenges related to their specific subject conditions—such as such as difficulty in teaching certain topics, lack of resources, low internet connectivity for researching various ideas or complex curriculum—it affects their approach to problem-solving in response to stress. They are more likely to engage in problem-focused coping strategies, aiming to directly tackle or find solutions to the stressors specifically related to the subjects they teach.

As noticed in a school implementing a new math curriculum emphasizing problem-based learning, some of the teachers encounter difficulties in effectively integrating these new methodologies into their lessons. Recognizing the importance of adapting to the new curriculum, the teacher employs problem-focused coping mechanisms. They dedicate extra time for professional development, attending workshops and seminars specifically focused on innovative teaching strategies for math.

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Additionally, the teacher seeks mentorship from experienced educators proficient in the new teaching methodologies, actively collaborating with colleagues to share best practices and resources. Furthermore, they spend time researching and curating supplementary materials to support the new curriculum, aiming to align their teaching methods with the requirements of the updated subject standards. These problem-focused coping mechanisms aim to address the specific challenges related to adapting to the new teaching methodologies in mathematics by actively seeking solutions, acquiring new skills, and leveraging available resources to enhance their teaching approach. Diponegoro (2021) highlights the effectiveness of problem-focused techniques in mitigating the adverse impacts of stressors. This approach involves proactive steps aimed at directly addressing stressors and managing them effectively. By taking initiative, planning, carefully evaluating options, and making informed decisions, individuals can effectively mitigate the adverse impacts of stressors. This approach not only aids in resolving immediate issues but also fosters resilience and effective stress management over the long term.

In summary, when examining the coefficients, it is evident that teachers' occupational stress bears a substantial relationship to their coping mechanisms—both emotion-focused and problem-focused coping. The p -value, being less than 0.05, supports the significance of this relationship, coupled with a moderate positive correlation for both coping mechanisms. Consequently, the rejection of the null hypothesis in the correlation between these coping mechanisms signifies their noteworthy association with teachers' occupational stress. With the following findings for emotion-focused coping, a moderate positive for all indicators of occupational stress, such as working conditions, teachers' living conditions, and subject-related conditions, Also, with the following findings for problem-focused coping: a moderate positive for both indicators of occupational stress, such as working conditions and subject-related conditions, and a low positive for teachers' living conditions. A relationship exists between the variables.

IV. CONCLUSIONS

This study came up with following conclusions based on the findings of the study:

1. Teachers feel moderate stress due to subject-related conditions. Additionally, teachers' interest in growing professionally can sometimes add stress, affecting their overall occupational stress. This means that both the demands of their subjects and the desire for professional growth contribute to the pressures teachers face in their work.
2. Teachers often use problem-focused coping mechanisms, with waiting before acting emerging as a consistent and effective coping mechanism. This suggests that many teachers lean towards this method instead of jumping into immediate action. Having a good grasp of interpretation can really boost how teachers make decisions and deal with various situations.
3. A moderate positive correlation exists between challenging working conditions and teachers' utilization of emotion-focused coping mechanisms. When confronted with challenges such as heavy workloads, extracurricular responsibilities, or classroom management issues, teachers tend to lean towards employing emotion-focused coping mechanisms. This involves seeking emotional support from peers or engaging in activities to regulate their emotions, aiding them in handling workplace stressors.
4. There is a moderate positive relationship between challenging working conditions and teachers' use of problem-focused coping. When teachers encounter workload surges, extracurricular demands, or classroom management issues, they tend to prioritize problem-solving strategies. This involves directly tackling the underlying causes of stress or challenges within their work environment.

V. RECOMMENDATIONS

On the basis of the findings, the study presented the following recommendations:

1. Implement strategies for teachers by coming up with better ways to submit reports. Give clear instructions, use templates, or set up standard formats to simplify report creation.
2. Create sessions for professional growth that are all about finding a good balance. Encourage sharing feedback, talking openly about any uncertainties, and giving support to deal with doubts. Stress the importance of making well-thought-out decisions during these sessions.
3. Set up programs to give specific help with the stress teachers face at work. Have workshops on managing time to handle those heavy reports, sessions for sorting out budget worries, and programs for overall well-being.
4. Give teachers training on how to deal with stress and solve problems. Equip them with skills to handle stress well, which can make them better at solving problems and more resilient when facing different stressors. It's about giving them tools to navigate challenges with confidence.

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Classroom Management and Teaching Competencies of Elementary Teachers



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ABSTRACT: Teachers are the most essential persons for the teaching and learning processes to take place in schools. Specifically, this study sought to determine the level of the teachers in classroom management in terms of behavior reduction, classroom instruction, proactive classroom, and rules and procedures; find out the level of the teachers in teaching competencies in terms of communication and interpersonal skills, organization and planning, facilitation and engagement, and flexibility and adaptability; and determine the significant relationship between classroom management and teaching competencies. The respondents were one hundred fifty (150) elementary teachers in eighteen (12) schools within the Talisayan district. This study used two adapted research instruments and data were gathered using descriptive-correlational research methods. The statistical tools utilized in this study were the Weighted Mean and Standard Deviation and Pearson Product Moment Coefficient Correlation the relationship between the Teachers' Classroom Management and Teaching Competencies. The results showed that teachers at all times practiced managing classroom management effectively with the aid of their teaching competencies at a very high level. Teachers' classroom management has positively correlated to teachers' teaching competencies. The relationship of classroom management and teaching competencies cannot be denied. Therefore, it must be given due importance and attention for better teacher performance as well as pupils performance.

KEYWORDS: Classroom Management, Teaching Competencies

I. INTRODUCTION

Classroom management is a term used by teachers to describe the process of ensuring that classroom lessons go as planned in spite of challenging behavior by pupils. It relates to the variety of skills and techniques teachers use to keep pupils organized, orderly, focused, attentive on task, and academically productive during a class (Education Reform 2014). It is important to the whole education process because it offers students ideal learning environment, helps prevent teacher burnout and make students and teachers feel safer and happier (Gabe 2017). In other words, good classroom management involves setting up a conducive learning environment and overseeing it to ensure that learning is maximized.

Teachers are essential to the development of a country. The Philippines can produce holistic learners who are steeped in values, equipped with 21st century skills, and capable of driving the nation to development and progress through the use of qualified teachers. They play a crucial role in carrying out the educational system's mission and vision and the task of achieving educational goals. In a continually changing landscape, teachers endure by adapting, improving, and overcoming challenges, all to encourage and inspire future generations (McGraw Hill, 2018). One of the most difficult tasks for teachers is to manage pupils' behavior. Thus, inefficient classroom management prevents effective teaching and learning from occurring.

Teachers are the most essential persons for the teaching and learning processes to take place in schools. Competent teachers are necessary for the implementation of any curriculum to be successful. According to the Department of Education, teacher's competencies are a big factor in the academic achievement of the pupils. Teaching competencies are the skills and knowledge that enable a teacher to be successful. To maximize pupil learning, teachers must have expertise in a wide-ranging array of competencies in an especially complex environment where hundreds of critical decisions are required each day (as cited in Tasan, 2021). In order to impart knowledge and skills to pupils, a competent teacher should possess the abilities and skills (such as communication and interpersonal skills, organization and planning, facilitation and engagement, and flexibility and adaptability) to effectively manage classroom instruction, maintain its conducive to learning environment as a proactive classroom that prevent disruptive behavior and ensures that rules and procedures are being taught, followed and reinforced in making pupils into new, knowledgeable individuals.

As the process of providing learning environments that are safe, secure, fair, and supportive starts with the teacher (Philippine Professional Standards for Teachers, 2017), classroom management by teachers is an essential and integral aspect of teaching and managing learners (Vallejo 2018). However, in accordance with current educational trends in DepEd and with the traits of modern society, the line between education and learning with enthusiast and proper behavior is becoming increasingly

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thinner among the pupils. Classroom behavior of pupils is one of the most pressing issues that teachers face today. Pupil behavior frequently results in the creation of a classroom environment that is not conducive to learning. In view of this, teachers must manage their classroom while teaching the prescribed curriculum and have needed to adapt various teaching workloads.

Additionally, the common challenges of a teacher as a classroom manager are difficulty in planning, a volume of paperwork, and mishandling of classroom management. Hence, the researcher has become interested to look at teachers' classroom management practices and at the same time maintaining their standards of their teaching competencies. The goal of this study is to investigate teachers' classroom management practices and how is it essential to any effective classroom at an elementary school level. It is therefore vital to understand the various classroom management practices to know ways of managing the class that can contribute in one way or another to its teaching competencies.

The Classroom Management Theory: Ripple Effect of Jacob Kounin (1970) served as the foundation for this investigation. An educational theorist who concentrated on a teacher's ability to influence pupils' behavior through instructional management. Kounin introduced a novel concept that combined the instructional and disciplinary aspects of the classroom. From his studies, Kounin developed theories about classroom management that were based around a teacher's ability to organize and plan in their classrooms while using proactive behavior and high learners' involvement. One of these theories is Kounin's Ripple Effect, he noted that if the teacher of an elementary school class is friendly and helpful, respectful, and interested in pupils as people, then pupils tend to develop those same qualities. This means that teachers who want to improve learning should look for ways to affect their classrooms positively (Yussif, 2022).

According to Teachers' Column (2017), these studies emphasized how teachers could manage learners, lessons and classrooms to reduce the incidence of bad behavior. Kounin identified specific teaching techniques that help, and hinder, classroom discipline. According to Kounin, the technique used, not the teacher's personality, is the most crucial aspect in classroom management of student behavior. His book, *Discipline and Group Management in Classrooms*, focuses on preventive discipline. According to Kounin, good classroom management depends on effective lesson management. Jacob Kounin identified a cluster of proactive teacher behaviors that distinguished effective classroom managers from ineffective ones. Kounin's key ideas include the ripple effect, withitness, overlapping, effective transitions, momentum, and smoothness:

Wherein according to him, when a teacher corrects the misbehavior in one individual learner, often this positively influences the behavior of other nearby learner. Known as the "ripple effect," the effect is greater when the teacher clearly names the unacceptable behavior of the learner and provides the reasons why the behavior is unacceptable (Teachers' Column 2017). Withitness was Kounin's word to describe a teacher's ability to know what was going on at all times in his/her classroom. This can be as simple as making scanning looks around the room every once in a while. Kounin said that it was not necessary for the teacher to know what is going on, but for the learners to perceive that the teacher knows. Overlapping is the ability for a teacher to in a word, multi-task. It involves breaking learners into smaller groups to allow the teacher the ability to jump from group to group providing support and, of course, oversight of behavior. The term is used because there are many lessons going on at once (or 'overlapping') and the teacher has oversight of all at once (Drew, 2022). Momentum is the flow of a lesson. Effective teachers move through lessons quickly and appear to have few hiccups in the flow of activities. Maintaining such momentum and a steady sense of movement throughout the lesson aids in engaging learners in activities and preventing their misbehavior. Smoothness is also highly related to momentum. It is maintaining direction in the lesson and not being diverted by irrelevant incidents. This management practice refers to the teacher's ability to manage smooth transitions between learning activities. Valuable instructional time is often wasted in the process of the teacher moving the class from one instructional activity to the next. The time spent actually instructing students is often known as "Time on Task" and can be measured. Smoothness then refers to a teacher's ability to preserve instructional time by eliminating many of the common barriers to a smooth class transition (Teachers' Column, 2017). The final aspect that results in effective teaching through integrating management and learning is group focus. Group focus is the ability of a teacher to engage the whole class using techniques such as building suspense or asking community questions. This can also look like asking random questions, or asking a student a question and then looking around at other students to see if they are thinking or ready to respond. (Evertson, 2017)

Furthermore, Jacob Kounin outlines key strategies for preventing misbehavior in the first place. His main goal was to be proactive in asserting control over the class in order to prevent misbehavior. To encourage motivation and attention, teachers must be well organized, communicate their expectations to their learners, and hold them accountable for their actions in order for implementation to be effective.

II. METHODOLOGY

This research used descriptive-correlational research design. Descriptive correlational research is a type of research design that tries to explain the relationship between two or more variables without making any claims about cause and effect. It includes collecting and analyzing data on at least two variables to see if there is a link between them. And it aims to describe the relationship among variables rather than to infer cause and effect relationships.

Descriptive research according to Siedlecki (2020) is a fact-finding inquiry or investigation. It was employed to develop a thorough knowledge of the primary causes of the given situations. In addition, descriptive design as an inquiry used an in-depth analysis of the problem which data collection methods include, but not limited to the survey questionnaire and the like. Moreover, descriptive research design was utilized to quantify the problem by way of generating numerical data or data that can be transformed into usable statistics.

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A correlational research design, on the other hand, looks into relationships between variables without allowing the researcher to control or manipulate any of them. The intensity and/or direction of the relationship between two (or more) variables is represented by a correlation. A correlation might have either a positive or negative direction.

Following a thorough data collection process, the researchers analyzed the data. As a result, the weighted mean, standard deviation and Pearson's Product Moment Correlation Coefficient or Pearson *r* were used. The weighted mean and standard deviation were used to analyze performance in classroom management and teaching competencies. The Pearson's Product Moment Correlation Coefficient was used to determine the significant relationship between the dependent and independent variables of the study.

III. RESULTS AND DISCUSSION

Problem 1. To what level are the teachers' classroom management in terms of:

- 1.1. Behavior Reduction;
- 1.2. Classroom Instruction;
- 1.3. Proactive Classroom; and
- 1.4. Rules and Procedures?

Table 1. Overall Teachers' Classroom Management

Variables	Mean	SD	Description	Interpretation
Behavior Reduction	3.74	0.83	At All Times	Very High
Effective Classroom Instruction	3.31	0.78	At All Times	Very High
Proactive Classroom	3.50	0.86	At All Times	Very High
Rules and Procedures	3.30	0.78	At All Times	Very High
Overall Mean	3.46	0.81	At All Times	Very High

Note: 3.26 – 4.00 Very High 2.51 - 3.25 High 1.76 - 2.50 Low 1.00 - 1.75 Very Low

Table 1 shows the Overall Teachers' Classroom Management. It has an overall mean of 3.46 with SD = 0.81 which is described as At All Times and interpreted as Very High. This means that teachers manage their classroom well to facilitate a positive learning environment. This implies that an effective teacher knows how to manage and maintain a conducive environment where pupils motivate to learn; shape appropriate behavior; follow and obey classroom rules and procedures; and achieve pupil's success academically. According to Mitchell et al., (2017) Classroom management may include the teaching styles of teachers that match the learning style of learners. The main goal of classroom management is to create a conducive area where teaching and learning can be done smoothly, eliminating the barriers such as negative behaviors of learners. It permits the teachers to impose rules and regulations inside the classroom as part of the management techniques. It also tries to correct learners' behaviors toward accomplishing academic tasks, which can help the learners achieve their goals.

Moreover, the table shows that the variable Behavior Reduction has the highest mean value of 3.75 with SD=0.83 which is described as at all times and interpreted as very high. This means that teachers really give attention to behavior reduction in a classroom as one of the most important elements of classroom management. This implies that teachers give clear and consistent expectations for behavior in the classroom, take procedures to promote positive behaviors and ensure that they are ready to provide pupils with the best possible atmosphere for learning.

In a similar way, to maintain behavior reduction in a classroom, a teacher uses discipline to ensure routine is maintained, school rules are enforced, and the pupils are in a safe learning environment. While the word discipline seems negative, the goal of using discipline is to teach pupils boundaries and limits to help pupils achieve personal and academic life goals. Without discipline, learning cannot be accomplished. If pupils constantly disrupt the teacher, the others in class are affected. If a pupil does not follow the rules and does not complete classwork or homework, that pupil is missing out on valuable learning opportunities. The goal of discipline is to ensure each pupil receives the most from their education (Pisano & Carnevale, 2017). Thus, behavior reduction is significant in managing a classroom.

Furthermore, among the variables of classroom management, Rules and Procedures has the lowest mean value of 3.30 with SD= 0.78 which is described as at all times and interpreted as very high. This means that teachers established classroom rules and procedures to teach pupils proper and safe classroom behavior that provides help in improving their learning. This implies that every teacher wants to keep their pupils safe and teach them what is and is not appropriate behavior in the classroom.

In the same way, establishing classroom rules and procedures help teachers maintain class routines and pupils' expectations for classwork and behaviors. Classroom rules and procedures that are clearly defined and posted help pupils understand what is appropriate and what is not, as well as the consequences for rule violations. Clear classroom rules create a framework that provides choices to pupils and helps teach them to self-manage their classroom behaviors (Jackson, 2017).

To sum up, behavior reduction and rules and procedures go hand in hand in classroom management that enables the teacher to filter the unwanted behaviors among learners and allows a positive classroom atmosphere. By doing these, teachers

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will discover their potential and bring out the best in their learners. Classroom management is doing simple things like decorating the classroom, arranging the chairs, and talking to learners, but with an effective teacher doing it with good intentions, the learning environment can be a breeding ground for achievers (Sieberer-Nagler, 2017).

Problem 2. To what level are the teachers' teaching competencies in terms of:

- 2.1. Communication and Interpersonal Skills;
- 2.2. Organization and Planning;
- 2.3. Facilitation and Engagement;
- 2.4. Flexibility and Adaptability?

Table 2. Overall Teachers' Teaching Competencies

Variables	Mean	SD	Description	Interpretation
Communication and Interpersonal Skills	3.32	0.87	At All Times	Very High
Organization and Planning	3.32	0.92	At All Times	Very High
Facilitation and Engagement	3.31	0.86	At All Times	Very High
Flexibility and Adaptability	3.45	0.78	At All Times	Very High
Overall Mean	3.35	0.86	At All Times	Very High
<i>Note: 3.26 – 4.00 Very High 2.51 - 3.25 High 1.76 - 2.50 Low 1.00 - 1.75 Very Low</i>				

Table 2 shows the Overall Teachers' Teaching Competencies. It has an overall mean of 3.35 with SD = 0.86 which is described as At All Times and interpreted as Very High. This means that teachers efficiently foster all these skills on their teaching-learning process to provide pupils with the best learning experience. This implies that teachers' teaching competencies are important for the process of pupils 'well development' in ensuring quality learning. Teachers' teaching competencies will give positive effects on pupils' academic development and skills and help teachers to improve their teaching techniques. These teaching competencies are a set of professional skills which enables for proper handling of practical teaching situations. Teaching competencies are essential skills for pupils learning. Hence, teachers must increase their knowledge and skills in ways that enhance, improve, and explore their teaching practices.

According to the Department of Education, teacher's competencies are a big factor in the academic achievement of the pupils (Tasan, 2021). The effective organization of school activities requires that a teacher possesses a certain amount of knowledge and particular attitudes and skills known of knowledge, application, and skills to pupils in a most appropriate way (Cruz & Enrique, 2019).

In other words, quality education means quality teachers, their competencies, and qualifications on how to develop the learners' quality of life so that they can properly serve society according to their roles and responsibilities as good citizens (Andoy et al., 2017). Hence, teacher competencies entail subject matter, comprehension of teaching strategies and learning styles, and the process of applying effective teaching approaches to enhance the process of knowledge acquisition and application, thus transforming learners into new knowledgeable beings (Darling-Hammond, 2017).

Moreover, the table shows that the variable Flexibility and Adaptability has the highest mean value of 3.45 with SD=0.78 which is described as at all times and interpreted as very high. This means that teachers employed flexibility and adaptability skills in their classroom to give pupils the quality of education they deserved even if there are inevitable changes, they may encounter along their learning journey. This implies that if a teacher can accommodate these skills of their teaching, it would be easy to provide pupils with the best learning experience. The better a teacher is able to adapt to the classroom, the more likely it is that pupils' engagement and participation will increase. This will help them ensure that no child left behind while you're in charge. Likewise, effective teachers excel at flexibility, which enables them to manage multiple tasks at once while still making their pupils happy and feel valued.

Accordingly, the work of teachers involves constant change. Teachers are expected to respond to the different and changing needs of pupils, effectively interact with new colleagues and different parents/guardians, pro-actively manage adjustments in timetabling and shifting daily activities and integrate new professional learning or curriculum into their instructional practices (Collie & Martin, 2017). Being able to respond effectively to these changes is an important capacity for healthy and effective workplace functioning. This has been referred to as adaptability and flexibility and defined as individuals' capacity to adjust their thinking, actions, and emotions in response to changing, new, or uncertain situations (Martin, 2017).

Furthermore, among the variables, facilitation and engagement has the lowest mean value of 3.31 with SD= 0.86 which is described as at all times and interpreted as very high. This means that teachers still need assistance in terms of planning their class activities as well as in managing their pupils. This implies that these skills will help teachers to assist pupils in becoming actively involved in their learning processes in order to promote facilitative learning and better performance and outputs. The teacher must be willing to scaffold the learning of all the different kinds of pupils they have in order to be an effective learning facilitator. As stated by Supan (2022) an effective teacher have the teaching capacity that is more than just the successful transference of knowledge, skill or application around a particular topic. Effective facilitation of learning ensures that a surface approach to learning is replaced by deeper, pupil driven learning that analyze, develop, create and demonstrate understanding.

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Pupils need to initiate learning and maintain engagement during learning in their development as independent lifelong learners. Teachers' role is to facilitate that process.

To sum it up, teacher's facilitation and engagement for learning is a crucial role. To achieve the desired results, teachers must review the purposes and needs of learning while utilizing appropriate approaches; for pupils to learn, teachers must present them with relevant materials; teachers must be able to hear the pupils' emotions and react appropriately; and also, as a facilitator, the teacher must properly observe how pupils respond, then guide and advise them. Hence, the teacher must be enthusiastic and inspire pupils to take an interest in their studies.

Problem 3. Is there a significant relationship between the teachers' classroom management and their teaching competencies?

Table 3. Test Correlation on Teachers' Classroom Management and Competencies

Teachers' Classroom Management	Teachers' Teaching Performance			
	r-value	p-value	Decision	Interpretation
Behavior Reduction	0.753*	0.001	Reject Ho	Significant
Effective Classroom Instruction	0.836*	0.002	Reject Ho	Significant
Proactive Classroom	0.810*	0.000	Reject Ho	Significant
Rules and Procedures	0.633*	0.016	Reject Ho	Significant

Table 3 shows the result of the test correlation on teachers' classroom management and teaching competencies. It was revealed on the table that the computed r-value of 0.753 has a p-value of 0.001 at .05 level of significance. Therefore, the null hypothesis is rejected. This means that there is a significant relationship between teachers' classroom management and teachers' teaching competencies in terms of behavior reduction. This implies that teachers effectively manage behavior reduction in the classroom to ensure that there is no disruption during classes' hours and maintain the teaching-learning process harmoniously. Oxley (2017) pointed out that behavior reduction is vitally important within the classroom. It is not just about punishing unwanted behavior or even rewarding desired behavior. Rather it is about having strategies in place to support children to behave in ways that help them gain the most from their schooling. Building positive learning relationships and intrinsically motivating children to learn are important for effective behavior reduction.

Moreover, the table also revealed that the computed r-value of 0.836 has a p-value of 0.002 at .05 level of significance. Therefore, the null hypothesis is rejected. This means that there is a significant relationship between teachers' classroom management and teachers' teaching competencies in terms of effective classroom instruction. This implies that teachers are productively teaching their pupils through the use of effective classroom instruction. As a teacher, providing an effective classroom instruction help pupils to be guided and understand their role as learners to improve their learning process. By using effective instruction, teacher will empower pupils to actively work to organize their knowledge. When pupils are engaged, they are active participants in the learning process (Stem et al., 2019)

Further, the table also revealed that the computed r-value of 0.810 has a p-value of 0.000 at .05 level of significance. Therefore, the null hypothesis is rejected. This means that there is a significant relationship between teachers' classroom management and teachers' teaching competencies in terms of proactive classroom. This implies that teachers provide a classroom environment that allows pupils to be themselves. Considering Djoub (2022) states that to maximize learning opportunities, it is necessary to build a positive learning environment where every pupil feels safe, supported, and motivated to learn. So, proactive classroom aims to create an environment that supports and facilitates both academic and social-emotional learning.

Additionally, the table also revealed that the computed r-value of 0.633 has a p-value of 0.016 at .05 level of significance. Therefore, the null hypothesis is rejected. This means that there is a significant relationship between teachers' classroom management and teachers' teaching competencies in terms of rules and procedures. This implies that teachers manage their classroom well with setting up rules to teach pupils how to behave in a proper and safe manner, which will enhance their learning and maintain a classroom that is conducive to learning.

Hence, Jackson (2019) pointed out that establishing classroom rules and procedures help teachers maintain class routines and pupils' expectations for classwork and behaviors. Classroom rules and procedures that are clearly defined and posted help pupils understand what is appropriate and what is not, as well as the consequences for rule violations. Clear classroom rules create a framework that provides choices to pupils and helps teach them to self-manage their classroom behaviors.

Finally, Teachers' classroom management was significantly correlated with teaching competencies. These two (2) variables are essential in developing a well-rounded pupil or individual. Thus, the teachers must put in their mind that they hold a vital role in shaping our society towards having better, disciplined, and productive citizens. Teachers must be observant of their strengths and weaknesses so that they can make immediate adjustments to better themselves as well as the delivery of lessons and in handling their pupils.

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IV. CONCLUSIONS

Based on the findings of this study, the following are concluded:

1. Teachers' overall classroom management was interpreted as very high level with behavior reduction being the highest rated variable.
2. Teachers' overall competencies was interpreted as very high-level flexibility and adaptability being the highest rated variable.
3. Moderate to strong positive relationship between classroom management and teaching competencies was registered.

V. RECOMMENDATIONS

Based on the findings of the study, the following recommendations were formulated.

1. In order for learning to take place, teachers should always have an effective classroom instruction plan that outlines all the steps necessary to ensure consistency and efficiency in the classroom. Instructions must be clear and concise, and queries and concerns must be given attention and addressed properly.
2. The development of strategies on independence and creativity that show a high level of competencies and a positive rapport with pupils is encouraged for teachers and school administrators. Teachers are encouraged to assist and help their pupils develop to become independent learners as well as on improving and exploring their creativity.
3. Significant relationship between classroom management and teaching competencies was registered. Therefore, it must be given due importance and attention for better teacher performance as well as pupils performance.

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Ethics in Research-Scientific Work In the Field of Education

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ABSTRACT: Ethics can be interpreted as a regulatory factor that helps in the honest realization of work in the field of education, whether it is of a research nature or not. Utilizing ethics, the ways of functioning are defined, respectively the limits, the reasons, and the correct ways of interacting with others. In a narrower sense, ethics in research in the field of education defines the permissible limits up to which a researcher has the right to access. This researcher must have a clear objective for the study, be able to define the purpose of that study, and in specific steps share the ways of carrying out his research. It is preferable, for a researcher to be even slightly informed about the nature of the research he is carrying out, to read pre-practically about the research subjects, because of the consequence, so that he has a clear professional orientation and the eventual orientation of the variables that he wants to research, so the ethical aspect in the field of education is strengthened and considered fulfilled when the researcher uses accurate sources.

KEYWORDS: Ethics, education, research, scientific work.

INTRODUCTION

Scientific research is a constructive integral part of each of the fields of education and training. The research conducted trends, developments, benefits, innovations, causes, and effects. In the field of education, which field aims to create genuine and constructive learning conditions, research is an integral and inseparable part. In many cases, it can also be considered as a systematic opportunity for constructive results. "The ability to guess, especially our ability to guess about our guess, is a human masterpiece" (Lakhotia, 2021).

The concept of ethics as a notion and as content has been discussed utterly, particularly in the field of social sciences, since in social sciences things are in more descriptive and narrative formats, and as such they can tolerate the violation of ethics by wrapping it with emotional colors or attitudes personal. This means that during research, to respect the ethics of the research, the researcher should be subjective. According to Hall (2004) when we talk about subjectivity, we are referring to a broad topic that refers to beliefs, attitudes, views, convictions, subconscious tendencies, orientations, understanding, etc. In other words, subjectivity is a very important practice in how one approaches ethics (Bazzul, 2016).

The beginnings of creating a clear idea of ethics in education have their origins many years ago. The idea of such protection came as a result of the violation of the dignity of the individual or the subject who was part of the research, regardless of the purpose of that research. Among the most succinct definitions of ethics is that of Cavan (1977:810), who asserts that: "ethics is a matter of principles of sensitivity to what is right for others, and then telling only the truth because through it we respect human dignity". A researcher, while carrying out research, must support his professional ethics in subjectivism and must be clear with himself and with the presentation of data, whether descriptive or empirical. Research challenges have increased with the development of science and technology, on the other hand.

Nowadays we have a perplexing relationship between the fields of different sciences and the focuses that society is giving priority to, therefore a researcher must be a person very attentive to his moral, professional, and social responsibilities (Allea, 2013). The ethical aspect, in most cases, is closely related to moral development and judgment. A researcher must have clear ideas on tolerated elements or interventions, but he must have a well-formed moral self-concept, and he must know how to evaluate a good behavior or action from a bad one. Kimmel (1988) raised many years ago the ways of behavior of researchers, namely acting with dignity and responsibility toward research participants. Based on the view of Kimmel (1988), the definition of ethical and unethical behavior is not dichotomous, since there is no well-defined normative code, such as: "should" or "shouldn't", instead a

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researcher makes judgments based on values professional and manages to identify the dependence of ethical and unethical issues within that profession.

Analyzing all these arguments and definitions that were mentioned above, a new researcher will be faced with dilemmas and initial research problems. This means that a young researcher must be aware of the nature of the research he is conducting, and the characteristics of the respondents, but they must also be based on the nature or type of research. On this perspective, Cohen (et al., 2007:69) have asserted that "methodological and ethical issues are inextricably intertwined in most of the research we have qualified as qualitative or interpretive".

In the field of education, a researcher has a very wide range of different populations, which are identified based on the sample and the characteristics of that sample, including age group, gender, place of residence, and the type of instrument they will use. hinting that each of the instruments used has its elements that identify and personalize it. In the case that research will be done with children, then the instrument must be determined, then the way of implementation based on the group to which the children belong, which means that the ethical implications of the participants vary from being observed as an instrument to defining other instruments and that these instruments must be following the age of the children and the ethical concept (Fine et al., 19).

The challenges of ethics in teaching are very broad, we can affirm with full conviction that they are developing and changing over time. We have many circumstantial factors that are influencing the definitions and management of ethics in general. Nowadays we are faced with technology and its management problems. Too often, technology is depriving us of proper data storage, including violent technological interventions. According to Bazzul (2016), technology is sending us to two very opposite camps, on the one hand, it is motivating because it facilitates the applicability of a certain instrument, while on the other side, it challenges us with the ethical context, and especially with the ways of preservation and data protection. In the field of education, its applicability has many benefits, as it facilitates analysis, data extraction, discussion, and conclusion.

Three main frameworks of research ethics must be considered: obligations, rights, harms, and benefits (Aubrey et al., 2000).

LITERATURE REVIEW

Curiosity is the internal human indicator that makes us tend towards research, to understand the cause and effect of certain social and natural phenomena.

i. Kindness and being polite in research

During the research, a researcher may have many dilemmas on the subtleties that accompany him during the realization of the research. At the moment when we talk about kindness, on the other side we have harm, namely when and how we can harm a person while we are contributing to the understanding of a social phenomenon. Can we contribute to human society by harming people? According to Cohen (et al., 2007), kindness, namely not harming others is invoked in the Hippocratic Oath, which is based on the principle of *primum non nocere* (first of all, do not harm). Of course, this *primum non-nocere* also differs from the country in which the research is carried out since each institution can suffer different damages from the other and this varies from the nature of the research and from the subjects participating in that research.

Aronson (et al., 1969), raised the same ethical dilemmas during research that we face today, according to them there are two groups of values held by society, the first is the belief in the values of free scientific research, in search for truth and knowledge, while the second is belief in the dignity of individuals and their right. From this definition, we can affirm that the ethics of research in the field of education leads us to the focus that a researcher must have on the preservation of physical, psychological, and human damage or the dignity of the individual, property damage, damage to personal or cultural values, etc. The point is, that regardless of the goal that the researcher has and the academic development that the researcher may be depending on, respect for the people participating in the research must always exist. Research is done to improve the life or well-being of those who are the target of the research, which means that the researcher has an ethical obligation towards the participants and their lives, in case the researcher does not rely on these aspects during the research, for the participants will it was very inhumane and disrespectful (Collin et al., 2007). However, research ethics in education constantly requires social support to develop (Riquarts, 1987), therefore there must be correct and reliable communication between the two stakeholders.

Confronted with constant dilemmas about the ethical aspect and potential harm during research, Bailey (1994:457) has suggested several approaches that can be used to

avoid harm to research subjects, including:

- "Computer simulations;
- Research on a situation in which the negative effects of damage already exist
- Application on only a very low level of the participant's potential or only for a short period;
- Obtaining the consent of the participants;
- Justification of the research because the amount of damage caused is much smaller

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than the damage caused by the existing situation;

- Using samples instead of whole populations so that fewer people are exposed;
- Preservation of the privacy of the participants through anonymous storage of data".

ii. Absolutist and relativistic ethics

Absolutist and relativistic ethics present two conflicting camps in terms of research principles. According to the view that comes from the proponents of absolutist ethics, a researcher has principles to which he has a universal obligation. Absolutists support the idea of defining principles clearly, then these principles will be a guide for the researcher during his research work, and these principles will guide him on what to do and what not to do (Collin et al., 2007). According to Collin (et al., 2007) an example that justifies this view is the prison experiment carried out by Zimbardo in 1984, where the experiment had to be stopped halfway through. Even though the experiment has maintained professional ethics by considering the preservation and protection of the well-being of the participants, again things have flowed in an unintended direction until the experiment had to be stopped.

On the other hand, when we talk about relativistic ethics in research, a researcher has tolerance since it does not set absolute guidelines and leaves room for ethical consideration to develop from its natural point to a point of development that will be influenced by circumstances. (Collins et al., 2007).

iii. Experience of the researcher

No matter how much experience a researcher may have, I can never accurately predict all eventual situations that may arise while conducting research, there will always be requests from participants that the researcher may not have anticipated, problems unforeseen. Various researchers often suggest that it is very important to know the participants beforehand, perhaps the researcher should do a pre-test with them or have a conversation to understand the nature and requirements of the participants (Collins et al., 2007).

For the participants in the research, the initial requirements that must be met are related to the preservation of identity, self-confidence, and trust in the researcher. If the participants investigate that during the research these characteristics are being affected, then the instrument answers completed by the same participants may not be real. This self-presentation comes as an internal defense mechanism to present their ideal self, as those participants envision it, not as they are. Therefore, a researcher must be aware of the competence of ethics in the research.

Experience is an addition for a researcher because based on experience, that researcher has developed professionally and acquired certain skills and abilities. Experience is a bonus for the researcher while applying instruments such as surveys, interviews, questionnaires, focus groups, case studies, etc., but experience can fade when dealing with experiments and the characteristics that identify this research method. Gorard (2001) emphasizes the ethical dilemma as a constantly controversial context during the realization of an experiment, according to him a researcher who wants to realize an experiment, before his experience, seems to be careful that the research design is not discriminatory, that the group of the control should not be deprived of a genuine treatment because ignoring this group may bring inaccurate results because the personality traits of the participants are directly affected.

iv. Ethical dilemmas

During research, we have two conflicting camps or two groups that represent different interests, the first is the researcher who tries to extract qualitative data according to his plans and the second is the participants who seek to preserve their characteristics, dignity, and privacy. In addition to preservation, which is related to the empirical aspect of research, a researcher is obliged to preserve the ethical aspect even when quoting or paraphrasing. Another ethical dilemma is related to ways of writing in a regular format and respecting ethics in research in the field of education. The researcher must be extra careful when quoting from secondary or secondary sources but also when paraphrasing, because consciously or unconsciously he can make a selective reporting of information from the literature (Roig, 2015).

Conflict of interest is another big dilemma, namely when and how is a researcher considered to be facing a conflict of interest? According to Roig (2015:46), "When a researcher's connection with the organization or people who are actively involved in the research causes affection, the subjectivity of the researcher in the administration of that scientific research is considered a conflict of interest". It is more than clear that affective connection should be avoided when determining the people who will be included in a research, family members, society, and any person or group with whom there may be a connection since this affective state affects the subjectivity of the researcher.

v. Privacy during research in education

Privacy is a constitutional right of every individual who lives in a legal state, therefore a researcher must respect this right. There are many other elements and reasons why the privacy of research participants should be preserved and why this preservation of

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privacy falls under the umbrella of professional ethics during research in the field of education. When we talk about privacy, there is a considerable number of researchers who present different perspectives and rationales. The most frequent has to do with the storage of sensitive information, this storage should be done in safe places to deprive the distribution of information to the participants. Until recently, the storage of the participant's confidential data was done by the researcher at home, nowadays the extraction of that data from the researcher's official facility, without the participant's consent, is prohibited by law (Collins et al., 2007).

When we talk about privacy, among others, we also refer to the person's right to participate in our research or not, the person's right to answer all questions or not, the person's right to refuse the answers to any of the modules that the researcher has planned, his right to determine the place of the research in certain cases, etc. A researcher, regardless of whether there has been initial consent from the particular participant, cannot force that participant to continue the research against their will because the researcher conflicts with professional ethics in the field of education to preserve the privacy of the participant.

vi. Anonymity during research in education

Anonymity is about the attribution of the information, therefore, participants can request that their identity not be revealed under any circumstances (Lakhotia, 2021). The researcher must be meticulous while preserving the anonymity of the participants because there are many details that at first glance may seem to be preserving the anonymity of the individual, but are a path for finding and identifying the particular participant. The biographical or geographic details of the participants enable the easy identification of individuals, especially when they belong to certain communities and this is called deductive discovery (Prakash, 2021:44).

It is preferable that the moment when a researcher meets with the participants in his research, to give detailed data about the way of carrying out the research, the demographic part of the instrument used, the duration, the purpose of that research, the impact of that research in measure, etc. The main focus should be on the anonymity of the participants and according to research ethics, the researcher should be honest on this point. All this information should preferably be written at the beginning of the instrument.

Sim (et al., 2019) has presented two cautionary views regarding anonymity and the attention the researcher should have:

- The more detailed the biographical data is, the more the likelihood of a deductive discovery increases;
- If the researcher is a foreigner, which means that he does not know well the area in which he is conducting the research, then I may not be able to correctly assess which particular pieces of information, when put together, can lead to a discovery of unplanned.

Anonymity is directly related to the sincerity of the participants. We can affirm with full conviction that a research person who will remain anonymous will present more accurate data than another participant who will be asked to write his identity. It is a human tendency that the moment when the participants remain anonymous, they present themselves with all the features, characteristics, beliefs, attitudes, opinions, and actions because they do not have the pressure of labeling or eventually judgment. In cases where the identification of the participant is required, then there is a very large space for them not to present their identifying features, characteristics, beliefs, attitudes, opinions, and actions, but to try to present themselves in the format most liked by the researcher or the mass.

vii. Confidentiality during research in education

Confidentiality is related to the way the researcher has processed the information and to the way it is implemented, even if any of the participants feel slighted and will not contribute anything to that research, the researcher does not dare to extract any information about that participant to enforce confidentiality (Prakash, 2021). Confidentiality is another way of protecting the rights of research participants. Through confidentiality, the participant will be convinced that his data will not be published, nor will it be understood by the general public that he was part of a research. On the other hand, participants must ensure that their data and the contribution they have made in certain research will not be used for other research.

Participants' dilemma may not be resolved regarding confidentiality, but Cooper (et al., 2001) suggest that confidentiality can also be protected by obtaining signed statements.

that indicate the non-publication of research participants, limiting the cry to data that can identify the research participants, seeking the consent of the participants for any publication that I will make and on which I will disclose their data, the non-disclosure of identification data of the participants.

viii. Unreliability and fraud during research in education

"Fabrication, forgery, and plagiarism are three ethical issues which are identified as fraud" (Chaddah, 2021:18). The researcher must be aware that things will not always go according to his plans, he must be aware of anticipated changes during the research

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and that the raised hypotheses may not be confirmed. Despite these confrontations, the researcher must know how to deal with them rationally. Due to their academic development, it often happens that the researcher is not based correctly on the information he received, but intervenes in it to support his initial plans.

Unreliability and fraud are directly related to the non-respect of all responsibilities on the part of the researcher which were mentioned above. Unreliability usually refers to the release of participant data, failure to properly store demographic or empirical data, or release of data without participant information or approval.

Fraud refers to lying on the part of the researcher. The researcher does not tell the truth about his research, namely the method of data processing, where he will use that data, why he needs that data, and misuse the data by changing it and using it for research others. In the worst case, deception can be done by the researcher forcing the participants to believe that they will be researched on a certain topic when he intends to collect completely different data. Giving feedback is also an element of deception. "Feedback should be unchanging and as such should be presented to research participants" (Collins et al., 2007:67). Collins (et al., 2007) also claims that any distorted feedback implies data manipulation and is the result of experimental manipulation.

Plagiarism is a sort of cheating. The researcher, according to the ethics of education research, does not dare in any way to take written or spoken materials and not quote or paraphrase them. Such fraud is academic theft which is followed by legal norms. Plagiarism can also be considered one of the most widespread actions and consists of an ethical violation in research or writing, but on the other hand, we also have institutional policies that can tolerate or not punish the researcher when there is any small omission of plagiarism (Roig, 2015).

Patwardhan and Thakur (2021) elaborated on the issue of plagiarism, stating that, it is a paramount challenge to identify and define plagiarism because there is a dominant tendency of researchers to make adaptations of texts, but among the most problematic, and most researchers are not clear, it is self-plagiarism. From this, we understand that the ethics of education research also dictates self-citation as an ethical avoidance of repeating the materials, themes, attitudes, and opinions that we have presented before. It is understandable that the same person when he writes about a certain phenomenon, about which he has written before, has an approximate color of writing, syntax, and stylistic expression. Nevertheless, the approach to the problem, analysis, and synthesis must be presented from a different perspective than earlier texts. Nowadays, with the development of technology, we have software support, which allows us to identify plagiarism with all its specifics, including Turnitin, Anti-plagiarism, iThenticate, etc

Yadav (2021:92-93) has identified some of the habits that are directly related to ethics in the field of education, some of them are Falsification; Copying the text written by someone else, without mentioning the received source. Using the ideas of others without obtaining their permission; Use of confidential information without authorization; Changing the data, methodology, or results following the initial plans; Ignoring the human aspect of the participants; Publication of the same data in more than one research; Not considering conflicts of interest with any of the participants; Changing the results to prove the hypotheses presented.

A young researcher must know and understand that not always their research will have empirical support, not always your predictions and raised hypotheses will be verifiable. Despite the great desire of the researcher for the best possible performance, the respect of the subjects in the research, it does not matter if they are human or zoological beings, seems to be primary. Bearing in mind that education is directly related to many other social and natural sciences, it has been emphasized that any research that involves humans and animals should focus on preserving the physical side, namely suffering and damage or injury (Nuffield Council on Bioethics, 2005).

CONCLUSION AND DISCUSSION

Based on the data presented above, we can say that as much as a researcher has professional responsibility in his personal development, but also in the responsibility he has to bring innovation to society, he also has ethical responsibilities which I must respect and whose instructions I must follow with utmost precision. We are talking about ethics in the profession, which guides us toward honest research in the thorough sense of the word. When we stop and analyze ethics in education, we understand how wide and how many details this field contains.

Education is a broad component that includes many sub-components that have an essential role in its development. On the other hand, we have many actors who directly or indirectly are an integral part of the education system, therefore, a researcher, to act by ethics in this field, must be very conscious and responsible.

Listed below are some of the suggestions and recommendations based on ethics in scientific research in the field of education:

- Code of Ethics - to avoid mistakes in research, I would suggest that each of the institutions has a Code of Ethics, on which all researchers employed in that institution will be based. A Code of Ethics should contain all information on the competencies and tolerability available to a researcher. It is a crucial document that will facilitate the work of the researcher as it will give him clear instructions regarding the research activity.

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- Determining the demographic or biographical data of the participants - a researcher must determine the data he needs for research, but these data in no way dare to put any of the research participants in an uncomfortable position.
- Crystallization of the idea of education research - a researcher must have a lucid fundamental scope of the research. It can begin from a general phenomenon and go towards the specific, which means that inductive and deductive elements are at work in determining the phenomenon that will be researched.
- To reap preliminary information on the involvement of the research participants in other research - it is indispensable to know if the research sample has been part of any other research. The more prepared the sample is, the plainer the procedure of conducting research and respecting ethics.
- Accurate determination of the purpose and objectives – a researcher must be very clear about the purpose and objectives of the research. When these two components are precisely defined on which all the research is carried out, even the respect of the ethics of the field of research, in our case in the field of education, is much easier and more controllable.
- Determination of research methods - determination of research methods is also an ethical consideration. It is considered such for the reason that a researcher violates professional ethics when he does not determine the research methods under certain criteria such as the age group of the participants, the knowledge or experiences of the participants concerning the phenomenon being researched, how competent they are to answer on the phenomenon that is being researched, is the method used suitable for extracting the data that the researcher is aiming for, etc.
- Expectation - the researcher must be prepared for any change in the procedure while conducting the research. He must be careful that the changes do not affect ethical and professional violations. During research, there might be events that were not foreseen by the researcher, therefore, based on the ethics of research in the field of education, he must know how to cope with them.
- Review of research work by others - it is highly preferable, especially for young researchers, to have their research work reviewed by colleagues or other professionals in the field. At the moment when it is analyzed by another party, the possibilities of ethical violation are easier to identify and ultimately be canceled as a research process.
- Empathy – a researcher usually focuses on researching phenomena on which they have interest, education, are employed, or have empathy. Empathy is a psychological phenomenon that enables the researcher to understand the emotional aspect of another, to think and feel based on the other's perspective, and simply to portray oneself under the other's skin. In the field of education, knowing that we have a very wide sample because it includes children from birth, empathy is the essential element to respect and preserve the dignity of the participants.

The ethical aspect of scientific research work has many subtleties to be handled scrupulously. The researcher must be aware of the responsibilities and obligations that he has during the realization of descriptive or empirical research. Everything must start from the research idea, namely what he wants to research and how important such research is for society. When we define research in the field of education, we must first understand the impact that research has on society, namely whether it is important for society or not. Whereas, when the topic of the research and its impact is determined, then the ethical aspect that supports that research must be very well thought out. The determination of ethical boundaries relies on the methods used and other ethical determinations, including anonymity, privacy, competence, preservation of things, duration of research, use of those data, etc. Not always a researcher is professionally prepared to carry out research. Regardless of experience, a researcher in the field of education can face different phenomena of study because social relations function as a common integration, we can find correlations from the most diverse. So, all that is required of the researcher is to respect the ethics of research in the field of education and to have a clear research position. In such cases, regardless of professional preparation or dealing with a specific phenomenon in education, the researcher must use written materials or research done by others to create an initial range of the logical result or correlation on which to carry out the research

The extensive analysis of the participants that will be part of the research is also influential. In many researches in the field of education, the concept of ethics is adapted to the participants and the characteristics that those participants have. Assuming that our sample is children aged 4-5 years, meaning that the ways of conducting ethical research are different. With this age group, parental consent is necessary, and in certain cases, their presence during the research.

The ethical aspect in the field of education is strengthened and considered fulfilled when the researcher uses accurate sources, sources that are reliable regardless of whether these sources have been referred to you in physical form or electronic form. Application of different research sources with the same color of research as ours, supports, justifies, and gives voice to the research being done. Ethics in the field of education supports such an argumentative and explanatory perspective.

When conducting research, the researcher must have a personal attitude toward the phenomenon that is researching. Research is not just about presenting results without elaboration or elaboration. If such a thing happens, the ethical context is also in shadow. If it is a new field of study for the researcher, then he must read and get information until he creates an attitude or a

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personal conviction. Once the researcher has established his attitude or conviction, he will reach acceptable correlations for the field of education and ethics in the field of education as well.

In conclusion, a researcher must be aware and entente, prepared for any kind of response or occurrence during the research. Things may not always go according to initial plans, even though those plans are very well structured. The researcher has an ethical obligation to stay organized, regardless of the outcome.

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Deep Neural Network Based Disease Prediction Analysis



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ABSTRACT: With the rapid development of social and economic construction as well as medical informatization, the medical industry has gradually entered the era of big data and artificial intelligence, using the medical big data accumulated in the hospital information system for pooling, modeling, analysis, and the use of neural networks can predict and determine the type of patient's disease and the source of the cause, which can not only reduce the complexity of the disease diagnostic test but also achieve the effect of predictive diagnosis, and provide theoretical basis and practical experience for the establishment, improvement and practical application of the intelligent medical system. It provides theoretical basis and practical experience for the establishment, improvement and practical application of intelligent medical system.

KEYWORDS: neural network, Disease Prediction, big data technology, artificial intelligence (AI) technology, intelligent medical care

I. INTRODUCTION

A healthy body is people's greatest asset and core competitiveness. With the continuous improvement of the material living standard, people pay more and more attention to their own health and have higher and higher requirements for medical services. People's needs have gradually changed to early detection and early treatment, and disease prevention should be done well. That is to say, medical services can quickly detect the health status of the body, provide personalized health advice and guidance, and prevent problems before they occur. However, according to statistics, the current level of medical resources and medical services cannot meet the growing needs of the people.

In order to meet people's needs, artificial intelligence is applied in the medical field, based on artificial intelligence technology and database systems, recording a huge amount of information on medical services, and creating an intelligent intelligent diagnostic system to support the provision of testing, analyzing, and evaluating the individual's physical condition as well as giving the cause of the disease and the means of treatment. In order to solve the current problem of limited medical resources and improve the level of medical services, so as to meet the growing demand for personalized diagnosis. Therefore, it is of great significance to study the prediction of disease symptoms.

II. RESEARCH STATUS

With the rapid development of intelligent information processing technology, the traditional statistical, analytical, and predictive technologies have gradually failed to meet the needs of the industry, and the medical industry has gradually entered the era of big data and artificial intelligence, where the medical big data accumulated in the hospital information system is used to pool, model, and analyze the known types of unknown data that can be predicted and determined. In practical application, through the existing medical big database, it can provide rich practical reference value for medical diagnosis. Through the algorithm description to get a simpler distinction between different diseases of the decision tree model, can be based on the decision tree final feature value for the test indicators for collection, reducing the useless or not very relevant to the disease indicator collection process, can reduce the disease diagnosis test complexity, can achieve the effect of diagnosis prediction and auxiliary diagnosis, using the model for different diseases to take empirical analysis, to derive the disease suffered by the patient, has a high accuracy rate, basically meet the diagnostic requirements.

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III. RESEARCH CONTENT

A. Ensure the security and reliability of the database

Intelligent diagnostic system is the digital information generated by medical personnel in medical activities using medical information system, which records various health-related physiological test indicators throughout the life process of human beings, and contains a huge amount of valuable medical knowledge and health information. In order to ensure the security of the database, corresponding security strategies are formulated according to the actual situation, from clarifying the content and storage location of the data, security awareness training, carrying out data risk assessment, installing antivirus software and regular scanning and regular backup of important and sensitive data, controlling the access to the database, encrypting the database, and real-time monitoring and recording of the database to ensure the security of the database.

B. Modeling to classify different diseases through neural network technology

Four prediction task datasets were produced by analyzing the ICU clinical medical database through big data modeling to categorize the conditions for prediction. In response to the requirements of rich data volume and wide applicability, the open MIMIC-III database was selected as the data source, and datasets for the current meaningful and urgently needed disease prediction and analysis tasks were produced respectively: the deterioration prediction dataset and the disease classification prediction dataset. Deep neural networks are applied to medical prediction, and a medical prediction model based on deep neural networks is proposed. The clinical medical prediction model based on PNN, which considers the combination of all physiological test indicators of the patient, can avoid ignoring some combinations of indicators that are very important in determining the patient's physical condition. The use of deep neural networks to automate the extraction of cross-features, and the full consideration of the combination of the patient's physiological test indicators, can be more accurately predict the patient's current physical condition and provide personalized diagnosis and prediction services.

C. Utilizing models to accurately hypothesize the cause and source of disease through patient-supplied symptoms

Medical diagnosis is an important part of the process of seeking medical treatment. In addition to tests and examinations through instruments, daily medical diagnosis is to a large extent an experience-based determination method, whereby the diagnosis of common diseases is derived through long-term symptom analysis and experience accumulation of cases, and then the method is applied to new cases to obtain an initial judgment of the type of disease based on the information of established symptoms exhibited by the new cases. Medical big data is all the complex big data related to life sciences generated by healthcare organizations. The neural network algorithm models used in the field of medical big data are regression analysis, decision trees, kernel-based algorithms, reduced dimensionality algorithms, and so on. On the basis of healthcare big data, disease diagnostic methods can be expressed through decision tree models and modeled and analyzed to get data classification models for predicting and determining known types of unknown data. Through the patient to provide the disease plus the use of existing neural network models to accurately speculate on the cause and source of the disease, targeted to the patient to give scientific treatment advice.

IV. SUMMARY AND OUTLOOK

The research in this paper is about disease prediction based on deep neural networks and proposing a model based on deep deep networks, during the research we can find that there are some limitations to this idea:

A. Limitations of the data itself

The first is the limitation of the data source, the medical data used in this thesis comes from the MIMIC-III database, although the number of statistics is large enough, but the record of most of the characteristics of the disease is not detailed and complete, lacks some important indexes, and the update of the data collection has a certain lag, so the indexes for its survival prediction are limited in their selection, which may lead to the failure to comprehensively and objectively grasp the disease during the specific experimental. The selection of indicators for survival prediction is limited, which may lead to the inability to comprehensively and objectively grasp the disease pattern during the specific experiments and affect the final prediction accuracy.

B. Limitations on the method of use

The hospital big data provides the realization basis for analyzing the disease, in the process of selecting some samples for experimentation, a more simplified decision tree model for distinguishing different diseases is obtained through the description of the algorithm, and the use of the model to test its historical cases has a high accuracy rate and basically meets the diagnostic requirements. Through the construction of medical diagnostic analysis model, it can be used for automatic preliminary prediction of diseases, auxiliary information means of disease diagnosis for non-medical personnel, and index formulation of medical test items, which has certain feasibility and guiding significance. However, a variety of issues such as how to find better data

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preprocessing methods, how to discover better optimization methods, how to complete decision-making more efficiently and quickly, and how to predict different diseases more accurately need to be investigated in future studies.

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Prudential Principles by Banks in Granting Credit Based on Notarial Cover Notes



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ABSTRACT: Banking institutions the financial institutions that have a function as a financial intermediary. Banks serve financial necessity and introduce deposit system mechanisms for all economic sectors. This research examines the prudence principles by banks for granting credit based on notary cover notes. This research is normative legal research that is intended to examine the quality and norms of the law itself. By conducting normative method research and interviews using a purposive sampling system, the results of this thesis research will be obtained.

KEYWORDS: Banking, Cover Notes, Prudential Principle

I. INTRODUCTION

The goals of the Indonesian Nation are composed in the preamble of the 1945 Constitution contains a reflection of the values and standards that frame the premise of the Indonesian State in the development and management of the State. One of the advancements referred to is development within the economic sector which is one part of national development. Economic development to realize it is not solely the obligation of the government, but also requires the support and role of the private sector.

It cannot be denied that to be able to mobilize the economy and the business world, especially the real sector, requires considerable funding and capital. If illustrated as an organ of the human body, capital is analogized to "blood". Humans will not be able to live without blood organs, so a business will not be able to move without the support of funding or capital. Thus, capital is something absolute in the business world (Darmawan, 2013). Business capital can be obtained from various sources, either from the entrepreneur's funds concerned or through loans from other parties, which in this case are banks as a form of financial institution.

Today the role of banking in improving the economy of a country is massive. All divisions related to various financial exercises continuously require bank administrations. So currently and in the future financial activities for individuals and business fields cannot be separated from the banking world. Banking institutions are the center of the financial framework of every country. Banks are monetary institutions that are utilized by people, private commerce substances, state-owned commerce substances, and indeed government agencies to store their funds (Fauziana & Apriani, 2021)

Banks serve financing needs and dispatch installment framework components for all divisions of the economy. However, the presence of a bank as a business entity is not solely for business or profit, but there are other missions or goals, which as to improve the welfare of society in general. Banking institutions as one of financial institution have worked as monetary middle people as an imperative supporting framework to bolster the victory of the economy, in their work of loanable stores from savers or moneylenders to borrowers on shortage units (Johannes Ibrahim Kosasih, 2024)

Credit is one of the businesses managed by banks with great risks that banks can encounter. The certainty of credit loans by customers will be ensured by guarantees or collateral of a specific character. People who have businesses usually use credit loans to expand their business and banks will facilitate it by providing convenience credit for their customers called debtors. The provision of credit facilities by the Bank is carried out in the form of a credit contract. The credit contract is the real main contract, a form of the main contract, then the guarantee contract is the assessor, the presence and termination of the guarantee contract depends on the main contract (Hermansyah, 2005)

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Banks in granting credit to customers will always ask for collateral as a form of guarantee or responsibility to bind themselves to the bank. The bank uses Appraisal Bank or Public Appraisal Services Office in terms of helping assess the amount of collateral owned by the customer. Guarantees in credit agreements must be researched in advance by the bank (Simatupang et al., 2021)

So that after the collateral is researched, the Bank asks for assistance from a Notary regarding the legality of the guarantee. As stated in Article 1, Clause 1, Law No. 2 of 2014 amending Law No. 30 of 2004 on the place of Notaries (hereinafter alluded to as the Law on Positions of Notaries), stipulates:

A notary is a public worker authorized to draft original documents and has other authority provided in this law or based on other laws. In fact, notaries in supporting and providing services to banks may have negligence leading to losses for the bank. The negligence of a notary, for example, can occur when attaching collateral to a credit contract. The notary will not carefully examine the guarantees given by the potential client, causing the bond to be imperfectly bonded, resulting in the failure to issue a mortgage certificate. The notary in this case is a notary who acts as a Land Titles Registration.

In addition to certificates and underhand, the notary is also authorized to produce and issue a Cover note (Kadir et al., 2019). A cover note is a Pronouncement made by a notary and is not an authentic certificate. The function of the Cover note is as an initial rule so that the bank disburses credit to the debtor.

II. LITERATURE REVIEW

Perception of reality that will be the basis for the preparation of a concept is fundamental. These legal concepts will later become a measure to assess and judge the world of reality, especially human actions, so that by itself must have empirical relevance, or can be translated into the empirical world. Thus, the relationship between concepts and reality cannot be separated from one another.

A. *The precautionary principle*

Commonly, the precautionary rule can be deciphered as the premise of truth that becomes the premise for considering and acting carefully (Simamora et al., 2022). The precautionary rule, moreover known as the prudence rule, is taken from the English word "Prudent" which suggests "Wise". Black's Law Word reference characterizes "prudence" as takes after:

"Carefulness, precaution, attentiveness and good judgment, as applied to action or of care reconduct. That degree of care required by the exigencies or circumstances under which it is to be exercised. This term, in the language of the law, is commonly associated with care and diligence as contrasted with negligence."

The term prudent is often associated with the supervisory function of banks and bank management. In the banking world, the term is utilized to refer to "the guideline of caution". Hence, in Indonesia, the term "bank supervision based on the rule of prudence" has emerged, after the principle of prudence is widely used in different contexts (Gandapradja, 2004).

The prudential principal application is stated in the Banking Law article 2 number 10 of 1998 about Indonesian Banking in conducting its commerce based on economic democracy system with prudential guideline. The application of the prudential rule is specified within the Banking Law in Article 2 of Law Number 10 of 1998 concerning Banking that Indonesian Banking establish its commerce is based on the financial majority rule government by utilizing the prudential rule. The prudential principle in these provisions is the foremost critical rule that must be connected or executed by banks in performing their business exercises, within the sense that they must continuously be consistent in actualizing the laws and controls within the banking segment based on professionalism and great faith.

The principle of prudence is stipulated in Article 2 and Article 29, paragraph (2) of Law No. 10 of 1998 as follows:

Article 2 of Law No. 10 of 1998 reads:

"Indonesian banking in conducting its business is based on economic democracy by using the principle of prudence"

Article 29 paragraph (2) of Law No. 10 of 1998 reads:

"Banks must maintain a healthy level of banking following the provisions of capital adequacy, asset quality, management quality, liquidity, rentability, Solvability, and other aspects related to the bank's business, and must conduct business activities in accordance with the principle of prudence"

Article 8 of Law Number 10 of 1998 concerning Banking contains the principle of prudence which states that in giving credit or financing based on sharia standards, Commercial Banks are obligatory to have certainty based on an in-depth investigation of the will, capability, and capacity of the debtor to repay. To obtain such trust, before allowing credit, the bank must arrange a thorough evaluation of the debtor's character, capacity, capital, collateral, and commerce prospects.

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The importance of applying the prudential rule as a means to anticipate all forms of risks that will emerge in granting credit or financing is necessary to understand the meaning of the bank's prudential principle. Bank prudential principles must be interpreted as the Bank's compliance with all laws and regulations applicable to banks, both those governing institutions, processes, and products, including Standard Operating Procedures and Bank Credit or Financing Policies made by banks. One of the implementations of the prudence rule in giving credit or funding is the bank's obligation to conduct an in-depth analysis before granting credit or financing as an effort to obtain trust that the debtor has the intention and capability to pay in accordance with the agreement as outlined in the agreement (Abubakar, 2018).

B. Bank credit

The term credit comes from the Greek word "credere", which is a word commonly used in everyday conversation. In the context of banking, credit means people who get trust from banks. The basis of credit is trust. From an economic point of view, credit is defined as a delay in payment because the return on the receipt of funds or goods is not made at the same time as receiving, but rather the return is made at a certain time in the future.

Based on Article 1 number 11 of Law Number 10 of 1998 concerning Banking states that:

"Credit is the provision of money or bills that can be equated with it, based on an agreement or loan and borrowing agreement between a bank and another party that requires the borrower to pay off his debt after a certain period with interest"

This definition shows that the result that the debtor must achieve for the credit granted to him is not only the repayment of the debt but also the interest rate according to the contract that the two parties previously agreed upon. The development of bank credit today tends to ignore the principle of prudence (prudential banking) to achieve high credit volumes for profit. The goal is to gain as much market share as possible by eliminating healthy competition. On the other hand, the general policy in the field of credit is still an aspired law (*ius constituendum*) in the Draft Law on Banking Credit.

Credit agreements are essentially borrowing and lending agreements as regulated in the Civil Code. Subekti argues that in any form the giving of credit is carried out, in all of them what essentially occurs is a borrowing and lending agreement as directed within the Civil Code Articles 1754 to 1769 (Usman, 2001).

The credit facility received by the indebted person does not escape the various requirements of the bank and is further outlined in a credit agreement or contract. Where currently the bank credit agreement has not been specifically regulated so its implementation is left to the will of the parties who bind themselves. In binding themselves, debtors are more directed by the bank to adjust to the credit facilities that can be provided by the bank. Credit facilities should be able to provide full benefits if they are under the needs of the debtor.

C. Notary cover note

Cover note is one of the legitimate items issued by a notary which is a certificate within the administration of a certificate or document clarifying that the certificate being made by the notary is in process and can be finished within the period indicated within the substance of the cover note. Guarantees are frequently utilized within the process of applying for credit at banking establishments.

In the banking world, bills of exchange have become a practice that is considered legally binding on the parties. A cover note is utilized as a requirement within the credit application process but as a transitory guarantee during the process of completing an original deed made by a notary. In this case, the authentication tool in question is the process of renaming land use rights, the roya process, splitting the land certificate or other courses of action. But generally, the accompanying notes are drafted and issued by notaries as a declaration to guarantee lawful certainty with respect to the issuance of the deed or document in advance.

Cover notes generally contain the following things: (Bire, 2023)

1. The letter of credit agreement or debt letter is still in the process of being finalized at the notary public
2. The process of registering land rights or transferring the name of the land rights certificate and binding the credit guarantee is still in the process of being completed at the Land Office
3. A credit agreement or letter of credit and binding credit guarantee when completed will be given to the bank

III. RESEARCH METHOD

This research is normative legal research which points to look at the quality and standards of the law itself. This research is qualitative. Researchers examine the prudential principles of banks in granting notarized cover note credit. Cover notes become a practice that is considered to have official legitimate force for numerous parties. Warranties are often used as a requirement

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in the credit application process but as a temporary guarantee during the execution of a deed of authenticity approved by a notary. Researchers will explore relevant questions using interviews and purposive sampling.

A. Problem Approach

1. Law approach

To examine whether laws and regulations have shortcomings or even encourage violations at the technical level or during actual implementation. This approach is taken by analyzing all existing laws and regulations relevant to the problem (legal issue). This approach is carried out by studying the consistency/compatibility between the basic law and the law or between the law and other laws.

2. Conceptual approach

An approach that deviates from the perspectives and theories evolved in legal science. By considering the doctrines of lawful science, researchers will discover thoughts that grant birth to legitimate ideas, legitimate concepts, and lawful principles related to the problem being solved. (Marzuki, 2016).

3. Purposive sampling

Researchers took a purposive sampling approach related to the provision of credit based on cover notes at the BPD Bali Mangupura branch office and BPR ASIH Mengwi and also at the Ni Made Asri Notary office in Tabanan Regency.

B. Legal materials

1. Primary Legal Materials

Legal materials related to the problem under study consist of legal principles and rules in the form of regulations in a broad sense. In this research, the legal materials used are as follows:

- a. State Law of the Republic of Indonesia 1945
- b. Civil Code
- c. Law No. 5 of 1960 on the Basic Regulation of Agrarian Principles
- d. Law Number 7 of 1992 on Banking
- e. Law Number 10 of 1998 Concerning the Amendment to Law Number 7 of 1992 Concerning Banking 5.
- f. Law of the Republic of Indonesia Number 4 of 1996 Concerning Mortgage Rights on Land and Objects Related to the Land
- g. Bank Indonesia Regulation Number: 5/8/PBI/2003 on the Implementation of Risk Management for Commercial Banks

2. Secondary Legal Materials

Legal materials that provide explanations of primary legal materials, such as:

- a. Results of scientific works of scholars and research results
- b. Books related to proposal writing
- c. Research results, journals, and papers.
- d. Materials from the internet, both print media and electronic media, and supporting lecture materials.
- e. Tertiary Legal Materials

Legal materials that provide instructions and explanations for primary legal materials and secondary legal materials, such as:

- a. Big Indonesian Dictionary
- b. Legal Dictionary
- c. Foreign Language Dictionary
- d. Legal Encyclopedia

C. Analysis

Solving the problem stated in the formulation of the problem using qualitative descriptive data analysis, which involves describing a situation or phenomenon in words or phrases, then breaking it down by category to obtain conclusions (Arikunto, 2006). The problem in banking credit that researchers do is the use of cover note as the basis for granting credit by banks that ignore the principle of prudence. A cover note is not a guarantee but an endorsement in the administration of a certificate or document explaining that the action being taken with the notary is in progress and can be completed within a period of time. However, cover notes are usually used to apply for credit to banks. The bank should not be able to provide credit to credit applicants because it is not following the principles of lending owned by banks, one of which is the principle of prudence. As a result of these legal issues, researchers conducted research related to the prudential principle in granting credit based on cover notes at BPD Bali Mangupura Branch Office and BPR ASIH Mengwi and Ni Made Asri Asti Notary Office in Tabanan Regency. Researchers took a purposive sampling approach related to the provision of credit based on cover notes at the BPD Bali Mangupura branch office and BPR ASIH Mengwi and also at the Ni Made Asri Notary office in Tabanan Regency.

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IV. RESULT & DISCUSSION

A. Prudential Principles in Lending Practices

Banks that always pay attention to prudential regulation will care about the consequences and long-term actions, both for the benefit of the banks they manage and the banking system as a whole. The prudential principle has been accommodated in the normative arrangement, as stated in Law No. 7 of 1992 on Banking Article 2. The prudential rule is the foremost critical rule that must be connected or executed by banks in carrying out their commerce exercises. This implies that it must continuously be reliable in implementing the laws and regulations within the banking segment based on professionalism and great faith.

The analysis and assessment used before granting credit is one of the principles owned by banks. The banks must analyse the character, ability, capability, collateral, and commerce prospects of the debtor. With this, the researcher can conclude that in giving credit or financing, the principle of prudence is necessary so that the debtor can return the financing or funds borrowed from the bank as agreed.

Prudent banking principle is a rule that characterizes banks in performing their capacities and commerce exercises must apply the principle of prudent in one way, that is, knowing the client to ensure public funds depended to them, by anticipating the level of public believe in financial institutions to remain high, so that individuals are still willing to keep their funds within the bank.

Therefore, the researcher can conclude that the prudential principle based on the provisions contained above is a principle that must be carried out in banking practices, one of which is in granting credit to protect and maintain the existence of banking because it will foster public trust in the banking industry itself.

Deviations of the prudential principle carried out by the bank in the distribution of financing, as well as those related to the imposition of collateral or financing guarantees channeled by the bank to the debtor, often have an impact on causing losses to the bank itself, even further it is very possible to harm third parties outside the financing agreement, especially third parties who have an interest in the object of the financing/financing guarantee.

The results of the researcher's interview with one of the Notaries / PPAT in Tabanan Regency named Ni Made Asri Asti, S.H., MKn. who also had direct knowledge of the problems regarding this cover note explained that the reason the Notary issued the Cover note was because the Notary had not completed his work related to his duties and authority to order the authentic deed. The cover note also only explains if it is true that the authentic deed is still in process. The cover note does not explain that the cover note can be used as a condition for credit disbursement.

Judging from the form of the letter, the Cover note is just an ordinary certificate from the Notary that the documents to be used as collateral are being processed by the Notary. Generally, there are no standard rules overseeing the form and strategy for composing a Notary Cover note, but cover note writing is usually done on Notary letterhead, marked and stamped Notary, whereas others are balanced according to what processes are being processed at the legal official office.

B. Bank Risk in Granting Credit

One perspective of the application of the prudential rule in allowing credit is related to the evaluation of collateral that will be given by imminent debtor clients. Banks must survey a few criteria for great collateral, counting those related to juridical, financial, and social perspectives. The evaluation of the juridical perspective is carried out by conducting research related to the legitimacy and rightness of archives demonstrating the proprietorship of goods that will be utilized as credit collateral.

Generally, in granting mortgage rights, the collateral provided by prospective debtor customers is land that has been certified. This is necessary because at the time of enrollment of contract rights the Land Office must include a certificate of land rights. This is based on Article 13 paragraph (3) of Law Number 4 of 1996 concerning Mortgage Rights on Land and Objects Related to Land which states that:

"Registration of Mortgage Rights is carried out by the Land Office by making a book-land of Mortgage Rights and recording it in the book-land of land rights on land that is the object of Mortgage Rights and copying the record on the certificate of land rights concerned."

The bank's business activities will always follow with risk because of its function as a financial intermediary. The risk such as in providing credit has a crucial impact on the bank's commerce continuity. The fast improvement of the outside and inside banking sphere has too driven to the expanding complexity of the dangers of banking trade exercises. In this manner, to be able to manage to the banking trade environment, the Bank is required to actualize Risk Management.

The bank is supposed to be able to better monitor and supervise its business risk through the implementation of Risk Management. Moreover, the execution of Risk Management can assist the efficiency of the risk based on bank supervision groundwork managed by the Financial Services Authority. The struggle to implement Risk management is not only intended for

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the bank's significance but also for customer significance. One prominent action in protecting customer significance in the context of risk control is clarity of the information related to the Bank's business activities.

Islamic banking commerce exercises are indivisible from risks that can disturb the progression of the bank, and to oversee these dangers, one must actualize risk management independently and on a solidified premise taking after Islamic banking commerce exercises. The execution of Risk Management in Islamic banking is balanced to the targets, commerce policies, measure, and complexity of the commerce and the capacity of the Bank. Based on the Financial Services Authority Regulation Number 65 /POJK.03/2016 concerning the Execution of Risk Management for Islamic Commercial Banks and Islamic Commerce Units, counting Credit Risk, Market Risk, Liquidity Risk, Operational Risk, Legitimate Risk, Reputational Risk, Strategic Risk, Compliance Risk, Rate of Return Risk, and Equity Investment Risk.

Risk categories related to the distribution of funds through credit include Credit Risk is the possibility for defaulter or debtor customers to fail about the ability to fulfill their obligations by the concession in the credit agreement. This is often caused by the debtor's failure to perform the contents of the credit contract, failure in selecting prospective debtors within the prepare of allowing bank HR credits tricked by the appearance of prospective indebted individuals, in this case, the significance of applying the 5C principle (character, capacity, capital, conditions, dan collateral). For most banks, loaning is the greatest source of credit risk.

Another risk associated with the distribution of funds through credit is Legal Risk, due to claims, the nonappearance of supporting legislation, changes in laws, and outside directions that harm operational capabilities shortcoming of engagement such as not satisfying the legitimate prerequisites of an understanding or blemished collateral authoritative. Risk related to the circulation of funds through credit Operational Risk, which is the risk emerging from the insufficiency or malfunction of internal processes, human error or fraud, or system failure in recording, accounting, and reporting transactions completely, correctly, and on time, failure in fulfilling the internal regulations and applicable regulations, issue such as regulatory changes or occasions that can influence the Bank's operations. Besides, Reputation Risk emerge because of media coverage, publications, and gossip related to business activities.

Considering the situation in which bank loans are conveyed to the open in huge amounts, it turns out that numerous indebted individuals don't reimburse their obligations on time after the agreement. The credit contracts carried out by banks include principal and interest loans leading to the classification of credit as non-performing loans (NPL). The bad debts existence exposes banks to face the risk of ethnic bank business credit risk. Credit risk is the risk that indebted customers are unable to repay loans received from banks along with interest within a period of time.

Dispute resolution through alternative dispute resolution (ADR) or called non-litigation means out-of-court dispute resolution based on the agreement of the parties by overriding dispute resolution through litigation in court.

The accomplishment of non-performing credits by non-litigation channels is a win-win solution. In achieving the accomplishment of non-performing loans in a regularly advantageous way can be accomplished through several steps, there are consultation, arrangement, intervention, conciliation, or expert judgment.

The settlement by banks for non-performing loans through non-litigation channels is done by 3Rs, rescheduling, reconditioning, or restructuring. The credits that are resolved through non-litigation channels were originally classified as substandard, farfetched, or bad debts which are then attempted to be repaired so that they have expedited collectability. When the non-litigation process has been carried out but does not get a good response from the debtor, then the litigation action through the court by filing a civil lawsuit will be done.

Another way is Somasi or warning from the bank to the client so that the debtor fulfills the terms of the credit contracts, especially the payment of debts, either principal or interest because the payment time is due.

Even though the debtor has been warned if the debtor still does not pay off its obligation, then the court will send a security confiscation at the auction. The auction process will continue, led by the auctioneer and facilitated by the regulatory agency, the National Asset Management and Auction Services Agency. Pursuant to the arrangement of Article 14, Law No. 4 of 1996 on Mortgage Rights, the authority to release the auctioned objects. Conducting an auction in court is the proper way to realize legitimate certainty within the contract sell off handle between the bank and client.

V. CONCLUSIONS

Cover notes are usually used as one of the conditions for credit disbursement in the action of permitting credit by banks because the guarantee is still in the registration process. A cover note is a declaration by the notary as an officer signing the deed that there has been a bond of credit or guarantee and that it is valid only for a certain period. For the cover note to be used as collateral, the debtor must sign a Power of Attorney to Assign a Hypothecation after the credit agreement, so the letter can be installed. The legal force of the cover note in the event of bad credit does not have executorial legal force, this is because the

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cover note is not a notary legal product managed in the relevant laws and regulations. With this, the researcher can conclude that in providing credit or financing, it is necessary to have the principle of prudence so that the debtor can return the financing or funds borrowed from the bank as agreed. The prudential principal implementation is significant for the continued operation of the bank. The prudential principle based on the provisions contained is a principle that must be carried out in banking practices, one of which is in granting credit to protect and control the continuity of banking to maintain public trust. The prudential principle must be implemented not only because of the mission of banks which is to maintain the trust of customers who entrust their savings to the community but also as part of a monetary system that concerns all public interests outside of customers who deposit funds.

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Analysis of Tourists' Willingness to Pay for the Provision of Tourism Facilities: Case Study in Sunrise Land Beach, Lombok Indonesia



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ABSTRACT: The development of Sunrise Land Beach in Lombok holds significant potential for bolstering tourism, making its advancement imperative and reliant on community support. To assess the allure of Sunrise Land Beach and gauge visitor interest, a comprehensive study was undertaken, aimed at analyzing the willingness of visitors to pay for its attractions. Employing quantitative research methodologies, including multiple linear regression analysis, this study delved into the factors influencing visitors' inclinations. Through a combination of interviews and observational data collection, researchers endeavored to elucidate the research objectives. The findings of this investigation revealed that visitors to Sunrise Land Beach demonstrated a considerable willingness to pay, with an average valuation of Rp. 7,657 (equivalent to 0.49 USD) per visit for tourism facilities. Moreover, the study identified Education and Environmental Awareness as variables that positively and significantly influenced visitors' willingness to pay for the provision of tourism amenities at Sunrise Land Beach.

KEYWORDS: *Willingness To Pay, Sustainable Tourism, Tourism Facilities, Visitor Characteristics*

I. INTRODUCTION

Tourism remains a vibrant discourse, characterized by ongoing exploration and discussion. Various locales, showcasing their unique natural splendor, local hospitality, and cultural richness, draw visitors with distinct allure. The significance of tourism transcends mere recreation; it serves as a vital catalyst for community rejuvenation and social connectivity, often epitomized by the ubiquitous updates on social media platforms. Among the diverse array of tourist destinations within the West Nusa Tenggara Province, East Lombok Regency stands out, boasting a plethora of attractions awaiting exploration. From the breathtaking heights of Sembalun to the picturesque sands of Pink Beach, the unspoiled allure of Gili Kondo, and the mesmerizing sunset vistas of Labuhan Haji Beach, the region encapsulates the essence of travel and adventure.

One such gem nestled within Labuhan Haji Beach is Sunrise Land Beach, renowned for its captivating sunrise vistas. Recognizing its potential to bolster tourism, the imperative of its development, coupled with community support, becomes apparent. Notably, research conducted by Early Farikhani and Ramang H. Demolingo (2022) underscores the pivotal role of well-maintained tourism facilities in enhancing visitor experiences. Similarly, previous studies by Shaputra et al. (2022) shed light on the pressing need for infrastructural improvements, such as sanitation facilities and waste management, to elevate the tourism landscape.

The symbiotic relationship between tourism development and visitor contributions becomes evident through research findings. Qowi and Arianti (2021) emphasize the importance of visitor contributions in augmenting the management and expansion of tourist facilities, aligning with the assertions of Susilowati et al. (2020) regarding the significance of determining visitor entrance rates to enhance service standards. This sentiment resonates with Afifudin et al. (2022), who posit that tourists are often willing to pay more for enhanced experiences.

In recent years, scholarly attention has gravitated towards various facets of the willingness-to-pay (WTP) framework, encompassing visitor characteristics, facility development strategies, visitor satisfaction factors, facility assessments, and community involvement. However, a discernible gap exists in the discourse, particularly regarding the utilization of WTP in the context of tourism facility provision and development. Consequently, this study aims to address this gap by elucidating the analysis of WTP in the provision of tourism facilities, with a focus on Sunrise Land Beach.

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Employing the Contingent Valuation Method (CVM), consistent with prior research, and quantitative methodologies, the study endeavors to analyze the WTP of Sunrise Land Beach visitors. Drawing insights from multiple linear regression analysis, the study seeks to unravel the intricate interplay between socio-economic factors and visitor preferences. While some studies, such as that by Afifudin et al. (2022), highlight the positive correlation between income, education, and WTP, others, like Nurkhalifah et al. (2022), emphasize the equitable WTP distribution across visitor demographics, irrespective of income levels or travel costs.

In essence, this study endeavors to deepen our understanding of visitor preferences and their willingness to contribute towards the development of tourism facilities, thus fostering sustainable tourism practices and enhancing visitor experiences at Sunrise Land Beach.

II. RESEARCH METHODOLOGY

This research was conducted at *Sunrise Land* Beach tourist attraction located in Labuhan Haji District, East Lombok Regency, Indonesia. The research period was from November to December 2023. This study used a data collection method by making observations around the research site and conducting interviews with visitors who came to the location. The population in this study was visitors who came to *Sunrise Land beach*. The research method used in this study was quantitative method with the number of samples embraced 103 respondents.

Central to this investigation was the exploration of factors impacting the Willingness To Pay (WTP), scrutinized through the lens of multiple linear regression analysis. Recognized for its ability to unveil the intricate relationships between variables, multiple linear regression analysis served as the analytical cornerstone, shedding light on the nuanced dynamics underlying visitor perceptions and valuation (Alfina, 2023).

The equation function used to test the factors that affect *Willingness To Pay* is as follows:

$$WTP = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \mu_i$$

α =Constant Value X1= Age X2= Education X3= Income X4= Type of Work X5= Mileage X6=Environmental Awareness μ_i = error

Willingness To Pay (WTP) delineates a tourist's inclination to invest in services or goods, specifically pertaining to the provisioning of beach tourism amenities, quantified in rupiah. Age represents the chronological years of the respondents, whereas Education embodies the duration devoted to formal education, quantified in years. Income reflects the economic remuneration accrued by respondents monthly, denominated in rupiah. Occupational diversity encompasses the array of professions engaged in by individuals. Distance Traveled elucidates the geographical span from the respondent's domicile to Sunrise Land Beach, gauged in kilometers. Environmental Awareness, in this context, underscores visitors' attentiveness to the ecological milieu enveloping Sunrise Land Beach, computed through an indexed framework.

III. RESULTS

A. Research Results

Characteristics of respondents

Variable	Classification	Frequency	Percentage
WTP	0-5000	30	29.1
	5001-10.000	64	62.1
	10.001-15.000	7	6.8
	15.001-20.000	1	1
	>20,001	1	1
Age	16-25	53	51.5
	26-35	21	20.4
	36-45	15	14.6
	46-55	12	11.7
	56-65	2	1.9
Education	Did not finish school	0	0
	Elementary School	0	0
	Junior High School	0	0
	Senior High School	39	37.9

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	Diploma	4	3.9
	Bachelor	52	50.5
	Postgraduate	8	7.8
Income	0-2.500.000	59	57.3
	2.500.001-5.000.000	32	31.1
	5.000.001-7.500.000	9	8.7
	7.500.001-10.000.000	1	1
	>10,000,001	2	1.9
Occupation	Student	38	36.9
	Housewives / Retirees	2	1.9
	Farmer/Fisherman/Laborer	3	2.9
	Private Employees	13	12.6
	ASN/TNI/Police	19	18.4
	Self employed	28	27.2
Mileage	0-20 km	80	77.7
	21-40 km	10	9.7
	41-60 km	8	7.8
	61-80 km	5	4.9
	81-100 km	1	1
Environmental Awareness	Strongly Disagree	0	0
	Disagree	8	7.8
	Agree	61	59.2
	Totally Agree	34	33
	Sum	103	100%

Table 1. Characteristics of Respondents

The characteristics of respondents were obtained from the interview process using the help of printed questionnaires and online questionnaires with the number of respondents obtained as many as 103 respondents who were visitors to *Sunrise Land Beach*, East Lombok Regency. This study starts from November 4 to December 4, 2023. The characteristics of these respondents are contained in Table 1 above.

From the table above, the characteristics of Sunrise Land Beach respondents can be explained as follows:

Willingness To Pay/ WTP :

The Willingness To Pay (WTP) framework investigates the financial disposition of Sunrise Land Beach visitors towards the utilization of existing facilities. Predominantly, the majority of visitors exhibit a readiness to contribute within the Rp. 5,001 to Rp. 10,000 range, comprising 62.1% of respondents, totaling 64 individuals. Following closely, the subsequent group of visitors, encompassing 29.1% or 30 individuals, express their willingness to pay within the Rp. 0 to Rp. 5,000 range. Meanwhile, a smaller cohort of visitors, constituting 6.8% or 7 individuals, demonstrate a propensity to pay between Rp. 10,001 to Rp. 15,000. Furthermore, a negligible proportion, comprising 1% or 1 individual, indicate their willingness to pay in the Rp. 15,001 to Rp. 20,000 range. Lastly, an equally marginal segment, also comprising 1% or 1 individual, express their readiness to pay beyond Rp. 20,000.

Age Distribution:

The age distribution among visitors to Sunrise Land Beach reveals a predominance of individuals aged 16-25 years, comprising 51.5% or 53 people. Following this group, visitors aged 26-35 years constitute 20.4% or 21 individuals. The demographic spectrum further includes visitors aged 36-45 years at 14.6% or 15 people, visitors aged 46-55 years at 11.7% or 12 individuals, and visitors aged 56-65 years at 1.9% or 2 people.

Educational Background:

The educational background of Sunrise Land Beach visitors is delineated by their formal education attainment. A significant majority of visitors hold Bachelor's degrees, accounting for 50.5% or 52 individuals. Following this group, visitors with High School

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education represent 37.9% or 39 people. Postgraduate degree holders constitute 7.8% or 8 individuals, while those with Diploma qualifications account for 3.9% or 4 people.

Income Profile:

The income profile of Sunrise Land Beach visitors reflects the economic value received monthly in Indonesian rupiah. A substantial proportion of visitors report incomes ranging from Rp. 0 to Rp. 2,500,000, constituting 57.3% or 59 individuals. Visitors with incomes between Rp. 2,500,001 to Rp. 5,000,000 comprise 31.1% or 32 people. Those earning between Rp. 5,000,001 to Rp. 7,500,000 represent 8.7% or 9 individuals, while incomes exceeding Rp. 10,000,000 are reported by 1.9% or 2 visitors. Lastly, incomes ranging from Rp. 7,500,001 to Rp. 10,000,000 are reported by 1% or 1 person.

Occupational Diversity:

Occupational diversity among visitors to Sunrise Land Beach underscores the varied professional backgrounds. Predominantly, the visitor pool is comprised of Students/Teachers, representing 36.9% or 38 individuals. Entrepreneurs account for 27.2% or 28 visitors, while ASN/TNI/Police personnel constitute 18.4% or 19 individuals. Private Employees represent 12.6% or 13 visitors, followed by Farmers/Fishermen/Laborers at 2.9% or 3 individuals, and Housewives/Retirees at 1.9% or 2 people.

Travel Distance:

The travel distance of visitors to Sunrise Land Beach delineates the geographical span from their residences. The majority of visitors, comprising 77.7% or 80 individuals, reside within 0-20 km from the beach. Those residing within 21-40 km account for 9.7% or 10 people, while 7.8% or 8 visitors reside within 41-60 km. A smaller proportion, representing 4.9% or 5 individuals, reside within 61-80 km, and 1% or 1 person resides within 81-100 km.

Environmental Awareness:

The environmental awareness of Sunrise Land Beach visitors pertains to their attentiveness towards the surrounding environment. A significant proportion, constituting 59.2% or 61 individuals, express agreement in prioritizing environmental stewardship. Strong agreement is reported by 33% or 34 individuals, while disagreement is expressed by 7.8% or 8 visitors.

Results of Multiple Linear Regression Analysis

The equation derived from the multiple linear regression test is presented as follows:

$$Y = 0,456 - 0,121 X_1 + 0,213 X_2 - 0,067 X_3 - 0,001 X_4 - 0,120 X_5 + 0,217 X_6 + e$$

$$(0.987) \quad (-1.593) \quad (2.974)^* \quad (-0.777) \quad (0.041) \quad (-1.58) \quad (2.115)^*$$

F Statistic : 3.405*

R² : 0.175

Number in Bracket is t statistic

* Significant at α 5%

Interpreting the Equation:

The constant term 0.456 signifies that when all independent variables—age (X₁), education (X₂), income (X₃), occupation (X₄), mileage (X₅), and environmental awareness (X₆)—are at zero, the Willingness To Pay (Y) retains a value of 0.456, representing 45%.

Age: The negative coefficient for age suggests that increasing age does not significantly impact the costs associated with facility provision at Sunrise Land Beach. The coefficient value of 0.114 exceeds the significance threshold of 0.05, rendering the age variable insignificant in relation to the dependent variable.

Education: A positive coefficient implies that higher levels of education correlate with increased costs for facility provision at Sunrise Land Beach. However, the coefficient value of 0.004 falls below the significance threshold of 0.05, indicating the significance of the education variable with respect to the dependent variable.

Income: The negative coefficient for income indicates that higher income levels do not substantially influence the costs of facility provision at Sunrise Land Beach. With a coefficient value of 0.439 surpassing the significance threshold of 0.05, the income variable is deemed insignificant to the dependent variable.

Occupation: Similarly, the negative coefficient for occupation suggests that differing levels of occupation do not significantly affect the costs of facility provision at Sunrise Land Beach. With a coefficient value of 0.967 exceeding the significance threshold of 0.05, the occupation variable is considered insignificant in relation to the dependent variable.

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Mileage: The negative coefficient for mileage implies that increased travel distance does not markedly impact the costs of existing facility provision at Sunrise Land Beach. The coefficient value of 0.117 surpasses the significance threshold of 0.05, rendering the mileage variable insignificant in relation to the dependent variable.

Environmental Awareness: With a positive coefficient, higher levels of environmental awareness are associated with increased costs for facility provision at Sunrise Land Beach. However, the coefficient value of 0.037 falls below the significance threshold of 0.05, signifying the insignificance of the environmental awareness variable in relation to the dependent variable.

F Test and R² Results

The adjusted R square of 0.175 indicates that the variables of age, education, income, occupation, mileage, and environmental awareness collectively explain 17.50% of the variance in Willingness To Pay. The significance level for the F-statistic, standing at 0.004, is lower than the overall significance level of 0.05, indicating a significant influence of the independent variables—age (X1), education (X2), income (X3), occupation (X4), mileage (X5), and environmental awareness (X6)—on the dependent variable, Willingness To Pay (Y).

Analysis of Visitor Willingness to Pay for Facilities at Sunrise Land Beach

The analysis of visitor willingness to pay for facility provision at Sunrise Land Beach reveals compelling insights. Notably, 78% of visitors, totaling 80 individuals, demonstrate a readiness to contribute towards the enhancement of facilities at the beach, underscoring a collective aspiration for improved amenities. Conversely, 22% of visitors, comprising 23 individuals, express reluctance to contribute financially to facility provision efforts. This dichotomy in visitor attitudes towards payment reflects underlying preferences for enhanced facility quality and quantity.

Addressing Visitor Preferences:

In light of visitor preferences for enhanced facilities, strategic additions are imperative. These include the installation of clean public toilets, designated prayer spaces such as Musholla equipped with pristine prayer tools, strategically placed waste receptacles tailored to accommodate average waste volumes, designated photo spots, culinary outlets offering a diverse array of menu options, the integration of online payment facilities like Qris for added convenience, heightened parking security measures, and the incorporation of entertainment amenities catering to both children and the general public. Such enhancements align with visitor expectations and contribute to an enriched visitor experience at Sunrise Land Beach.

IV. DISCUSSION

This study reveals a negative correlation between age and willingness to pay, with non-significant implications. This finding aligns with prior studies conducted by Alfina (2023) and Tazya Aulia, Dyah Ethika Noechdijati, Budi Dharmawan (2022). However, it contradicts research by Jung (2019), which suggests a positive and significant correlation between age and willingness to pay. Observations indicate that age does not exert a positive influence on willingness to pay for tourism facilities; hence, individuals across different age brackets exhibit similar inclinations.

Educational attainment displays a positive and significant correlation with willingness to pay. This finding resonates with previous research conducted by Afifudin et al. (2022), Jung (2019), Mahitarani et al. (2021), Nusa & Hasniaty (2023), Qowi & Arianti (2021), Sanjaya & Saptutyningsih (2019), and Tazya Aulia, Dyah Ethika Noechdijati, Budi Dharmawan (2022). In contrast, Alfina (2023) posits that educational variables do not correlate positively and significantly with willingness to pay. Elevated levels of education are associated with a greater propensity to contribute financially towards tourism facility provision, elucidating the impact of intellectual capacity on willingness to pay.

Contrary to economic conventions, income does not significantly influence willingness to pay for tourism facilities. This discovery contradicts findings presented by Afifudin et al. (2022), Sanjaya & Saptutyningsih (2019), Simamarta et al. (2021), and Tazya Aulia, Dyah Ethika Noechdijati, Budi Dharmawan (2022), which suggest a positive and significant correlation between income and willingness to pay. Similarly, Alfina (2023) and Nurkhalifah et al. (2022) corroborate the non-significant impact of income on willingness to pay.

Occupational status demonstrates a negative correlation with willingness to pay, lacking significant implications. This observation concurs with studies by Berliani et al. (2023) and Rofiatin & Bariska (2018). Conversely, Zulfiana (2022) posits a positive and significant correlation between job variables and willingness to pay. Employment status does not discernibly influence individuals' financial contributions towards tourism facility provision.

Mileage exhibits a negative correlation with willingness to pay, lacking significant implications. This finding resonates with research by Mahitarani et al. (2021) and Nurkhalifah et al. (2022). In contrast, Rosya & Yolamalinda (2019) suggest a positive and

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significant correlation between mileage and willingness to pay. Variations in travel costs do not substantially affect individuals' willingness to pay for tourism facilities.

Environmental awareness demonstrates a positive and significant correlation with willingness to pay. This finding is consistent with studies by Kristiana & Aqmala (2023) and Sadikin (2017). Heightened environmental consciousness corresponds to an increased inclination to financially contribute towards tourism facility provision. However, this finding contradicts research by Preliana Dewi et al. (2023) and Rani et al. (2020), which suggest a lack of positive correlation and significance between environmental awareness and willingness to pay.

V. CONCLUSION

The investigation conducted in this study unveiled that the provision of tourism amenities, quantified through the visitors' Willingness To Pay (WTP) at Sunrise Land Beach, averaged 7,657 IDR (0.54 USD) per visit. Furthermore, it discerned a noteworthy relationship between Education and Environmental Awareness variables, showcasing a positive and significant impact on visitors' inclination to contribute financially towards improved tourism facilities at Sunrise Land Beach. Conversely, the variables encompassing age, income, occupation, and mileage exhibited no substantial positive correlation with visitors' WTP for the enhancement of tourism amenities at Sunrise Land Beach.

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Mergers and Acquisitions Activities in Vietnam Consumer Goods Sector 2000 – 2022 and The Role of Advisors



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ABSTRACT: Since Vietnam launched the Doi-Moi policy, many up-to-date restructuring activities has surged among local firms, notably mergers and acquisitions (M&A). The consumer goods industry is a key sector of the economy in Vietnam, M&A in this industry is holding the leading position in the country. The reseach is the first significant attempt focusing on finding, describing and analyzing the characteristics of M&A activities in the consumer goods sector in Vietnam from 2000 to 2022. The results show that, the success rate of consumer goods deals is relatively high compared to the overall market on average. Although accounting for the largest propotion in terms of value in the M&A market in Vietnam and tending to increase over time, deals in the consumer goods sector are mainly small and medium-sized, made largely by domestic companies with the main types of stake purchase, acquisitions, tender offer; other forms such as mergers, consolidation, LBO, Spin offs account for a negligible proportion. A small proportion of M&A deals use advisors and there may needs large-sized deals appear to increase this proportion. The research also indicates that it needs more loosen up in local government’s policies and legislation environment to motivate successful transactions.

KEYWORDS: M&A advisor, M&A, consumer goods, Vietnam

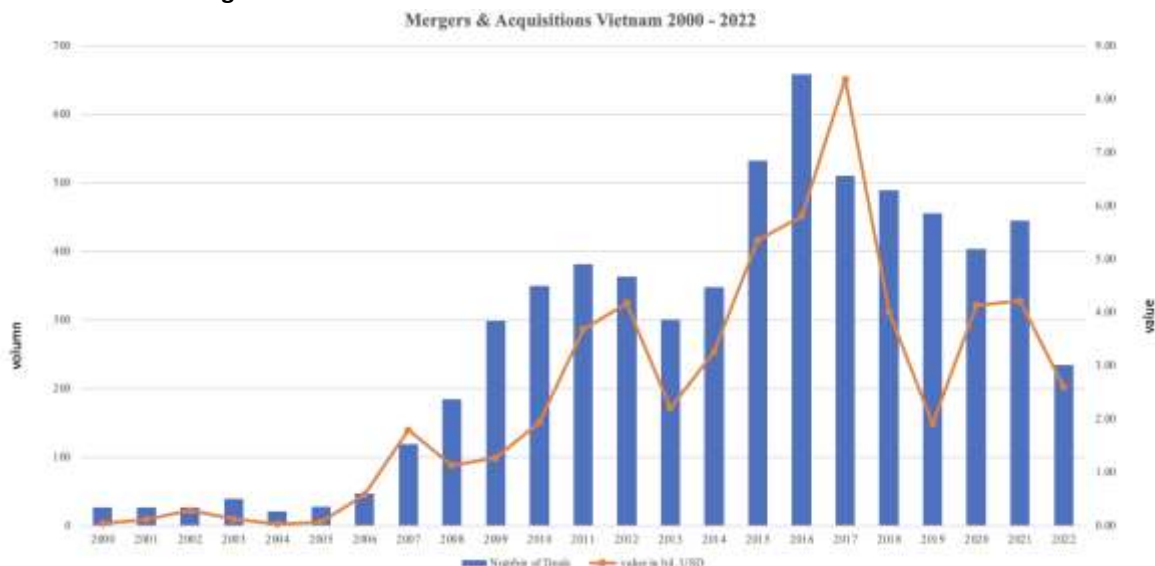
I. INTRODUCTION

Vietnam’s economy has witnessed many changes since Doi Moi (1986), especially the open period of the economy marked by the agreements to participate WTO in 2007. Such of policy reforms brought to a positive shifting, including the diversity of business investment methods of enterprises. The appearance of employing Mergers and Acquisitions (M&A) is considered as one of the most popular developments in operating of Vietnamese enterprises. In this trend, the banking and finance sector is always in the top industries, attracting a large amount of foreign direct investment, contributing to help domestic banks increase their financial capacity, improve their performing quality of activities, and bring better service to customers. Since “the first major and thorough study on the Mergers and Acquisitions activities in Vietnam’s emerging market economy after the launch of Doi Moi” (Vuong et al., 2009), lots of literature has focused on the M&A market in Vietnam as a whole.

As fas as I aware of, this paper is the first attempt to specifically draw a picture of M&A activities in Vietnam’s consumer sector in 2000-2022 period. This time period has been generally understood as the most active years since the local government released laws in order to loosen the regulatory framework and enable both domestic as well as foreign companies operating in the country. Moreover, consumer companies recent years have emerged as the most significant partners in Vietnam M&A activities. The appeared of Covid-19 and the development of financial technology not only brings opportunities but also creates challenges, including the competition pressure in the economy, including consumer field.

Figure 1 below describes the current situation of mergers and acquisitions (M&A) activities in Vietnam from 2000 to 2022. The current status of M&A activities is expressed in terms of volume and value of the deal during the research period.

Figure 1. Value and volume of Vietnam M&A activities 2000 – 2022

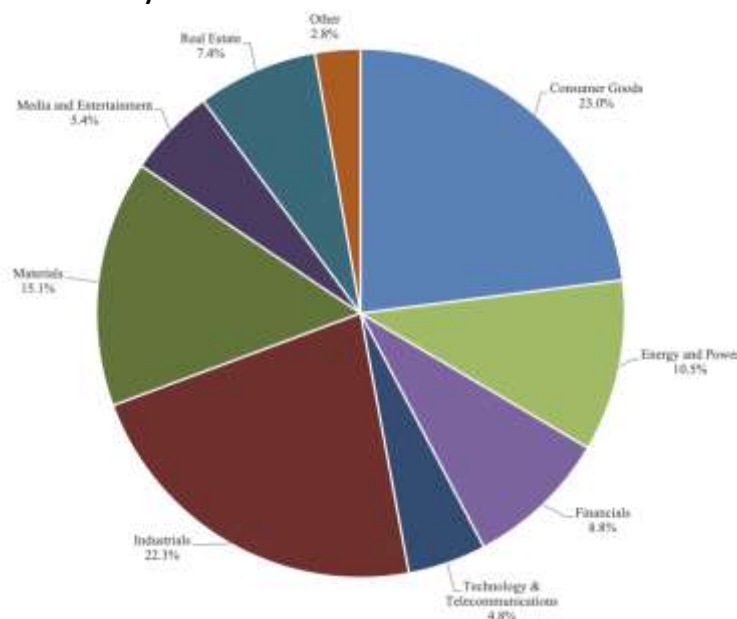


Source: IMAA

Figure 1 shows that in terms of the value of M&A deals in USD, Vietnam is still a small-scale market. This is completely understandable because Vietnam is a developing country in Southeast Asia, with a total annual GDP of only a few hundred billion USD. The number of large-scale enterprises is still modest. Instead, 95% of businesses today are still small and medium sized.

By economic sector, M&A activities in Vietnam in the period 2000 - 2022 are divided as follows:

Figure 2. M&A share by economic sector based on total deal value from 2000 to 2022



Source: Thomson Reuters

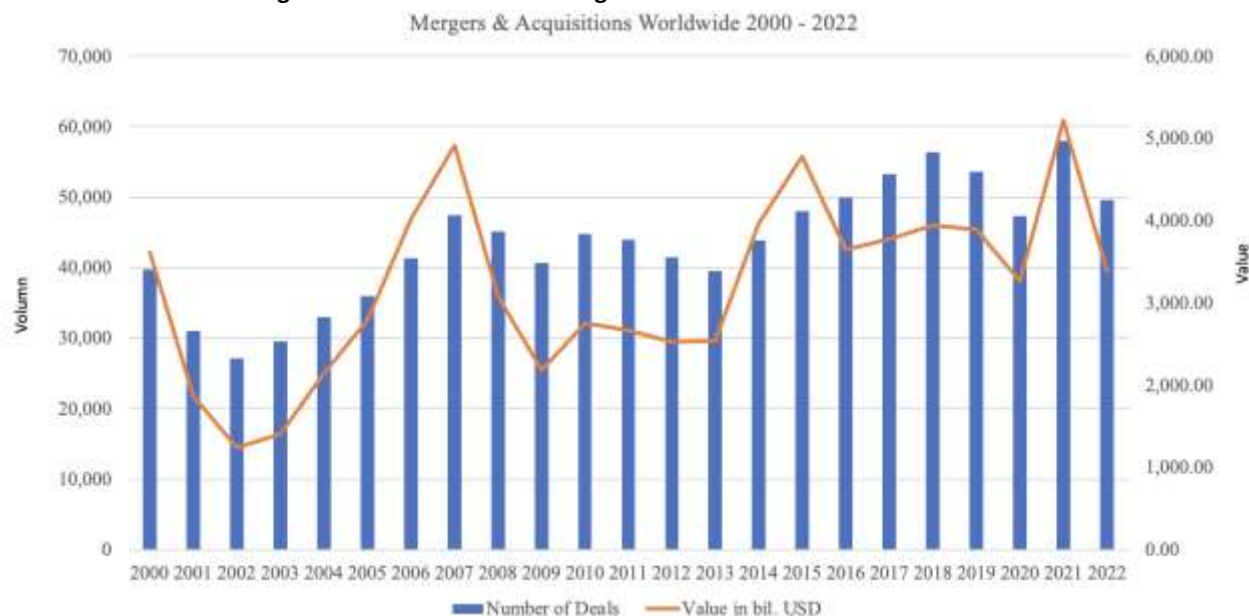
Figure 2 indicates that consumer goods accounted for the largest proportion in terms of the number of M&A deals in the period 2000 - 2022 with the proportion of 23.0% in total. The second is industry sector (22.3%), raw materials (15.1%), energy (10.5%)... Consumer goods sector is the largest proportion of value with total value of deals amounted to more than 14 billion USD, equivalent to 23.4% of the value of M&A deals during the research period.

Figure 1 presents the number of M&A deals in the period 2000 – 2022 which tends to increase but not evenly. The number of annual M&A deals also depends on the growth of the economy and the health of Vietnamese and international businesses. Therefore, in the period 2001 - 2006 the deals increased continuously, but then decreased deeply in 2009, tended to move sideways in the period 2010 - 2013 and then continued to grow from 2014 to 2018. The period from 2019 to present The M&A market went sideways due to the difficulties of the domestic and foreign macroeconomics. The biggest macro impact on a global scale is the serious impact of the Covid-19 epidemic as well as the geopolitical conflicts between Russia - Ukraine and Western

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countries. At the domestic level, in addition to the heavy impact of the Covid-19 epidemic, which disrupted the global supply chain, affecting domestic consumption and production, the general difficulty of the economy was also contributed by negative fluctuations on the stock market in late 2021 and early 2022 and the real estate sector fell into recession and froze. That fact has led to general difficulties for markets, including the market for mergers and acquisitions. Generally in the period 2000 - 2022, there were about 300 deals take place in Vietnam per year. This is a small number compared to the size of the global M&A market, which was about 30,000 M&A deals per year on average (Figure 3).

Figure 3. Value and volume of global M&A deals from 2000 to 2022



Source: IMAA

However, Vietnam's M&A market is still a large potential market in the future with the growth and recovery of businesses and the economy. With the number of private companies reaching millions, the room for M&A activities is still very large.

The research focuses on describing M&A activities in the consumer goods sector in Vietnam from 2000 to 2022 using univariate analysis. Univariate analysis is a basic type of analysis technique for statistical data. With this technique, the data has only one variable and measures the quantitative aspect of that data without considering the relationships between many different variables. The structure of the paper consists of 5 sections: section 1 introduces general information, section 2 reviews related research papers, section 3 and 4 discuss highlighted characteristics of M&A and M&A in consumer goods sector in Vietnam as long as the role of advisors in M&A local transactions. To get the research purpose, we use the dataset includes 1266 M&A deals in the field of consumer goods in Vietnam in the period 2000 - 2022 collected based on Thomson Reuters.

II. LITERATURE REVIEW

Most international studies focus on a few majors sectors that M&A activities occur such as banking and finance or real estate, the number of studies examining the consumer goods sector occupies a small position. Using data for the period 2006 – 2010 and descriptive univariate analysis methods, (Rajesh Kumar, 2012) shows that M&A deals in the consumer good sector post-economic crisis were driven by small size enterprises. The study was based on statistical samples in India, China and Russia. This is one of the rare international research projects focusing on the consumer good sector. Gell j. et.al, 2015 study the FMCG industry, which is a branch of consumer goods sector, in the US. The authors collected information from survey of FMCG deals in 2015 and concluded that there are 4 major factors driving M&A activities in US FMCG industry including unlocking new growth, upgrading capabilities or business models, combining to transform, and cleaning up the portfolio. Each of them has a distinct value creation objective. To give additional details on M&A activities in FMCG, (Tripathi, 2020) conducted on a dataset of 645 Indian firms from 2000 to 2010. The research indicates that *“There was additionally beneficial outcome of M&A action on Return on Capital Employed and Return on Net Worth and yet it found that M&A action has no constructive outcome on Operating overall revenue Ratio and Net Profit Margin Ratio of chose FMCG organizations. The study found that the measures utilized for examination that shows in general improvement in the presentation of chose FMCG organizations in India after M&As.”*

In Vietnam, so far, to the authors' knowledge, there has been no research conducted specifically for the consumer goods sector. Banks are the main research subjects of M&A projects instead. The reasons may be: i) banks are usually listed and easy to find

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data, and ii) there have been periods of exciting M&A activities in the financial-banking sector due to registration requirements industry structure of the Government and iii) finance - banking is an important sector, the performance of this industry has spillover effects to other sectors within the economy. However, in terms of value, from 2000 to 2022, it is the consumer goods sector that accounts for the largest proportion in terms of value of M&A deals. To the knowledge of the authors, this study is the first attempt to review M&A activities in the field of consumer goods in Vietnam - the leading field in Vietnam in terms of deal value.

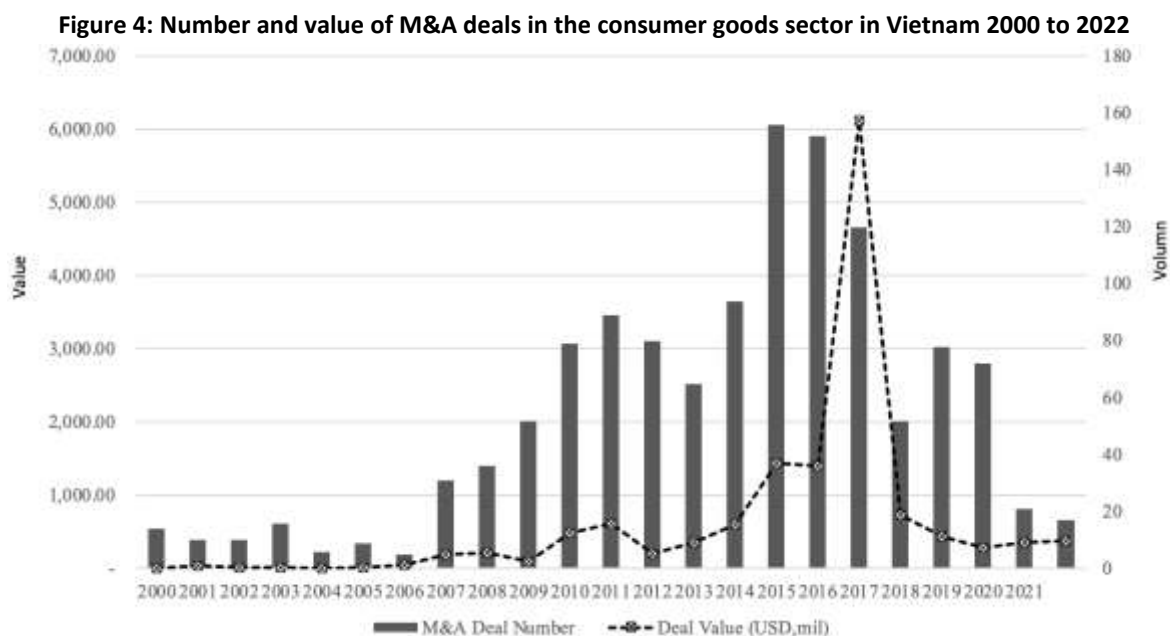
Research by (Rajesh Kumar, 2012) indicates that consumer goods companies are using M&A as a strategy to expand their global reach, enter new markets and strengthen their focus on their core brands. Acquisitions are also used to vertically integrate and optimize supply chain operations. Acquisitions in this area also aim to secure key resources or proprietary technology in certain product categories. In the post-economic crisis context, companies in the food, beverage, consumer goods and retail industries are actively participating in M&A activities, especially in developing countries. In developing markets like India, China and Russia, M&A deals are driven by the consolidation of smaller companies.

Tandyono, O. S., Juniarti, & Ferren Chandra. (2022) examined the event study on a sample of 246 companies from the consumer goods sector in ASEAN. The results show that investors react negatively to mergers and acquisitions through the fluctuation of equity price. From these findings, the authors suggest that managers do a thorough analysis in advance whether mergers and acquisitions add value to the company.

In Vietnam, research mainly focuses on M&A activities in the market as a whole or in Finance and Banking sector. The subjects of the study mainly consider the effectiveness of M&A deals carried out by listed companies or examines the impact of M&A deals on the competitiveness of the market like HHI or CRK ratios. Among them, there are significant works of (Trung, 2021) (The Binh, 2016) (Hosseini et al., 2017) (Phuong Anh & Thi Thanh Thuy, 2022). Meanwhile, there are lack of studies describing the M&A activities in consumer goods industry as well as lack of research findings knowledge about advisors for M&A buysides and sellsides in Vietnam. Our research is the first attempt focuses on this untapped area.

III. M&A AC TIVITIES IN VIETNAM CONSUMER GOODS SECTOR 2000 – 2022

In Vietnam, the consumer goods industry occupies the leading position in terms of deal value and volumn in the whole period 2000 - 2022. The consumer goods industry in Vietnam includes fast-moving consumer goods (FMCG) and consumer goods. slow use (non-FMCG). The main products of this industry group include foods, beverages, non-edible products such as personal care products, cigarettes, electronic goods, garments, etc.



Source: Thomson Reuters

The number of M&A deals in the consumer goods tends to increase after WTO accession

Figure 4 suggests that the M&A activity of the consumer goods industry in Vietnam has increased strongly in volume since 2007. Before 2007, there was an average of about each year. This fact was largely supported by the fact that Vietnam became the 149th member of the group. WTO along with the birth of a series of important legal documents such as Enterprise Law 2005,

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Foreign Investment Law 2006, Securities Law 2006, Competition Law 2004... The number of deals increased sharply from 2007 to 2017, in which increased dramatically in 2015, 2016 and 2017 (Figure 4). In these two years, the consumer goods industry has always attracted investors through the form of M&A and has become the leading industry in the M&A market in Vietnam.

Considering the period 2000 - 2022, M&A witnessed two distinct differences over time. If before 2007, M&A activities in the field of consumer goods were rudimentary and simple, but after 2007 businesses have performed very actively. On average, each year from 2000 to 2006, there were 10 M&A deals taking place, with an average annual value of 22.11 million USD. average value of 873.5 million USD. That is, the later period increased by 7.4 times in quantity and 39.5 times in value compared to before WTO accession. (Table 1)

The value of the deal increases over time

The deal value peaked in the period 2014 - 2017 (more than 6 billion USD). In particular, 2017 recorded a record deal worth more than \$4.8 billion (at current prices) that took place between Saigon Beer, Alcohol and Beverage Company (Sabeco) and the buyer, Beer Company Limited. Vietnam - an indirect owned subsidiary is Thai Beverage (Thailand) beverage and consumer goods group. However, it can be seen that the value of the deals is not large in general, both before and after Vietnam joins the WTO. In the period 2000 - 2006, the average value of each deal was about 2.87 million USD. In the following period, each deal is on average about 10.94 million USD, 3.8 times higher than before. Despite the increase, this is still a very modest number.

Table 1: Statistics of M&A activities in the field of consumer goods in Vietnam 2000-2022 by sub-periods

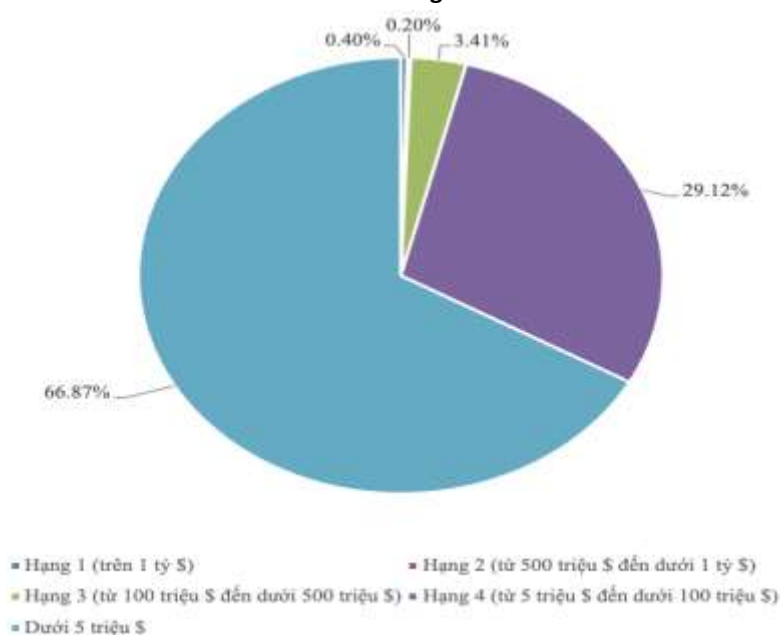
Sub-period	Volume (deals/year)	Average value (mil\$/year)	Average value (mil\$/deal)
2000-2006	10	22.11	2.87
2007-2022	75	873.47	10.94
Change	746%	3951%	381%

Source: Thomson Reuters

The data in Table 1 is calculated by dividing the total value of deals for the whole period by the number of years, we get the average sales value per year by period. In terms of average number of deals, the same is done, dividing the total number of transactions recorded for the whole period by the number of years of that period. To calculate the average deal value, we calculate the average value for each year then again average the value for the entire period.

However, there is still a lack of billion-dollar deals. Two deals worth over 1 billion USD were made in the period 2000 - 2022, including Sabeco - Vietnam Beverage (2017) and Masan Consumer - Singha Asia Holding Pte Ltd. Most deals are still under \$5 million. To review this content, we divide the deal value into 5 categories: Class 1 is the deals worth more than 1 billion USD, the deals from 500 million USD to less than 1 billion USD are classified as: Grade 2, Grade 3 are deals valued at between \$100 million and under \$500 million, Class 4 includes deals valued at between \$5 million and under \$100 million and deals under \$5 million. million USD is classified into Rank 5. This statistic helps significantly to understand the scale of M&A deals in Vietnam recently in the field of consumer goods – the field that accounts for the largest proportion in terms of value.

Figure 5: Proportions by value of M&A deals in Vietnam's consumer goods sector from 2000 to 2022



Source: Thomson Reuters

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Up to 66.87% of the deals announced in this period were deals worth less than 5 million USD. This number makes a lot of sense, it shows that most of the transfer value is still a small value. If you include Tier 4 and Grade 5, up to 95.98% of deals are valued at less than \$100 million. The statistics from Table 1 also help to reinforce this statement, the average value of an M&A transaction in the period 2000 - 2006 was about USD 2.11 million (about VND 40 billion) and the period 2007 - 2022 was 10.94 million USD (equivalent to about 250 million USD).

4.3. Domestic deals account for a significant proportion

Contrary to the results of (Vuong et al., 1990), in the period 1990-2009, a large proportion of deals have foreign elements; In this article, the data for the period 2000 - 2022 shows that there are 819 deals with the buyer being a Vietnamese company. The equivalent accounts for nearly 65% of total deals in the field of consumer goods over the past 20 years. The percentage of foreign investors is constantly increasing. The main foreign buyers are Japan, Singapore, China, Korea, etc.

Table 2: Acquirors by countries in Vietnam M&A consumer industry from 2000 to 2022

STT	Nation	Number of deals
1	Vietnam	819
2	Japan	72
3	Singapore	55
4	Hong Kong	29
5	South Korea	24
6	United States	20
7	China (Mainland)	16
8	Denmark	12
9	Malaysia	10
10	Thailand	7
	Others	202

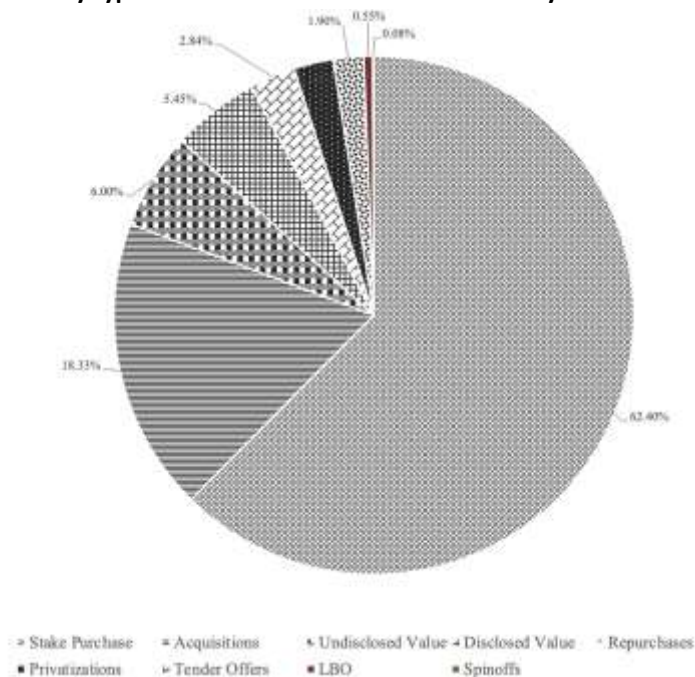
Source: Thomson Reuters

Notably, out of the total number of transactions involving foreign buyers, 100% of targets in transactions that transferred 50% or more shares were unlisted companies. The total value of those deals is only about 1.325 billion USD. It implies that legal barriers are still a significant determining factor for the value of deals because it is difficult for foreign investors to complete legal procedures when conducting transactions with public companies. If the foreign company still wants to make transactions over 50%, the foreign company is required to establish a subsidiary in Vietnam and transact through that subsidiary. The deal between Vietnam Beer Company Limited (Vietnam Beverage) and Sabeco (HSX: SAB) in 2017 is a typical example. Vietnam Beverage is a subsidiary 99% owned by Thai Beverage (Thailand). This deal is essentially a Thai company buying back the owner's stake in Sabeco (Vietnam), but the way to do it is still through a subsidiary in Vietnam, which is a cross-border M&A. In terms of legal aspect, the transaction between ThaiBev (Thailand) and Sabeco (Vietnam) is a domestic deal.

The types of M&A is diverse

Although M&A is a new playground for local firms, M&A deals taking place in Vietnam have quite diverse forms. In which, the common types include: Stake purchase, acquisition, tender offer, besides there are other methods such as LBO, Spinoff, Repurchase, etc (Figure 6).

Figure 6: Deals by types in Vietnam M&A consumer industry from 2000 to 2022



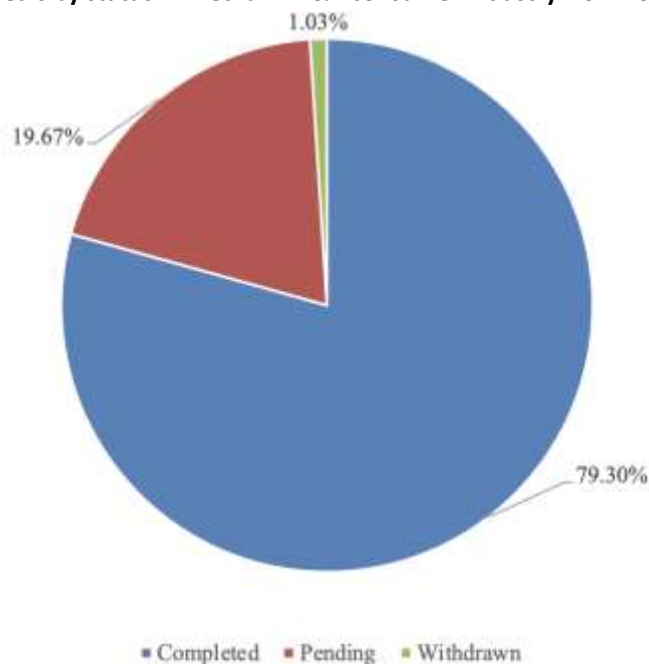
Source: Thomson Reuters

The number of deals made in the form of stake purchase accounted for the largest proportion, accounting for more than 62.4% of the deals. It is easy to understand why this phenomenon occurs, when the buyer's holding rate is less than 50% of the voting shares of the target company, it is easier for the two parties to reach an agreement to negotiate and close the deal. a large percentage due to the significant influence of the seller's interests. The second largest type of business is acquisitions with a share transfer rate of over 50%, accounting for 18.33% of all deals taking place in the technology sector during this period. However, mergers and consolidations are rare. For more than 20 years, almost no merger or consolidation took place. Perhaps because performing a merger or consolidation requires a high consensus of the owners of the parties involved as well as the complexity in completing legal procedures. Therefore, it leads to the fact that stake purchase and acquisition dominating other forms of M&A within consumer goods sector in Vietnam from 2000 to 2022.

High success rate of completion

In this section, we consider the success of the deal based on the ability to complete the legal procedures to close the deal. This is an important phase in the M&A process, a stepping stone to open the stage of operational integration to achieve the goals set by the buyer and seller in the negotiation. From 2000 to 2022, this rate in M&A activities in the consumer goods sector is high, accounting for 79.3% of total deals. According to (Vuong et al., 1990), in the period 1990 - 2009, the average success rate of deals was 93% of the total 252 deals surveyed. However, in this study, we examined a large sample of 1266 deals with different timeframes, and found that in the large sample, closing rates were significantly lower. If calculated on average for the whole market, this rate is only about 73%. Thus, the consumer goods industry has a higher transaction completion rate than the market average.

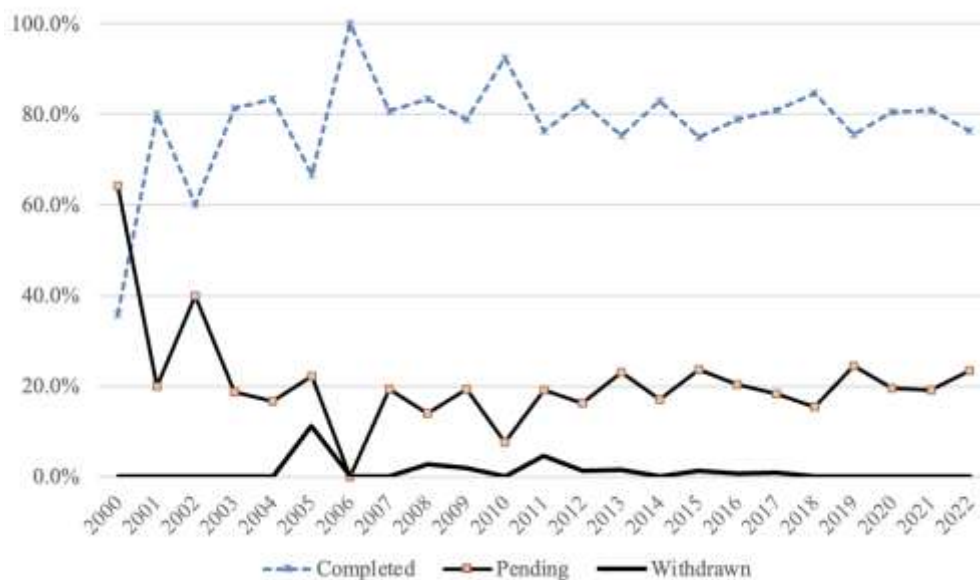
Figure 7: Deals by status in Vietnam M&A consumer industry from 2000 to 2022



Source: Thomson Reuters

Let’s see the details of M&A transactions by year, it is easy to note that the average transaction completion rate ranges from 40% to 100% depending on the sub-periods. From the dataset, the lowest level was 40% in 2000 and the highest successful rate was nearly 100% in 2006. Meanwhile, the other years had the success rate of M&A procedures in the field of consumer goods fluctuated around 80% of total transactions. The annual pending deals rate is about 20%, which is a relatively low level. Notably, the transaction withdrawal rate is not significant, even many years there was no transaction in the form of a withdrawal. (Figure 8)

Figure 8: Deals by status in Vietnam M&A consumer industry 2000 to 2022 (yoy)



Source: Thomson Reuters

Diversified M&A counterparts

Partners (target companies) of acquiring companies in the diversified within the sector, including both listed companies and unlisted companies. The percentage of target companies listed on one of the three exchanges HSX, HNX and UpCom accounted for 35.31%, less than the rest of unlisted companies (64.69%). Meanwhile, the buyers are more modest, only about 20.06% are companies listed on the Vietnam stock exchange.

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Table 3: Completed deals in Vietnam M&A consumer industry from 2000 to 2022

	Listed companies	Non-listed companies
Acquiror	253	1013
Completed deal (%)	77.47%	79.76%
Target	484	782
Completed deal (%)	78.31%	79.92%

Source: Thomson Reuters

Notably, the success rate of unlisted deals is higher than that of listed deals on both the buyer side and the target company, although the difference is not much. Again, it is suggested to have loosen policies to simplify procedures for listed companies in order to increase the completion rate for this type of company. Limiting the percentage of ownership still makes it difficult for parties to complete M&A, especially foreign companies.

IV. THE ROLES OF M&A ADVISORS

M&A advisors play an important role in Vietnam M&A activities in consumer sector as well as in other local industries, especially cross-border transactions. They help to conduct due diligence, complete documents and prevent potential risks. The rate of hiring advisors in cross border M&A transactions higher than this in domestic deals. The rate that M&A advisors were considered in M&A transactions depended on the complexity of the transaction. The complexity of the transaction might be the methods of payment, the rate of transferred shares or the structure of the deals (i.e. merger would be more complicated than equity acquisition) and whether the deal is vertical or horizontal. In addition, about two third of the large-size deals would hire M&A advisors to complete complex tasks. Nevertheless, most of small size M&A transactions did not having advisors for their works. Instead, they use in-house professionals to conduct the deal. The proportion of small size transactions is about 90% of total deals by volumn. The most popular fields are legal advisor and finance advisor of which legal advisor is overwhemle to finance advisors. These findings were based on semi-structure interview with 5 M&A advisors in the country.

V. CONCLUSIONS

This research focuses on finding, describing and analyzing the characteristics of M&A activities in the consumer goods sector in Vietnam in the period of 2000 - 2022. It is easy to see that there has been a significant change in Vietnam's M&A market these years. In general, the consumer goods industry in Vietnam holds the largest position by value after 2007 - the milestone when Vietnam joined the WTO. Based on the statistics of 1266 deals, the analysis shows that the success rate of deals in the consumer goods sector is relatively high compared to the average level of the whole market. During the same period of time, the general success rate in Vietnam's M&A market was only about 73%. Although accounting for the largest proportion in terms of value in the M&A market in Vietnam (23%) over the past 20 years, transactions are still in their infancy and the average transfer value per deal tends to increase over time. The most prominent feature is that the deals in the consumer goods sector are mainly small-scale (under 100 million USD), completed mostly by domestic companies with the main types of stake purchase, acquisitions, tender offer; other forms such as mergers, consolidation, LBO, Spin-offs account for negligible or almost equal to zero.

The limitation of the paper is the lack of quantitative analysis to examine the effectiveness of M&A deals in the consumer goods industry in Vietnam as long as to find the factors that motive those efficiencies. These might be suggestions for further studies for future scholars.

ACKNOWLEDGMENT

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The Nature of Small Business Holders' Vulnerability in Tanzania. A Case of Street Vendors in Dodoma City



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ABSTRACT: This study has examined vulnerability of street vendors in its different forms and was conducted around Central Business District in locations; Nyerere square, Sabasaba, Majengo and Oneway. The study employed both quantitative and qualitative techniques within which quantitative aspect employed probability sampling while qualitative aspect employed non probability sampling. Data were collected using survey, interviews, and observations coupled with documentary review. The findings in this study reveal that street vendors disputes with LGA in Dodoma city erupt occasionally due to street vendors conduct their businesses in land spaces not originally meant for street vendors, there is neither legal defense nor advocacy for street vendors' interests, there is also low level of awareness, business knowledge and skills among majority street vendors. It is recommended that there is a need for rational mainstreaming SVBs in policy, laws and by laws. Curbing the street vending vulnerability require halt of ad hoc and emergence-style of addressing street vendors' vulnerability. This study argues that it is high time for street vendors be supported to establish strong organization for the purpose of effective advocacy and effective representation of street vendors without compromising urban land space use standards.

KEYWORDS: street vendors, policy, laws, vulnerability, main streaming, advocacy, livelihood, license, informal.

BACKGROUND OF THE STUDY

According to the International Labour Organization (ILO, 2015) more than 61% of the world's employed population, work in the informal sector. Street vending business is increasingly becoming a vital livelihood strategy for millions of urban dwellers in Sub-Saharan Africa owing to its significant contribution to vendors' livelihoods and contribution to governments' incomes (UN-HABITAT, 2014). Street-vendors are often the main income earner supporting large families of dependents, and street-vending allows children of the poor to continue in education and rural families to benefit from remittances (Skinner, 2008a; 2009 Lyons and Brown, 2010). The search for alternative livelihoods has seen more people being engaged in the informal sector in especially many developing countries. This is facilitated according to Asiedu & Agyei-Mensah (2008) by increasing limited formal employment opportunities due partly to both global and national economic changes and increasing urbanization

Studies reveal that informal sector rates are considered the highest in Africa and sub-Saharan African countries in particular pointing that Zimbabwe, Tanzania and Nigeria informal sector were around 58.6 per cent in 1999, 56 per cent in 2004 and 53.7 per cent in 2007 (Buehn & Schneider, 2012; Dell'Anno, AnaMaria, & Balele, 2018; IMF, 2018). Particularly, Tanzania's informal sector economy has been estimated at 52%-61% of GDP in 2013-2015 (Buehn & Schneider, 2012; Dell'Anno, AnaMaria, & Balele, 2018; IMF, 2018).

As a result of the competing interests between street vendors and regulators, street vending has come to depend largely on a constant negotiation among vendors, buyers, and regulators (Recio & Gomez, 2013). Negotiations may be for public space, for economic opportunity, and for power, and may involve the general public, shop owners, and urban regulators. Among street vendors, regulators, pedestrians, and the general public, negotiations may occur regarding what can be considered an acceptable and unacceptable use of space, as well as what can be considered rights of the vendor to operate and earn a living from public spaces against the rights of the state to maintain public spaces (Horn, 2014).

Tanzania is considered among the countries with the biggest number of informal workers in Africa whereby the size of its informal economy has grown from 10% of GDP in 1960s, to 20% after the mid-1980s, 58.3% in 1999 and 2000, and around 52%-61% of GDP in 2013-2015 (Dell'Anno, AnaMaria & Balele, 2018). Street vending legalization in Tanzania has passed through a long evolutionary process. It started by a few licenses being given to Asians during the colonial era. This was aimed at protecting the colonial

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businesses. Such a state lasted till 1980s (Lyon & Msoka, 2007; Steiler, 2018) and during that time vendors were illegal and regarded as loiterer. The government has made several initiatives to enhance the provision of licenses and permits to vendors. These include setting aside some designated places and constructing relevant infrastructures and market places for these vendors (Munishi & Casmir, 2019). Despite the above efforts, issues of street vendors licensing and permits issuing which guarantee their legitimacy and access to space have been bitterly contested by stakeholders ((Horn, 2014). This has led vendors to continue missing reliable business places and infrastructure. Most of them still depend on unauthorized government free spaces including road reserves, streets, bridges and fences around government premises. Subsequently, this situation subjects vendors to frequent and at times serious conflicts with the urban municipal authorities. Vendors still experience conflicts with municipal authorities especially when they undertake their businesses in unauthorized places around urban places (Racaud, S., Kago, J., & Owuor, S. 2018)

STATEMENT OF THE PROBLEM

Inaccessibility of licensing and permits among street vendors in Tanzania can result to making street vendors vulnerable as far as legalization of street vending is concerned (Horn, 2018; Steiler, 2018). In 2016 a decree was issued against the eviction of street vendors in urban settings, insisting urban authorities to allow vendors find different business sites in the urban open spaces. This was followed by the legalization of the street vendors' operations through business registration and provision of special IDs. Such IDs are provided by the Presidents' office to all street vendors all over the country through local administrative authorities.

Vulnerability of street vendors is not limited to acquisition of business IDs. Street vendors face a number of challenges even when already permitted and licensed to trade. High vulnerability will decrease the ability of street vendors to preserve their survival ability (Roever. & Skinner, 2016). Despite LGA efforts to accommodate street vendors, street vendors are still subjected to vulnerability. This study intends to uncover nature of street vendors vulnerability in the study area since previous studies have not been able to exhaust all avenues and contexts of street vendors vulnerability in the study area.

LITERATURE REVIEW

Empirical Review

In this part, this study has found it necessary to visit some aspects of street vendors vulnerability based on previous study.

Poor enforcement of the policies

One of the constraints is poor enforcement of the policies related to street vending licensing and permits issuing. Experience shows that street vendors face a number of challenges even when already permitted and licensed to trade (Roever. & Skinner, 2016). This is coupled with the fact that the process of allocating licenses and permits is mired with inconsistency, a situation that leads to dissatisfactions and conflicts among the vendors (Horn, 2018).

Lack of enough business space

Another constraint is lack of enough business spaces as evidenced in West African countries where local licensing is based on allocation of business spaces. However, due to high demand for space there are still many street vendors all around the markets (Horn, 2018). Another constraint concerns the introduction of licensing and permits regulations that specify pre-conditions, such as entrepreneurial registration requirements, or restrictions on the goods or services that may be sold as evidenced in countries such as Azerbaijan, Belarus, Brazil, Kenya, Kyrgyzstan and Moldova. Such kind of pre-conditions can be difficult to comply with (ILO, 2006).

Inadequate number of license and permits

Closely related to the above stated constraint is inadequate number of license and permits in comparison with the number of vendors as evidenced in Nairobi, Kenya and Sao Pulo, Brazil where the number of vendors in cities considerably exceeds the number of available licenses. For example, in Nairobi, Kenya, there were only 7,000 licenses against the estimated number of 500,000 street traders while in São Paulo, Brazil in 2009 there were only 2,200 licenses against an estimated number of 100,000 vendors (Roever & Skinner, 2016).

Hostile legislations, plus inadequate licensing systems

Hostile legislations, plus inadequate licensing systems, create an environment in which predatory state and non-state actors extract rents from vendors who lack legal standing. This further leads to ineffective and unfair enforcement of licensing and permits procedures. Inadequate license system makes street vendors reluctant to comply with standard procedure before joining street vending business, ultimately large number of street vendors are in street undertaking their business without authorization (Milgram, 2011)

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Lack of supportive vending environment

Lack of supportive vending environment even when the vendors are already licensed and permitted to trade in urban areas is yet another constraint. Indeed, street vendors work under inhospitable conditions, with no basic facilities, and under constant fear of harassment and damage to their goods even where they have been allowed to practice their trade whether legitimately or not (ILO, 2006).

Lack of clarity in laws and policies

This is coupled with lack of clarity in laws and policies as yet another constraint towards implementing vendor licensing and permit. In Cambodia for example, the national development policy and urban development policy are not explicit in their policy direction about street vending. This means contradicting laws and policies in place. For example, in some countries street vendors are defined as illegal but still pay taxes legally. On the other hand, tax rates are specified in policies. However, since vendors are defined as illegal, they have to pay fines and other amounts to the police (ILO, 2006).

Subjecting vendors to unnecessary complex licensing procedures is yet another constraint to enforcement and implementation of the vendors' licensing and permit issuing. The evidence from literature suggests that food vendors are subject to particularly complex licensing regimes that can create openings for street-level bureaucrats to extract side payments. (Mahadevia, Brown, Lyons, Vyas, & Mishra, 2013) for example, it was found that a license for a vegetable vendor in Ahmedabad, India specifies 21 restrictions on when, where and how one can sell the intended commodities. Licensing and permit issuing leads to several implications on the vendors and vending business. It activates restrictions on products sold by the vendors. In some countries vendors are restricted to selling items such as cooked foods, or highly-regulated products, such as medicines, cigarettes or alcohol. Such prohibition limits businesses, income as well as the livelihoods of the street vendors (Horn, 2018; ILO, 2006).

Another impact is that through licensing and permit issuing practices, street vendors are subjected to various taxes and charges as evidenced in West African countries, where informal traders are subjected to the daily, monthly or annual payments. Restrictions on access to and occupation of public space without introducing alternative trading places are yet another impinging effect. Such implications limit incomes and livelihoods of the vendors too (Horn, 2018; ILO, 2015).

Lack of relevant business skills

The Tanzanian informal sector traders continue to suffer from various challenges related to lack of relevant business skills. In fact, many street vendors engage in the business prior to any formal training, a situation that jeopardizes their livelihood due to less success in business (Mubarack, 2018). Further, Munishi and Casmir (2019) articulate that, vendors' capacities to sustain their businesses are impeded by their lack of knowledge about financial institutions, financing procedures, business skills and training, limited access to credit institutions and knowledge in using such credit facilities.

On the other hand, some literature specifies that, street vendors require negotiation skills to enable them cope with the competing interests between them and regulators, fellow vendors, buyers, and regulators (Forkuor, Akuoko, & Yeboah, 2017). Another factor hindering provision of appropriate skills to the vendors is the poor role played by the universities and higher learning institutions. According to Mubarack (2018), universities and other higher learning institutions are not supporting vendors with appropriate skills due to poor link between them and street vendors resulting from budgetary constraints.

Limited participation of the vendors in both policy and political decision-making process

Another constraint for introducing and enforcing the vendor licensing and permit issuing widely captured by literature is lack of, or poor involvement of the vendors in policy making process especially those ones related to licensing and permit issuing. The participation of street vendors and informal traders in preparation of the licensing and permit programs and laws is not encouraged and is mostly ignored. This leads to creation of policies which are top down. In most cases vendors do not feel as part of such policies rather imposed regulations unto them (Horn, 2018). Limited participation of the vendors in both policy and political decision-making process mainly owing to their lack of resources to organize and make their voice heard is yet another constraint to vendors' acquisition of relevant skills. (Mahadevia, *et al.*, 2013). This denies the vendors an opportunity to penetrate their skills and knowledge matters for inclusion in policy (Mubarack, 2018).

The informality of street vending business is associated with neglect by the governments and hence illegality, this makes the measurements on the number of street vendors to be difficult as they are not included in the municipality and cities plans. Despite the number of street vendors' measurements is difficult, the number of street vendors has been growing from year to year. For example, the street vendors in Dakar, Senegal accounts 13% of urban population, Lome, Togo (24%), Kenya they account 5.2 % of the non-agriculture workforce. In Dar es salaam they are estimated to account at about 1 million (Mramba, 2015)

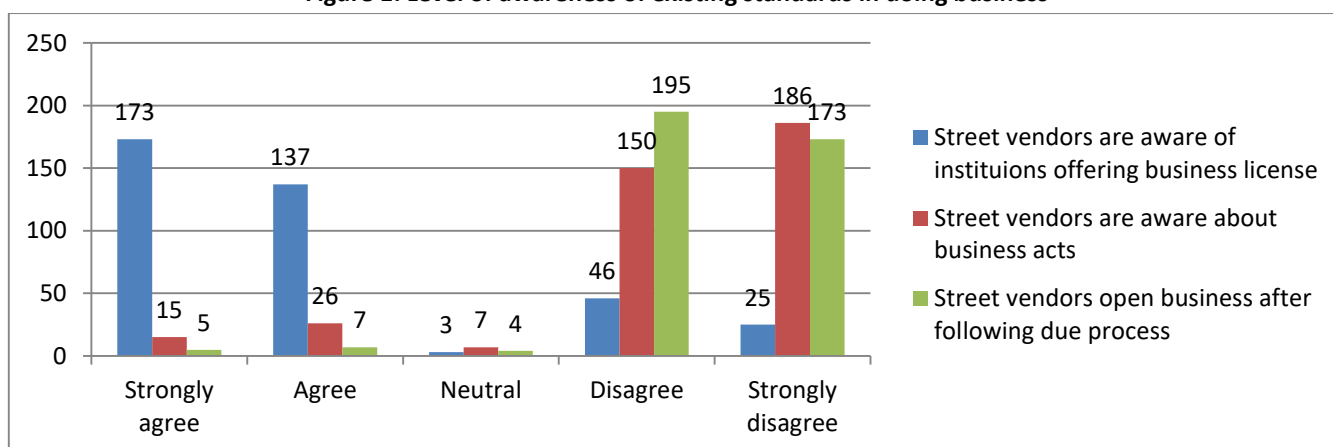
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FINDING AND DISCUSSIONS

Level of awareness of existing standards in doing business

There are different procedures in acquiring business license in different countries. As far as Tanzania is concern, an individual who decide to start a business must follow all the procedures and acquire documents representing government permit allowing a business to be opened. The findings in this study show that street vendors' level of awareness on existing standards is low. The findings report that 173 respondents equivalent to 45%, strongly agree to the statement street vendors are aware of government institutions offering business licenses and 137 respondents, equivalent to 36% agreed to the statement that street vendors are aware of government institutions offering business licenses, as illustrated as in the figure 6 below. This implies that respondents are aware of procedures to be adhered to acquire business licenses because the procedures are available and given by respective government agents with mandate to offer business licenses. Although there is awareness on the procedures to be followed before opening business, street vendors are not complying with existing standards where situation in the ground show that street vendors do open business before fulfilling and acquiring business documents. This was shown by 195 respondents equivalent to 51% , disagree and 173 respondents, equivalent to 45% strongly disagree to the statement that street vendors do open business after following due process. Respondents also are handicapped with regard to awareness of government business acts where an overwhelm number of respondents equivalent 48% strongly disagree and 39% disagree to the statement street vendors are aware about government business acts. Low level of awareness, particularly among street vendors, about policies and laws designed to regulate business activities affect negatively compliance to business standards. Failure to comply with business standards coupled with vulnerability of street vendors.

Figure 1: Level of awareness of existing standards in doing business

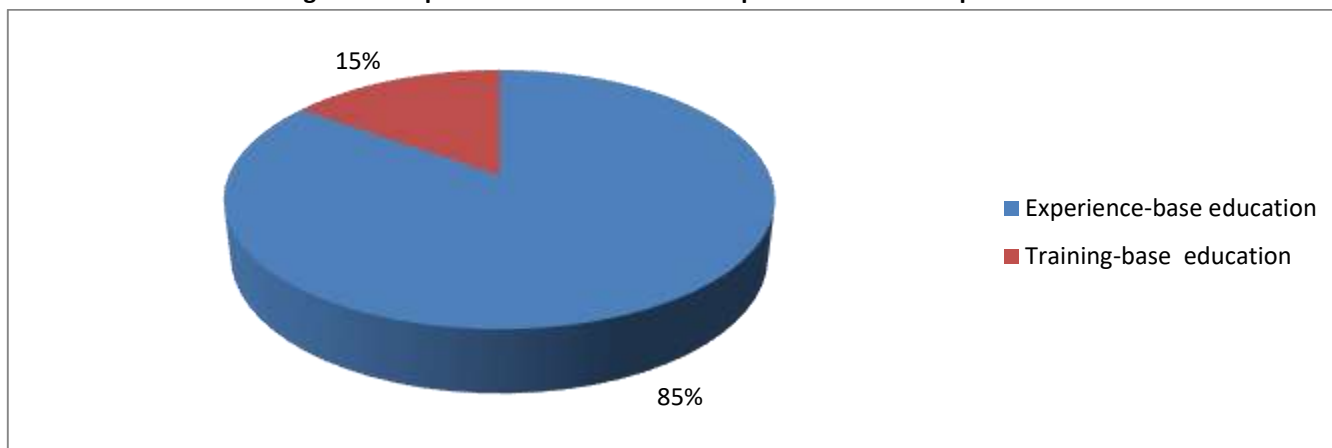


Source: Researcher's survey (2023)

Proportion of street vendors acquired business competences

The findings in this study shows that street vendors believe that SVB can be undertaken regardless competences have been achieved after accomplishing training in business education courses. Through attending training in business education, one acquires knowledge and skill on how to start, run and manage business. Figure 7 below, illustrates proportion of street vendors who have attained competences in business education. Where only 15% of street vendors in the sample have acquire business knowledge and skill through training-base education, whereas 85% have attained business knowledge and skills solely through experience-base learning. Without business knowledge and skills is difficult to identify and mobilize resources which are needed and manage them well. The implication of the findings is that the mindset of street vendors is viewing SVB as not a professional and one must not attain skill through training to be able to conduct the business. Previous studies underscored the importance of relevant skills in doing business be it small, medium or large. Relevant business skills are vital to street informal traders and vendors in particular, given that any kind of business requires certain skills and principles that can guarantee sales, profitability as well as business sustainability (Munishi & Casmir, 2019). Studies (Oosthuizen, 2008; UN-HABITAT, 2014) remark that, the resources and attributes, notably, knowledge and skills needed for successful street vendors are the same resources and attributes needed for an entrepreneur to successfully start, run and grow a business.

Figure 2: Proportion of street vendors acquired business competencies



Source: Research survey (2023)

Nature of locations for SVB

This study investigated the various conditions which are considered when it comes to choice of location to run SVB. The findings in this study demonstrate financial implications being in the upper hand when street vendors make choice of business location. Table 6 below illustrates larger number of street vendors in the sample, equivalent to 62% strong agreed and 38% of respondents agreed that they do consider Central Business District (CBD) as potential location with financial gain. The findings in this study show that regardless being authorized or being well upgraded for SVB, street vendors start business in any location around CBD. Respondents were asked to acknowledge whether there are spaces permanently authorized for SVB, 269 respondents equivalent to 70% disagree and 107 respondents equivalent to 28% strongly disagree, to the statement street vendors conduct business in spaces permanently authorized for SVB. Base on the findings in this study, there is no spaces permanently authorized for SVBs in the study area.

Table 1: Illustration of nature of location for SVB

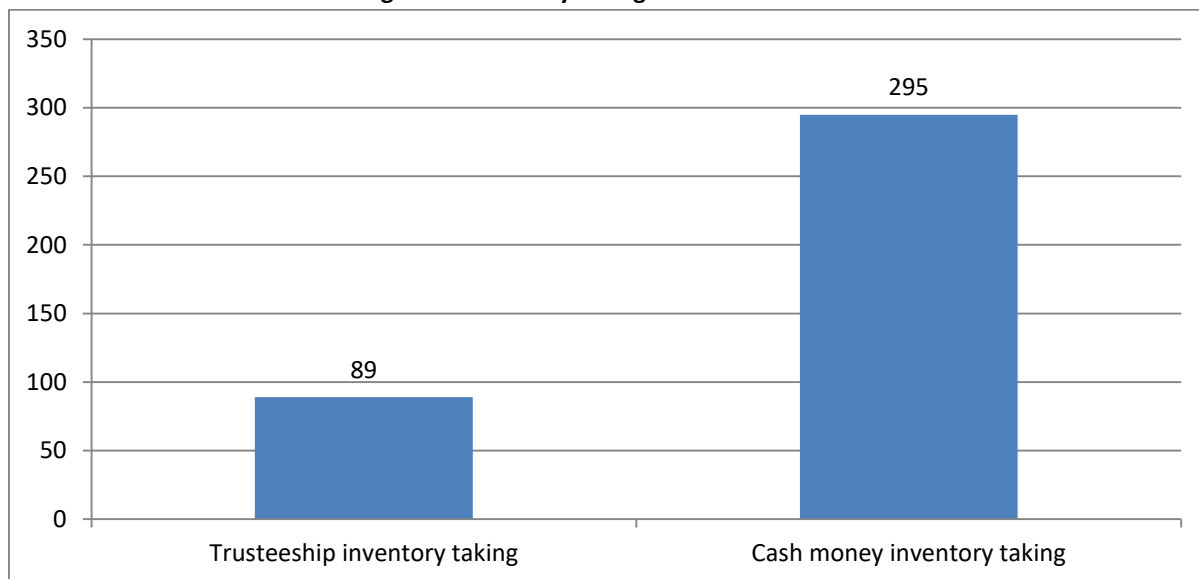
Nature of location	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Spaces with no other uses authorized for SVB	0(0%)	0(0%)	0(0%)	176(46%)	208(54%)
Spaces around Central Business District (CBD)	238(62%)	146(38%)	0(0%)	0(0%)	0(0%)
Spaces well upgraded for SVB	23(6%)	18(5%)	3(0.8%)	277(72%)	63(16%)
Spaces permanently authorized for SVB	0(0%)	0(0%)	8(2%)	269(70%)	107(28%)
Spaces with no other uses authorized for SVB	0(0%)	0(0%)	0(0%)	183(48%)	201(52%)

Source: Researcher survey (2023)

Inventory taking mechanism in SVB

In the process of establishing business enterprise, one should be able to mobilize resources which are needed. The study investigated how street vendors take their inventory. The findings in this study show that street vendors in the study have limited means of taking their inventory. One of the mechanisms used by street vendors is known as trusteeship where a business involves two sides. One side is that of owner of inventory and the other side is street vendor. Under trusteeship, street vendor is entrusted to take inventory and start street vending in return for payment of cash after selling. Use of trusteeship to acquire inventory is a prominent mechanism for those street vendors who fail to get a startup capital, in other word social capital is perceived as important, than financial and physical capital, to street vendors. The breach of trust would ultimately result to withdraw of support. The other mechanism is use of cash money to take inventory. Although a proportional number of street vendors seem to manage taking inventory with cash money, this study report that some street vendors do not have a startup capital to establish street vending business. The figure 8 below illustrates mechanisms street vendors employ to take their inventory.

Figure 3: Inventory taking mechanism in SVB

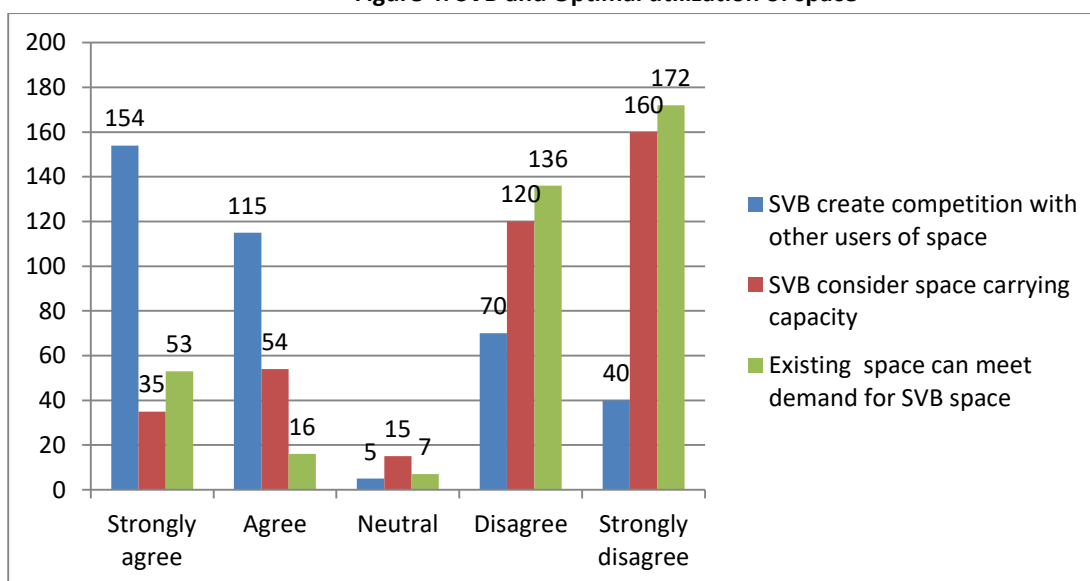


Source: Research survey (2023)

SVB and optimal utilization of space

The study intended to assess the extent in which land space utilization abide with standard of optimal utilization of land space. The findings in this study show that SVB use of space compromises other users of the spaces. When respondents were asked to provide their view about prevalence competing use of space, 154 respondents equivalent to 40% strongly agree whereas 115 respondents equivalents to 30% agreed that SVBs create competition with other users of space. This implies that there is no effective utilization of space because other users have no free access to use of space. When respondents were asked to provide their views on whether SVB abide to space carrying capacity, 160 respondents equivalent to 42% strongly disagree whereas 120 respondents equivalents to 31% disagree with the statement that SVB consider space carrying capacity, as portrayed in the figure 9 below. Space carrying capacity standards is what makes use of space optimal and effective. The findings in this study show that although use of space by street vendors is politically acceptable and financially viable, it becomes controversial issue because the existing use of space by street vendors is not; socially acceptable, economically viable, technically sustainable and environmentally friendly.

Figure 4: SVB and Optimal utilization of space



Source: Researcher survey (2023)

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CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings in this study is presented with respect to vulnerability of street vendors. It was revealed that SVBs is a source of income in which street vendors rely upon to support their families. Street vendors level of awareness, on business acts guiding business permit, is low suggesting poor compliance when it comes to starting business by following due process and standard procedures. Street vendors in the study area have acquired business skill and knowledge mainly through experience-based learning. LGA is under pressure to accommodate SVBs under circumstance of disorganized SVBs in term of over congestion of street vendors without premises.

Recommendations

Legal defense

Policy and legal framework need to be in place as the basis for enforcement of SVBs. This would help address the vacuum created by lack of principles and regulation on where and how SVBs are to be conducted. Policy and laws are needed to provide a guide on obligation of regulators and law enforcement agencies towards protection and advocacy OF SVBs. Relevant LGA officials can take part in process of SVB policy formulation in collaboration with ministry of constitutional and law.

Establishment of premises

To safeguard uniform standards of SVBs infrastructure design in a manner which sound well upgraded. SVBs hubs can be created to avoid over congestion of street vendors in a single hub. Those hubs can be selected around CBD in Dodoma city. Making SVBs hub be around CBD will motivate street vendors because of accessibility by urban low income dwellers. Achieving this standard would require LGA in Dodoma city to conduct land space need assessment to determine size of land space needed to accommodate street vendors in Dodoma city. Relevant government regulators can be involved in designing premises for SVBs.

Establishment of SVBs strong organization

Strong street vendors' organization implies leadership of street vendors well equipped with leadership ethics whereby daily businesses of leaders are guided by the constitution. Strong street vendors' organization implies street vendors' interests are well defended meanwhile street vendors leadership act as a bridge between LGA and street vendors.

Skill upgrading

Under circumstance street vendors have not acquired business knowledge and skill through attending training on business education in college of business education, street vendors skill upgrading is needed for the purpose of equipping street vendors with basic knowledge on how to mobilize and manage resources, inventory management, customer care as well as establishment of network with relevant actors for the purpose of securing support both financial and non-financial.

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Collaborative Learning and Learners' Academic Performance



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ABSTRACT: Learning and socializing are fostered via collaborative learning. The study determined the level of learners' collaborative learning and learners' academic performance in elementary schools of Laguindingan District, Division of Misamis Oriental, for School Year 2023 – 2024 in terms of positive interdependence, promotive interaction, and individual accountability. The learners' level of academic performance and its relationship to collaborative learning. The descriptive method with content analysis using probability sampling was used as the research design with two hundred two (202) Grade - VI public elementary school learners. The data employed were collected through an adapted and modified survey questionnaire by Youngren (2021) and Delfino (2019). To analyze the gathered data statistically, the mean, standard deviation, and Pearson Correlational Coefficient (r) were employed. The results indicated the highest in collaborative learning in terms of promotive interaction, while individual accountability as the lowest. There was a significant relationship between collaborative learning and learners' academic performance. It is recommended that teachers should continuously encourage the learners to promote positive attitudes, motivation, and a sense of shared purpose. Further, teachers need to improve strategies, evaluate group dynamics, collect feedback from collaborative activities, and make necessary adjustments.

KEYWORDS: Academic Performance, Collaborative Learning, Individual Accountability, Positive Interdependence

I. INTRODUCTION

A vital part of education and human growth is the interconnected processes of teaching and learning. Both are interactive and entail the sharing of information, abilities, and knowledge between a teacher and a learner. When it comes to the teaching and learning process, Collaborative Learning (CL) refers to a collection of teaching and learning techniques that encourage learners to work together in small groups (Le et al., 2018). According to Ismail et al. (2018), the very essence of collaborative learning is working together toward a shared goal. This implies that in addition to their own learning, learners are accountable for one another's academic progress.

A collaborative group consists of two to five learners working in a group to maximize both individual and group learning. Collaborative learning may occur through peer-to-peer learning, also known as peer instruction that involves learners working in pairs or small groups to discuss concepts or find solutions to problems. The collaborative method emphasizes getting learners involved in group learning as opposed to traditional lecture-based training, which frequently emphasizes memorization. Furthermore, learners work together to better grasp the subject matter by drawing on their varied experiences, backgrounds, and views. To achieve the goal, learners must work collaboratively to understand and learn the subject thoroughly. That is why teachers delegated extra effort to incorporate various sorts of collaborative learning activities in every lesson to accomplish lesson goals and objectives that affect learners' academic performance.

The capacity of learners to demonstrate mastery of academic skills and knowledge in a variety of subject areas was referred to as learners' academic performance. This is typically measured in terms of scores and grades earned by the learners, which largely determines their success (Baliyan et al. 2021). This ability is evaluated through a variety of methods, including tests, quizzes, assignments, projects, and exams. Moreover, according to Tus (2020), learners' academic performance represents an important component of the factors influencing learners' success. It is essential to teaching and learning, particularly as a practical tool for evaluating the learner's educational progress.

Hence, as mentioned by Chapagain (2021), learners' academic performance is the primary indication of educational improvement in every country. Learners who have poor academic performance in class may find it distressing and difficult for

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themselves, their teachers, parents, and the school. National governments have concentrated a lot of their efforts on ensuring that secondary and elementary school education is both accessible and of high quality.

In accordance with the DepEd Memo No. 8, s. 2023 Multi-Year Guidelines on the Results-Based Performance Management System – Philippine Professional Standards for Teachers (RPMS-PPST), Classroom Observation Tool (COT)-RPMS for Proficient Teachers is under it. As mentioned in the said memorandum, under KRA 1 on Content Knowledge and Pedagogy, teachers who use the proficient tools are expected to apply a variety of teaching and learning strategies that are well aligned with the needs of both individual and group learning. It also encourages learners to participate, cooperate, and collaborate to improve learners' academic performance. Additionally, empirical studies on learners' engagement and collaborative learning have shown a favorable relationship between these two areas (Vega-Abarzúa et al., 2022). Encouraging a culture of collaboration in the classroom is the researcher's primary consideration because, based on Pahomov (2018), collaborative learning has been proven to be effective in developing relationships with peers and, most especially, creating better work.

Moreover, Olivier et al. (2020) affirm that a lack of learner engagement leads to learners' academic failure. Therefore, the goal of this study is to determine whether collaborative learning has a relationship with learners' academic performance in the district of Laguindingan.

The Social Interdependence Theory, which was first proposed by Deutsch and later expanded by Johnson and Johnson (2018), serves as the basic foundation for this study. This theory is one of the key influences on both collaborative and cooperative learning. The theory's founding principle is that individual learning outcomes are determined by the social relationships among group members and the psychological processes that learners go through while engaging in collaborative activities. Also, this theory has been used as the basis for the structural design of the tasks that learners have been given to complete. This hypothesis states that when group members realize that collaborating on a task will improve the chances of succeeding in the shared objectives, learners will begin to interdepend. This method of instruction encourages engagement and conversation amongst pairs and small groups of learners to deepen their understanding of the content being studied. This indicates how collaborative learning encourages positive social skills and supports learners who are working on challenging tasks. Furthermore, as mentioned by Bean and Melzer (2021) in the book called *Engaging ideas*, collaborative learning was referred as the wealth of strategies. It is for this reason that it offers a variety of benefits and encompasses numerous instructional methods that enhance the learning experiences.

Additionally, the same theory was applied in a study by Frykedal and Chiriac (2018), which emphasizes group work as a teaching method that fosters learners learning and sociability. The study focuses on how learners engage and collaborate when working on a group task, as well as the inclusive processes they create through the work they do together to achieve common goals by paying attention to one another and learning from one another. Thus, according to Social Interdependence Theory, there are important elements that must be present to enhance the collaborative potential of groups. These are positive interdependence, promotive interactions, and individual accountability.

Positive interdependence encourages learners to collaborate, assist, and cheer each other on as the learner studies and accomplishes. Promotive interactions are where learners are given the opportunity to help other group members resolve problems. Each of the learners from the group can give comments and suggestions to members to explore ideas and establish a framework for their understanding, and learners may also provide resource sharing that enables them to maintain positive interactions with peers. Individual accountability allows individuals to take responsibility for their actions rather than blame others. It also allows everyone to learn, grow, and solve problems. Interpersonal and small group skills increase the level of trust amongst group members, improve learners' communication skills, and help find solutions to problems when disagreements arise. Lastly, group processing entails the group members analyzing and assessing their work; this is essential for fostering, affirming, and preserving learners' productive working relationships.

Along the same line, Backer et al. (2018) found that learners are more likely to engage, have positive social skills, and have content skills that exert more effort when they are working successfully in collaborative groups. The faculty and learners agreed that collaborative learning environments or small groups are excellent methods for fostering learners in both learning and engagement that help learners' academic performance. As per Miguel et al. (2023), collaborative learning significantly contributes to improving learners' academic performance.

II. METHODOLOGY

The study used a descriptive method to describe and determine the relationship between collaborative learning and learners' academic performance. An accurate and systematic description of a population, situation, or phenomenon was the goal of descriptive research. What, where, when, and how questions can be answered in this method. Also, this study involves the

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gathering, processing, and interpretation of data. Descriptive research performs several vital tasks to give researchers a description of the context as well as a source of suggestions for improvement (McCombes, 2023).

In particular, a descriptive correlational research design was used to determine the impacts of collaborative learning under it, namely positive interdependence, promotive Interaction, and individual accountability on learners' academic performance among the public elementary learners from the six different schools of Laguindingan District. The research design was thought to be the most useful in fulfilling the objectives and goals of this study.

The study's respondents were the two hundred two (202) Grade - VI public elementary school learners from Laguindingan District, Division of Misamis Oriental, Region X, with no specific age range and no gender preferences.

The study employed a purposive probability sampling, wherein the five public elementary schools' Grade - VI learners in Laguindingan Central School, Mauswagon Integrated School, Sambulawan Elementary School, Sinai Elementary School and Tubajon Integrated School were the respondent schools.

The researcher employed the descriptive statistical method. In particular, mean, standard deviation, and Pearson Correlation Coefficient (r) were utilized as statistical tools.

The Mean often known as the average, is a basic measure of central tendency and is important in research for several reasons. In a data, the Mean denotes a typical or central value. It offers a summary statistic which is helpful in comprehending the general traits of a population or group. Comparing several groups or circumstances is made simple by using the Mean. Researchers can rapidly evaluate the average performance or behavior and draw insightful comparisons by computing the Mean for each group.

Similarly, the Standard Deviation (SD) is also considered as powerful tool in research. It provides insightful information on the variability or dispersion of data and measures how much a dataset's individual data points vary from the mean. Additionally, giving an indication of how widely distributed or closely grouped the values are facilitates the understanding of data. Effect size is vital when assessing an intervention's or treatment's practical effectiveness. With this data, researchers can decide with greater clarity regarding the validity and applicability of their findings.

A numerical value that expresses the magnitude and direction of the linear relationship between two variables is provided by Pearson Correlation. It determines if there is a significant relationship exists between the study's independent variables under collaborative learning, namely, positive interdependence, promotive Interaction, and individual accountability, and the dependent variable which is learners' academic performance in terms of the learners' Grade V General Average.

III. RESULTS AND DISCUSSION

Problem 1: What is the level of collaborative learning to learners in terms of:

- 1.1 positive interdependence;
- 1.2 promotive interaction; and
- 1.3 individual accountability?

Table 1: Learners' collaborative learning in terms of positive interdependence

Indicators	Mean	SD	Description	Interpretation
1. I find myself productive learning with my groupmates than learning alone.	4.14	0.92	Agree	High
2. I am confident working in groups than working alone.	4.11	0.92	Agree	High
3. Asking questions with my groupmates is helpful.	3.91	0.88	Agree	High
4. I value sharing of ideas.	3.92	0.88	Agree	High
5. I find group learning easier than individual learning.	3.87	0.85	Agree	High
6. I am willing to work in a group than working individually.	4.06	0.90	Agree	High
7. I believe in the saying that "two heads are better than one".	3.80	0.81	Agree	High
8. I like to explore things with my groupmates than working alone.	4.16	0.93	Agree	High
9. I am part of a goal-oriented group.	3.88	0.86	Agree	High
10. I felt happy about the success of the group as a whole.	4.31	0.96	Strongly Agree	Very High
Overall	4.02	0.89	Agree	High

Note: 4.20 – 5.00 Very High; 3.40 – 4.19 High; 2.60 – 3.39 Moderate; 1.80 – 2.59 Low; 1.00- 1.79 Very Low

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Table 1 indicates the learners' level of collaborative learning in terms of positive interdependence among Grade VI learners of the Laguindingan District Division of Misamis Oriental. It has an overall Mean of 4.02 with SD = 0.89, which is described as Agree and interpreted as High. This means that learners' collaborative learning in terms of positive interdependence was high because learners got to enjoy being with their peers and contributing, exploring, and learning new things together. When each of the learners believes that they are connected to one another in a positive way, then there is positive interdependence. Creating an environment where everyone's success was tied to the success of the group can lead to increased engagement and academic performance among learners.

Additionally, Johnson and Johnson (2018) highlighted on a study positive interdependence was considered as the primary and most significant component of collaborative learning because learners rely on each other to achieve shared goals, fostering a sense of unity and mutual support.

The indicator, *I felt happy about the success of the group as a whole*, got the highest Mean of 4.31 with SD= 0.96, which is described as Strongly Agree and interpreted as Very High. This means that learners who are part of a collaborative group are pleased with the group's overall success. Learners in a group may feel more connected and bonded to one another when the group accomplishes its objectives. Celebrating the success of a group can enhance the positive experience of collaborative learning. Acknowledging every learner's contribution and achievement fosters a sense of camaraderie and can further motivate individuals within the group.

This finding was supported by Jacobs and Renandya (2019), who stated that teachers practice student-centered education, foster collaboration among their learners, and adapt their teaching strategies to meet the needs of various groups. These researchers believed that when learners collaborate to achieve a shared goal, the group's achievement is evidence of their combined efforts. The collaborative element has the potential to raise everyone's level of contentment and overall well-being. Teachers guarantee that every learner participates fully in the learning process in this way. By encouraging learners to take initiative and actively participate, this role in a learner-centered education raises the learner's enthusiasm to study.

On the other hand, the indicator *I believe in the saying that "two heads are better than one"* got the lowest Mean of 3.80 with SD = 0.81, which is described as Agree and interpreted as High. This means learners prefer working collaboratively with two or more peers than doing classroom activities alone. Collaboration and pooling ideas together leads to richer and more comprehensive ideas and solutions. It is amazing how different perspectives from every member of the group can complement each other, creating a synergy that results in better outcomes. Working together allows everyone to contribute their unique strengths and insights, making the collective effort more powerful than individual contributions alone. Learners believed that to solve a problem or complete a specific task effectively, learners need to collaborate with one another.

As mentioned by Parker and Thomsen (2019), the level of awareness is present when learners are aware of their connections in such a way that they are dependent on the success of their group members. Groups that are positively interdependent view their efforts as beneficial to one another; the learners collaborate on tasks, offer assistance to one another, and celebrate successes together. There are no free riders because every member of the group contributes in various ways.

Table 2: Learners' collaborative learning in terms of promotive interaction

Indicators	Mean	SD	Description	Interpretation
1. I share my ideas and experiences with my groupmates.	4.18	0.92	Agree	High
2. I ask my teacher for help.	4.14	0.91	Agree	High
3. I ask my groupmates for help.	4.06	0.90	Agree	High
4. I listen to my groupmates when they are talking.	4.11	0.91	Agree	High
5. I give suggestions to solve group problems.	4.20	0.92	Strongly Agree	Very High
6. I find it simple to express my ideas and opinions to the group.	3.80	0.87	Agree	High
7. When making choices as a group, I take my group members' opinions into account.	4.00	0.89	Agree	High
8. I show equal respect to everyone.	4.40	0.98	Strongly Agree	Very High
9. I share my learning experiences with my groupmates.	3.95	0.88	Agree	High
10. Collaborating in group promotes better understanding of the lesson.	4.22	0.93	Strongly Agree	Very High
Overall	4.11	0.91	Agree	High

Note: 4.20 – 5.00 Very High; 3.40 – 4.19 High; 2.60 – 3.39 Moderate; 1.80 – 2.59 Low; 1.00- 1.79 Very Low

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Table 2 shows the level of collaborative learning in terms of promotive interaction. It has an overall Mean of 4.11 with SD = 0.91, which was described as Agree and interpreted as High. This means that promotive interaction in group learning involves learners' communication and behavior that support and encourage each member's educational involvement and learning. Collaboration and excellent communication are essential when working in a group. Learners who collaborate with their peers grow in their ability to communicate, which is important in many facets of life.

Thus, promotive Interaction as mentioned by Parker and Thomsen (2019), refers to learners helping, supporting, respecting, complimenting, and motivating one another in groups. They are engaging in positive relationships, develop interpersonal and linguistic abilities, inspiring one another, and come to know one another. Furthermore, these interactions build good relationship between the group members that leads to a supportive learning environment where every learner feels appreciated, supported and inspired to take an active role in the learning process for deeper learning, which in turn fosters a healthy group dynamic for the learners. As mentioned by Johnson and Johnson (2018), the source of learning was through dialogs and interactions. Promotive learning in a collaborative group builds a sense of community that encourages participation, and ultimately contributes to the success of the group as a whole.

Moreover, the indicator, *I show equal respect to everyone* has the highest Mean of 4.40 with SD = 0.98, which is described as strongly Agreeable and interpreted as very high. This means that learners who believe continuous interaction is necessary for success are said to engage in promotive interactions. In fact, positive relationships and a sense of belonging can be fostered when a person respects people and receives respect in return. Giving equal respect to everyone, especially when learners are in a group, was important because, through this, learners value each of the members' ideas, points of view, suggestions and recommendations that leads to promoting better communication. Respecting one another creates a welcoming and inclusive learning atmosphere that improves communication, teamwork and even the group experience as a whole. Better communication, trusting one another, and productive exchange of various ideas are frequently the outcome of promotive Interaction.

On the other hand, the indicator, *I find it simple to express my ideas and opinions to the group*, has the lowest Mean of 3.80 with SD = 0.87, which was described as Agree and interpreted as High. This means that the learners wanted to be heard by expressing their opinions and ideas with the group but found it a bit challenging for them. It is imperative to promote diverse perspectives among learners, as their varied points of view enhance their understanding of the subject matter. Having strong opinions makes it easier for learners to communicate their viewpoints and establish authority. Moreover, speaking up and expressing one's thoughts and opinions helps a person identify who they really are. Possessing various ideas and opinions demonstrates learners' passion and ability to keep their ideas on the table. For this reason, in order to accomplish shared objectives, learners must effectively communicate and settle disputes in a positive way.

The study of Lyndon et al. (2020) supports the finding of this study as he asserted that high exchange of information results in a greater quantity and range of ideas and opinions because when learners know their roles, learners will openly discuss one another's ideas, and evaluate them based on their knowledge and prior experiences. Encouraging critical thinking via the process of expressing and justifying one's opinions sharpens reasoning and encourages learners' critical analysis. In general, learners being able to freely express their opinions enhances group learning and leads to a better understanding.

Table 3: Learners' collaborative learning in terms of individual accountability

Indicators	Mean	SD	Description	Interpretation
1. I willingly participated in the group task.	4.09	0.91	Agree	High
2. I did my best to achieve the learning goal.	4.28	0.95	Strongly Agree	Very High
3. I took the group task seriously.	4.13	0.92	Agree	High
4. I'm completely aware of my role in the group.	3.98	0.89	Agree	High
5. The members of the group work together.	4.40	0.98	Strongly Agree	Very High
6. I made positive contributions of the other members of the group.	3.83	0.85	Agree	High
7. I did my best even if no one is watching.	4.10	0.91	Agree	High
8. I completed assigned task on time.	4.08	0.92	Agree	High
9. I was able to share my knowledge, and take into account the knowledge of the other group members.	3.96	0.89	Agree	High
10. I encourage everyone to do their best to achieve group goals.	3.16	0.85	Agree	High
Overall	4.00	0.91	Agree	High

Note: 4.20 – 5.00 Very High; 3.40 – 4.19 High; 2.60 – 3.39 Moderate; 1.80 – 2.59 Low; 1.00- 1.79= Very Low

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Table 3 shows the level of collaborative learning in terms of individual accountability. It has an overall Mean of 4.00 with SD = 0.91, which is described as Agree and interpreted as High. In a group context, individual accountability guarantees that each learner is accountable for their contributions and learning. Being personally accountable means learners accept responsibility for the outcomes of one's decisions and deeds. When anything goes wrong, learners try their best to make things right without placing the blame or offering an explanation to anyone. Being accountable and aware of the learners' tasks and responsibilities makes the group collaborate and function well.

In addition, Frykedal and Chiriac (2018) agreed that in order for group work to be implemented in a beneficial way, it is necessary for each learner to actively participate in the discussions surrounding the group work structures and analytical discussions. By emphasizing individual accountability, group dynamics are strengthened, and the learning experience becomes more robust as each member actively engages and takes ownership of their role within the group.

Moreover, the indicator, *The members of the group work together*, got the highest Mean of 4.40 with SD = 0.98, which is described as Strongly Agree and interpreted as Very High. Learners working together fosters diverse perspective, encourages shared learning and often leads to more comprehensive understanding. A quality group learning environment promotes academic confidence. Learners have various perspectives and mold their viewpoints with respect to their classmates. Learners' accountability for their own learning may rise as a result of group learning. Additionally, group goals and individual accountability are essential because they provide learners a reason to support and motivate one another to give it their all. Learners will be motivated to teach each other if they value performing well in a group, and the group can only succeed when all members have learned the topic (Casey & Fernandez-Rio, 2019).

However, the indicator, *I encourage everyone to do their best to achieve group goals*, has the lowest Mean of 3.16 with SD = 0.85, which is described as Agree and interpreted as High. Establishing learners' precise responsibilities, defining clear individual and group expectations, and highlighting the value of each member's contribution to the group's success are all ways to encourage accountability. Learners find it a bit challenging to encourage their peers to do their best because some of the learners do not take the activity seriously and just do classroom activities merely for participation.

The current finding is similar to the study of Zheng et al. (2020), saying that learners who collaborated in groups were able to produce significant positive effects because they had plenty of opportunities to interact with one another and had time to encourage one another during the learning activity. This means that encouragement is necessary when working with groups so that each member has the same drive and sense of responsibility as others. Accountable learners perform their best in a group setting entails clear communication, enthusiastic involvement, active listening, offering learners own ideas, and being willing to work with others. Achieving a common goal requires striking a balance between showcasing one's abilities and helping the group as a whole.

Table 4: Learners' overall collaborative learning

Variables	Mean	SD	Description	Interpretation
Positive Interdependence	4.02	0.89	Agree	High
Promotive Interaction	4.11	0.91	Agree	High
Individual Accountability	4.00	0.91	Agree	High
Overall Mean	4.04	0.90	Agree	High

Note: 4.20 – 5.00= Very High; 3.40 – 4.19= High; 2.60 – 3.39= Moderate; 1.80 – 2.59= Low; 1.00- 1.79= Very Low

Table 4 presents the learners' overall level of collaborative learning. It reveals that the indicators under collaborative learning specifically positive interdependence, promotive interaction, and individual accountability. It has an overall Mean of 4.04 with SD = 0.90, which is described as Agree and interpreted as High. This means that respondents do agree that collaborative learning allows learners to work and collaborate together so that they can all learn and grow together. However, in collaborative learning, some individuals may put in less effort and just depend on other group members to finish the task. To minimize the risk of free-riding or social loafing in collaborative learning settings, learners must realize that learners who engage in collaborative learning not only acquire higher-order thinking skills but also experience an increase in confidence and self-worth. Through providing an example of the topic, group activities can optimize the educational experience while enhancing social and interpersonal skills. Learners gain leadership experiences and learn how to collaborate with different kinds of learners.

Moreover, *promotive interaction*, has the highest variable with a Mean of 4.11 with SD = 0.91, which is described as Agree and interpreted as High. This shows that it is of the utmost importance for learners to respect and assist one another as well as share pertinent ideas, opinions, and experiences. This is because through this promotive interaction, learners enjoy learning and

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improve their sociability. Learners who engage with their peers continually strengthen their emotional intelligence, communication, and conflict-resolution abilities. This is for the reason that learners feel more at ease dealing with their classmates both inside and outside of the classroom.

In groups that exhibit high collaboration, learners participate in encouraging interactions and demonstrate a readiness to assist one another in collaborating to finish the given task and reach their goal (Cukurova et al., 2018). In fact, Topping et al. (2017) proposed that the foundation of cooperative and collaborative learning should be promotive interactions or, also known as constructive interactions.

Among the three indicators under collaborative learning, the lowest variable is *individual accountability*. It has an overall Mean of 4.00 with SD = 0.91, which is described as Agree and interpreted as High. Learners who have strong accountability are deeply accountable for their words, actions, progress, and development. Learners should not only excel academically but also grow in confidence and commitment in terms of their personal life and education. Furthermore, Van Leeuwen and Janssen (2019) highlighted that an accountable individual should be open to positive and negative feedback and view failure as an opportunity to learn and grow. By being individually accountable learners will be able to accomplish the both personal and group goals.

Problem 2: What is the level of the learners' academic performance?

Table 5: Learners' overall academic performance

Level of Academic Performance	Frequency	Percentage
Outstanding	44	21.78
Very Satisfactory	84	41.58
Satisfactory	69	34.16
Fairly Satisfactory	5	2.48
Did Not Meet Expectations	0	0.00
Total	202	100.00

Table 5 shows the learners' overall academic performance. As shown in the table above, among the two-hundred two (202) respondent learners, forty-four (44) of them with a percentage of 21.78 got outstanding, eighty-four (84) of the learners got a percentage of 41.58, got very satisfactory, sixty-nine (69) learners with a percentage of 34.16 got the Satisfactory, and lastly, five (5) learners with a percentage of 2.48 got the fairly satisfactory. Based on the presented data above, it is clear that there are no Grade V learners below Fairly Satisfactory. It clearly implies that the learners' general averages for School Year 2022-2023 have a very satisfactory academic performance despite not being exceptionally high or outstanding; 85-89 general averages are not bad. This very satisfactory level of academic performance leads to personal and professional development and success, which opens doors to every learner's variety of opportunities in the future. By investing in the learners' academic performance, learners can acquire the abilities needed to excel both within and outside of the classroom. It also enables the learners to make contributions to society, build valuable connections with their peers and other people, and, lastly, grow in confidence.

Problem 3: Is there a significant relationship between collaborative learning and learners' academic performance?

Table 6: Test correlation on learners' collaborative learning and academic performance

Variables	r-value	p-value	Decision	Interpretation
Positive Interdependence	0.4243	0.0024	Reject Ho	Significant
Promotive Interaction	0.4338	0.0079	Reject Ho	Significant
Individual Accountability	0.4893	0.0015	Reject Ho	Significant

Note: Significant < 0.05; Not Significant >0.05

Table 6 shows the test correlation between learners' collaborative learning and academic performance. This provides an analysis that all the independent variables mentioned are significant. The variable promotive interaction got the highest p-value of 0.0079 followed by the variable positive interdependence with the p-value of 0.0024 and lastly the variable individual accountability with the p-value of 0.0015. This clearly means that these variables under collaborative learning has a significant effect on learners' academic performance.

This means that there is a significant relationship between the dependent and independent variables because when learners have collaborative work, there is active participation, which clearly means that learners are more actively involved in the learning process, leading to a more profound understanding of the lesson that affects the learners' academic performance.

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Positive Interdependence encourages learners to motivate one another, work well together, and pursue group goals when they believe that their success is dependent on that of their peers. This variable is significant for the reason that it promotes teamwork, creates a positive learning atmosphere for both the learners and teachers that results in higher academic achievement.

On the other hand, the variable *promotive interaction* highlights positive and constructive engagement between teachers, peers, and learners. When there's a supportive and encouraging atmosphere, learners are motivated to assist each other in their academic pursuits that leads to high academic performance. This variable promotes effective teacher-learner communication, collaborative group work, peer tutoring, and a general culture that fosters curiosity and a love for learning. Such an environment often enhances learners' engagement, understanding, and overall academic performance.

The third variable, under individual accountability is significant as it gives a strong emphasis on taking ownership of learning results. Learners who are individually accountable are held responsible for their own academic progress exhibit excellent work habits, self-control, and a sense of ownership over their education. Learners are driven to meet expectations, create and fulfill personal and group goals to do better academically.

Thus, the independent variables, namely positive interdependence, promotive interaction, and individual accountability under collaborative learning, are associated with learners' academic performance, with a p-value of far less than 0.05. This implies that learners learn effectively with collaborative learning because this is where learners form good social relationships and exert collective efforts into a group activity, assignment, or educational project assigned to them. Delfino (2019) puts emphasis on building strong collaboration among educators, learners, and other stakeholders since it clearly articulates expectations, shares information, and encourages dialogue to promote a collaborative atmosphere in creating meaningful learning experiences.

IV. CONCLUSIONS

Based on the previously gathered and mentioned results, the study's conclusions are as follows:

1. The level of collaborative learning in terms of promotive interaction is high, where learning involves communication and behavior that encourage each member's educational involvement and learning.
2. Learners are performing well academically based on the learners' overall academic performance. Given that the majority of the learners received a very satisfactory general average, they were able to effectively meet the academic requirements.
3. There is a significant relationship between collaborative learning and learners' academic performance. Learners are more actively involved in the learning process, leading to a more profound understanding of the lesson that influences their school performance.

V. RECOMMENDATIONS

In the light of the findings and conclusions of the study, the following recommendations are made:

1. Teachers may continuously emphasize the significance of individual accountability among diverse learners. The learners need to actively participate in group work structures and analytical discussions. Group dynamics strengthen the learning experience, which actively engages and takes ownership of the role within the group.
2. To achieve better performance, teachers may use a variety of collaborative teaching strategies. These activities encourage active learning, which will open doors to different engaging capabilities.
3. Teachers may enrich learners' academic performance through collaborative learning that leads to high academic performance. Effective teacher-learner communication, collaborative group work, peer tutoring, and a general culture that fosters curiosity and a love for learning. Such an environment often enhances learners' engagement, understanding, and overall academic performance.

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Pupils' Study Habits and Academic Performance

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ABSTRACT: Reading, taking notes, and holding study sessions are all examples of routine, habitual study behaviors that pupils engage in to fulfill the learning objective. This study was conducted to the two hundred-five (n=205) grade 6 pupils at Malitbog 1 District, Division of Bukidnon, School Year 2022-2023. It attempted to answer the level of pupils' study habits and academic performance and determine the significant relationship between the study habits and academic performance. The study utilized the descriptive-correlational research design with documentary analysis and used an adapted and modified questionnaire to gather the necessary data to answer the specific questions of the study. Purposive sampling was employed to determine the respondents. Mean, Standard Deviation, Frequency, Percentage and Pearson Product Moment Correlation Coefficient or Pearson r were used as statistical tools. Results revealed that pupils' overall level of study habits was high while their overall academic performance was at very satisfactory level. Significant correlation was registered between pupils' study habits and their academic performance. Thus, teachers, parents and stakeholders may collaborate with each other to create and conduct activities that will continue to enhance and improve the pupils study habits to improve their academic performance.

KEYWORDS: Academic Performance, Pupils, Division of Time, Study Habits

I. INTRODUCTION

Reading, taking notes, and holding study sessions are all examples of routine, habitual study behaviors that pupils engage in to fulfill the learning objective. Study habits can either be considered effective or useless depending on how much they help the pupils. Effective study methods can help pupils feel more confident, competent, and deserving of respect. A study habit is an action that pupils routinely and habitually carry out in order to complete the task of learning. It includes reading, taking notes, and holding study sessions. Depending on how well they benefit the pupils' study habits that can either be deemed effective or ineffective. Self-worth, competence, and confidence can all rise to effective study techniques.

Pupils' face device issues such as incompatible devices and sharing devices with other family members; internet connectivity issues such as unstable connection and limited or non-available internet access; the costs of internet access and new devices; and the skills needed for using new programs and apps. All these changes and problems influence the way pupils learn and their studying habits (Looyeh et al., 2017).

The key to academic achievement is having good study habits. It is an action that pupils routinely carry out and totally complete the learning objectives, such like reading, taking notes, and managing study groups. Given how successfully it benefits the pupils, it can be described as concrete or authentic. As a result, good study habits enable one to invest time in learning that is dedicated and unbroken (Rabia et al., 2017).

According to the study of Fouche (2017), active participation in class, time management, maintaining attention, completing assignments, and working hard were all effective study habits that significantly improved pupils' academic achievement, while Alimohamadi et al. (2018) mentioned that one of the objectives of every educational facility is to improve pupils' academic performance.

Arieta et al. (2017) highlighted the important role that good study habits play in pupils' lives. Each pupil's academic success or failure depends on their study techniques. Lack of study habits prevents pupils from achieving their goals and improving their grades. The findings of their investigation revealed a significant link between pupils' study behaviors and academic success (Rabia et al., 2017).

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In support of the study mentioned above, Ebele and Olofu (2017), indicated a substantial correlation between the aforementioned variables. In contrast, there was no statistically significant correlation between low and medium pupil achievers' study on the relationship between metacognition and study habits and attitudes. On the other hand, one of the elements that may have a significant impact on pupils' performance is their study habits. This could have a negative impact on pupils' performance if the appropriate parties pay no attention.

The researcher is in need to find out the respondents' study habit as to division of time, learning space, ability to read and note taking and Learning motivation towards the academic performance of the grade six pupils. It appears that study habits are an effective tool in order to improved pupils' performance. To be able to gather absolute evidence that study habit is indeed effective to attained and improved academic performance of the pupils, this study came to realize.

With this, the researcher sought to identify in pupils' study habits and academic performance among six (6) elementary schools in barangay Sumalsag, Malitbog 1 District, Bukidnon Division during the 1st quarter of the School Year 2023-2024.

This study was anchored on behavioral theory of Skinner which centers on the premise that all behaviors are taught through interactions with the environment. This learning theory states that behaviors are learned from the environment and says that innate or inherited factors have very little influence on behavior.

The idea of study habits is centered on the academic success of the pupils. They must work hard and put out effort if they hope to improve their academic achievement. Pupils engage in study habits on a daily basis at school. It makes a substantial contribution to the growth of knowledge and perceptive abilities. Study practices indicate a person's level of learning, his or her goals for the future, and how much money they hope to make. These could all be determined by one's lifelong study habits. (Rabia et al., 2017).

Kyauta and Dachia (2018) stated that study habits are constituting those behaviors and/or activities associated with planning and organizations of time for reading as well as motives and habits, learning and remembering strategies, notes taking, planning and preparation of assignments and projects, and use of the library. Furthermore, there is little doubt that pupils' study habits strongly influence their attitudes, motivation, and success. Study habits have a big impact on pupils' qualities of learning (Alburaidi & Ambusaidi, 2019).

Looyeh et al. (2017) studies on pupils have revealed a strong correlation between their research habits and academic success. Same in the study of Okado et al. (2018) Junior High School performed a high association between student habits and academic outcomes. Meanwhile, Numan and Hasan (2017) stated that research habits were investigated in relation to test anxiety and academic success. Their findings indicate that study habits have a major impact on test anxiety and academic success. Academic pupils who practice good study habits are held to higher standards than those who did not.

According to Ebele and Olofu (2017) research patterns are the means through which one learns. If a student lacks effective study techniques, their academic success will suffer. Some ideas contend that a pupils' study habits influence their academic success. According to reports, the study campaign had a negligible positive impact on pupils' test scores (Au et al., 2017)

II. METHODOLOGY

The nature of the present research necessitated the use of descriptive-correlational design with documentary analysis which is a type of a qualitative study where the researcher interprets documents to provide context in evaluating the result. The goal of descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened. Therefore, observation and survey tools are often used to gather data (Hale, 2018). The data may be collected qualitatively in such research, but it is often analyzed quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships.

Descriptive-correlational research design was useful when the goal is to examine the relationships between two or more random variables within the same population or between the same variables in two different populations (Tus et al., 2020). In addition to being a crucial research instrument in and of itself, document or documentary analysis is a social research methodology. It speaks of the different processes that go into evaluating and deciphering information obtained from looking through records and papers that are pertinent to a certain investigation. Put differently, working on a documentary requires you to read a lot of written content.

The study was administered to the Grades 6 pupils of six (6) schools of Barangay Sumalsag of the Malitbog 1 District, namely Sumalsag Elementary School, Malitbog Central School, Sta.Ines Elementary School, Patpat Elementary School, Umagling Elementary School and Kalingking Elementary School. Furthermore, the respondents were chosen through purposive sampling with total enumeration. The researcher used this method to focus on particular characteristics of a population that suits to answer the question as well as those pupils that are studying on the schools that is near and easy to access for the researcher.

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For thorough data analysis and treatment, the researcher made use of statistical tools like mean, standard deviation, frequency and percentage to ascertain the extent of study habits in terms of division of time, learning space, ability to read and note taking and learning motivation. Utilizing the mean and standard deviation, the degree of pupils' academic performance was also addressed. Additionally, Pearson Product Moment (r) was utilized to ascertain the significant relationship between study habits and its relation to learners' academic performance.

III. RESULTS AND DISCUSSION

Problem 1. What is the level of the pupils' study habits in terms of :

- 1.1 Division of Time;
- 1.2 Learning Space;
- 1.3 Ability to Read and Note Taking; and
- 1.4 Learning Motivation?

Table 1: Overall Pupils' Level of Study Habits

Variables	Mean	SD	Description	Interpretation	
Division of Time	3.84	0.88	Most of the time	High	
Learning Space	3.77	0.88	Most of the time	High	
Ability to Read and Note Taking	3.82	0.89	Most of the time	High	
Learning Motivation	3.71	0.87	Most of the time	High	
Overall Mean	3.78	0.88	Most of the time	High	
Note:	4.21-5.00 Very High	3.41-4.20 High	2.61-3.40 Moderate	1.81-2.60 Low	1.00-1.80 Very Low

Table 1 presents the Overall Pupils' level of Study Habits. It revealed that it has an overall Mean of 3.78 with SD 0.88, described as Most of the Time and interpreted as High Level. Moreover, all of the variables were rated at High Level. This means that the pupils need to maintain their study habits and strive more to reach the Very High level. It also means that if pupils are guided by the teachers, parents and stakeholders they were able to achieve the very high level.

Study habits are routine behaviors that pupils engaged in on a daily basis to help them with the task of learning. Examples of these behaviors include reading, taking notes, and organizing study groups. The effectiveness or ineffectiveness of study habits can be determined by how well they benefit the pupils.

In the same table, the variable, *Division of Time* has the highest Mean of 3.84 with SD= 0.88, described as Most of the time and interpreted as Highly Perceived. This means that pupils are capable in dividing their time to study and leisure. It also means that pupils divide their time wisely. Having balanced time allotment to the activities done by the pupils can be done by checking the importance of each activity as well as its deadline. In this way, the pupils can maximize their time and focus on urgent things to do and accomplished.

As to the research conducted by Khanam et al. (2017), effective time management or division of time is among the abilities that can affect pupils' academic execution. The investigators have carried out research on time management, as well as the academic success of the respondents. Pupils must learn when to stop doing their extra activities like watching videos, social media browsing and online games and give focus to their studies.

On the other hand, the variable *Learning Motivation*, got a lowest Mean of 3.71 with SD=0.87 which is described as Most of the Time and interpreted as High level. This means that pupils are highly engage in motivating themselves to learn. They have learning motivation and knows how to motivate to learn. However, the pupils still need attention and guidance from their teachers and parents as there are times that they feel less motivated specially in times that they are challenged or tested in doing their studies.

Fong (2022) considered the sociocultural, educational, societal, and future-focused factors influencing pupils' motivation. Pupils learning motivation has the ability to enhance pupils' academic performance. Also, they will become better individual in fulfilling their dreams and achieving their goal. Thus, it is important for the teachers and parents to make sure that level of motivation of the pupils must be at high level.

Problem 2. What is the level of the academic performance of the Grade 6 learners?

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Table 2: Overall Pupils' Academic Performance

Grade Range	Frequency	Percentage	Mean	SD	Description
90%-100%	63	30.73			
85%-89%	105	51.22	88.93	3.12	Very
80%-84%	31	15.12			Satisfactory
75%-79%	6	2.93			
74% and Below	0	0.00			
Total	205	100.00			

Note: 90%-100% Outstanding 85%-89% Very Satisfactory 80%-84% Satisfactory
75%-79% Fairly Satisfactory 74% and Below Did not meet Expectations

Table 2 presents the pupils overall Level of Academic Performance. It has a Mean of 88.93 with SD=3.12, described and interpreted as a Very Satisfactory. This implies that pupils got high grades in terms of their academic performance. This also means that they still need assistance for their teachers and parents to be able to reach the highest level which is the outstanding level. Academic performance is the most important barometer for the pupils' achievements in their studies. Thus, they must be provided with necessary tools to achieve highest level of academic performance.

Educational attainment is the result of academic performance. It is the degree to which a person has met their educational objectives. A number of goals are satisfied by pursuing academic performance. In order to encourage improvement and make use of educational development, it is necessary to evaluate the academic successes and failures that pupils have experienced during their academic careers.

Success in school is determined by one's academic standing. In order to maintain their best performance or even to continue in the academic program, pupils face several demands and challenges in the academic setting. A strong academic background opens up more course and later employment options and job stability. Pupils' performance levels differ. They are distinct in how they take in and use information. According to Bebos and Bual (2022), Academic performance can be characterized as a gauge of success in which pupils are successful in achieving results in a range of academic courses. Academic performance can also be defined by excellent test results, extracurricular achievements, and the student's capacity for leadership (Idulog et al., 2023). Pupils must perform at their best not just in a subject but in all offered subjects as much as possible. Teachers and parents must be there to guide, assist and motivate the pupils as they are still very young and can be easily swayed by negative emotion like discouragement.

Problem 3. Is there a significant relationship between the study habits and the pupils' Academic performance?

Table 3 presents the test correlation between pupils' study habits and their academic performance. The independent variable of study habits is division of times, learning space, ability to read and notetaking and learning motivation while the dependent variable is the academic performance of the pupils based on their general average for the school year 2022 – 2023.

Table 3: Test Correlation on Pupils' Study Habits and Academic Performance

Pupils' Study Habits Variables	r- value	p-value	Decision	Interpretation
Division of Time	0.437	0.003	Reject Ho	Significant
Learning Space	0.389	0.008	Reject Ho	Significant
Ability to Read and Note Taking	0.511	0.001	Reject Ho	Significant
Learning Motivation	0.496	0.002	Reject Ho	Significant

Note: Significant if computed p-value is lower than 0.05

For Division of Time, it registered a computed value of 0.437 with p-value of 0.003. The computed p-value is lower than the p-critical value of 0.05 level of significance. This implies that division of time of pupils is significantly correlated to their academic performance. Thus, the null hypothesis is rejected. Moreover, division of time is necessary for the pupils to have better attention given to each of the tasks, activities or assignments given to them at the same time being able to do the activities of being a child. Thus, parents and teachers can collaborate to make sure the pupils' development is balance.

The coordination of tasks and activities to maximize the effectiveness of an individual's efforts is referred to as division of time. The goal of time management is to enable people to complete more and better work in less time. Its elements include

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organization, planning, and scheduling to make the most of the time available. This technique also considers an individual's specific situation as well as relevant capabilities and characteristics. The significance of division of time lies in its ability to give meaning to time, allowing people to make the best use of their time. Individuals with good division of time skills are more likely to deliver high-quality work and meet their objectives (Lutkevich, 2020).

For Learning Space, it registered a computed value of 0.389 with p-value of 0.008. The computed p-value is lower than the p-critical value of 0.05 level of significance. This implies that learning space for pupils is significantly correlated to their academic performance. Thus, the null hypothesis is rejected. Providing learning space at school and even at home is significant for the pupils' development as well as on their academics. This space will allow them to have place for concentration where they are free from distractions and that they can think clearly.

A learning space includes both built and natural learning spaces, both outside and inside, formal and informal. Pupils are actively involved in the design and co-construction of learning spaces, as well as the learning opportunities that take place within those spaces. Learning spaces are adaptable, inviting, and engaging. Teachers and school authorities must ensure that these are the characteristics of the learning space that they make and provide for the pupils so that it will truly serve its purpose (Nja et al., 2023).

For Ability to Read and Note Taking, it registered a computed value of 0.511 with p-value of 0.001. The computed p-value is lower than the p-critical value of 0.05 level of significance. This implies that ability to read and note taking of pupils is significantly correlated to their academic performance. Thus, the null hypothesis is rejected. Ability to read and note taking are basic skills that should be learned and acquired by any individual. It is part of their basic right as it can be utilized in their everyday activities. Pupils should realize that mastery on reading and note taking will be beneficial to their studies and to their activities later on in their life. Thus, teachers and parents may look into interventions that can help the pupils achieve high level of reading and note taking skills. Idulog et al., (2023) stated that in developing reading and note-taking skills, identified potential areas for improvement such as promoting early literacy programs, investing in teacher training, and developing reading materials that are culturally relevant and engaging for Filipino pupils.

For Learning Motivation, it registered a computed value of 0.496 with p-value of 0.002. The computed p-value is lower than the p-critical value of 0.05 level of significance. This implies that learning motivation of pupils is significantly correlated to their academic performance. Thus, the null hypothesis is rejected. Learning motivation provides hope and inspiration for the pupils to exert their efforts in their studies to attain their goals and objectives. Teachers and parents once again have pivotal roles in making sure that pupils do not lose their high level of motivation or they will have downward direction of performance.

Beboso and Bual (2022) stated that learning motivation is significant to pupils' academic performance. However, teachers' involvement is essential for it to happen. Teachers will guide, assist and encourage the pupils to be motivated with their studies to have better educational outcomes as well as they will also provide remedial or intervention activities for those struggling learners.

IV. CONCLUSIONS

Based on the findings, the researcher the following conclusions:

1. Pupils have good study habits especially on their management of time to study with the help of their parents and teachers.
2. Pupils' who are respondents of the study are doing good academically. They may not be the best but they have good grades.
3. Pupils with good study habits are expected to have good grades, like with the respondents of this study.

V. RECOMMENDATIONS

Given the findings and conclusions made in this study, the following recommendations are suggested:

1. Improving pupils' learning habits is important, particularly in the areas of learning motivation as the pupils find it difficult to cope up with the challenges on their less favored subject. Thus, parents and teachers need to continue to motivate the pupils to study. Teachers may employ remediation or intervention programs.
2. The level of pupils' academic performance is high. School administrators, teachers, parents and stakeholders may still provide programs and activities that will help all the pupils either maintain high level of academic performance or be able to reach the highest level. Education is for all. Therefore, all pupils must have equal opportunities to achieve better knowledge, skills and performance.
3. Study habits play a significant relationship on the pupils' level of subject it can learn. Teachers, parents and stakeholders may collaborate with each other to create and conduct activities that will continue to enhance and improve the pupils' study habits and later on improve their academic performance as well.

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Students' Motivation and Academic Performance in Technology and Livelihood Education



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ABSTRACT: Technology and Livelihood Education (TLE) is a fundamental subject area in Junior High School that aims to provide students with the opportunity to develop technical skills. This study aimed to determine the level of students' motivation and academic performance in TLE-Beauty Care (Nail Care) Services subject and to find the significant relationship between the students' motivation and academic performance while taking the subject. The study employed descriptive-correlational research with content analysis. It utilized an adapted and modified survey questionnaire from Dimaunahan et al. (2021), and students' final rating in TLE-Beauty Care (Nail Care) Services subject as instruments of this study from Grade 10 students who had been previously enrolled in Grade-9 TLE-Beauty Care (Nail Care) Services during School Year 2022-2023 from the four identified schools in Cagayan De Oro City through a purposive universal sampling procedure. Findings revealed that the respondents agreed that they are highly motivated to take TLE- Beauty Care (Nail Care) Services subject that led them to achieve Outstanding academic performance. The variables in motivation such as subject matter, self-efficacy, and self-sufficiency have significant relationships with academic performance except family dynamics. Thus, students take the TLE- Beauty Care (Nail Care) Services subject because they are motivated. Strengthening the integration of the affective targets of learning the subject's basic, common, and core competencies, and the teacher's upskilling for continued professional development is recommended.

KEYWORDS: Academic Performance, Pupils, Students' Motivation, Technical Skills

I. INTRODUCTION

Technology and Livelihood Education (TLE) is one of the learning areas of the Secondary Education Curriculum used in Philippine Secondary Schools. As a subject in high school, its component areas are Home Economics, Agri-Fishery Arts, Industrial Arts, and Information and Communication Technology. TLE as a fundamental subject area in Junior High School aims to provide students with the opportunity to develop technical skills by exposing them to experiences and pieces of training that prepare them for various fields of work. Technology and Livelihood Education (TLE) and Technical Vocational Track Specialization (TVTS) may be taken either in Grades 9 to 12. Schools may offer specialization from the four strands if the minimum number of hours is met.

In the K-12 program of the Department of Education where courses in TLE- Beauty Care are offered, students are expected to obtain Certificates of Competencies (COC) leading to National Certificates 1 or 2 (NCs). COCs and NCs handed out by TESDA are credentials that can be earned in order to be employed immediately following graduation. TLE in the global community allows students to gain knowledge and develop skills that will transform students' lives toward productive ends. This subject is essential because it can help students to be more skillful in many ways and these things can help them in their lives in the near future (Rubio, 2018).

In the case of the Home Economics strand in Senior High school, Beauty Care as one of the Home Economics specializations requires 160 hours of class activities and encounters. This covers the development of the learners' knowledge, skills, and attitude required in performing hands spa, foot spa, manicure and pedicure and nail art. Since each core subject is competency-based, it is inclusive and built around the learners' needs. Learning outcomes revolve around achieving the Basic, Common, and Core Competencies which the learner has to demonstrate independently. Beauty Care as a subject component emphasizes personal development, decision-making, and intrapersonal skills. Taking courses in TLE-Beauty Care introduces the students to a wide variety of potential career paths and opportunities relating to each domain as well as being taught the skills associated with them since it provides a more practical everyday application of the subject matter (Acordova, 2016).

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However, despite the importance given to classroom training in performing learning tasks, there seem to be students who are passive in terms of the learning outcome. While other students are eager and look forward to learning new things each day, others appear less motivated and less driven. Somehow, other students lost sight of the subject's inherent significance and the value it would provide to their lives. The student's academic ratings and performance are commensurate with the level of interest and participation they have shown in their class. The educational psychology literature points out that psychological variable possibly plays a significant role in academic performance (Dimaunahan et al., 2021). However, in the TLE- Beauty Care subject, academic success is largely measured in terms of the acquisition of technical skills. There may seem to be factors that motivate the students to attend to TLE-Beauty Care class or otherwise.

Academic Motivation refers to learners' desire as reflected in their approach, persistence, and level of interest regarding the subject when competence is judged against a standard of performance or excellence (Hu et al., 2021). It could also be equated to the interest of an individual learner to engage in the learning experiences offered (Hulleman et al., 2016). Highly motivated students are expected to make more effort to increase their academic and social achievement in their learning process. When a student fails to meet expectations at school, the student's home and family life should be considered. Several family factors can affect a student's behavior and ability to perform in the classroom (Bennett, 2018). Self-efficacy or one's judgment of capability to successfully perform a particular task refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance and attainments (Betoret et al., 2017). Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment. An individual's self-efficacy is known to influence the amount of effort one gives to a particular learning task and the level of persistence when faced with difficulties (Khalique & Singh, 2019).

Thus, this study aimed to look particularly into the elements that influence students' motivation such as the subject matter, family dynamics, self-efficacy, and self-sufficiency. The purpose of this study was to precisely explore the relationship between these characteristics and the degree of academic performance displayed by TLE-Beauty Care students among public Junior High Schools in the Division of Cagayan De Oro City.

This study was anchored on Maslow's Hierarchy of needs and the K-12 curriculum of the Department of Education which would serve as the basis for determining Students' Motivation such as Subject Matter, Family Dynamics, Self-efficacy, and Self-efficiency as it affects Students' Performance in TLE-Beauty Care Specialized Subject. Maslow's hierarchy of needs is a theory of motivation that states the five categories of human needs that dictate an individual's behavior. Those needs are physiological, safety needs, love and belonging needs, esteem needs, and self-actualization needs. Physiological needs are basic needs such as clothing, food, and shelter.

Maslow states that these basic physiological needs must be addressed before humans move on to the next level of fulfillment. Safety needs include protection from violence and theft, emotional stability and well-being, health security, and financial security. The social needs on the third level of Maslow's hierarchy relate to human interaction and are the last of the so-called lower needs. Among these needs are friendships and family bonds—both with biological family (parents, siblings, children) and chosen family. The higher needs, beginning with esteem, are ego-driven. The primary elements of esteem are self-respect (the belief that you are valuable and deserving of dignity) and self-esteem (confidence in your potential for personal growth and accomplishments). Maslow specifically notes that self-esteem can be broken into two types: esteem which is based on respect and acknowledgment from others, and esteem which is based on your self-assessment. Self-confidence and independence stem from this latter type of self-esteem. Self-actualization describes the fulfillment of one's full potential as a person. Sometimes called self-fulfillment needs, self-actualization needs occupy the highest spot on Maslow's pyramid. Self-actualization needs include education, skill development—the refining of talents in areas such as music, athletics, design, cooking, and gardening—caring for others, and broader goals like learning a new language, traveling to new places, and winning awards.

Maslow referred to self-actualization as a "growth need," and he separated it from the lower four levels on his hierarchy, which he called "deficiency needs." According to his theory, if people fail to meet their deficiency needs, they will experience harmful or unpleasant results. Conditions ranging from illness and starvation to loneliness and self-doubt are the byproducts of unmet deficiency needs. By contrast, self-actualization needs can make a person happier but are not harmed when these needs go unfulfilled. Thus, self-actualization needs only become a priority when the other four foundational needs are met. When all levels of Maslow's Hierarchy of Needs are met, students show their full ability and eagerness for learning. The higher up in the hierarchy a student is, the better the motivation, and therefore, the student will experience more effective learning (The e-learning network, 2018).

The K-12 curriculum of the Department of Education delineates the need for skills acquisition among Filipino students and to develop a globally competitive, productive, and responsible citizen equipped with essential competencies, technical skills, and values for both lifelong learning and employment through the eight basic learning areas, one of which is Technology and Livelihood Education (TLE).

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TLE generally includes the basic skills and concepts of home economics, entrepreneurship, information and communication technology (ICT), and agricultural arts as well as Industrial Art (Agluba, 2021). It is offered as an exploratory subject for lower secondary school, particularly in Grades 7 and Grade 8. This course introduces the different mini-courses and learning activities, which will prepare the students to be skillful and competitive before they take the specialization course in Grades 9 and 10. However, the specialization offered in Grades 9 and 10 was based on the school's needs assessment for the offering per locality with special consideration on the needs of the community and schools' resources.

Students' academic performance in a competency-based subject refers to the extent to which students have achieved their full potential according to their specific needs. In a skill-based course such as TLE, skills acquisition in the identified areas such as Beauty care provide the measure of achievement or performance that serves as a benchmark to determine the result and attainment of set goals. (Abaidoo, 2018) identified some factors that contribute to an improvement in academic performance which include regular studying, self-motivation, punctuality and regular class attendance, hard work, and interest in a subject. This research, however, specifically looked into the different motivational factors identified as subject matter, family dynamics, self-efficacy, and self-sufficiency as they affect the performance and academic rating of students in TLE- Beauty Care Specialized Subject.

II. METHODOLOGY

This study was descriptive-correlational with content analysis. It utilized the descriptive survey method or approach that blended quantitative and qualitative data to provide relevant and accurate information which involved collecting by interviewing or administering a questionnaire to a sample of individuals (Eliyawati, 2019). A time-efficient research method, that engaged the people at the center of the research objective. Also, according to McCombes (2022), descriptive survey research attempts to analyze, interpret, and report the present state of the subject matter or problem. It allows to gathering of large volumes of data that can be analyzed for frequencies, averages, and patterns. The study was correlational in the sense that it tried to determine whether a significant relationship existed between the students' motivation and academic performance of the study.

This study utilized a purposive universal sampling procedure because the respondents of this study were the Grade 10 students who took TLE-Beauty Care (Nail Care) Services Specialized Subject in Grade-9 School Year 2022-2023 from the schools that offered the same subject in Cagayan de Oro City Division. These schools are Cagayan de Oro City High School, Bulua National High School, Macasandig National High School, and Angeles Sisters National High School.

The data was gathered, tallied, tabulated, and analyzed. In analyzing and interpreting the information gathered, descriptive and inferential statistics were employed. To determine the students' motivation as to their subject matter, family dynamics, self-efficacy, and self-sufficiency, mean and standard deviation were used while the students' Final rating was described using the frequency counts, and percent. Inferential statistics such as the Pearson Product-Moment Correlation Coefficient (Pearson r) was used to determine the significant relationship that existed between the independent variables which are subject matter, family dynamics, self-efficacy, self-sufficiency, and the dependent variable, the students' final rating or academic performance.

III. RESULTS AND DISCUSSION

Problem 1. What is the level of students' motivation in TLE-Beauty Care (Nail Care) Services Subject as to:

- 1.1 Subject Matter;
- 1.2 Family Dynamics;
- 1.3 Self-efficacy and
- 1.4 Self-sufficiency?

Table 1: Overall Students' Motivation in TLE-Beauty Care (Nail Care) Services Subject

Students' Motivation	Mean	SD	Description	Interpretation
Subject Matter	4.19	0.83	Agree	High Motivation
Family Dynamics	3.51	1.09	Agree	High Motivation
Self-efficacy	4.28	0.82	Strongly Agree	Very High Motivation
Self-sufficiency	4.03	0.85	Agree	High Motivation
Overall	4.00	3.59	Agree	High Motivation

Note: 4.21 -5.00 Very High Motivation; 3.41 - 4.20 High Motivation; 2.61 – 3.40 Moderately High Motivation; 1.81 – 2.60 Low Motivation; 1.00 – 1.80 Very Low Motivation

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Table 1 shows the overall extent of Students' Motivation in TLE-Beauty Care (Nail Care) Specialized Subject as to Subject Matter, Family Dynamics, Self-efficacy, and Self-sufficiency. It reveals that it has an overall mean of 4.00 with $SD=3.59$, described as Agree and interpreted as High Motivation. This implies that the students considered all these variables important, positive, and mutually directional since they all contributed to a varying degree, to the motivation needed to either excel or merely pass the subject. Hayes (2023) stated that when two or more different variables move in the same direction, they theoretically are influenced by the same external forces.

As can be seen from the table, Self-efficacy has the highest mean of 4.28 with an $SD=0.82$ described as Strongly Agree and interpreted as Very High Motivation. This means that students are motivated to attend the TLE-Beauty Care (Nail Care) Services Subject because they believe they know the subject or they believe that the subject is easy to understand and easy to perform. This belief, according to Cherry (2023), increases the level of self-efficacy and influences what they can do. People can have self-efficacy in different situations and domains, such as school, work, relationships, and other important areas.

On the other hand, Family Dynamics has the lowest Mean of 3.51 with $SD=1.09$, which is described as Agree and interpreted as High Motivation. This means that students chose TLE-Beauty Nail Care Specialized subject not so because of family's desire and influence. But, as found in the discussion in Table 2, they chose to take the subject to please their families. It is called parent-pleasing which according to Harkonen et al. (2017) is more than simply complying with a parent's instructions or even wanting their love and affection — both of which are completely normal. Holmes (2022), added to the idea that most children want to please their parents, so they can feel more accepted and secure in the family constellation.

Problem 2. What is the level of students' Academic performance in the TLE Beauty Care (Nail Care) Services Subject?

Table 2: Students' Performance in the TLE- Beauty Care (Nail Care) Services Subject.

General Average	Scale	Frequency	Percentage	Description
90-100	5	106	62%	Outstanding
85-89	4	34	20%	Very Satisfactory
80-84	3	24	14%	Satisfactory
75-79	2	6	4%	Fairly Satisfactory
Below 75	1	0	0%	Did Not Meet Expectations

Table 2 shows the frequency and percentage distribution of the students' academic performance of TLE- Beauty Care (Nail Care) Services subject, School Year 2022-2023 from learners of the four identified schools of Cagayan De Oro City Division. The majority of the learners have an outstanding academic performance with a total of 106 respondents at 62% with grades ranging from 90-100%. This means that most students base their self-worth not only on academic evaluations such as periodic exams and quizzes but also on performances and tasks that require actual demonstrations and visual results. The grade or rating is the total representation of the component of the grading system which gives 60% emphasis on the hands-on activities or performance tasks that are a trademark of Technology and Livelihood Education (TLE) subjects. The remaining 20% of Quizzes and 20% of Periodical Exam are what make up the total component of a grade. There are generally two forms of student assessment that are most frequently discussed in the teaching and learning process. The first, **summative assessment**, is an assessment that is implemented at the end of the course of study. Its primary purpose is to produce a measure that "sums up" student learning. Summative assessment is comprehensive and is fundamentally concerned with learning outcomes (DO No. 8, s. 2015).

There are only 6 at 4% of students got the lowest grade. There were no students who failed in the TLE Beauty Care (Nail Care) Specialized subject. This means that although the quizzes and periodical exams are as equally important as the performance tasks, chances are high for those students to pass the subject even if they fall short on the written examinations. It is by way of remediations and repeat hands-on performances that students are given to redeem themselves to truly pass the subject. It is important to recognize that both summative and formative assessments indicate the *purpose* of the assessment, not the *method*. Different methods of assessment can either be summative or formative in orientation depending on how the instructor implements them (DO No. 08, s. 2015).

Problem 3. Is there a significant relationship between the students' level of motivation and academic performance in the TLE-Beauty Care (Nail Care) subject?

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Table 3: Pearson's Correlation Test between Extent of Students' Motivation and Performance in the TLE-Beauty Care (Nail care) subject

Independent Variable	r-value	p-value	Description	Interpretation
Students' Motivation				
Subject Matter	0.40	0.00	C	Significant
Family Dynamics	0.17	0.07	NC	Not Significant
Self-Efficacy	0.35	0.00	C	Significant
Self Sufficiency	0.35	0.00	C	Significant

C = Correlated

Significant when computed p-value <0.05

NC = Not Correlated

Table 3 shows Pearson's correlation test between students' motivation and performance in TLE-Beauty Care (Nail Care) Services subject. It took the analysis at the independent variable level by looking at the correlation test while holding the dependent variable constant at a time. As can be seen from the same table, subject matter, self-efficacy, and self-sufficiency are significant at 0.05. In summary, taking it at the coefficient level, these motivations are correlated to students' performance in TLE-Beauty Care (Nail Care) Services Subject, with a p-value less than 0.05.

The test reveals a significant correlation between the dependent variable and the three independent variables which are the subject matter, self-efficacy, and self-sufficiency, wherein, if the students' motivation variables change their direction, the performance of the students in TLE-Beauty Care also changes in the same manner or direction. This means that subject matter, self-efficacy, and self-sufficiency matter in the grades of the students. These three variables of motivation inspired them to enroll in the subject as Kurt et al. (2017) said that motivation is one of the most important factors that will influence students' achievements or performance. Furthermore, Family Dynamics has a significant level of 0.17%, which is described as not correlated and interpreted as not significant. Students enrolled in the subject simply because they love the subject and not because of the influence enforced on them by their respective families.

The result shown if taken into the lighter side of the matter, is somehow a manifestation of how far can just family members influence students' decisions since this is the stage wherein the students are expected to learn to affirm themselves. Although family behavior and educational support could cultivate positive learning habits and affect the academic performance of the students, family influence could also mean a burden to carry for the students who feel that they want a different career or subject from what their families are willing to support. In summary, taking it at the coefficient level, the motivation, family dynamics is not correlated to students' performance in TLE-Beauty Care (Nail Care) Services subject, with a p-value less than 0.05, thus, the correlation analysis yielded the null hypothesis test (Ho) with the findings of no correlation at all

IV. CONCLUSIONS

Based on the findings of the study, the following conclusions and implications are presented:

1. Students like TLE Beauty Care (Nail Care) Services subject because they believe that the subject is easy to learn and could improve their beauty.
2. The majority of the students got higher assessments in the summative and hands-on performances of the subject which entitles them to get an outstanding academic performance.
3. The students like the subject, they are eager to learn so they get good grades. They acknowledge the role and importance of family dynamics in their studies however, it doesn't influence their performance in the class or affect their grades at all.

V. RECOMMENDATIONS

Based on the findings and conclusions of the study, the following are strongly recommended:

1. To sustain students' motivation and likeability of the subject, it is good for teachers provide relevant and trendy instruction tailored to suit the demands of the present times.
2. It is good for learners to be evaluated accurately in conformity to the TESDA assessment method based on the defined competency standards. thus, aside from *Class Records*, the *Progress Chart* and *Achievement Chart* are essential.

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3. To ensure students' future well-being, parents have to be involved in their children's studies no matter how little influence they might be able to have.

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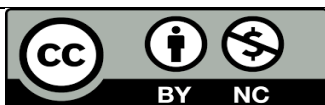
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Descriptive Analysis of Media Relations Activities at PT Semen Padang



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ABSTRACT: Public relations of PT Semen Padang build good relations with the media in the form of media relations activities. One of the objectives of this activity is to influence the media to be able to cover the news or provide positive coverage related to the company and the products offered. In 2023, it was noted that the percentage of positive and neutral news will be 100%. However, based on the results of news reports sent by media in collaboration with PT Semen Padang, it show that the reach of news coverage related to PT Semen Padang is still low. This study aims to answer the formulation of the main problem, namely how is the descriptive analysis of media relations activities at PT Semen Padang? These questions will be answered by analyzing data collected through observation, active participation, interviews, and literature studies.

KEYWORDS: Coverage, Media, Media Relations, Positive News, Public Relations

I. INTRODUCTION

Public relations is a person or group of people who work as spearheads in communication services and delivering information to organizational stakeholders (Ramadani 2020). Companies need the role of public relations in the continuity of their business. Public relations functions in helping the company to always have a harmonious relationship with various publics through communication activities (Armayanti and Pramana 2022). Thus, the company's Public Relations is tasked with building and maintaining good relations between the company and the public so that the company is successful in running its business.

PT Semen Padang is one of the companies in Indonesia and the first cement factory in Southeast Asia which was established on March 18, 1910, under the name NV Nederlandsch Indische Portland Cement Maatschappij (NV NIPCM). Based on this, PT Semen Padang has been established for 114 years. This shows that PT Semen Padang can survive until now for a very long time. The success of PT Semen Padang to survive until now is due to the company's ability to maintain its reputation. Public relations has a very important role in maintaining reputation. Public relations is tasked with disseminating good and positive information related to the company to the public and reducing negative issues that develop in the community to maintain the company's reputation.

Mass media plays an important role as a tool to publish all forms of information in PT Semen Padang to the public. Therefore, PT Semen Padang's public relations carries out media relations activities to build good relations and influence the media to be able to cover news or provide positive coverage related to the company and the products offered. This is relevant to the purpose of media relations according to Herika and Ruliana (2018), which is to inform the mission, policies, and practices of the organization in a positive, consistent, and reliable way.

Public relations of PT Semen Padang requires concrete efforts to establish good relations between the company and the media. Public Relations of PT Semen Padang builds cooperation Public Relations of PT Semen Padang builds cooperation with print media, online media, and electronic media in West Sumatera, Jambi, Riau Islands, Riau, and Bengkulu. Public relations of PT Semen Padang carry out various forms of media relations activities with these media.

This media relations activity is expected to produce a lot of positive news related to PT Semen Padang and many people who read the news. However, based on the results of news reports sent by media in collaboration with PT Semen Padang, it show that the reach of news coverage related to PT Semen Padang is still low.

Descriptive Analysis of Media Relations Activities at PT Semen Padang

II. RESEARCH METHODS

This research is a qualitative research with a descriptive approach. Data collection was carried out for three months at the Head Office of PT Semen Padang, Padang, West Sumatera. The data collected consists of primary data and secondary data. Primary data were collected through observational data collection techniques, active participation, and interviews. Secondary data were collected through literature study data collection techniques. The data that has been collected is analyzed using descriptive analysis in order to describe and explain the data thoroughly and in depth.

III. RESULTS AND DISCUSSION

Mass media has many advantages, one of which is being able to reach the wider community. Public relations and media are a relationship that needs each other (Dafina et al 2024). Public relations needs a publication platform and the media needs publication materials. Media relations is a public relations effort of PT Semen Padang to build good relations with the media. Media relations also serve as an issue management tool. Issue management tools mean that media relations are used to manage negative issues related to PT Semen Padang that develop in the community and media.

Issues are signals of crisis. Issues that are not analyzed and left unchecked will become crises. An example of a case that can prove that media relations functions as an issue management tool: is a post on social media written by a law lecturer at a university in West Sumatera who is also a social media activist in the political field. He insinuated on Instagram social media to PT Semen Padang that the Company was already controlled by the Central Government. The post caused various responses on social media, with some pros, and cons, and some neutral. Pro responses are negative opinions against the Company.

PT Semen Padang's public relations were initially unaware that the issue was circulating. Based on information from the media in collaboration with PT Semen Padang, public relations began to analyze the post, to decide on the issuance of the right to answer or simply leave it alone. Based on the results of PT Semen Padang's public relations analysis, the issue did not have a direct impact on the company because it was more aimed at the people of West Sumatera who were silent when PT Semen Padang joined the GIS. In addition, people who responded to the post assumed that the post was intended for the Provincial Government which in this case is the Governor of West Sumatera.

The implementation of media relations aims to get support from the media so that the media only disseminates positive news and suppresses negative news. The relationship between the company and the media is expected to continue to be better and positive through media relations activities. According to Nurtjahjani and Trivena (2018), the implementation of media relations has the following objectives:

1) Gain the widest possible publicity

Publicity is the activity of disseminating information through mass media related to products and companies. Media relations activities carried out by PT Semen Padang's public relations are expected to build good relations with the media, so that the media is interested and can be persuaded to disseminate positive information related to PT Semen Padang's companies and products.

2) Gain a place in press coverage

News intended as the purpose of media relations activities is positive news. Media who have collaborated with PT Semen Padang are always invited to cover various activities held by the company. Data and information that have been obtained by the media are expected to be processed into news and published in the media. Public relations of PT Semen Padang also sent press releases to various media in collaboration with PT Semen Padang as news material.

3) Obtain feedback on the Company's efforts and activities

The news related to PT Semen Padang disseminated by the media is certainly inseparable from various public responses. Public relations is tasked with monitoring these responses. Responses can be feedback for the company to know both support and public rejection. The response will be a means of evaluation for PT Semen Padang's public relations to improve the company's efforts, activities, and programs in the future.

4) Complete data/information for company leaders for the purpose of making an accurate assessment of situations or problems that affect the success of company activities.

Issues related to the company that develops in online media, print media, electronic media, and social media need to be monitored and reported by PT Semen Padang's Public Relations to the company's leadership or management through a media relations approach. The results of the reporting are used by leaders to assess situations and problems so that they can formulate various strategies to achieve the success of the company's activities.

5) Create stable and sustainable relationships

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The implementation of media relations activities is expected to be able to build good relations between the company and the media. This relationship is based on mutual trust and respect. Public relations of PT Semen Padang always makes personal contact and good communication with the media to realize a stable and sustainable relationship.

The public relations of PT Semen Padang carries out media relations activities with the main objective is to maintaining the company's reputation. The information displayed by the media is very influential on the company's reputation. Therefore, media relations activities are carried out to persuade the media to side with the company. The media is expected to display positive information related to PT Semen Padang. Positive news will form a good reputation and increase public trust in the company.

Public relations of PT Semen Padang build cooperation with print media, online media, and electronic media in West Sumatera, Jambi, Riau Islands, Riau, and Bengkulu. Media that have collaborated with PT Semen Padang, meaning that the media has been registered as a vendor of PT Semen Padang, the media has submitted a request for cooperation to PT Semen Padang and has been accepted, and the media has a good relationship with PT Semen Padang before being registered as a vendor. Media relations activities carried out by PT Semen Padang's public relations together with these media to maintain the company's reputation, namely:

1) Press Conference

Press Conference is a special event held as a means to announce, explain, maintain, or promote wisdom to strengthen public understanding and acceptance of the Company (Supriyadi and Amalia 2022). The main purpose of the press conference is to convey statements or information related to the company by inviting the media to be able to cover and rebroadcast through the widest possible mass media. Information submitted by PT Semen Padang through press releases includes company performance and provides the right to answer or refute negative issues. Public relations of PT Semen have important duties and responsibilities in the implementation of this press conference activity. These duties and responsibilities, namely: a) Set up and send invitations to media

Public relations is in charge of sending invitations to each media that is a partner of PT Semen Padang. The invitation was sent in the form of a soft file through WhatsApp Group of media and public relations of PT Semen Padang. The media invited to come directly to attend the press conference are print media, online media, and West Sumatera electronic media. b) Set schedules and prepare materials for management

The management of PT Semen Padang is someone who is in charge and entitled to convey information at press conferences. The management of PT Semen Padang consists of the General Director, Finance and General Director, and Operations Director. Public relations coordinate with company management regarding this press conference. Public relations check and adjust management schedules to be able to convey information to the media. Public relations also prepare material that will be delivered by management at the press conference. The material will be checked first by the management of PT Semen Padang. If there are still errors, then public relations must correct them so that there are no errors and things that need to be corrected again.

c) Prepare publication materials that will be used as media references

The publication material is a press release or press release. Public relations is in charge of compiling things that will be conveyed by company management at the press conference published in the press release. The press release becomes a reference or news material that will be published by each media.

d) Prepare the premises

Public relations are in charge of preparing the venue for the press conference. Public relations also ensure that the facilities and infrastructure needed, such as sound systems, are available and can be used properly at press conferences. e) Retrieve documentation

Public relations of PT Semen Padang are also in charge of taking photos and videos documenting the implementation of the press conference. The documentation is an archive and as news material that will be published to the mass media. The last press conference was held by PT Semen Padang on March 18, 2023, which is the day of the company's establishment. PT Semen Padang conveyed to the media the company's performance for 113 years as the first cement factory in Indonesia and Southeast Asia.

2) Press Briefing

A press briefing is a Public Relations activity that provides technical and substantive explanations to the media (Utami et al 2023). This media relations activity is also a routine meeting of public relations of PT Semen Padang with print media or daily media in West Sumatera in collaboration with PT Semen Padang which is held once a month. The print media are Padang Ekspres, Singgalang, Harian Haluan, Posmetro Padang, Rakyat Sumbar. The press briefing began with an internal meeting of the Public Relations External Communication Section of PT Semen Padang. The meeting was chaired by the Head of the Public Relations External Communication Section which was held in the meeting room of the Public Relations and Secretarial Unit.

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The matters discussed in the internal meeting were planning coverage related to activities to be held by PT Semen Padang and matters related to the Company as well as evaluating PT Semen Padang's news published by the media. Coverage planning consists of three agendas, namely corporate action, CSR action, and corporate issue. Corporate action is an activity held or carried out by a company and needs to be published through mass media. CSR action is a social and environmental responsibility activity realized by the company. Corporate issues are positive issues built by the company and disseminated to the public. Public relations determine the themes related to these three agendas. These themes, such as Semen Padang Innovation (corporate action), UPZ Semen Padang Program (CSR action), and Sports Coverage Assisted by the Semen Padang Employee Communication Forum (FKKSP). Public relations of PT Semen Padang communicate with various units in PT Semen Padang to obtain information related to the realization of activities on each of these themes. For example, communication with the CSR unit and UPZ Semen Padang to obtain information related to the unit's activities to compile news themes on the CSR action agenda. The planning that has been prepared at the internal meeting is then conveyed to the media through a press briefing.

This press briefing is usually held on the second or third week of every month at L.120 PT Semen Padang. The media is allowed to convey evaluations, suggestions, and criticisms of PT Semen Padang's public relations as well as planning coverage and coverage that has been carried out. The media also reserves the right to convey messages from the editors of these media. This aims to make improvements to be even better in the implementation of media relations, especially press briefings by PT Semen Padang public relations. The implementation of this press briefing activity was closed with lunch together.

3) Media Training

Media training is an activity to share knowledge and insights with the media to support the media to be better and continue to grow in the future. The material presented by the Public Relations of PT Semen Padang in this activity is expected to be implemented by every media. Public relations of PT Semen Padang has the principle that companies and media must develop and progress together. This is due to the symbiotic mutualism between the company and the media. If the media rises, company-related news also rises. The implementation of this media training activity began with sending training invitations to local West Sumatera media in collaboration with PT Semen Padang. This activity was filled with material delivery and discussion sessions. Participants are given the widest opportunity to ask questions related to the material that has been presented. Public relations of PT Semen Padang through this activity also broadcast videos and explained company profiles to the media. This aims to introduce and remind the media related to the history, description, and achievements of the company.

The media training activity carried out by the public relations of PT Semen Padang is called Semen Padang Sharing on Journalism (SPARING). The implementation of this media training activity is like SPARING on July 27, 2022, at Wisma Indarung Semen Padang. This training was attended by dozens of print and online media journalists in West Sumatera. The material presented in this activity is social media management strategies and online media optimization through Search Engine Optimization (SEO). Public Relations of PT Semen Padang invited the Chief Technology Officer or CTO of katasumbar.com and Digital Haluan as presenters. The Director of Finance and General Affairs of PT Semen Padang welcomed the media directly at the opening ceremony of SPARING. Public relations of PT Semen Padang in the implementation of this activity are tasked with determining themes and materials, determining and contacting resource persons, coordinating with the Director of Finance and General Affairs of PT Semen Padang, welcoming the media, moderating, monitoring, and evaluating activities as well as compiling and making activity accountability reports. Public relations of PT Semen Padang are also tasked with covering the implementation of media training to be published in the mass media.

4) Press Release

Press releases are news materials prepared by public relations for the media. Press releases are used as information that companies want to convey to the public and can be used as a guide in making news (Faustyna 2022). PT Semen Padang Public Relations is tasked with covering every activity held by the company. Data and information obtained from the results of coverage will be processed into newsworthy writings called press releases. The Head of Public Relations and Secretariat Unit will check the press release first before publication. Press releases that have been approved by the Head of the Public Relations and Secretariat Unit will be published on the official website and sent to the media as news material. Press releases and photojournalism supporting the news are sent to the media via WhatsApp personal chat. Public relations of PT Semen Padang on average write and publish 20 press releases in one month. PR writes one press release per day. However, it can be more than one press release, if there are two different events on the same day. The process of writing a press release consists of: a) Receive Assignments for Coverage

The assignment of this coverage was given by the Head of External Communications. Things that need to be prepared before coverage are cameras, mobile phones, laptops, and stationery to record points conveyed by sources or key figures.

b) Implementation of Coverage

Descriptive Analysis of Media Relations Activities at PT Semen Padang

Coverage is an activity to collect data used as sources and materials for writing scientific papers and writing popular works (Azwar 2018). Reporting activities are very crucial in the process of writing press releases. Press releases cannot be compiled and written without the necessary data. The purpose of reporting activities is to collect data that will be processed into accurate and factual information and to produce press releases that have news value. The data obtained during the implementation of coverage is the main data. In this coverage, PR also interviewed key figures of the event to obtain additional data and information. c) Create an Audio Transcript

The next process is to do the audio transcript. Transcript is the activity of converting audio, video, and image recordings into writing (Suripto 2023). This activity is an activity to convert audio recorded during the reporting and interview process into writing. Audio transcribing is done by listening back to the recorded audio. The audio listened to is then written in MS Word found on the laptop. The audio transcript does not have to be written in its entirety but writes important parts according to the topic raised in the press release (Fadillah et al. 2023). Public relations of PT Semen Padang must listen carefully to the audio so that there are no errors in taking quotes. PR can also play audio repeatedly to ensure the data written is correct and avoid mistakes, especially data in the form of numbers. d) Press Release Writing

Press release writing is news writing (Thresia et al. 2020). Press Release Writers must be able to write press releases that have news values and elements (Fadillah et al. 2023). A good press release is written by applying the 5W+1H formula (What, Who, When, Where, Why, and How). The press release writing model applied by PT Semen Padang's public relations uses an inverted pyramid model. Similarly, Safitri (2022) said that writing press releases are almost the same as writing direct news using an inverted pyramid style. News with an inverted pyramid writing style means that it is written from most important to least important. Press release consists of title, lead, body, and closing.

e) Publication Approval from the Head of Public Relations and Secretariat Unit

The next process after writing the press release is to ask for publication approval from the Head of the Public Relations and Secretariat Unit. The Head of the Public Relations and Secretariat Unit will first read and check the press release that has been written by the public relations. Examination related to substance and language. The Head of the Public Relations and Secretariat Unit ensures that there are no more errors in writing and ensures that the press release presented is easy to read and easy to understand.

f) Make Improvements to Press Releases (Revision)

Press releases that have been submitted to the Head of the Public Relations and Secretariat Unit often still have errors and need improvement or revision. The revision of the press release is based on improvements requested by the Head of the Public Relations and Secretariat Unit. Revisions can be in the form of improvements to the title or content of the press release. Press release revisions are also carried out by improving grammar, punctuation, spelling, diction as well as sentence and paragraph structure. Revision is also done by re-reading and ensuring the data presented is correct and appropriate. The revised press release will be sent to the Head of Public Relations and Secretariat Unit for review and approval for publication.

g) Publication

Publication is the implementer of information dissemination activities (Ridwan 2020). More fully, publication is defined as the activity of broadcasting and publishing information to the public through the media. Public relations of PT Semen Padang uses the official website with the URL <https://www.semenpadang.co.id/> as a medium for press release publication. Press releases are also sent to various media that are partners of PT Semen Padang to be published in their respective media.

5) Press Tour

A press tour is an activity of visiting a particular area with the media and enjoying interesting tourist attractions (Nurtjahjani and Trivena 2018). This press tour activity aims to strengthen good relations with the media. Press tour activities held by PT Semen Padang include tourist visits to Thang Long Vietnam, Payakumbuh City, Surabaya, Yogyakarta, and South Sulawesi. Public Relations of PT Semen Padang has also invited the media to carry out a press tour of PT Semen Padang's Indarung I Factory. This factory was the first cement factory in Southeast Asia and is no longer operational. The Indarung 1 Factory has been designated as a National Cultural Heritage by the Indonesian Ministry of Education, Culture, Research and Technology. There were 43 media invited to this press tour from five provinces, namely West Sumatera, Jambi, Riau Islands, Riau, and Bengkulu. The press tour was held for two days, on 8 – 9 December 2022.

The first day of the press tour opened with a welcoming activity by the Director of Finance and General Affairs of PT Semen Padang and was attended by the Head of the Corporate Communications & Legal Department, the Head of the Public Relations and Secretariat Unit of PT Semen Padang and ranks. The media was then invited to review PT Semen Padang's laboratory processes and laboratory quality assurance. This activity aims to see directly the production process and the processes carried

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out by PT Semen Padang in maintaining its quality. The media was allowed to explore Indarung Factory 1. The Head of the Public Relations and Secretariat Unit explained the history of Indarung Factory I as well as the factory components and their functions. The media were also invited to see directly the cultivation of bilih fish, spotted deer from the Bogor Botanical Gardens which have been successfully developed as well as the nursery of calliandra plants carried out by PT Semen Padang. The second day of the press tour was held in Harau Lima Puluh Kota, Payakumbuh City. The media was invited to visit the Micro, Small, and Medium Enterprises (MSMEs) assisted by PT Semen Padang's CSR.

6) Media Visit

Media visit is a visit activity carried out by public relations of PT Semen Padang to various media. Public relations of PT Semen Padang called this activity a media roadshow. Public relations visited media offices to strengthen relations and discuss about PT Semen Padang's business activities and development. Public relations of PT Semen Padang contacted the media first before holding a media roadshow. Media visits were also held when these media held media anniversary commemoration activities. Things discussed in this media visit activity, namely company profile, product knowledge, company flagship programs, company destinations such as factories, deer breeding, bilih fish farming, calliandra cultivation, Indarung I Cultural Heritage, factories, mines, and discussing plans for tourism activities/trips to tourist cities in West Sumatera.

7) Press Luncheon

Public relations of PT Semen Padang carry out eating or coffee activities with the media. This activity is held regularly every week. Press luncheon is an activity to strengthen good relations with the media. Activities are prioritized to build friendships and casual discussions related to issues outside the company.

8) Coverage Invitation

Public Relations of PT Semen Padang invited print, online, and electronic media to collaborate with the company to cover various activities being held. Invitation letters are sent either directly or via WhatsApp to the media. These invitations included invitations to cover a series of activities commemorating the 78th Indonesian Independence Day organized by PT Semen Padang, coverage of red calliandra planting activities, and coverage of various Cooperation Agreement signing activities.

9) Special Coverage

Special coverage of programs owned by Padang TV and encouraged by PT Semen Padang. Padang TV covers unique and interesting things found in Semen Padang. Special coverage is carried out once a month. Public relations with Padang TV conducted a briefing first before shooting at the video production site. Public relations of PT Semen Padang conveyed the pictures that needed to be taken and also explained the plot and synopsis of the special coverage video. This is so that the video produced by Padang TV is by the objectives achieved by public relations through this special coverage video. Some of the topics covered by Padang TV are the use of calliandra rods to replace coal and refuse-derived fuel (RDF). The production process of this Special Coverage video, namely: a) Create a concept

The first step in the production process of special coverage is conceptualization. The concept was determined and made directly by PT Semen Padang. The concept that has been made is then discussed with Padang TV. b) Create a script

The next stage is to create a script. The script is a guide during the production process of Special Coverage videos. The manuscript was also prepared by Public Relations of PT Semen Padang. Things included in the script, especially special coverage related to calliandra and RDF, namely the background of the use of innovation, explanations related to innovation, questions and answers from resource persons related to innovation. The resource persons for this special report are the management of PT Semen Padang Company and task units directly related to innovation. The resource persons in the special coverage of the use of calliandra as a fuel substitute for coal, namely the Head of the Production Support Unit, the Head of the CSR Unit, and the CSR staff of PT Semen Padang.

c) Discussion with resource persons regarding video shooting time

The public relations of PT Semen Padang then contacted the source to agree on the time of taking the video. This is so that the video shooting process runs smoothly because the speakers on that day can focus on taking videos and answering questions.

d) Manage permission

The video shooting for the special coverage of calliandra and RDF was carried out at a cement manufacturing factory so it required permission from the relevant unit. This is a rule that has been set by the company. Public relations staff and the Padang TV crew in charge of taking videos must use Personal Protective Equipment (PPE) such as safety helmets and safety shoes. Several rules must be obeyed, namely if the public relations staff and Padang TV crew have a fear or phobia of heights, they are prohibited from climbing to the top of the factory, wearing safe clothing so as not to come into contact with machines, always using a safety helmet and safety shoes when in the factory. e) Video capture

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The video was taken directly by the Padang TV crew accompanied by PT Semen Padang's public relations to the field. Public relations and the Padang TV crew held a briefing before taking the video so that there was a common understanding of the video to be taken. Public relations is in charge of being a director in the field who will direct the Padang TV crew in taking videos. PT Semen Public Relations also received a special task, namely taking footage and video stock outside the task of accompanying the Padang TV crew when shooting videos. The videos were taken in several locations, such as the calliandra planting site and at the landfill. Footage and video taken directly by PT Semen Padang's Public Relations are collected in one google drive, and then sent to Padang TV.

f) Editing Video

Video editing is handed over directly to Padang TV. Padang TV edited the video according to the concept and script that had been discussed with PT Semen Padang's public relations.

g) Scanning Video

Videos that have been edited by the Padang TV crew are sent to PT Semen Padang's public relations to ensure that the video is by the concept and there are no errors in writing the source's name, subtitles, and adding and using visual elements to the video. Padang TV's public relations recorded things that needed to be corrected and edited again. The video was also watched first by the Head of Public Relations and Secretariat Unit of PT Semen Padang. Revisions and improvements from the Head of Public Relations and Secretariat Unit of PT Semen Padang are united with revisions by the Public Relations staff of PT Semen Padang. The Padang TV crew re-edited the video so that it could not be repaired again.

h) Publication
The video that has been produced is then published on TV and YouTube Padang TV. Public relations of PT Semen Padang is in charge of sending links to special coverage videos published on YouTube Padang TV.

10) Media Monitoring

Media monitoring is the process of monitoring news in online, print, and electronic media. Media monitoring conducted by PT Semen Padang's public relations is carried out using sig-monitoring website. Media monitoring activities are one of the activities carried out by Public Relations as a media relations evaluation process (Gunawan and Anisa 2020). Public relations can find out the output of media relations activities through media monitoring. Indicators of media relations success are not only a lot of news in the mass media but also positive and neutral quality, so that negative news can be minimized (Ramadani 2022). Based on news data from the last three years from sig-monitoring, it shows that positive and neutral news in 2021 was 99.4%, in 2022 it was 99.6%, and in 2023 it was 100%. The following is a data table on the number of positive, negative, and neutral news in 2021 – 2023.

Table 1: Number of News in 2021 – 2023

Season	Number of Positive News	Number of Negative News	Number of Neutral News
2021	2298	13	27
2022	3323	13	16
2023	3269	0	4

Source: sig-monitoring website (2024)

V. CONCLUSIONS AND RECOMMENDATION

Media relations activities carried out by the public relations of PT Semen Padang have been running well. The output of this media relations activity can be seen from the amount of news with positive and neutral quality and tonality related to PT Semen Padang. Based on data from sig-monitoring, positive and neutral news in the mass media is more than negative news. However, the positive and neutral news has not been widely read by the public. Based on this, the researcher gives advice:

- 1) Build cooperation with print media, online media, and electronic media based on these media tiers.
- 2) Share the link to the news published on the official website to Instagram Story @semenpadang along with photojournalism that has been designed attractively. This is so that Instagram followers are interested in visiting the news page and reading it.
- 3) Encouraging print, online, and electronic media in collaboration with PT Semen Padang to maximize the use of social media in disseminating news links through Instagram Story and Instagram Feed.

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The Spiritual Fruits of the Desert Fathers (1)

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ABSTRACT: In the 4th century, Christianity was officially acknowledged as the state religion of the Roman Empire, and it started to gain prominence worldwide without facing persecution. However, some individuals believed that this newfound religious glory contradicted the teachings of Christ. As a result, they willingly embraced asceticism and withdrew to deserts like Egypt to lead a devout and spiritual existence. The individuals in question are commonly referred to as the Desert Fathers. They sustained themselves by toiling under the scorching heat during the day and enduring the frigid desert temperatures in the early morning and at night. They devoted their time to reciting the Bible and tending to the well-being of their fellow monks, who resided in solitary huts nearby. In doing so, they fostered a sense of spirituality in their desert community. This paper aims to analyze the spirituality of the Desert Fathers and apply the valuable insights it offers to contemporary life. By dividing it into the facets of fruitfulness, humility, obedience, love, forgiveness, humor, poverty, solitude, and community, their spirituality can be better understood. This study will only analyze the first four areas, while the remaining five areas will be addressed in a future paper.

KEYWORDS: Desert Fathers, fruit, humility, obedience, spirituality

I. INTRODUCTION

How did the great spirituality of the Desert Fathers manifest in their daily lives? All living organisms will produce offspring. Specifically, the term "word of God" might be likened to a seed that possesses significant inherent energy. Consequently, when seeds are planted in fertile soil, they are certain to yield a plentiful harvest. The presence of fertile soil enhances the seed's potential life force, which results in its magnificent expression. Many different types of materialistic desires, excessive pride, and strong emotions dominate our hearts, leaving little room for God's divine love to flourish. How can a sacred seed endure in contaminated terrain? Conversely, experiencing a life characterized by a profound and intimate connection with God is a highly favorable and enriching state, like fertile soil. Within that territory, the vigor of the seed and the affection of God, who directly summons and cherishes us, will provide a diverse array of exquisite and virtuous outcomes. We are interested in this paper to observe and acquire knowledge about the accomplishments and teachings of the Desert Fathers, to emulate their fruits, and to yield similar results.

What is the exact definition of a fruit? Jesus instructed us to evaluate a tree based on the quality of its fruit, as mentioned in the biblical passages Mark 11:13 and John 12:24. Which fruits did Jesus allude to? Is there a significant abundance of materials? Is it a lively gathering characterized by a significant increase in church members? Is the church program designed to run continuously and demand significant activity? A spacious and comfortable home, a profitable job, a significant income, a respected position. These elements are not fruits but accomplishments (Kim et al., 2022). Considering the prevailing notion that society values a prosperous life characterized by productivity, it is evident to us that such ideals do not align with the teachings of the Bible. It is often claimed in Bible teachings that following a belief in Jesus does not guarantee the attainment of good physical health, financial wealth, or academic achievement. This refers to accomplishments in the material realm rather than in the sphere of spirituality. Undoubtedly, success holds a strong appeal in our lives. Occasionally, select individuals within the community of believers can achieve rewards that exceed their efforts and experience satisfying successes.

Nevertheless, fruit is distinct from success or aptitude, contrary to popular belief (Seok & Chung, 2024). To attain success, individuals aspire to possess authority, influence, and esteem. Fruit does not originate from such entities. Fruit is an inherent characteristic. Attaining success necessitates mastery, competence, and honorable conduct, yet the fruits are derived from enduring hardship and exposing one's vulnerabilities and are solely a product of one's internal capacity. The Desert Fathers would

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have been considered unsuccessful in terms of worldly achievements. They relinquished all possessions, including a well-appointed residence, fashionable attire, renown, wealth, and a prestigious occupation, and relocated to the desert to reside as an anonymous individual in a dilapidated and inconspicuous dwelling. Infrequently, pilgrims would make visits, and individuals who held admiration and yearning for them would pursue and pester them. However, this occurrence was merely an extraordinary occasion in contrast to the routine and repetitive daily existence of the desert. The weight of excessive admiration and reverence overwhelmed them to the point that they would further conceal their true selves to avoid disclosure. Not only were they interred amidst the sand and gusts of the desert, but they were also consigned to oblivion in the collective recollections and annals to such an extent that comprehending their authentic essence proved arduous (Seo & Chung, 2021). From a sociocultural standpoint, it appeared that their lives held solely subjective significance and had little impact on the zeitgeist and societal fabric of their era. What was the significance of their birth and existence in this world? They were far from achieving success in their lives. The true worth of the Desert Fathers can only be assessed when we acknowledge that the purpose of their existence was to bear fruit rather than to achieve success.

The Desert Fathers' spirituality yields a multitude of unique fruits. Let us analyze the practical manifestation of desert spirituality by investigating the tangible outcomes of humility, obedience, and love. Each of these fruits has unique attributes; however, they ultimately have a common nature. The visual perception of an object is subject to change based on the observer's perspective, although it remains representative of the same entity. Desert spirituality can be succinctly defined as the process of surpassing personal boundaries, surrendering the ego, and embracing boundless compassion for others. If we had personally engaged in conversation and met the Desert Fathers, their deep sense of satisfaction, freedom, and joy would have greatly impressed and amazed us. Engaging in conversations with the Desert Fathers can provide contemporary individuals who prioritize financial matters, consumption, and materialistic discussions in social gatherings with a valuable perspective on discerning the fundamental nature of things rather than superficial appearances (Kang & Chung, 2013). Those who are tired of a busy and crowded life might find comfort in the ample leisure and personal space offered to them and gain an understanding of the ideas of emptiness and fullness by practicing meditation. The true importance of these Fathers' lives resides in the tangible outcomes they have produced. Rather than living lives that were socially unimportant, the Desert Fathers acted as guiding lights, helping their peers to awaken from a shallow way of life and embrace a more valuable and meaningful existence.

II. HUMILITY

The Desert Fathers regarded humility as the highest virtue and the pinnacle of monasticism. Father John of Thebes elucidated the rationale behind monks' pursuit of humility as the foremost virtue, stating, "This is because it is the fundamental instruction of the Savior: Fortunate are those who possess a humble spirit" (Chung, 2004, 187). Theirs is "the kingdom of heaven" (Matthew 5:3). He explained that Jesus became the Savior because of his humility. Despite being equal to God, He chose not to assert His equality and instead humbled Himself, taking on the form of a human. Throughout his life, Jesus exemplified humility by assisting sinners and adopting the role of a servant. Humility is the act of acknowledging our limited existence as human beings and expressing profound respect and reverence towards the boundless Creator.

Humility was a significant subject even in Jesus' teachings. During the Sermon on the Mount, which marked the start of his public ministry, Jesus began by stating, "Blessed are the poor in spirit, for theirs is the kingdom of heaven" (Matthew 5:3). Being impoverished in spirit entails possessing an inherent sense of humility. An individual with modesty and humility can experience the bliss of paradise by surrendering to the teachings of God and embracing His divine favor. Humans erroneously hold the belief that possessing the sword of pride is the sole means to safeguard themselves and enhance their worth in this world when evil power has disrupted the established hierarchy (Chung, 1996). Humility is sometimes equated with self-deprecation and is often dismissed as a justification for those who are seen as losers or inferiors. Regardless of the extent of his knowledge, education, fortune, and influence, his haughty soul remains devoid of tranquility. Christ extends a humble invitation to these individuals, saying, "Come and acquire knowledge from me, for I possess a gentle and modest nature, and you will discover tranquility for your inner beings" (Matthew 11:29). Christ never exerted coercive dominance or control over individuals. The invitation he extended was both unpretentious and modest. Christ's meekness and humility were the fundamental qualities that defined him and filled his inner being. In this world, which has transformed into a fierce arena of ego, where individuals strive to elevate themselves and achieve greatness, Christ was born in the most humble circumstances, devoid of any sense of importance, and chose to dwell among the marginalized. He formed friendships with those afflicted with leprosy, individuals responsible for collecting taxes, and individuals engaged in prostitution. He engaged in communal meals and beverages with them, empathizing with their suffering. To individuals who believed they had been forsaken, Jesus reassured them that they were also cherished offspring of God and revitalized their injured spirits. Anyone who experienced even a small amount of his humility could not resist showing their respect by bowing to him (Chung, 1998). The complete repose of exhausted spirits is discovered in the modesty of

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Christ. Similar to Christ, the Desert Fathers likewise led a humble life, generously sharing the benefits of their humility with others and providing solace to people.

Father John the Dwarf stated that humility serves as the gateway to God. For this reason, our Desert Fathers, who experienced several instances of humility, found great joy and gained entry into the kingdom of God: "Humility and the fear of God are virtues that surpass all other virtues when combined" (Chung, 2004, 189; Ward, 1975). The entrance to the kingdom of God requires passing through the door of humility. This is because, in the absence of humility, humans fail to recognize their inherent imperfections and their need for redemption. An individual with humility acknowledges their inability to place trust in God, becomes aware of their sinful nature, and recognizes their need for salvation. Therefore, only those who possess humility are granted access to heaven. The Desert Fathers assert that the individual who comprehends their own insignificance and remains unattached to worldly possessions is the one who upholds all the teachings of the Bible.

According to the Desert Fathers, humility is the recognition of one's insignificance and the absence of attachment to worldly possessions. Detachment entails the understanding that nothing belongs to us. One who encounters the all-powerfulness of God as the originator of all things gains a profound understanding of their status as beings brought into being. Upon witnessing the divine nature of Christ at a fishing event, the Apostle Peter was overwhelmed with astonishment and prostrated himself before Jesus. He fervently implored, "Lord, I beseech you to leave my presence." In Luke 5:8, he boldly confessed, "I am culpable of transgressing." The awe that an individual experiences when confronted with the omnipotence of God is a profound awareness and understanding of their insignificance. Humility is the fundamental and first quality of all virtues, and it serves as the initial stage in forming a connection with God. The Bible has numerous valuable teachings that can guide us toward leading good lives. Exemplary qualities such as love, faith, hope, patience, and forgiveness are demonstrated, and humility serves as the foundation that enables these virtues to flourish. Upon the realization of our insignificance, we can direct our focus towards God, the origin of our being, and all that exists. Satan's action in Eden in Genesis story Chapter three involved eradicating the inherent modesty of creation using the weapon of arrogance (Chung et al., 2021). Similar to how a tree that has its roots removed withers, a soul lacking humility loses the life force bestowed by God. The Desert Fathers were fully aware that humility can completely suppress and render ineffective the power of the devil.

When we assert that humility entails recognizing our insignificance and detaching ourselves from worldly attachments, we can question whether humility implies self-degradation. Humility is not the act of belittling oneself, but rather the ability to perceive things as they truly are. It pertains to perceiving oneself and one's neighbors in their true essence. Self-deprecation serves as a means to conceal emotions such as despair, resentment, and sentiments of inferiority over one's lack of value. Conversely, there exist concealed feelings of envy, jealousy, anger, and resentment towards neighbors who appear to be of a higher social standing. However, perceiving oneself and one's neighbors in their true form requires recognizing oneself and one's neighbors as invaluable beings with divine worth. The reason for this is that human existence entails that we are not entities assessed based on external criteria but rather esteemed beings formed and cherished by God. Humility, in contrast to self-deprecation, does not elicit feelings of sadness or frustration with one's own lack of value. Instead, they find joy and express gratitude for their perceived lack of value in the eyes of God, the Creator. Humility is the act of refraining from making comparisons between oneself and others. Humility is the understanding that all human worth originates from God and that humans are fallible creatures capable of making errors. Humility refrains from exploiting someone whom God loves and cherishes as a mere instrument or method to satisfy one's own desires. Humility can be considered the fundamental basis of love.

Humility is not derived from self-loathing but rather from receiving copious amounts of love from a higher source. Genuine humility arises from acknowledging that each of us, both you and I, are cherished offspring of God and that our value is derived from God. When people experience the complete affection of the divine, they are capable of cultivating genuine self-love and extending it towards others. The values of society compel us to assess ourselves and others according to external criteria. Humility cannot be cultivated through discontentment and emotions of inadequacy that remain unfulfilled when compared to materialistic standards. Humility is a virtue that emerges when individuals disregard external ideals and viewpoints and possess unwavering confidence in their complete existence inside God. Humility originates from the reception of divine love.

Humility is derived from unity rather than division. The ego, which is deeply entrenched in a multitude of earthly cravings and erroneous illusions from birth, exists in a state of isolation from others and endeavors to ascertain its own worth by engaging in comparisons and contrasts with others (Augustine, 397). "I possess knowledge that you lack, and I possess possessions that you lack. Hence, I possess distinct qualities compared to you." Spiritual arrogance functions using this method, with the sole distinction being that it employs the name of God. When an individual attains several accomplishments through their fervor for the work of God, they are prone to succumbing to self-complacency. He confuses his self-satisfaction and joy with the love and grace of God. His profound self-contentment motivates him to participate in more religious practices, such as fasting, prayer, and group activities. Within the depths of his innermost being, there resides a concealed sense of elation: "I am distinct from the rest

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of others." When someone else has a differing viewpoint, they completely disregard it and become even more obstinate. This is a temptation originating from the malevolent entity known as the devil. Some people who are not under the influence of sound spirituality are unable to understand someone who is. Over time, they develop into persons with a desire to improve the state of the world. Due to their excessive spiritual arrogance, they perceive themselves as apart from others, and when they experience seclusion, they are unable to discover their own identity. Humility is the recognition that one is not something but rather lacks any significant existence (Kuk & Chung, 2022). Only those who possess humility can achieve true self-discovery and ultimate liberation. The reason for this is that peace of mind is achieved when one liberates oneself from an excessive preoccupation with one's profession and reputation. Utter bliss is achieved when one achieves a state of utter self-forgetfulness. Oneness rather than isolation is what nurtures the development of humility. The underlying concept is concealed inside the Desert Fathers' maxims regarding humility. By embracing a receptive attitude and appreciating their fragrance, one might attain grace through their modesty. The Desert Fathers sought to cultivate humility by prioritizing the act of forgiving people who had wronged them and thereafter offering assistance to such individuals. Embracing selflessness and adopting a mindset that considers others' viewpoints and acts accordingly is the essence of humility. Despite being unjustly accused of being an unscrupulous criminal who engaged in the sin of lust and was then subjected to physical assault, Father Macarius did not offer any justifications or attempt to flee (Chung, 2004, 197-198). He possessed such unwavering self-confidence that he remained unaffected by the opinions and treatment of others. He empathized with the unhappy woman and made an effort to assist her. He fled to the desert after learning of the unfair story and the villagers' subsequent gathering to praise his moral excellence in the belief that they were mistreating him.

Humility is the act of selflessly putting others before oneself, often to the extent of relinquishing the authority to make decisions in order to serve others. To clarify, the act of accepting humility from others and then serving them can also be considered a manifestation of humility. An individual who possesses a strong desire to assist others but lacks the ability to accept help or support demonstrates an imbalance in their humility. Humility is not merely a reduction in the use of words and expressions, but rather a state of inner spaciousness and nothingness. To what extent are our human interactions tainted by egocentrism and inflexible self-awareness, regardless of our religious beliefs? We are inundated with logical justifications for why we must engage in that particular action in that specific circumstance, leaving us with little opportunity to heed the perspectives of others. We perceive ourselves as individuals who are incapable of accepting assistance from others due to a lack of emotional capacity. For those of us who live in more populated areas, the humility the Desert Fathers displayed might seem too abstract. The Desert Fathers displayed such tremendous humility that, despite offering all to God, they harbored a deep sense of fear in their hearts, believing that they had accomplished nothing. It is crucial to comprehend that when humans draw nearer to God, their awareness of their own sinfulness and deficiencies intensifies. As a result, certain Desert Fathers chose to degrade themselves to the size of small canines. Through their detachment from worldly attachments, the Desert Fathers achieved liberation from the confines of egocentrism. They experienced a picturesque utopia where they had the freedom to fully embrace and accept themselves while also selflessly assisting others without any conditions.

III. OBEDIENCE

Obedience is a virtuous quality that is closely associated with humility. Christ's humility was evident in his obedience. According to Christian theology, Christ's unwavering submission to God resulted in his ultimate sacrifice, even unto death. Jesus, being sinless, had to carry the cross as a means of atoning for the sins of others, enduring the excruciating agony of death. Jesus was acknowledged as the Son of God by surrendering his desires and submitting to the divine will. As a result of humanity's downfall, selfishness, self-centeredness, and various desires became intertwined, creating an insurmountable and infinite divide between humans and God. Jesus Christ demonstrated his submission to the divine will by obediently following it until his death, thus opening a novel means of communication between humanity and God. If we acknowledge Christ as the Son of God by obeying Him, then it becomes much more necessary for us, who are bound by our desires and trapped in the illusion of our own identity, to approach God by following the path of mediation.

Nevertheless, when we assert that God's volition diverges from our own, the initial notion that arises is that compliance resembles capitulating to an unrelenting despot, despite harboring covert animosity. Our misconception stems from a misinterpretation of God. It is solely our fundamental notion of power, not God itself, and a concept that reveals more about our own nature than about God. The divine will is not an inflexible and arduous directive to adhere to, akin to a written statute. Because God possesses human attributes and is characterized by love and grace, His will is not presented as a mere command but rather as a personal invitation and a loving discussion. The divine intention is for love to be the driving force, which in turn leads to the transformation of our ego and the restoration of our authentic selves. God's will is occasionally manifested supernaturally, but mostly it operates within the bounds of natural rules and in interpersonal connections. It resembles pausing during a stroll along a woodland trail and resting on a solitary boulder momentarily.

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The manifestation of God's intentions can be observed through our interactions with others. By attending to the needs of others, we are effectively adhering to God's will (Park et al., 2022). How can we, as physical beings, adhere to the commands of a deity that cannot be seen? It can be achieved through interpersonal connections. Specifically, within the Christian faith, the act of obeying God is acquired and honed through the dynamic between a teacher and a pupil. Jesus cohabited with the twelve disciples and personally accompanied them, providing instruction to cultivate their obedience. The Desert Fathers acquired the virtue of obedience by residing in communal settings alongside their seniors. The obedience training of Jesus Christ and the Desert Fathers was characterized by a lack of coercion and a balanced approach. The relationship was neither impersonal nor authoritarian, contrasting with the dynamic between a master and servant. Jesus imparted his students with particular life experiences, provided them with personalized guidance, and instructed them. The foundation of obedience was established through personal romantic relationships. The basis for complete obedience was a robust sense of uniformity and connection fostered through communal meals, collaborative work, and living in close proximity to one another in comparable surroundings. As they embraced the harsh elements of the desert, feeling the sand and wind against their bodies, they gained a profound understanding of each other's abilities and limitations, fostering a strong bond of unity. The relationship between the teacher and disciple of the Desert Fathers was reciprocal and characterized by parity in position. The community that the Desert Fathers envisioned was one that valued equality and held wisdom, spiritual experience, and love as the only sources of authority.

The teacher-disciple connection was always non-hierarchical. The group shared a profound connection, such that if a disciple erred, the teacher would assume responsibility for it. A student desired to ascertain his teacher's disposition; thus, he informed his teacher that he had journeyed to the hamlet to vend his merchandise and had engaged in illicit activities with a woman. The senior asked the young monk if he would experience remorse for his actions and want to improve himself. Upon receiving an affirmative response, the elder declared, "I shall assume accountability for fifty percent of that transgression" (Chung, 2004, 204). The student now understands that he and his teacher are capable of coexisting peacefully. Thus, they cohabited till their demise.

An intriguing case demonstrates that love and personal relationships served as the foundation for obedience among priests. The disciple inadvertently added malodorous oil to the porridge; nevertheless, the teacher dutifully acquiesced to the disciple's offering and consumed it (Chung, 2004, 205). The teacher assumes responsibility for the disciple's flaws and transgressions. Upon realizing his mistake, the disciple apologized and expressed his confusion about what to do next. Instead of assigning blame to the disciple, the instructor consoled him by suggesting that it was God's will for him to not consume honey. He was a teacher who viewed his disciple's mistakes from a divine perspective and regarded them as part of God's plan. Individuals who are ill have a tendency to exhibit self-centered behavior. When in good health, one has the luxury of considering the viewpoints of others. However, when one's own physical condition is unwell and fatigued, everything becomes irritating and exasperating. Nevertheless, this teacher had a remarkable lack of self-centeredness, even during periods of illness and physical agony. Instead, he possessed the sagacity and forbearance to conceal his disciple's errors, and he displayed tolerance and acumen in comprehending the disciple's self-condemnation. Should a disciple attain such profound love from their instructor, would they not abandon all else and promptly obey when summoned? Consider an illustrative incident that provides insight into the magnitude of the Desert Fathers' obedience, which was founded upon affection and individual connections:

Father John the Dwarf resided in solitude in his hut beside an elder from Thebes who inhabited the desert. On a certain day, the elder procured a lifeless tree and proceeded to embed it in the soil. The elder instructed him to daily pour a pail of water upon the roots until this tree produces edible fruits, however, the distance to the spring was considerable, prompting John to make the journey in the evening to fetch water and not return until the following morning. Following a span of three years, the tree commenced its growth and started producing fruit. The elder harvested the fruit and transported it to the location where his brothers were assembled, where he addressed them. Consume this fruit of obedience! (Chung, 2004, 206-207).

What was the reason for the teacher's instruction for a lifeless tree to produce fruit? Are we feeling excessively uninterested in allocating time in the desert? What were the thoughts of the disciple who endured three years of rigorous obedience training with no sleep as he walked wearily in the early morning to collect water from a faraway spring? Initially, it may appear as if the obedience training is absurd, but it actually serves as a means for the teacher to impart important truths to the student and facilitate the disciple's journey towards enlightenment. The fruit was not merely a fruit but also a manifestation of obedience. The fruit contained esoteric spiritual knowledge accessible only to those who taught and practiced obedience. Obedience entails transcending self-centeredness and reinstating the divine image. The teacher aimed to assist the student in transcending self-centeredness, recognizing their own weaknesses, ignorance, and dependency, and attaining inspiration by imposing what may appear as stringent compliance.

In order to overcome his obstinacy and self-centeredness, the disciple diligently watered the lifeless tree for a period of

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three years, engaging in the arduous task of fetching water. Furthermore, they would have encountered the bliss of liberation from spiritual ignorance via a profound communion with God. Subjugating one's own will to comply with the desires of another person is analogous to undergoing a procedure similar to that of a martyr (Seon & Chung, 2021). The Desert Fathers resembled living martyrs. While their physical bodies were functioning, they likely experienced the profound and transcendent realm of spirituality inside, akin to martyrs, and lived fully engaged in its exhilarating and enjoyable essence. The teacher's purpose in "watering the dead tree" was to assist the student in understanding the importance of obedience and achieving a profound connection with God. The teacher, fully cognizant of the student's exceptional qualities, believed that the student had the potential to recognize and harness them and thus provided specialized instruction to someone capable of managing them. The disciple would have eventually transcended his ego through the disciplined practice of obedience, seeing the divine will manifested in the instructions of his teacher, and experiencing boundless bliss and liberation. The spiritual illumination of a mentor and a student, as well as the bliss of a soul liberated from egotism, are conveyed through the fruition of a deceased tree.

IV. LOVE

The Desert Fathers were individuals who dedicated themselves entirely to their profound love and devotion to God. They led solitary lives, dedicating themselves to the pursuit and worship of God. Some people might view the Desert Fathers' devotion to God as self-centered and antisocial. There is a chance that we are mistaking the situation for love when it is really about self-gratification. How can one comprehend the concept of loving an intangible deity without first demonstrating tangible and pragmatic love for the physical world and one's fellow human beings? However, it might be argued that the Desert Fathers were the genuine proponents of love. In addition to their genuine and ardent love for God, they were also profoundly committed to loving their neighbors. Despite their solitude and eventual demise, they were not self-centered individuals who derived pleasure from being alone (Kim & Chung, 2023). Living in solitude, isolating oneself, and engaging in meditation should not be confused with isolating oneself from the outside world. This does not imply that they isolate themselves from the external world through strong determination and exertion, confining themselves within their own jail and creating a division. Despite being alone, they were not devoid of companionship. They formed a strong bond with people through their devotion to God and showed unselfish compassion for their neighbors. Similar to the concept of the Holy Trinity, where God lives as three distinct individuals yet remains unified, and the bond between these persons is boundless love, the Desert Fathers similarly aspired to achieve total unity with their fellow human beings. Father Anthony stated that our existence and demise are dependent on our fellow community members. If we provoke our siblings and make them furious, we commit a transgression against Christ. As God manifests Himself to us through our neighbors, demonstrating love towards our neighbors is equivalent to demonstrating love towards God. The manifestation of our connection with God becomes evident through our interactions with those who live in close proximity to us. Even if we choose to live in solitude, isolate ourselves from others, and maintain a quiet lifestyle, it is still possible for us to feel affection and goodwill towards our neighbors. If we coexist with another without expressing our profound emotions, if we experience jealousy, suspicion, and fear towards one another, if we prioritize our own well-being and engage in self-centered and strategic acts of giving and receiving, then it cannot be classified as love. Despite being alone, we possess profound empathy for our neighbors and are brimming with compassion and love towards them. Consequently, the act of sharing a word and extending a helping hand can have a profound and impactful effect on us. The Desert Fathers cultivated profound affection for their fellow human beings via contemplative solitude, and they exemplified this love during their entire existence. The Desert Fathers' love was characterized by the giving up of one's own desires, the act of serving others, the acceptance and understanding of all things, and selfless giving without any thought of reward. Consider this story: "Two monks embark on a journey to visit a specific elderly monk. The elderly monk had a daily practice of abstaining from eating. Nevertheless, upon sighting the two, he cordially greeted them and engaged in [eating fellowship] with them" (Chung, 2004, 210).

The Desert Fathers esteemed the virtues of hospitality and compassion towards their fellow inhabitants. For them, the significance and worth of love for their neighbors surpassed that of fasting. While fasting is a voluntary act, showing love towards one's neighbor requires relinquishing personal desires and adhering to certain principles. The desert fathers exemplified the virtues of selflessness and altruism through their kind and compassionate treatment of their fellows. The Desert Fathers exhibited resolute affection towards their neighbors. They demonstrated affection and empathy for unfamiliar individuals of diverse religious affiliations when they sought assistance during challenging circumstances. Demonstrating affection for an unresponsive individual can frequently seem futile. Nevertheless, selfless generosity, without any hidden agendas and entirely driven by the desire to help, is a clear sign of authentic love. By engaging in this action, it results in the advantages of deep happiness, liberation, and appreciation (Chung, 2009; Jeong & Chung, 2024).

There is a compelling illustration that demonstrates the profound level of concern and comprehension the Desert Fathers possessed for their fellow coworkers. When the sun set and the guide made a wrong turn, Father John and other monks were

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strolling along the route (Chung, 2004, 213). Upon learning of this, fellow monks approached Father John for guidance, expressing concern that if the guide persisted on the incorrect road, they may perhaps become disoriented and perish. Father John explained that if he admitted to the guide that he had chosen the incorrect route, it would cause the guide distress. Therefore, he decided to remain in this location until daylight, feigning exhaustion. They remained there till daylight, thus obviating the necessity to pester the guide. Admiration arises from the combination of intelligence and cleverness in problem-solving, as well as the ability to remain calm and considerate of the embarrassment and suffering that may be caused to others by admitting one's own errors, even in situations where one's own life may be in danger (Kim & Chung, 2021).

In our current era, characterized by self-centeredness and a tendency to prioritize our own desires over the well-being of others, it can be challenging to consider the discomfort of spending a night in the cold desert, sleeping outdoors under the open sky, in order to avoid inconveniencing our neighbors (Jeong & Chung, 2022). We believe that we require the compassionate and benevolent nature of the fathers who persevered through hardship. Additionally, the devotion of the Desert Fathers goes as far as self-renunciation and the willingness to give one's own life. They exhibited remarkable forbearance in the face of provocation and harassment, refraining from retaliating against those who offended them. They refrained from responding to the derogatory remarks made by their neighbors.

The Desert Fathers did not view salvation as a means to achieve self-perfection. Salvation was replete with love. Through the total dissemination of God's love to our neighbors, we experience an immeasurable increase in our wealth. The Desert Fathers' capacity for profound affection towards their fellows sprang from their profound devotion to God. They held the belief that God's love for people supersedes all human love, work, and prayer. They were aware of their unworthiness of love, yet they acknowledged that God loved them. As recipients of God's bountiful love, humankind is inherently deserving of love. The Fathers, deeply enamored by the profound love of God, resided in the enigmatic realm of boundlessly abundant love, displaying unwavering and unrestricted affection for their fellow human beings.

V. CONCLUSION

We have examined the spiritual practices of the Desert Fathers, who resided in the 4th-century Egyptian desert, not with contemporary notions of "success," but rather as an assessment of the "fruits" mentioned by Jesus. During their period of isolation in the desert, they encountered nearly identical challenges to those we currently confront in our lives. They were required to consume food, beverages, and rest to sustain themselves. Furthermore, they had the responsibility of addressing any unpleasant emotions and conflicts that arose with their coworkers. This is because these challenges are inherent to human existence, regardless of whether we are in a tranquil desert or a bustling city. However, in contrast to us, they adeptly resolved these issues by diligently applying the spiritual principles outlined in the Bible, demonstrating the splendid outcomes that ensued. To accomplish this, the Desert Fathers deliberately cultivated the spiritual virtues of humility, obedience, and love. The forthcoming article will explore forgiveness, humor, poverty, solitude, and community as a continuation of the themes discussed in this spiritual discourse.

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Considering a Subscription to Butane Gas: A Beneficial or Detrimental Choice? An In-Depth Examination of the Energy, Economic, And Ecological Implications in a Highly Critical Sector in Morocco



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ABSTRACT: The gas industry in Morocco poses a significant financial burden on the country. Finding a solution to this challenge is progressing slowly, given the absence of concrete alternatives capable of replacing a source present in almost all Moroccan households and agricultural farms. The transition from gas dependence could be gradual or abrupt, depending on the solutions implemented. However, considering Morocco's ecological aspirations and investments in renewable energy, electrifying this energy source emerges as the most plausible option. From an environmental standpoint, this transformation would undoubtedly contribute positively to the overarching objectives. Beyond assessing the ecological impact, this study aims to inform the interested public about the economic and social aspects, as well as the strategies employed to phase out this polluting energy source, ideally as quickly as possible.

KEYWORDS: The energy transition; Butane gas; governmental reforms; renewable energies; Special energy requirements.

1. INTRODUCTION

In Morocco, the issue of butane is a complex matter with more political implications than purely practical considerations. The debate over the subsidy for this gas has persisted for decades. This prolonged discourse stems from the disparities it creates within Moroccan society. The benefits of this subsidy [1] favor some individuals while leaving others without such advantages, and the reasons for this are multifaceted. Furthermore, it raises questions about fairness, as those who utilize alternative methods for cooking or heating their homes [2] don't receive any benefits from this government measure, despite often aligning with more forward-thinking approaches. This study aims to generate widespread interest and foster synergy between the government and citizens to formulate a new roadmap founded on principles of equity, innovation, and commitment to implementing a solution that addresses both economic and ecological aspects [3,4], aligning with national, regional, and global contexts [5]. On the global stage, the environmental situation is increasingly alarming, with optimistic projections foreseeing a temperature increase exceeding 2°C by 2100 [6,7]. While this might seem moderate, the repercussions include a 560% surge in heatwaves and nearly 2.5 times more frequent drought periods than today. Despite these stark figures, some nations are still investing significant resources in discovering new fossil fuel reserves [8–10], and conflicts have arisen over exploiting territories rich in non-renewable energy sources [11–14], exemplified by instances like Venezuela and French Guiana.

2. METHODOLOGY

This study will adhere to a conventional methodology, encompassing two primary phases. The initial phase is dedicated to explicitly delineating the requisite data essential for comprehensively describing all aspects related to this subject, spanning energetic, economic, ecological, and social dimensions [15–17]. The subsequent phase will endeavor to leverage this accumulated data to derive meaningful outcomes pertinent to this study.

1.1. Statistical Overview of Butane:

Figure 1 above presents essential data concerning the butane industry in Morocco [18,19]. The majority of these statistics are sourced from public information provided by reputable institutions such as the Moroccan Ministry of Economy and Finance. Some figures result from straightforward calculations using available data. An example is the derivation of data point #1 in the table,

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which involves combining the quantity of cylinders in Morocco (5 million 3kg cylinders and nearly 28.5 million 12kg cylinders), their usage duration, and the associated carbon footprint [20,21] linked to the manufacturing of these cylinders.

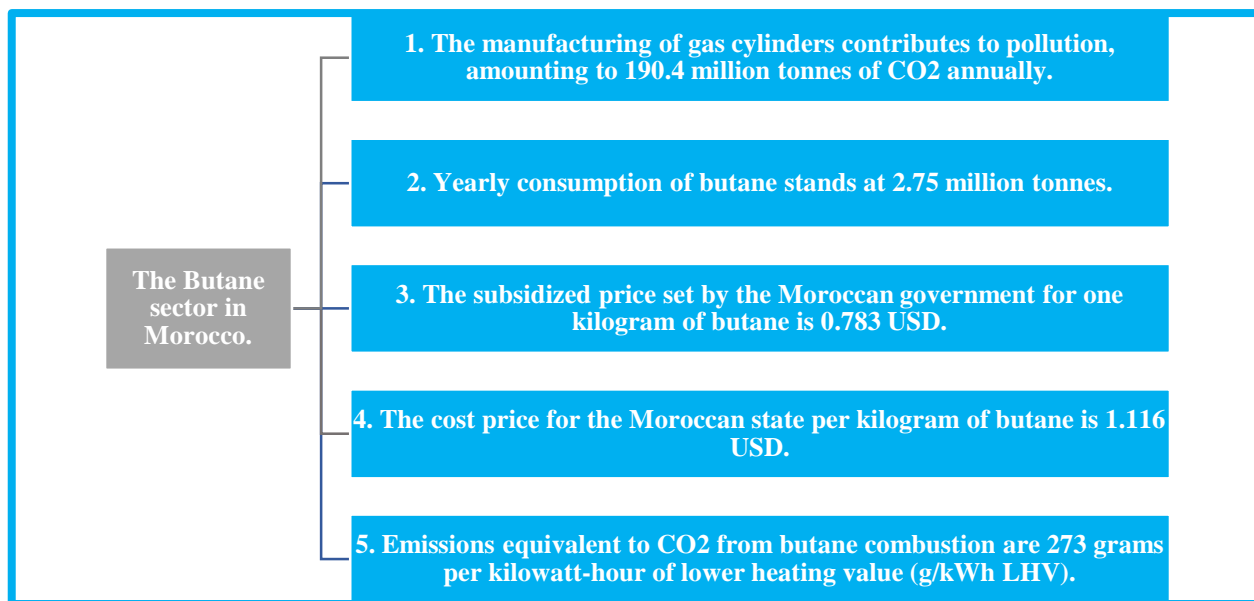


Figure 1. Key data on the butane industry in Morocco.

1.2. Possible replacements for butane, considering the overall national context:

In the current era, and given the prevailing circumstances, the logical replacement for butane use would typically be electricity. However, two critical considerations must be taken into account when considering this transition [22,23]. Firstly, the continual advancements in electrical and electronic technologies, facilitating the performance of tasks traditionally handled by gas-powered counterparts. The second crucial point in this context pertains to the country's energy landscape, particularly in electricity generation.

Presently, 90% of Morocco's energy is derived from fossil fuels, with the remaining portion sourced from renewable energies for electricity production. The latter, in turn, is harnessed from various sources in varying proportions. Figure 2 below illustrates the contribution of each energy type to electricity generation.

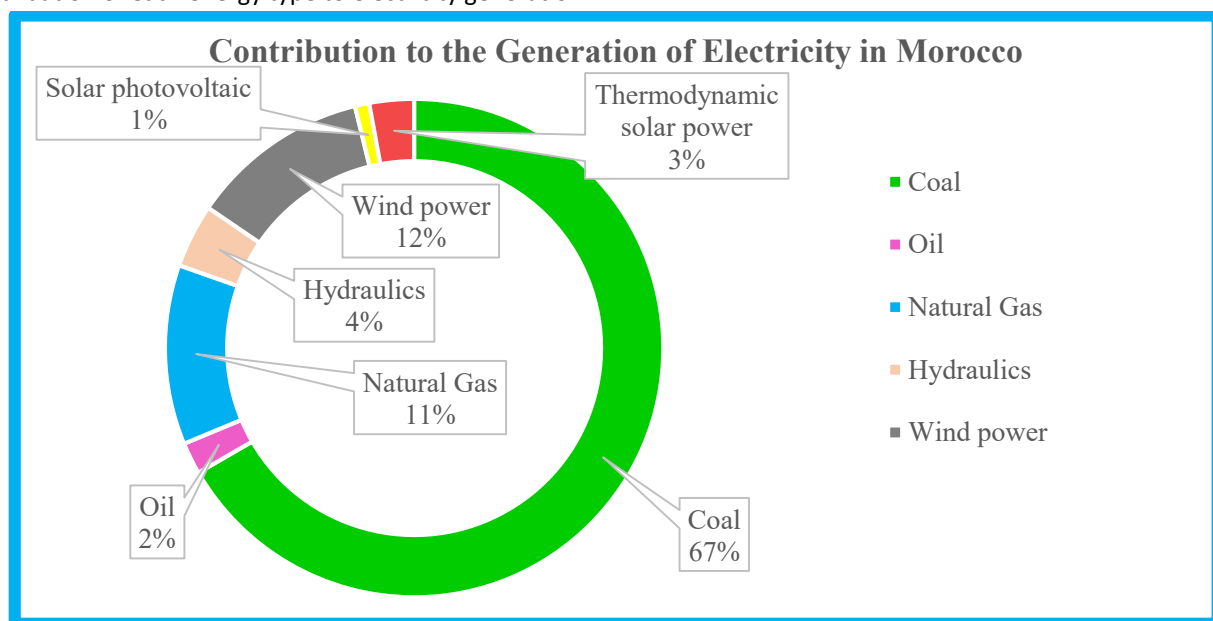


Figure 2. Distribution of Energy Sources in Moroccan Electricity Generation.

To determine the electricity required to replace the extensive use of butane gas [24], especially given its widespread popularity among the Moroccan population, making them the largest consumers of this energy type globally, with an average of

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74kg per individual per year of bottled butane. Identifying the specific areas where butane is most utilized would be prudent to gauge its consumption accurately [25]. As previously mentioned, two sectors predominantly utilize nearly all available butane:

- ❖ The domestic sector represents nearly 59%, encompassing four primary applications illustrated in Figure 3.

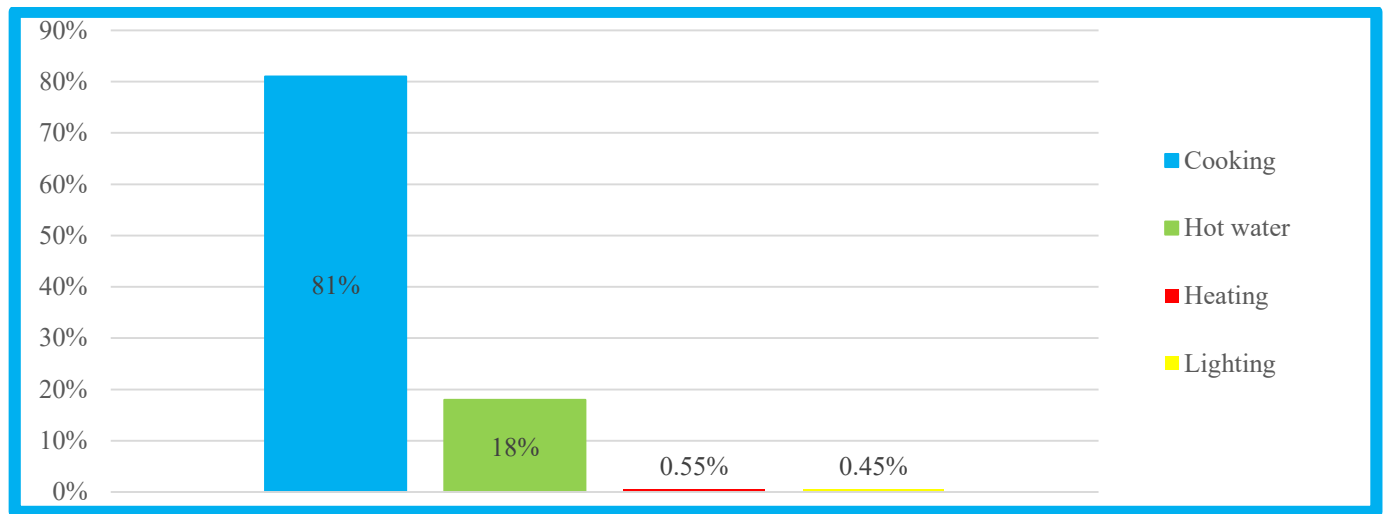


Figure 3. Primary applications of butane in Moroccan households.

- ❖ A significant portion of the remaining percentage is primarily utilized in rural areas by the agricultural sector. This energy is predominantly allocated to irrigation on one hand and livestock farming on the other. For a more detailed breakdown, please refer to Figure 4 below.

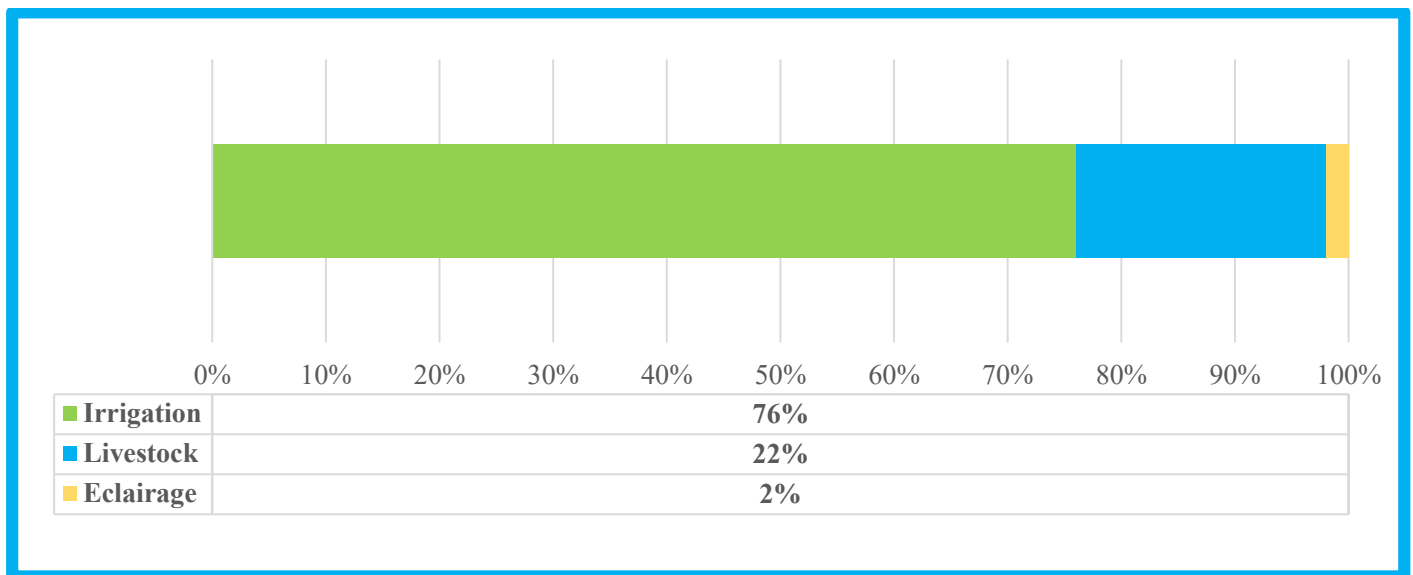


Figure 4. Butane consumption by agricultural sub-sector.

The latter part of this paragraph focuses on researching and presenting electrical equipment that can serve as reliable and practical alternatives to existing gas-powered devices. Numerous off-the-shelf solutions have been available for some time. These encompass electric motors designed to substitute butane-powered heaters, heat pumps for the climate control of sheds and greenhouses used in diverse crops, and in terms of food preservation in an agricultural setting, refrigerators running solely on gas (absorption refrigerators) should ideally be replaced with electric counterparts, unless they integrate a conversion to electric power [26]. Similar to the agricultural sector [27], the residential sector should transition away from gas cylinders, opting for electric hotplates or induction cookers for cooking and electric water heaters for hot water needs [28,29].

To conclude the data collection phase, the next step is to compare the electrical energy needs required to perform the same tasks as those carried out by gas-powered devices [30]. Table 1, presented below, has been compiled for this specific purpose.

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Table 1: Calorific value of various raw materials

Fuels	Calorific values
Heating oil	9,96 kWh/L
Natural gas	12,66 kWh/L
Wood logs	4,6 kWh/kg
Propane gas	12,78 kWh/kg
Butane gas	12,66 kWh/kg
Coal	8,72 kWh/kg

3. RESULTS

The objective of this section, and consequently, the entire study, is to derive essential conclusions for quantifying the electrical replacement solution for the three primary sectors of interest. Subsequently, it aims to provide an order of magnitude for the required size of renewable energy installations to meet the compensatory energy needs.

Figure 6 below outlines the significant outcomes of electrifying the gas sector in Morocco [31], specifically examining the potential impacts on energy, ecology, and socio-economic aspects under conditions similar to those currently prevailing.

The initial energy outcome is determined through straightforward calculations involving two parameters: the total butane consumption and the Lower Calorific Value (LCV) of the same gas, using the data from the previous section.

For the second outcome, which is ecological in nature, two assessments are suggested: comparing the carbon footprint of the gas-fired solution with the alternative solution, considering the current electricity generation regime. However, arriving at this result necessitates preliminary calculations. Figure 5 illustrates the carbon footprint of each energy source utilized in Morocco to generate one kWh of locally-produced electricity, thereby deducting the carbon footprint of the kWh of electricity.

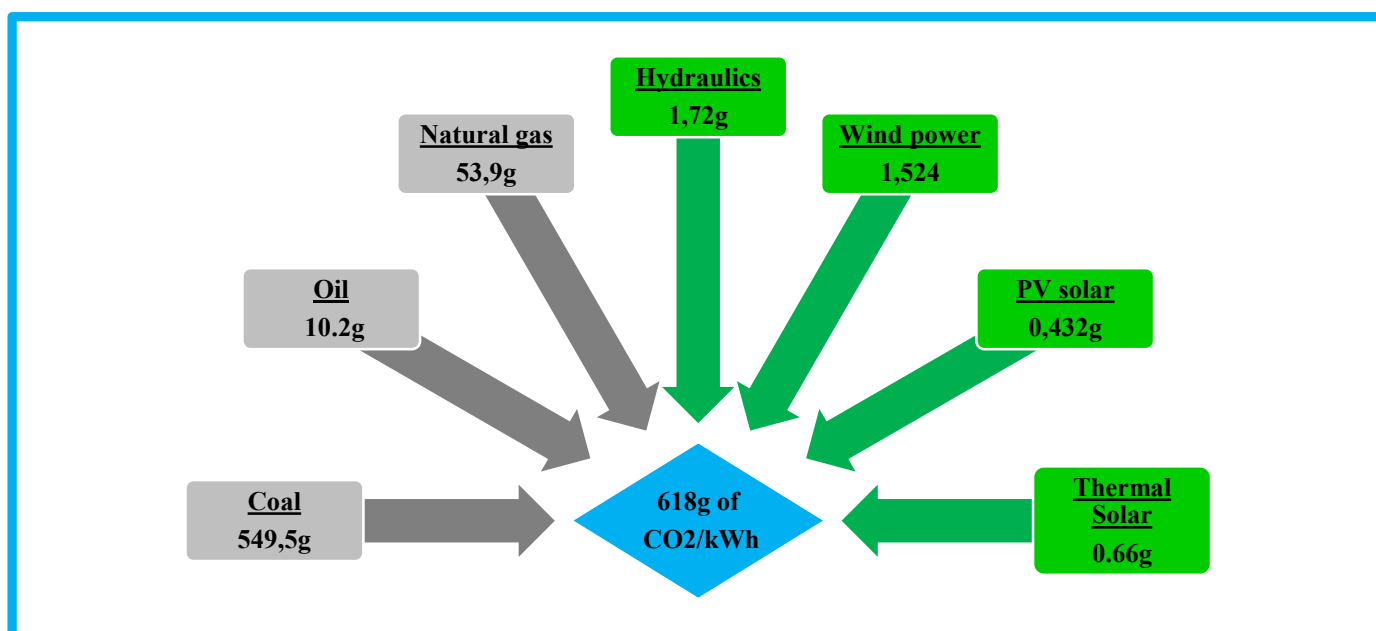


Figure 5: Amount of CO₂ emitted to produce one kWh of electricity in Morocco, taking into account the contribution of each energy source.

Table 2 furnishes crucial information for computing the carbon footprint of the gas solution. This data needs to be amalgamated with information related to the manufacturing of gas cylinders to derive the desired result.

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Table 2: Carbon footprint of butane gas

Energy sources	Émissions de CO2 par kWh
Butane gas	392g

In conclusion, the third and fourth results facilitate a comparison between the former and new economic constraints to be imposed on the local population. The fourth result offers insights into the financial implications for the Moroccan government concerning this transition, all within the context of the nation's prevailing energy landscape.

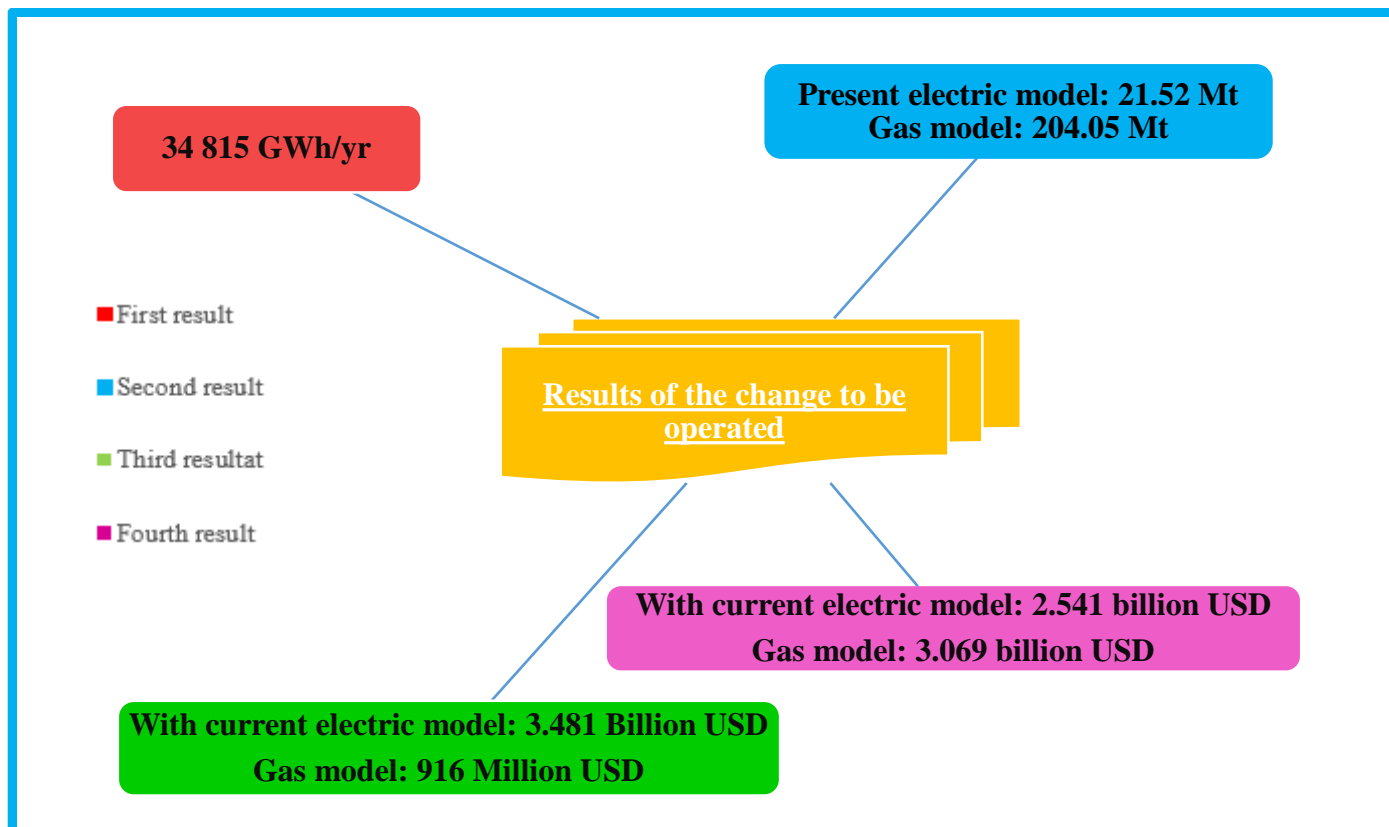


Figure 6. Computed results leading to noteworthy observations across multiple sectors.

The initial revelation stemming from this study is that, from an economic standpoint, the Moroccan state, even in a highly unfavorable scenario, can generate electrical energy at a significantly more favorable cost compared to the gas-based energy model.

The second revelation, from an ecological perspective, indicates that the gas model would result in nearly 20 times more pollution compared to the electric model [32]. This is noteworthy, especially in a local energy context predominantly reliant on the import and utilization of fossil fuels.

The third equally significant point pertains to the purchasing power of the Moroccan citizen. To fulfill their needs using gas, the individual would have to pay almost 3.8 times more. However, the abandonment of gas and its associated subsidy would free up a substantial budget. This budget could be redirected toward electricity, either through initial electricity subsidies or other long-term measures to counteract the increase.

4. CONCLUSION

Given these considerable advantages, it is strongly recommended to incorporate the energy demand currently met by the gas sector into the country's future expansion plans for installed capacity. Ideally, these future installations should predominantly be based on renewable sources. While the investment required would be significant, the returns from such a move would ensure energy independence for the Moroccan state, a highly competitive electricity price, and a carbon footprint nearly 10 times smaller than the current electricity production. This initiative could generate additional funds through carbon offsets and project an exemplary international image of a country at the forefront of sustainable practices.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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Teachers' Competence and Learners' Academic Performance



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ABSTRACT: Teachers are the nation's development catalysts. They enable the country to generate and nurture learners who could propel it forward and lead to development. This paper aimed to determine the level of teachers' gained information on Philippine Professional Standards for Teachers (PPST) and its relation to their learners' academic performance. The independent variable is on teachers' gained information on PPST Domains through In-Service Training in terms of Content Knowledge and Pedagogy, Learning Environment, Diversity of Learners, Curriculum and Planning, Assessment and Reporting, Community Linkages and Professional Engagement, and Personal Growth and Professional Development while the dependent variable is the learners' academic performance. This study was conducted at West City Central School in the Division of Cagayan de Oro City. The researcher used the convenience sampling technique and a descriptive-correlational with content analysis research design and employed an adopted questionnaire given to teachers ($n=161$) while data analysis of learners' ($n=701$) academic performance was gathered. The collected data were analyzed and interpreted using descriptive and inferential statistical tools such as frequency and percentage, mean and standard deviation, and Pearson product moment correlation coefficient. Results revealed that the level of teachers' gained information on PPST domains was at Very High Level of Information while the learners' academic Performance was at Very Satisfactory Level. Moreover, Teachers' gained information on PPST domain was significantly correlated with the learners' academic performance. Thus, it is recommended that schools may provide more trainings and information drive on the PPST Domain Community Linkages and Professional Engagement as it will provide ideas, guidance and assistance for teachers so that they can fully perform well in all of the PPST domains and improve learners' academic performance.

KEYWORDS: Academic Performance, PPST Domains, Learners, Teachers.

I. INTRODUCTION

Today's modern society demands high quality teaching and learning from schools and most importantly from the teachers. It is argued that making the connection between knowledge and practice can be achieved by giving teachers more in-service training opportunities. In order for the knowledge economy to be successful, individuals and communities will constantly need to learn new things, apply their knowledge in new contexts, create new knowledge, where existing ways of doing and thinking are found wanting, and exercise wise judgment about what is important and what is not.

The Department of Education has been advocating the improvement of quality education in schools in the country. In fact, teachers need to update their knowledge and skills on curricula, psychology, and pedagogy of the learners and new research on teaching and learning; hence, they need appropriate in-service training, as well (Ayvaz-Tuncel & Cobanoğlu, 2018). The Department of Education has been practicing the implementation of the regular conduct of the In-Service Trainings (INSET) as a way of enhancing the skills and knowledge of the school teachers and school heads.

In-service trainings (INSET) have been considered as very important in the maintenance and sustainability of the teachers' capacity to provide quality teaching and learning in the classroom. The basic aim of INSET is to improve and expand teachers' knowledge of the subject matter in the diverse learning areas, acquire new teaching strategies and resources for the various subjects, and develop and enhance teachers' skills to the extent necessary to meet the demands of twenty-first-century learning. In-service training is a long-term investment to develop skills and professionalism of teachers. (Janubas, 2022)

In the Philippine educational setting, the INSETs are conducted before the start of the school year usually in the month of August and in the middle of the school which is in the month of February. It is a week-long activity/training for the teachers and

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school heads. The aims of INSETs are to support the employees of the school system's ongoing professional development; to engage in collaborative and participatory learning in the teaching profession; to keep experts current on new information, to encourage creative endeavors and to provide teachers, especially new teachers, with the crucial support they require when they transition into new roles or areas of responsibility (Milenyo, 2022).

Teachers are the nation's development catalysts. They enable the country to generate and nurture learners who could propel it forward and lead to development. Therefore, maintaining high standards for instruction and improving the caliber of teachers should be top priorities for long-term, sustainable nation-building. The Philippine Professional Standards for Teachers (PPST) are used to evaluate the competency of in the country.

DepEd Order No. 42, s.2017 was issued by the Department of Education via the Teacher Education teachers Council (TEC) with the title Philippine Professional Standards for Teachers (PPST), National Adoption and Implementation. Based on the idea of lifelong learning—which refers to the methodical acquisition, upgrading, and attitude of knowledge, skills, and attitude—and encouraging self-directed learning, this acknowledges the significance of professional standards in the ongoing professional development and advancement of teachers.

The National Competency-Based Teacher Standards (NCBTS), the foundation of PPST, underwent revisions to better meet the needs of 21st-century learners who are critical thinkers, creative thinkers, eager to collaborate and communicate across platforms, astute with information, technology, and media, and adaptable (DepEd Order No. 42, s. 2017). To make sure that teachers are adequately prepared to execute the K–12 Program, the PPST will serve as the foundation for all professional development initiatives. Since it is required that these standards be used to determine teacher selection and advancement, performance evaluations should also be adjusted to be in line with PPST.

The perception of a competent teacher is relevant to the assessment of teachers' competencies based on their values and beliefs. The study discovered that there were disparities in how this concept was understood. The study also concentrated on quality, professionalism, and competence—three interconnected ideas that were essential to the ideas, practices, theories, and beliefs surrounding teachers' competencies. From now on, the enhancement of educators' competencies must be pertinent to their requirements and must pinpoint any discrepancies between the various facets of their assessment. This study provided valuable insights into a comprehensive set of beliefs that will help illuminate the problems that teachers encounter on a daily basis (Gepila Jr., 2019).

An educational evaluation could be successfully implemented through PPST to raise the standard of instruction. Any educational plan's success is informed by this kind of evaluation. This is accurate since the accomplishment and/or enhancement of educational programs in every nation rest on the ability of educators to successfully translate learning objectives into practice through their professional and scientific expertise.

Every INSET is in line with PPST Domains and are designed to bring out the best in each participant so they can realize their potential and their areas of expertise. An individual's aptitude, competency, and potential will undoubtedly increase if they are aware of their strengths and flaws. With additional education and improved training, one can make up for whatever deficiencies they may have. Because of this, in-service training programs are a key strategy for assisting people in becoming more valuable and productive members of society. When it comes to carrying out obligations outside of the job or even inside the workplace as long as they are related to work, both capability and proficiency are taken into consideration.

Programs for INSETs are intended to fill in any gaps or areas of ambiguity that may generate hesitation, worry, or even uncertainty in newcomers. There is a guarantee that every issue pertaining to work will be effectively addressed with the corresponding alignment of training programs with the actual demands of newcomers. Old-timers will be educated on specific topics so they can function more effectively and in accordance with customary practice as well as widely approved alterations and modifications. Every school administrator or manager of an academic institution within the academy should, in fact, pay top importance to the significance of INSET to T PPST Domains teachers in the school system.

Academic performance on the other hand, refers to a pupil's performance throughout a specific academic year. It acts as a gauge for their progress and knowledge at the grade level. It also acts as a barometer for the areas in which the pupil needs to make progress in order to acquire the necessary information and abilities at a given grade level.

The findings of the study of Francisco and Celon (2020) showed that different instructional strategies learned by teachers through PPST have different effects on students' academic achievement of learners. There was a corresponding rise in learners' academic achievement for each unit that the instructional management techniques described are improved.

Consequently, there have been less studies and research emphasizing the role and the influences of the INSET on PPST Domains towards the growth and development of teachers in the field and in the local setting that was why the researcher has come up with this study. The researcher aimed at finding the relationship between in-service trainings on PPST Domains of teachers and learners' academic performance.

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This study made use of Zey's Theory of Teacher Development which explains that the individuals who enter into and remain part of relationships in order to meet certain needs, for as long as the parties continue to benefit. The author extended this model by adding that the organization as a whole (in this case the school) that contains the mentor and mentee also benefits from the interaction. This theory presents that, there is a correlation between the teachers' preparations and inductions on the teachers' practices and learners' achievement and performances at school (Soe, 2018).

The teacher induction in this model refers to the different types of learning activities and opportunities like the teacher's orientation sessions, faculty collaborative periods, meetings with heads and supervisors, workshops, and mentoring and classroom supervision. The second variable is mentoring. Accordingly, Zey (2018) defined the mentoring process wherein it continues through this phase as a mentor teacher maintains a working relationship with a novice teacher and provides support and steps to progress through their teaching career. The final step in the teacher development model is improved student learning. As a novice teacher continues to practice their skills and hone on their strengths, an improvement in achievement from students is a by-product of the development of the novice teacher (Matthews, 2018).

Professional development enables teachers to update their knowledge, sharpen their skills, and acquire new teaching techniques, with the intent of enhancing the quality of teaching and learning (Rotermund et al., 2017). With regards to the theory of Zey about teacher development, the development is defined to which it enables teachers to update their knowledge, sharpen their skills, and acquire new teaching techniques, with the intent of enhancing the quality of teaching and learning (Melinyo, 2022). Therefore, it could be really justified that teacher-related trainings and activities plays a coherent role in the professional and holistic development of the teachers like in their self-efficacy and performance.

The Individual Performance Commitment and Review Form (IPCRF), a tool used by the Philippine Department of Education (DepEd) to assess teacher performance, served as the foundation for this study. The DepEd Order No. 2 series of 2015 offers instructions for creating and implementing the IPCRF. DepEd Order No. 2 states that the four domains of the DepEd Result-Base Performance Management System (RPMS) should serve as the foundation for the IPCRF.

There are particular indicators for each of these domains that can be used to evaluate DepEd employees' performance. Employees and this supervisor should work together to develop the IPCRF, which should have quantifiable and precise goals for every indicator. The employee's performance review and development plan should also be based on the IPCRF and should be in line with the DepEd's annual performance targets. All things considered, the best idea for the IPCRF is to make sure that it is in line with the DepEd's overarching goals and objectives and that it offers a thorough and transparent framework for evaluating and enhancing employee performance.

Learners' Academic Performance is the quality and quantity of the accomplishment of tasks, either achieved by individuals, groups, or schools. Performance is used to highlight the manifestations of knowledge, understanding, and development of ideas, concepts, and skills that can be observed (Dardiri & Kuncuro, 2017). Performance of teachers on the other side is very important in both the learning process and efficiency of teachers to achieve the organization's goal. That is why, various trainings have been offered and conducted to achieve these results perceive by the department as well as PPST was created to have clear and uniform basis of rating the teachers' performance.

Also, in a study conducted here in the Philippines, the researchers have concluded that teachers' perspective towards trainings initiated by their organization has improved their skills. It has been noted that continuous training is given to faculty and staff through seminars and capacity buildings or conferences have helped them enhance their skills especially on their skills in digital literacy (Alda & Boholano, 2020)

II. METHODOLOGY

The study used the descriptive-correlational with content analysis research design where descriptive research summarizes the data using descriptive statistics; while the correlational research designs measure two or more relevant variables and assess the relationship between them.

Descriptive correlational research according to Watts (2022) are methods that aim to create descriptions, meaning images, paintings of systematically, factually, and accurately about the data, properties and relationships of the phenomena studied. In addition, descriptive design is the simplest and it allows the researcher to study and describe the distribution of one or more variables, without regard to any causal or other hypothesis. Moreover, descriptive design as an inquiry used an in – depth analysis of the problem which data collection methods include, but not limited to the survey questionnaire and was utilized to quantify the problem by way of generating numerical data. While content analysis according to (Drisko et al., 2018) it provides a complete review of the variety within content analysis, as well as extensive explanations of three methodologies available in the current literature.

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The respondents of the study were the one hundred sixty-one (161) teachers of West City Central School, Division of Cagayan de Oro City. Convenience sampling procedure was used by the researcher which means that the total number of teachers in West City Central School was utilized as the actual respondents of the study.

The data gathered through questionnaires from the respondents' gained information on PPST domain through In-Service Training towards the level of academic performance of learners was statistically analyzed using descriptive and inferential statistics. For Problem 1, Mean and Standard Deviation were used. Problem 2 utilized Frequency, Percentage and for Problem 3. Pearson Product Moment Correlation Coefficient (Pearson r) was used.

III. RESULTS AND DISCUSSION

Problem 1. What is the level of teachers' gained information on PPST Domains through In-Service Training in terms of:

- 1.1 Content Knowledge and Pedagogy;
- 1.2 Learning Environment;
- 1.3 Diversity of Learners;
- 1.4 Curriculum and Planning;
- 1.5 Assessment and Reporting;
- 1.6 Community Linkages and Professional Engagement: and
- 1.7 Personal Growth and Professional Development?

Table 1: Overall Teachers' gained information on PPST Domains

Variables	Mean	SD	Description	Interpretation
Content Knowledge and Pedagogy	4.34	0.93	Very Informed	Very High Level of Information
Learning Environment	4.36	0.94	Very Informed	Very High Level of Information
Diversity of Learners	4.36	0.93	Very Informed	Very High Level of Information
Curriculum and Planning	4.29	0.90	Very Informed	Very High Level of Information
Assessment and Reporting	4.38	0.93	Very Informed	Very High Level of Information
Community Linkages and Professional Engagement	4.18	0.86	Well Informed	High Level of Information
Personal Growth and Professional Development	4.31	0.91	Very Informed	Very High Level of Information
Overall Mean	4.32	0.91	Very Informed	Very High Level of Information
Note:	4.20-5.00 Very High Level of Information	3.40-4.19 High Level of Information		
	2.60-3.39 Moderate Level of Information	1.80-2.59 Low Level of Information		1.00-1.79 Very Low Level of Information

Table 1 presents the Overall teachers' level of gained information on PPST Domains. It registered an overall Mean of 4.32 and SD=0.91 with the description of Very Informed and interpreted as Very High Level of Information. Moreover, majority of the variables were rated at Very High Level. This data implies that the teachers were able to acquire more than enough knowledge and skills in terms of the various domains on Philippine Professional Standards for Teachers or PPST. This is important as this forms the vital part of determining the teachers' level of performance. Thus, inclusion of topics on this domain is essential.

In the same table, the highest rated variable is *Assessment and Reporting* with Mean of 4.38 and SD=0.93 described as Very Informed and interpreted as Very High Level of Information. This implies that the teachers were able to achieve the highest level of knowledge and information as to making assessment and reporting. This allows them to properly communicate with learners, parents and even stakeholders on the performance and needs of the learners that need to be addressed with.

Getting, evaluating, and applying data about the processes and outcomes of learning are all part of assessment. It comes in a variety of forms and can be applied in a variety of ways. It can be used to identify a learner's areas of strength or difficulty, track and report on accomplishments, and determine the best course of action for learners to take through a differentiated curriculum. While formative, summative, and diagnostic assessments can be conducted in a variety of ways, the primary objective of assessment and reporting is to improve student learning. To do this, it must faithfully convey the curriculum's objective (Masters, 2022).

Meanwhile, the lowest rated indicator is *Community Linkages and Professional Engagement*, with the Mean of 4.18 and SD= 0.86, described of Informed and interpreted as High Level of Information. This means that the teachers need more knowledge and skills in making connections with various stakeholders of the school. This will allow them to have someone to ask for help and assistance in carrying out activities that cannot be financially aided by the school as they are listed on the programs and activities

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that are considered priority for implementation. Thus, teachers must be given full assistance to explore and exploit its opportunities and advantages.

Through initiatives and programs that support the growth of a solid internal and external partnership between stakeholders, this domain fosters collaboration between the community and schools. In order for schools to respond to the needs of society and vice versa, this collaboration is necessary. It is expected of teachers to develop into productive team players and community facilitators (Gepila Jr., 2019).

Problem 2. What is the learners' level of academic performance for school year: 2022-2023

Table 2: Overall Pupils' Academic Performance

Grade Range	Frequency	Percentage	Mean	SD	Description
90%-100%	224	31.95			
85%-89%	302	43.08	87.36	2.11	Very Satisfactory
80%-84%	170	24.25			
75%-79%	5	0.72			
74% and below	0	0.00			
Total	701	100.00			
Note: 90%-100% Outstanding					
75%-79% Fairly Satisfactory		85%-89% Very Satisfactory		80%-84% Satisfactory	
		74% and Below Did not meet Expectations			

Table 2 exhibits the Overall Pupils' Academic Performance. It registered an overall Mean of 87.36 and SD= 2.11 interpreted as Very Satisfactory. Three hundred-two (302) or 43.08% of the pupils have Very Satisfactory Level of performance, two hundred twenty-four (224) or 31% of the pupils achieve Outstanding Level of Performance, one hundred-seventy (170) or 24.25% of the learners got Satisfactory Level of performance and five (5) or 0.72% of the learners got the Fairly Satisfactory Level of Performance. This implies that the learners were able to achieve the second highest level of performance. Although majority of the learners' academic performance were at high level like Very Satisfactory and Outstanding level there is still a need for teachers to provide assistance to learners that are performing low. The learners' academic performance is their ticket to advancing to a higher curriculum level. It also presents their academic achievement or struggles. Thus, it is important that when they are struggling, they must be given appropriate extra activities as well as ample time to improve themselves.

Moreover, parents or guardians at home must monitor their learners' activity as less time spent for studies that in doing online games and browsing social media sites can definitely harm their academic performance. Lessons tackled and learned at school is necessarily needed to be re-enforce by review and practice at home. In this way the pupils can relearn and fully remember the lessons they learned at school.

According to Bugwak's (2023) research, the academic performance of primary teacher education learners is not significantly impacted by factors such as personal condition, study habits, home-related factors, and lecturer factor. Conversely, primary teacher education learners' academic performance is only slightly impacted by school-related issues. In light of this, authorities and schools should consider giving learners a comfortable learning atmosphere.

Problem 3. Is there a significant relationship between the teachers' gained information on PPST Domains through in-service trainings and the learners' academic performance?

Table 3: Test Correlation on Teachers' Gained Information and Learners Performance

Variables	r-value	p-value	Description	Interpretation
Content Knowledge and Pedagogy	0.675	0.001	Reject Ho	Significant
Learning Environment	0.654	0.001	Reject Ho	Significant
Diversity of Learners	0.497	0.004	Reject Ho	Significant
Curriculum and Planning	0.592	0.004	Reject Ho	Significant
Assessment and Reporting	0.598	0.002	Reject Ho	Significant
Community Linkages and Professional Engagement	0.428	0.006	Reject Ho	Significant
Personal Growth and Professional Development	0.476	0.002	Reject Ho	Significant

Note: Significant if computed p-value is lower that the critical value of 0.05 level of significance.

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Table 3 displays the Test Correlation on Teachers' Gained Information on PPST Domain and Learners' Academic Performance. The independent variable is on teachers' gained information of PPST Domains through In-Service Training in terms of Content Knowledge and Pedagogy, Learning Environment, Diversity of Learners, Curriculum and Planning, Assessment and Reporting, Community Linkages and Professional Engagement, and Personal Growth and Professional Development while the dependent variable is the learners' academic performance.

For Content Knowledge and Pedagogy, it registered a computed r-value of 0.675 with computed p-value of 0.001. The computed p-value is lower than the critical p-value of 0.05 level of significance. This data implies that teachers' gained information on Content Knowledge and Pedagogy is significantly correlated with their performance. Thus, the null hypothesis is rejected. According to Peters-George's study from 2021, there is a statistically significant correlation between teachers' performance in terms of learners' achievement and their overall pedagogical content knowledge. Administrators, legislators, and educators could utilize the findings to enhance the pedagogies of Math teachers through professional development, which would ultimately improve student performance and bringing about social change.

For Learning Environment, it registered a computed r-value of 0.654 with computed p-value of 0.001. The computed p-value is lower than the critical p-value of 0.05 level of significance. This data implies that teachers' gained information on Learning Environment is significantly correlated with their performance. Thus, the null hypothesis is rejected. According to Llego (2017) learning environment is a key factor to the teachers and learners' performance as it is the place where the teacher can practice its teaching strategies, techniques and management skills. These aspects are part of the evaluation of the teachers' performance.

For Diversity of Learners, it registered a computed r-value of 0.497 with computed p-value of 0.004. The computed p-value is lower than the critical p-value of 0.05 level of significance. This data implies that teachers' gained information on Diversity of Learners is significantly correlated with their performance. Thus, the null hypothesis is rejected. Tolentino (2022) stated that concepts of diversity of learners must be given emphasis as it can affect both the teachers and learners' performance. The teachers will be tested as to its skills on making activities that caters learners' needs and capacities while the learners need to be given proper activities, assistance and guidance in order for them to learn and acquire knowledge and skills they need for their development and future endeavors.

For Curriculum and Planning, it registered a computed r-value of 0.592 with computed p-value of 0.004. The computed p-value is lower than the critical p-value of 0.05 level of significance. This data implies that teachers' gained information on Curriculum and Planning is significantly correlated with their performance. Thus, the null hypothesis is rejected. Gepila Jr. (2019) stated that curriculum planning is essential and connected to the teachers' performance as the teacher need to prepare its strategies and techniques and even set of activities to be employed in the teaching and learning process for the best interest and performance of the learners. Moreover, it is also applicable in making set of activities for remediations for those struggling learners.

For Assessment and Reporting, it registered a computed r-value of 0.598 with computed p-value of 0.002. The computed p-value is lower than the critical p-value of 0.05 level of significance. This data implies that teachers' gained information on Assessment and Reporting is significantly correlated with their performance. Thus, the null hypothesis is rejected. In the field of education, assessment comprises gathering, examining, and applying data about the processes and outcomes of learning. It comes in a variety of forms and can be applied in a variety of ways. It can be used to identify a learner's areas of strength or difficulty, track and report on accomplishments, and determine the best course of action for students to take through a differentiated curriculum. While formative, summative, and diagnostic assessments can be conducted in a variety of ways, the primary objective of assessment and reporting is to improve student learning. To do this, it must faithfully convey the curriculum's objective (Llego, 2019 and Masters, 2022).

For Community Linkages and Professional Engagement, it registered a computed r-value of 0.428 with computed p-value of 0.006. The computed p-value is lower than the critical p-value of 0.05 level of significance. This data implies that teachers' gained information on Community Linkages and Professional Engagement is significantly correlated with their performance. Thus, the null hypothesis is rejected. According to Llego (2017 and 2019), school administrators are now encouraging teachers to engage in professional development activities and build connections with the community in order to allow them to share their knowledge and skills with the community. Additionally, teachers can use this as an opportunity to network and later mobilize support for the programs they intend to develop and implement. In order for the teachers' plans and actions to come to pass and be successfully carried out, this will further assist them in growing their networks and support systems.

For Personal Growth and Professional Development, it registered a computed r-value of 0.476 with computed p-value of 0.002. The computed p-value is lower than the critical p-value of 0.05 level of significance. This data implies that teachers' gained information on Personal Growth and Professional Development is significantly correlated with their performance. Thus, the null hypothesis is rejected. It's important to always value professional and personal development. The goal of professional

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development is to equip yourself with the knowledge and abilities that will enable you to work more productively. Personal development focuses on enhancing social and communication abilities as well as emotional health. Teachers need to know this domain because it gives them the tools to grow personally and professionally, including the knowledge and abilities that may be required for a potential promotion. Above all, the domain equips teachers with the skills they need to meet the demands of their jobs (Llego, 2019).

IV. CONCLUSIONS

In the light of the above-cited findings, the following conclusions were drawn from the study:

1. Teachers were able to gain highest level of information on PPST domains which was at very high level. They were able to have better guidance in performing their functions.
2. Intervention or remediations are effective in West City Central School because majority of the learners got the Very Satisfactory level.
3. If teachers' gained information or competencies on PPST domains seriously, it is expected that teachers would apply what they gained.

V. RECOMMENDATIONS

Based on the above findings and conclusions, the following recommendations are presented:

1. In order to help teachers fully function well in all of the PPST domains, schools may conduct more trainings and information drives on the PPST Domain Community Linkages and Professional Engagement.
2. Teachers can or may ask their direct supervisors or school heads of the schools for technical support on how to raise their own performance standards and that of their pupils.
3. Learners' performance is connected with the knowledge the teachers have gained from the trainings. Thus, more trainings are recommended for the teachers for them to be always refreshed of their roles to the learners.
4. The findings of this study could serve as a base or launching pad for future research with a larger participant and additional variables.

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Antibiotic Resistance and Biofilm Formation in Gram Negative Bacteria Isolated From Endotracheal Tubes in Intensive Care Unit of a Tertiary Care Hospital



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ABSTRACT: Biofilm formation has been found to play a central role in many human infections in which antibiotic resistance is common. Bacteria can colonize and form biofilms on almost any surface, including natural and synthetic surfaces the present study was conducted with an aim to detect biofilm formation in ET tubes/ ET secretions received from ICU patients by microtiter plate method. In the present study a total of 85 isolates were obtained out of 400 samples. Among 85 isolates of gram- negative bacteria, maximum number of isolates were of *K. pneumoniae* (41.17%) followed by *A. baumannii* (40%), *P. aeruginosa* (10.5%), *E. coli* (5.88%) and *B.cepacia* (2.35%). All isolates were tested for antimicrobial sensitivity/resistance by Vitek 2 Compact system. All the isolates were further tested for biofilm production by microtiter plate method and optical density (OD value) was measured. Biofilm production was distributed by strong, medium, and weak. It is concluded that stringent hygiene protocols, routine tube changes and the use of antimicrobial coatings are crucial for prevention of biofilm development in ICU settings.

KEYWORDS: Biofilms, Endotracheal tubes, ET secretions *Acinetobacter baumannii*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *E. coli*

INTRODUCTION

Biofilms play an important role in the pathogenesis of device-related infections and drug resistance. Microorganisms attach to synthetic surfaces, multiply and develop biofilms characterized by the generation of an extracellular polymeric substance or matrix that has been well documented with scanning electron microscopy (SEM) studies.^[1] Ventilator associated Pneumonia (VAP) develops by direct entry of bacteria to lower respiratory tract, which may be innate flora of oropharynx or those present in the hospital via micro aspiration, which can occur during intubation itself, development of a biofilm overloaded with bacteria (typically Gram-negative bacteria and fungal species) within the endotracheal tube, pooling and trickling of secretions around the cuff and impairment of mucociliary clearance (disrupting the cough reflex, thus promoting the accumulation of tracheo-bronchial secretions and increasing the risk of pneumonia).^[2,3] In addition, the insertion of an ETT could produce injury and inoculate endogenous oropharyngeal bacteria in the low airway tract.^[4] Formation of biofilm on the surface of Endotracheal tube (ETT) is an almost universal phenomenon and it has been strongly related to the pathogenesis VAP. Due to the role of ETTs in the pathophysiological development of VAP, some authors suggest that it should be renamed ETT-associated pneumonia.^[5] Various phenotypic methods are available to detect biofilm formation such as Congo red agar method, microtitre plate method, electron microscopy, confocal scanning microscopy and bioluminescence analysis. Biofilm formation in microtiter plates is the most commonly used method to grow and study biofilm. This simple design is very popular due to its high-throughput screening capacities, low cost, and easy handling. Detection of biofilm-related genes using PCR methods has been increasingly used, but may not be feasible as a routine diagnosis in resource-limited settings.^[6]

The current study aimed to study the presence of biofilm formation by various Gram negative bacteria such as *Escherichia coli*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa* and *Burkholderia cepacia* isolated from endotracheal tubes and endotracheal secretions obtained from mechanically ventilated patients using microtitre plate method.

Antibiotic Resistance and Biofilm Formation in Gram Negative Bacteria Isolated From Endotracheal Tubes in Intensive Care Unit of a Tertiary Care Hospital

MATERIALS AND METHODS

This observational study was conducted from August 2022 to January 2023 in Department of Microbiology, Adesh Institute of Medical sciences and Research, Bathinda. Approval of Institutional Research Committee and Ethics Committee for Biomedical and Health Research Adesh University was taken before start of the study. A total of 400 samples of ET tubes/ ET secretions were received in Bacteriology lab from patients admitted in various ICU/s of AIMSR.

The sample size was calculated using the formula, $n = z^2 p (1-p)/d^2$, where n is the sample size, z is the statistic corresponding to the level of confidence (1.96), p is the prevalence, and d is the allowable error i.e 10% of p.[6] In the present study, the estimation of sample size was done using the prevalence value p= 50% (0.5) based on previous study by Badia et al 2021. Based on this calculation, the n value was estimated and obtained to be 400 in the present study. [7]

Inclusion Criteria: ET tube /ET secretions samples showing pure as well as significant bacterial growth of $\geq 10^3$ CFU/ ml were included in the study.

Exclusion Criteria: ET tube /ET secretions samples showing mixed bacterial or fungal growth were excluded.

All the Endotracheal tube/ ET secretion samples received in Bacteriology laboratory were processed as per standard microbiological procedures. [8] Samples were inoculated on Blood agar and MacConkey agar by streak culture (Semi Quantitative method). [9] The plates were incubated at 37°C for 18-24 hrs. Gram staining of the specimens was performed to see the presence of polymorphonuclear leucocytes, gram positive/ gram negative bacteria or budding yeast cells. Ziehl Neelsen staining was performed to see the presence of acid-fast bacilli and KOH mount was prepared to check the presence of any fungal elements. The isolated organisms were identified on the basis of gram staining morphology, colony characters and biochemical tests. [10,11]

Antibiotic susceptibility testing was done by Vitek 2 compact System. [12] Further identification of biofilm formation by the gram negative bacterial isolates was performed by microtiter plate method and optical density (OD value) was measured. Biofilm production was distributed according to the OD value as strong (OD value ≥ 0.745), medium (OD value between 0.496 and 0.744), and weak (OD value between 0.248 and 0.496). [13]

RESULTS

A total of 400 ET samples were received and out of total 400 samples, 85 (21.5 %) samples showed significant growth ($\geq 10^3$ CFU/ml) and no growth was observed in 315 (78.5 %) samples after incubation period of 24-48 hrs.

Out of total 85 isolates, all isolates were gram negative bacteria and no gram-positive bacteria was isolated. Among 85 isolates of gram-negative bacteria, maximum number of isolates were of *A.baumannii* (40%) followed by *K. pneumoniae* (41.17%), *P. aeruginosa* (10.5%), *E. coli*(5.88%) and *B.cepacia* (2.35%). Out of 85 isolates, 63 (74.2%) isolates were obtained from males and 22 (25.8%) from females. Maximum isolates (48.23%) were obtained from the age group of 61-80 years, followed by age group of 41-60, 21-40 and 0-20 years. Antibiotic resistance profile of Gram negative bacteria isolated in the study is shown in Table 1.

Table 1: Antibiotic resistance profile of Gram negative bacteria (N=85)

Name of Antibiotic	<i>K.pneumoniae</i> (n=35)	<i>E.coli</i> (n=5)	<i>A. baumannii</i> (n=34)	<i>P. aeruginosa</i> (n=9)	<i>B. cepacia</i> (n=2)
Cefepime	27 (77.14%)	5 (100%)	32(94.11%)	5 (55.55%)	NT
Cefuroxime	33 (94.28%)	5 (100%)	NT	NT	NT
Ceftriaxone	33 (94.28%)	5 (100%)	NT	NT	NT
Ceftazidime	NT	NT	34(100%)	5 (55.55%)	2(100%)
Amoxicillin+ Clavulanic acid	30 (85.71%)	5 (100%)	NT	NT	NT
Cefoperazone+Sulbactam	30 (85.71%)	2 (40%)	32 (94.11%)	3 (33.33%)	NT
Piperacillin+Tazobactam	27 (77.14%)	NIL (0%)	34 (100%)	2 (22.22%)	NT
Ciprofloxacin	35 (100%)	5 (100%)	33 (97.05%)	6 (66.66%)	NT
Levofloxacin	NT	NT	33 (97.05%)	4 (44.44)	NIL (0%)
Gentamicin	28 (80%)	NIL (0%)	32 (94.11%)	5 (55.55%)	NT
Amikacin	NIL (0%)	NIL (0%)	30 (88.23%)	2 (22.22%)	NT
Imipenem	29 (82.85%)	3 (60%)	30 (88.23%)	4 (44.44%)	NT

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Meropenem	27 (77.14%)	2 (40%)	32(94.11%)	3 (33.33%)	NIL(0%)
Cotrimoxazole	27 (77.14%)	5 (100%)	30 (88.23%)	NT	NIL(0%)
Minocycline	NT	NT	24 (70.57%)	NT	NIL (0%)

NT- Not tested (as per CLSI guidelines)

In the present study, more strong biofilm producers were of *K. pneumoniae* followed by *A.baumannii* (20%, and 8.9%) respectively, medium biofilm producers were more of *A.baumannii* as compared to *K. pneumoniae* (85.2% and 74.3%) respectively, whereas all isolates of *P. aeruginosa*, *E.coli*, *B. cepacia* were weak biofilm producers as shown in Table 2.

Table 2: Distribution of isolates according to strong, medium and weak biofilm formation

Name of the organism	Strong positive	Medium positive	Weak positive
<i>A. baumannii</i>	03 (8.9%)	29 (85.2%)	02 (5.9%)
<i>K. pneumoniae</i>	07 (20%)	26 (74.3%)	02 (5.7%)
<i>E. coli</i>	Nil	Nil	05 (100%)
<i>P. aeruginosa</i>	Nil	Nil	09 (100%)
<i>B. cepacia</i>	Nil	Nil	02 (100%)

DISCUSSION

In the present study, the total isolates obtained were 85 gram negative bacilli (21.25%). The prevalence shows similarity with the studies done by Uppe et al, Rewdiwala et al, Dargahi et al who reported prevalence of 25%, 22%, and 20% respectively. [13,14,15]

In the present study, out of 85 biofilm producing isolates, 74.2 % isolates were obtained from males and 25.8 % from females. Similar results have been reported by various other studies- Rewdiwala et al, Kaur et al, Dicenu et al and Bhat et al. [14,16,17,18]

In the present study maximum isolates were obtained from age group 61-80 years (48.23%). Baidya et al and Uppeetal also reported similar findings (44.4% and 53.3%) respectively , that the highest number of isolates were obtained from age group of 61-80 years. [7, 13]

In the present study, *A. baumannii* and *K. pneumoniae* were the most common isolates followed by *P. aeruginosa* and *E. coli*. The results of this study correlates with various other studies done by Uppe et al, Rewdiwala et al, Kaur et al, Sharma et al, [13,14, 16,19]

A. baumannii, *K.pneumoniae* and *P. aeruginosa* showed multiple drug resistance which in concordance with various other studies done by Baidya et al, Sharma et al, Amin et al, Tomar et al and Natham et al. [7,19,20,21,22] . In the present study, *B. cepacia* isolates showed susceptibility towards levofloxacin, minocycline, meropenem and cotrimoxazole. In a study conducted by Dutta et al, Shukla et al and Siddiqui et al, *B. cepacia* showed maximum susceptibility towards minocycline and cotrimoxazole. [23,24,25] Kady et al reported *B. cepacia* isolates to be 100% susceptible to meropenem, ceftazidime, cotrimoxazole, and minocycline. [26] In the present study, 23.5% were weak biofilm producers, 64.5% were medium producers and 12 % were strong biofilm producers. Baidya et al also reported that 25.3% were weak, 62.5% were medium and 12.2% were strong biofilm producers. [7]

Rewdiwala et al reported that, 22.5% wereweak biofilm producers, 64.7% were medium producers and 12.8% werestrong biofilm producers. [14] Kaur et al (2017) reported that 32,4% were weak biofilm producers, 58.8% were medium biofilm producers and 8.8% were strong biofilm producers [16] The results obtained in the present study are concordant to Baidya et al, Rewdiwala et al and Kaur et al.

CONCLUSION

The present study, showed that all the pathogens isolated in this study possessed capability to produce biofilms. Therefore, it is necessary to establish standard guidelines on the use of indwelling devices especially ETTs in all units of the hospital environment with a view to prevent nosocomial infections in patients related to the devices. Preventivemeasures, including stringent hygiene,

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protocols, routine tube changes and the use of antimicrobial coatings, are crucial for mitigating the risk of biofilm development. Continued research and innovation are necessary to develop more effective strategies for biofilm prevention and management within ET tubes, with the goal of enhancing patient safety and improving clinical outcomes.

Ethical approval- The study was approved by the institutional Ethics Committee for Biomedical and Health Research.

CONFLICT OF INTEREST- None

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Recognition Strategy and Performance of Non-Teaching Staff at University of Eldoret in Kenya



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ABSTRACT: Non-academic staff contribute significantly to the effective functioning of universities across the globe, supporting the institution's mission of education, research, and service to society. Their roles are diverse and essential, helping to create a supportive and conducive environment for academic excellence and student success. Their performance is aligned with broader national development priorities and the global agenda set forth by the SDGs. Their contributions are essential for advancing education, fostering innovation, promoting sustainable development, and building inclusive societies. By recognizing and supporting the role of non-academic staff, governments and institutions can better harness their potential to contribute to positive social, economic, and environmental outcomes. By facilitating access to quality education, they help build the knowledge and skills necessary for individuals to participate effectively in society and contribute to economic development. Unlike academic staff, whose work is more closely tied to research and teaching, the roles of non-academic staff, may not always be as directly connected to the core mission of the institution. This disconnect has led to several challenges that demotivate the work of non-teaching staffs. The purpose of this study was to examine the extent to which employee recognition strategy has influenced the performance of non-academic staff in the UOE, in Kenya. The study based on a quantitative research approach and underpinned by Maslow Theory of Motivation. The researcher used a correlational research design to establish the relationship between the study variables. The target population of this study comprised all the 208 permanent non-teaching staff in the university of Eldoret from which 137 were picked as sample size of the study Yamane formula. Stratified random sampling and simple random samplings were used to select respondents for the study. The study used structured self-administered questionnaires as its main primary data collection tool. Descriptive and inferential statistics were used to analyze data with the aid of the Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics included percentages, frequencies, mean and standard deviation. Inferentially, regression analysis was applied to get the changes in dependent variable caused by the influence of independent variables. Analyzed data was presented in form of tables, suitable graphs based on the APA format. The study results revealed that there was positive linear effect of influence of recognition on employee's performance ($\beta_1=0.798$, $p=0.000<0.05$). The study concluded that there is a significant relationship between recognition and performance of non-academic staff in the University of Eldoret.

KEYWORDS: Recognition, Performance, Non-teaching staff, University, Strategy.

1.0 INTRODUCTION

The non-teaching staff in Finnish universities played a crucial role in supporting the academic mission of these institutions. They were responsible for various administrative, technical, and support functions that were essential for the smooth operation of universities (Juusola, 2020). In the early days, these staff members were primarily involved in tasks such as maintenance, cleaning, and clerical work. Their contributions were vital for creating a conducive environment for teaching and research activities (Tapanila, Siivonen & Filander, 2020). As the education system in Finland evolved, so did the roles and responsibilities of non-teaching staff in universities. With the expansion of higher education and the increasing complexity of university operations, the importance of non-teaching staff grew significantly. They became indispensable for managing administrative tasks, providing technical support, and ensuring the efficient functioning of various university departments (Ostinelli & Crescentini, 2024; Tapanila, Siivonen & Filander, 2020).

Over time, there has been a growing recognition of the valuable contributions made by non-teaching staff in Finnish universities. Efforts have been made to enhance their professional development opportunities, improve working conditions, and provide avenues for career advancement. Training programs, workshops, and seminars are now offered to help non-teaching staff acquire

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new skills and stay updated with best practices in their respective fields. Moreover, many universities in Finland have established mechanisms to recognize outstanding performance among non-teaching staff. Awards, incentives, and public acknowledgments are often given to individuals who demonstrate exceptional dedication, innovation, and efficiency in their roles. This recognition not only boosts morale but also motivates non-teaching staff to continue delivering high-quality services to support the academic community (Garaba, 2022; Klausen, et al. 2024). In contemporary Finnish universities, non-teaching staff members are integral parts of the academic ecosystem. They collaborate closely with teaching faculty, researchers, and students to ensure that all aspects of university operations run smoothly. Their expertise is valued not only for maintaining day-to-day activities but also for contributing to strategic decision-making processes within institutions (RyanSheehan, 2023).

The non-teaching staff in universities in India play a crucial role in the functioning of these institutions. They are responsible for various administrative, technical, and support services that are essential for the smooth operation of the university. In the early days of universities in India, non-teaching staff were not given much recognition and importance. They were mainly considered as support staff who were responsible for carrying out administrative tasks such as maintaining records, handling correspondence, and providing general assistance to the teaching staff. Their performance was not evaluated, and they did not have any job security or career growth opportunities (Bokil, Kulkarni & Joshi, 2022). After independence, there was a significant change in the recognition and performance of non-teaching staff in universities. The government recognized the importance of non-teaching staff in the functioning of universities and introduced various measures to improve their working conditions and performance. The University Grants Commission (UGC), which was established in 1956, played a crucial role in this regard. The UGC introduced various guidelines and regulations to ensure that non-teaching staff were given due recognition and their performance was evaluated periodically. The UGC also introduced various training programs to enhance the skills and knowledge of non-teaching staff (Mittal, 2023; Bokil, Kulkarni & Joshi, 2022). In 1980s and 90s there was a significant increase in the number of universities in India, and this led to an increase in the demand for non-teaching staff. UGC introduced various measures to ensure that non-teaching staff were recruited through a transparent and fair process. UGC also introduced various performance evaluation mechanisms to ensure that non-teaching staff were performing their duties effectively. The UGC further introduced various schemes to provide career growth opportunities for non-teaching staff (Pathak, 2022). In the 21st century, there has been a significant change in the role of non-teaching staff in universities in India. Non-teaching staff are now considered as important members of the university community, and their performance is evaluated regularly. The UGC has introduced various measures to ensure that non-teaching staff are given due recognition and are provided with opportunities for career growth. The UGC has also introduced various training programs to enhance the skills and knowledge of non-teaching staff (Bokil, Kulkarni & Joshi, 2022). Despite the measures taken by the UGC to recognize and improve the performance of non-teaching staff, they still face various challenges that are related to intrinsic and extrinsic motive (Harshé, 2022).

The history of non-teaching staff in Nigerian universities dates back to the establishment of the first university in the country. The University of Ibadan marked the beginning of tertiary education in Nigeria. Initially, non-teaching staff played a crucial role in supporting the academic activities of the university, such as administrative tasks, maintenance, security, and other essential services (Majekodunmi, 2022). Over time, the roles and responsibilities of non-teaching staff in Nigerian universities have evolved significantly. From being primarily involved in administrative and support functions, non-teaching staff now play diverse roles across various departments within the universities. Despite their contributions, non-teaching staff in Nigerian universities have faced numerous challenges resulting from inadequate motives over the years. The lack of adequate recognition and appreciation for their efforts has sometimes led to dissatisfaction among non-teaching staff members ((Okotoni & Kugbayi, 2024). In recent years, there have been efforts by university authorities and relevant stakeholders to address the issues surrounding the recognition and performance of non-teaching staff. Some universities have implemented policies aimed at improving the welfare, career progression opportunities, training programs, and recognition schemes for non-teaching staff members. These initiatives are intended to enhance motivation, productivity, and overall job satisfaction among non-teaching staff (Antiado, et al. 2020).

Ethiopia has a long history of higher education, with the establishment of the country's first modern university, Addis Ababa University. Initially, non-teaching staff roles were often overlooked or undervalued compared to academic positions (Woldegiorgis, 2021). Over time, there has been a gradual shift towards recognizing the importance of non-teaching staff in university operations. The roles and contributions of administrative, technical, and support staff have become more acknowledged as essential for the smooth functioning of academic institutions. Despite improvements in recognition, non-teaching staff in Ethiopian universities still face various challenges (Mulat & Ravi, 2021). In recent years, there have been efforts to address these challenges and enhance the recognition and performance of non-teaching staff. Reforms such as revising job classifications, implementing performance evaluation systems, providing training opportunities, and promoting inclusivity in university governance have been introduced (Yimam, 2022).

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In Tanzania, the recognition and performance of non-teaching staff in universities have evolved over the years, reflecting changes in educational policies, administrative structures, and societal expectations. During the colonial era, education in Tanzania was primarily focused on serving the interests of the colonial powers. Non-teaching staff played crucial roles in supporting the functioning of educational institutions but often received limited recognition for their contributions. Their work was essential for the smooth operation of universities, yet they were often marginalized in terms of status and benefits compared to academic staff (Lupeja & Komba, 2021; Garaba, 2022). After gaining independence, efforts were made to improve the working conditions and recognition of non-teaching staff within universities. Policies were introduced to address issues related to job security, career progression, training opportunities, and fair remuneration for non-teaching employees. Despite these reforms, non-teaching staff in Tanzanian universities continued to face challenges related to job satisfaction, professional development, and recognition. However, there have been initiatives aimed at enhancing the status of non-teaching staff (Garaba, 2022). In recent years, there has been a growing awareness of the importance of recognizing and supporting non-teaching staff in universities as integral members of the academic community. Efforts are being made to provide training opportunities, improve working conditions, and create pathways for career advancement for non-teaching employees. By acknowledging their contributions and investing in their professional development, universities in Tanzania can enhance overall institutional effectiveness and foster a more inclusive and supportive work environment (Paschal & Mkulu, 2021).

Non-teaching staff in Kenyan universities played a crucial role in supporting the academic and administrative functions of these institutions. They have historically been essential for the smooth functioning of these institutions. They handle various tasks related to administration, maintenance, security, and other support services that are vital for the overall operations of the university. Their contributions are essential for the effective functioning of Kenyan universities and the advancement of teaching, research, and innovation (Wambui, 2022; Kereto, 2021). In the past, non-teaching staff in Kenyan universities often faced challenges that have influenced their service delivery. This has affected their morale and performance, leading to inefficiencies in university operations (Ileri, 2021; Serem & Ongesa, 2023). The attempts by the Kenyan government to improve the performance of non-teaching staff in universities have not yielded sufficient results. Despite the critical roles they play, the support staff in Kenyan universities have continued to face several challenges that have affected their service delivery. This has particularly affected the staff in the University of Eldoret who have resorted to industrial action to demand better rewards from their employer (Serem & Ongesa, 2023). It is against this background that this study was conducted to establish the extent to which employee recognition strategy has influenced the performance of non-teaching staff in the University of Eldoret in Kenya.

1.1 Statement of the Problem

Non-academic staff play a crucial role in the overall performance of universities. While academic staff primarily focus on teaching, research, and academic administration, non-academic staff provide essential support services that enable the smooth functioning of the institution. The performance of universities is greatly enhanced by the contributions of non-academic staff, who provide vital support services, infrastructure, and administrative functions that enable academic staff and students to thrive. A well-coordinated effort between academic and non-academic staff is essential for the effective functioning of higher education institutions (Wambui, 2022; Tapanila, Siivonen & Filander, 2020). Intrinsically motivated non-academic staff influences the quality-of-service delivery, innovation, commitment, collaboration, adaptability, and overall organizational climate. Fostering intrinsic motivation among non-academic staff through supportive leadership, recognition of achievements, opportunities for professional development, and a positive work environment can yield significant benefits for the university as a whole (Manalo, & Apat, 2021).

In spite of these, the performance of non-academic staff at the University of Eldoret (UoE) has been interrupted due to industrial disputes involving both the employer and employees. This has had a negative influence on the normal operations and performance of the institution. The staffs at the UoE have constantly complained about inappropriate reward systems. This has resulted in industrial actions including strikes, despite the signing of Collective Bargaining Agreement with the administration of the university (Serem & Ongesa, 2023). If this problem is not adequately addressed, employees' performance will continue deteriorating and this will compromise the quality of services offered in the university. This study was therefore purposively carried out to assess the influence of recognition strategy on the performance of the non-teaching staff in the UoE in Kenya.

1.2 Objective Of The Study

To examine the extent to which recognition strategy influences performance of non-academic staff at University of Eldoret in Kenya.

1.3 Hypothesis of the Study

H₀₁: There is no significant relationship between recognition strategy and performance of non-academic staff at UoE in Kenya

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2.1 Underpinning Theory

This study was based on Maslow theory of motivation. Abraham Maslow proposed this theory, suggesting that individuals have a hierarchy of needs ranging from physiological needs to self-actualization needs. Abraham Maslow's theory of motivation, often referred to as Maslow's Hierarchy of Needs, was first proposed in his paper "A Theory of Human Motivation," which was published in the Psychological Review journal in 1943. According to Maslow, recognition addresses higher-level needs such as esteem and self-actualization, motivating individuals to strive for personal and professional growth. Recognition in the workplace can be closely linked to Maslow's Hierarchy of Needs, particularly in the context of esteem needs and self-actualization. Recognition in the workplace directly addresses external esteem needs by providing employees with acknowledgment, praise, and validation for their contributions and accomplishments. When employees receive recognition for their work, they feel valued and respected by their peers and supervisors, which enhances their sense of self-worth and contributes to their overall job satisfaction. Recognition in the workplace can serve as a catalyst for self-actualization by empowering employees to develop their talents, pursue challenging goals, and engage in meaningful work. When employees receive recognition for their achievements and contributions, they are more likely to feel motivated to continue striving for excellence and to explore new opportunities for growth and development. In this way, recognition fosters a supportive work environment that encourages employees to reach their highest levels of performance and satisfaction.

Based on this theory, the study endeavored to establish whether the mechanisms instituted by UoE at workplace align with Maslow's theory in addressing employees' esteem needs for recognition and appreciation, as well as their aspirations for self-actualization and personal fulfillment.

2.2. Recognition Strategy and Non-Teaching Staff Performance in Universities

Mbuthia (2016) examined the influence of recognition at work among the support staff in government aided institutions in Kenya. The purpose of this study was to established the influence of work commitment among the non-academic staff at Jomo Kenyatta University of Agriculture and Technology. study adopted a descriptive survey in which data was collected by use of structured questionnaires. The study was conducted with the aim of examining the effect of recognition on work commitment by non-teaching staff in public universities in Kenya, through a descriptive survey of Jomo Kenyatta. The research established that most majority of respondents accepted that recognition had a positive significant effect on workplace commitment. The study further found a strong positive relationship between supervisory recognition and employers' commitment at work. This research concluded that recognition positively influenced employees' performance at workplace. The findings of this study explain the importance of recognizing the workers for their output and therefore require a lot of emphasize.

Mugizi, et al. (2020) assessed the association existing between workers' motivational rewards and commitment of non-teaching members in a government sponsored higher institution of learning in Uganda. This study was engaged in analyzing the association between both intrinsic and extrinsic motives on job commitment of the non-academic members of staff. The research utilized a quantitative research approach. This research was based on correlational research design to measure the nature of relationship existing between the independent and dependent variables. Primary data collection was done by use of a questionnaire survey. Descriptive and inferential statistics techniques were used for data analysis through measures of central tendency, and regression as well as correction respectively. From the analysis, it was established both intrinsic and extrinsic rewards had positive and significant relationship on work commitment. The study therefore concluded that both rewards are fundamental for adequate work commitment by employees.

Ngozi and Ayokunle (2023) assessed the effect of recognition and mentorship on the retention on support staff in the institutions of higher learning in Ogun State, Nigeria. The study used a descriptive research design and a study population 218 non-academic staff chosen form 2 institutions of higher learning universities using random sampling techniques. The study collected primary data by use of self-administered research instruments. The researcher analyzed primary data using descriptive statistics as well as inferential statistics. This study's results established a significant correlation between employees' recognition and mentorship on retention of non-teaching.

Olatunde (2017) sought to establish the effect of recognition and advancement on the performance of non-teaching staff in government aided higher institutions of leaning in the North Central States of Nigeria. This research used a descriptive survey design and a target population of 7,592 non-teaching staff members from which a sample size of 759 support staff was selected for the study. A self-administered questionnaire was used to collect data while descriptive and inferential statistics were used to analyze data. The hypothesis was tested at 0.05 level of significance. This study established that recognition and advancement positively and significantly influence the performance of the support staff in the public institutions of higher learning.

Njoya (2017) carried out research to establish the influence of reward and recognition on workers' performance in Kenyatta University, Nairobi campus. The study used a descriptive research design. Data was collected using questionnaire from a sample

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size of 360 support staff. A Stratified random sampling and purposive random sampling were used to select units of analysis. A response rate of 92% was obtained justifying the study. Collected data was analyzed using Pearson Product Moment Correlation Coefficient were used to determine relationships between reward, recognition and employee job performance. The findings indicated that there a significant positive relationship between the independent and dependent variables.

Buyondo (2023) examined the relationship between salary, recognition and organizational atmosphere and performance of workers. A multi-dimensional questionnaire was used to collect primary data from the respondents. The target population comprised non-teaching members from government and private owned institutions of higher learning. Factor analysis and regression analysis were used for data analysis. This study's findings established that both organizational atmosphere and recognition influenced performance of non- teaching staff in the universities.

Okon, Nsikan and Orok (2023) sought to find out the influence of worker's wellbeing, and recognition on performance of support staff in selected Federal Universities, South-South geopolitical zone, Nigeria. The study adopted a survey research design in which data was collected using structured questionnaires. the target population was made up 19649 support staff from which a sample size of 392 was chosen using Yamane formula. The study selected units of analysis using stratified and random sampling techniques. Both descriptive statistics and linear regression were used to analyze data. From the study's findings, it was revealed that there is a significant relationship between recognition and employees' performance.

Matovu (2017) assessed the influence of motivation on the performance of university staff in Uganda. This research utilized both a cross-sectional and a descriptive research design. This study adopted design a quantitative research approach. A sample of 313 was selected from the target population and these comprised members of university staff from both public and private universities in Uganda. The study utilized a multiple linear regression model to determine the influence of the independent variables on the dependent variable. The study found out a positive significant relationship between recognition and the performance of university staff.

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The study adopted a quantitative research approach. In this approach quantitative data involved the use of close-ended questions based on structured questionnaires. This was based on a case study design since the unit of observation was a single institution. A descriptive research design was used to systematically and accurately describe the opinions of the non-teaching staff of EoU on how recognition influenced their performance. The responses were described statistically in quantifiable terms. This study was conducted at the UoE purposively because it is one of the public universities in Kenya that has faced challenges emanating from the conflict between the management and workers relating to unsatisfactory motivational levels. The target population for this study was all the 208 non-teaching permanent employees who had been working for the last five years at the institution. These were purposively selected because they had the knowledge and experience to respond on the research questions. They were drawn from various categories as shown in Table 1.

Table 1: Target Population

Category	Target population	Percentage
Administrators	20	9.6
Operations officers	82	39.4
Communication officers	26	12.5
Customer service officers	30	14.4
ICT officers	23	11.1
Finance officers	27	13.0
Totals	208	100.0

Source: University of Eldoret (2022)

A sample size of 137 respondents was obtained from the target population of 208 using Yamane formula (1967) as represented Table 2.

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$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size required

N = population size (208)

e² = level of precision (0.05)²

n=137

Table 2: Sample Size

Category	Target population	Sample size
Administrators	20	13
Operations officers	82	54
Communication officers	26	17
Customer service officers	30	20
ICT officers	23	15
Finance officers	27	18
Totals	208	137

Source: Research (2023)

Stratified random sampling technique was used to select samples proportionally since the target population was heterogeneous. Then the researcher used simple random sampling technique to select the individual respondents randomly from each stratum. This was done by use of computer-generated random numbers. The selected subjects then became units of analysis for the study. According to Gupta (2008) a sample is regarded as large if and when it exceeds 30 and therefore 137 was considered an appropriate size for this study. A self-structured questionnaire was used to collect primary data for the study. The closed ended questions were framed on a likert scale of 1 to 5. These were suitable in collecting quantitative data. The filled-up questionnaires were collected using drop-pick later method. In order to ascertain reliability and validity of the questionnaires, the researcher did pilot study by distributing 14 questionnaires to staff in Moi University, who were not part of the sample used in the final study. The pilot respondents represented 10% of the sample size (Mugenda and Mugenda, 2003). The results of the piloted research instruments enabled the researcher to determine the consistency of responses made by respondents and adjust the items accordingly by revising the questionnaire items. To test validity, the research questions were tested and pretested to randomized sample for accuracy by use of content validity. This ensured that the questions accurately measured what was needed. The Cronbach's alpha was used to determine the reliability of the research instrument. The internal consistency reliability was established to be 0.713. This value was above 0.7 thus the research instruments were reliable to be used to collect data (Castillio, 2009). The researcher used relevant procedure to collect data from the respondents. Collected data were organized and edited to remove any inconsistencies, and errors that would have made analysis difficult. Descriptive and inferential statistics was used to analyze the data with the aid of the Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics included percentages, frequencies, and measures of central tendency. Inferentially linear regression analysis was applied to establish the extent to which recognition influenced performance of non-teaching staff at UoE. The hypothesis was tested at 0.05 significant level. This provided the basis of rejecting or accepting the null hypothesis. The analyzed data was displayed using tables.

The model $y = \alpha + \beta_1 X_1 + u$ was subjected to a test using linear regression to establish whether recognition was a predictor of performance of non-academic staff.

Where Y = dependent variable (performance of non-teaching staff)

X₁ = independent variable (Recognition)

α = constant

β_1 = the coefficient of the independent variable

u = the error term.

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To ensure research ethics, the researcher adhered to all requirements, relevant rules and procedures of conducting a study. The respondents participated in this study voluntarily and their identities were not revealed.

4.0 FINDINGS

This study had the following findings

4.1 Response Rate

Out of 137 questionnaires issued to the respondents, 118 questionnaires were dully filled and returned. This translated to 86 % response rate. This response rate was considered adequate for the study (Mugenda and Mugenda, 2003).

4.2 Descriptive Analysis of Recognition strategy on Employees Performance

The study sought to assess the influence of recognition strategy on employees on performance at university of Eldoret. Participants were asked to provide their opinions on a 5-point Likert scale ranging from 1 - 5, where 1=strongly disagree 2 = disagree 3 =neutral 4 =agree and 5 =strongly agree

The analysis of the average scores from the responses was carried out on a continuous scale. Scores below 1.5 were categorized as strongly disagree, scores between 1.5 and 2.4 were considered as disagree, scores between 2.5 and 3.4 were seen as neutral," scores between 3.5 and 4.5 were interpreted as "agree," and scores above 4.5 were regarded as "strongly agree." A total of six statements were utilized to assess the impact of employee recognition on performance at the University of Eldoret, and participants' responses were collected using a 5-point Likert scale as shown in Table 3.

Table 3: Respondents' Opinions on the Influence of Recognition Strategy on Employees Performance

Statement		SA	A	N	D	SD	Mean	Sd
1. Employees are offered certificate of merit to appreciate the job well done	F	35	41	8	22	12	3.55	1.37
	%	29.7	32.7	6.8	18.8	10.2		
2. The management has set aside a special day for recognizing workers' performance	F	36	49	7	15	11	3.71	1.28
	%	30.5	41.5	5.9	12.7	9.3		
3. Employees exemplary do well their work are accorded job status in the institution	F	30	49	5	22	12	3.53	1.32
	%	25.4	41.5	4.2	18.6	10.2		
4. Employees who perform well at their duties are offered sponsored trips to motivate them	F	30	48	10	16	14	3.54	1.32
	%	25.4	40.7	8.5	13.6	11.9		
5. The management verbally recognizes employee for their good job performance	F	35	42	8	22	11	3.58	1.34
	%	29.7	35.6	6.8	18.6	9.3		
6. Employees' recognition of their effort has positively improved their output	F	33	46	6	20	13	3.56	1.35
	%	28.0	39.0	5.1	16.9	11.0		

Source: Researcher (2023)

According to the information on Table 9, the descriptive statistics findings on home literacy practices showed that 41(34.7%) of the respondents agreed that employees are offered certificate of merit to appreciate the job well done while 35(29.7%) of the respondents strongly agreed that employees are offered certificate of merit to appreciate the job well done. A small proportion 22(18.6%) of the respondents disagreed, and 12(10.2) of the respondents strongly disagreed that employees are offered certificate of merit to appreciate the job well done. The study findings father revealed that the respondents agreed that employees are offered certificate of merit to appreciate the job well done with mean rating of 3.55 and standard deviation of 1.36. According to the study done by Niyivuga, Otara and Tuyishime, (2019) established that M&E practices, including staff self-evaluation, students–staff evaluation, peer evaluation, and evaluation by supervisor, are applied at varying emphasis.

Furthermore, 85(72.0%) of the respondents agreed and 26(22.0%) of the respondents disagreed that the management has set aside a special day for recognizing workers' performance. However, respondents agreed that the management has set aside a special day for recognizing workers' performance with mean rating of 3.71 and Standard deviation of 1.28. The study done by Song, Tucker, Murrell and Vinson, (2018) suggest that public disclosure of RPF, along with the validation of the best practices being shared, can improve worker productivity.

Further, 79(66.9%) of the respondents agreed that employees exemplary do well their work are accorded job status in the institution and those who disagreed are 34(28.8%). The study findings revealed that participants agreed with the statement that employees exemplary do well their work are accorded job status in the institution with mean rating of 3.53 and the Standard deviation of 1.32.

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Similarly, 78(66.1%) of the participants agreed that employees who perform well at their duties are offered sponsored trips to motivate them. However, 30(25.5%) of the respondents disagreed that Employees who perform well at their duties are offered sponsored trips to motivate them. Further, the study findings revealed that participants agreed towards the statement that employees who perform well at their duties are offered sponsored trips to motivate them with mean rating of 3.54 and the standard deviation of 1.32

Moreover, 77(65.3%) of the respondents agreed that the management verbally recognizes employee for their good job performance and on the other hand 33(27.9%) of the respondents disagreed that the management verbally recognizes employee for their good job performance. Additionally, the study results further revealed that the respondents agree that the management verbally recognizes employee for their good job performance with mean rating of 3.58 and a standard deviation of 1.34.

Finally, 79(67.0%) of the respondents agreed that employees' recognition of their effort has positively improved their output. However, 33(27.9%) of the respondents disagreed that employees' recognition of their effort has positively improved their output. Analysis on mean and standard deviation of 3.55 and 1.35 respectively revealed the respondents agreed with the employees' recognition of their effort has positively improved their output.

4.3 Linear Regression Analysis of Recognition Strategy on Employee's Performance

The linear regression analysis examines how the performance of employees, which is the dependent variable, is affected by the independent variable of recognition strategy. The subsequent sections present the outcomes of this analysis

Table 4: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.769 ^a	.592	.588	.63345

Source: Researcher (2023)

The coefficient of determination (R^2) and correlation coefficient (R) shows the degree of association between recognition strategy and employee's performance at the university of Eldoret. The results of the linear regression in Table 4 indicate that $R^2 = 0.591$ and $R = 0.769$. R value indicates that there is a strong linear relationship between recognition and employee's performance at the university of Eldoret. The R^2 indicates that explanatory power of the independent variables is 0.591. This means that about 59.1% of recognition strategy explains employee's performance at the university of Eldoret. This implies that recognition strategy had an influence on employee's performance at the university of Eldoret.

The analysis of variance was employed in the study to determine if the model's predictive capabilities surpassed those of the mean, as illustrated in Table 5.

Table 5: Model Fitness

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	67.321	1	67.321	167.777	.000 ^b
Residual	46.546	116	0.401		
Total	113.867	117			

Source: Researcher (2023)

From Table 4 the F-test offers a comprehensive evaluation of the significance of the established regression model. The F-value signifies the importance of all the variables in the equation, confirming the overall significance of the regression. The F-statistics produced ($F = 167.777$) was significant at $p=0.000$ thus confirming the fitness of the model and therefore, there is statistically significant relationship between recognition strategy and employee's performance at university of Eldoret

Table 6 Displays the β -value estimates and illustrates the predictor's contribution to the model.

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Table 6: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.924	0.221		4.176	0.000
Recognition	0.798	0.061	0.769	12.953	0.000

Source: Researcher (2023)

The study results in Table 6 revealed that there was positive linear effect of recognition on employee’s performance. Since ($\beta_1=0.798$, $p=0.000<0.05$), the study rejected the null hypothesis H_{01} and concluded that there is a statistically significant relationship between recognition strategy and performance of non-academic staff at UoE in Kenya. These results reveal that an increase in recognition strategy increases performance of non-academic staffs by 0.789 units. Therefore, the coefficients generated the regression equation as expressed by;

$$Y = 0.924 + 0.798X_1 \dots\dots\dots \text{Equation 4.1}$$

4.4 Hypothesis Testing

To determine whether recognition influences performance of non-teaching staff, H_0 hypothesis which states that “There is no significant relationship between recognition strategy and the performance of non-teaching staff at UoE” was tested.

Decision rule: If the calculated p value is found to be less than the critical value of 0.05, then the null hypothesis is rejected. Regression results indicated in Table 5 confirm the appropriateness of the model fit for this data since the computed p value of 0.000 was much smaller compared to critical value of 0.05. These findings implied the existence of a significant relationship between recognition strategy and performance of non-teaching staff. This led to a rejection of the null hypothesis and the adoption of an alternative hypothesis which states that, “There is a significant relationship between recognition strategy and performance of non-teaching staff” is accepted.

4.5 Discussion of Findings

The research findings were discussed based on the data analysis

4.5.1 Recognition Strategy and Performance of Non-Teaching Staff

The regression analysis indicates that there is statistically a significant relationship between the recognition strategy and performance of non-teaching staff at UoE since the p value obtained was 0.000 which is less than the critical value of 0.05 as shown in Table 6.

The findings of this study concur with Ngozi and Ayokunle (2023) who assessed the effect of recognition and mentorship on the retention on support staff in the institutions of higher learning This study’s results established that recognizing the effort of the staff motivates them to increase their output and as a result reduce turnovers in the organization. The results are further in total agreement with Mugizi, et al. (2020) who assessed the relationship existing between workers’ motivational rewards and commitment of non-teaching members in the universities. This study analyzed the relationship between both intrinsic and extrinsic motives on job commitment of the non- academic members of staff. From the analysis, it was established that both intrinsic and extrinsic rewards enhance work commitment. The study therefore concluded that both rewards and recognition are important elements of enhancing commitment by employees at work.

These findings agree with Matovu (2017) who assessed the influence of recognition on the performance of university staff in Uganda. The study found out a positive significant relationship between recognition and the performance of university staff. The findings also concur with Okon, Nsikan and Orok (2023) whose study sought to find out the influence of worker’s wellbeing, and recognition on performance of support staff. From the study’s findings, it was revealed that recognition is fundamental in motivating employees to improve their performance at work. These findings are further in agreement with Buyondo (2023) who conducted a study to examine the relationship between salary, recognition and organizational atmosphere and performance of workers. This study’s findings established the importance of recognition in enhancing performance of workers in the universities. The findings of this study concur with Njoya (2017) who carried out research to establish the influence of reward and recognition on workers’ performance. They analyzed data to determine relationships between reward, recognition and employee job performance. Their findings indicated that there is a significant positive relationship between recognition and performance of the support staff working in the university. This study’s findings agree with Olatunde (2017) who sought to establish the effect of

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recognition and advancement on the performance of non-teaching staff in government aided higher institutions of learning. The study established that recognition and the desire for career advancement reinforce workers to work hard and improve their performance.

5.0 CONCLUSION

This study demonstrates a clear and statistically significant relationship between the implementation of recognition strategies in the workplace and the overall performance of the organization. It has been established that employees who feel recognized and appreciated for their contributions exhibit higher levels of engagement, satisfaction, and productivity. This, in turn, translates into tangible benefits for the organization, including increased efficiency, innovation, and profitability. The findings underscore the critical role that recognition plays in fostering a positive work environment and driving organizational success. By acknowledging and rewarding the efforts of employees, organizations can cultivate a culture of appreciation and motivation, which ultimately leads to improved performance outcomes.

6.0 RECOMMENDATIONS

Based on this study that has established a positive significant relationship between recognition strategy at work and organizational performance, the followings are some recommendations for management:

Develop and implement comprehensive recognition programs that go beyond simple rewards or bonuses. Include both formal and informal recognition initiatives that acknowledge various forms of contributions, such as individual achievements, team successes, and innovative ideas.

Recognize that different employees may be motivated by different forms of recognition. Tailor recognition initiatives to the preferences and values of diverse employee groups. This might involve conducting surveys or focus groups to understand what types of recognition are most meaningful to employees.

Ensure that recognition practices are consistent and transparent across the organization. Employees should understand the criteria for recognition and feel confident that their efforts will be fairly acknowledged. Avoid favoritism or bias in the recognition process. Equip managers and supervisors with training and resources to effectively implement recognition strategies. Provide guidance on how to deliver meaningful recognition, such as specific examples of impactful recognition gestures or behaviors.

Communicate the importance of recognition to all levels of the organization. Help employees understand how their contributions contribute to the success of the organization and how recognition reinforces desired behaviors and outcomes.

Integrate recognition into the organization's performance management processes. Ensure that recognition efforts are aligned with performance goals and tied to desired outcomes. This might involve incorporating recognition metrics into performance evaluations or setting specific recognition targets.

Celebrate successes and milestones publicly to reinforce a culture of recognition and appreciation. Recognize achievements in team meetings, company-wide communications, or through social media channels. Highlighting success stories can inspire and motivate others to excel.

Encourage and facilitate peer-to-peer recognition within the organization. Provide platforms or channels where employees can acknowledge and thank their colleagues for their contributions. Peer recognition can foster a sense of camaraderie and collaboration among team members.

Continuously monitor and evaluate the effectiveness of recognition initiatives. Solicit feedback from employees to assess their satisfaction with recognition practices and their perceived impact on motivation and performance. Use data and feedback to refine and improve recognition strategies over time.

The leadership should lead by example by actively participating in and promoting recognition efforts. When leaders demonstrate their commitment to recognizing and valuing employee contributions, it sets a powerful tone for the entire organization.

By implementing these recommendations, management can leverage the positive relationship between recognition strategy and organizational performance to foster a more engaged, motivated, and productive workforce.

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Beyond the Degree: Gendered Outcomes for BSBA Marketing Management Graduates



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ABSTRACT: This study describes the profile, educational experiences, number of employed, career preparation, and employment data of the BSBA Marketing Management graduates from the College of Business, Economics, and Accountancy at Mariano Marcos State University City of Batac, Ilocos Norte, from 2013-2014 to 2017-2018, using gender-based analysis. Through descriptive research methods and adapting the CHED-Graduate Tracer Study survey questionnaire, data was collected from a random sample of 209 graduates, representing 37.59% of the total BSBA Marketing Management graduates. The findings reveal a higher percentage of female graduates, the majority are single and from Region 1. Male and female graduates were primarily driven by the desire for immediate employment opportunities. Although females performed better in academic honors, males tended to receive more non-academic awards. The study emphasizes high employment rates among BSBA Marketing Management graduates, emphasizing the program's efficiency in imparting job-related skills. Career preparation strategies, such as walk-in applications and internships, proved effective for both genders, with males prioritizing special skills and females focusing on career challenges. Employment data indicates a balanced distribution across employment status and industries, although there are slight variations in preferences between genders. Recommendations include curriculum diversification, ensuring gender equality in awards, enhancing internship programs, promoting ongoing learning, addressing gender disparities, facilitating networking opportunities, and continuous program evaluation.

KEYWORDS: BSBA Marketing Management, employment outcomes, career preparation, gender-based analysis, employment data

INTRODUCTION

Education plays a crucial role in both social and economic growth in the country. In today's competitive job market, educational institutions need to tailor their curriculum to meet the demands of the market. This is essential to ensure that graduates are equipped with the latest skills and characteristics that are in high demand by employers. By doing so, graduates will be job-ready and successful in their chosen fields, contributing to the overall workforce (Osmani et al., 2019).

Over the last ten years, there has been a significant increase in the number of tertiary graduates in the Philippines. In 2018, there were an estimated 540,000 graduates, up from 470,000 in 2010. This growth can be attributed to the increasing number of Filipinos enrolling in higher education, with a 48% gross enrollment ratio in 2018 (Chi, 2023). However, many graduates lack the necessary skills for effective integration into the job market (Cuadra, 2019).

Educational institutions must align their programs with the needs of the labor market, foster innovation, and maintain high standards of teaching and learning. However, the supply of quality and affordable education is often insufficient, resulting in unequal opportunities (The World Bank, 2021).

Numerous studies have shown that graduates often lack the competencies required to enter the labor market. For example, Pham's (2021) study revealed that graduates face difficulties in building social interactions in the host country. Similarly, George and Paul (2023) argue that higher education institutions must help graduates acquire and develop broad skills, discipline-specific competencies, and match the changing needs of employers and the labor market.

Moreover, several studies have discussed the challenges that tertiary institutions face in aligning their programs with labor market needs. The OECD (2019) discusses how making the education system more responsive to labor market needs can support the employability of recent graduates, minimize skill imbalances, and improve the resilience of the workforce to future changes in labor market demand. Van Noy and Cleary (2017) discuss higher education's role in preparing students for work and the increasing focus on aligning higher education with the labor market. The study raises questions about what it means to align what

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colleges are doing with the needs of the labor market and what the implications are for higher education. Tran et al. (2022) discusses the direct impacts on employability and employment outcomes that have already been felt across different regions of the world, and the significant challenges that are still to be faced.

Furthermore, there is a global trend of higher graduation rates among females compared to males, and there is still a gender gap in labor force participation, wage equality, income, and the presence of women in senior and professional roles (World Economic Forum, 2020). This information is especially valuable for long-term development interventions (Simister & O'Flynn, 2017). Thus, tertiary institutions must track the performance of their graduates to ensure that they are meeting the demands of the industry.

To achieve this, graduate tracer studies serve as an effective method for evaluating graduates' employability and competencies (Cuadra, Aure, and Gonzaga, 2022). These studies gather feedback from graduates on their education and training experiences, providing insights into training utilization and progress over time. Hence, it is essential to gain a quality understanding of the educational experiences, career preparation, and employment data of the BSBA Marketing Management graduates from SY 2013-2014 to SY 2017-2018 at the College of Business, Economics, and Accountancy (CBEA) in Mariano Marcos State University (MMSU) City of Batac, Ilocos Norte.

While receiving positive feedback from industry and employers, there is a lack of information on the quality and performance understanding between male and female BSBA Marketing Management graduates. Therefore, this study aims to bridge these gaps by examining the profile, educational experiences, number of employed, career preparation, and employment data of graduates through a gender-based analysis (GBA). The research focuses on graduates from the specified timeframe and institution, analyzing gender differences in employment outcomes to unveil potential disparities.

The study utilizes gender role-oriented questions adapted from the CHED-Graduate Tracer Study (CHED-GTS) survey questionnaire. The research tool is designed to provide recommendations based on feedback from graduates, the study analyzes employment data patterns and trends among male and female graduates. However, its scope is limited to the provided employment data and graduates who responded to the survey.

By analyzing employment data and identifying gender disparities, this study aims to provide recommendations for program improvements. By understanding graduates' experiences and outcomes, institutions can enhance policy formulation, strategic interventions, and program offerings to benefit current and prospective students.

OBJECTIVES

The main purpose of the study is to track the employment whereabouts of the BSBA Marketing Management graduates at the College of Business, Economics and Accountancy from SY 2013-2014 to SY 2017-2018 to describe the BSBA Marketing Management graduates using gender-based analysis.

Specifically, the study is designed to

1. describe the profile of the BSBA Marketing Management graduates in terms of:
 - 1.1. Sex,
 - 1.2. Civil status, and
 - 1.3. Region of origin?
2. determine the educational experiences of the BSBA Marketing Management graduates in terms of:
 - 2.1. Reason for pursuing the degree,
 - 2.2. Scholarship, and
 - 2.3. Honor or award(s) received?
3. determine the number of employed BSBA Marketing Management graduates
4. describe the career preparation of the BSBA Marketing Management graduate terms of:
 - 4.1. Finding the first job,
 - 4.2. Waiting time to land a job, and
 - 4.3. Reason for accepting the job?
5. describe their employment data of the BSBA Marketing Management graduate terms of:
 - 5.1. Employment status,
 - 5.2. Present occupation,
 - 5.3. Industry,
 - 5.4. Agency,
 - 5.5. Place of work, and
 - 5.6. Gross monthly earning?

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CONCEPTUAL PARADIGM OF THE STUDY

The depicted conceptual paradigm visualizes the connections between the variables examined in the study.

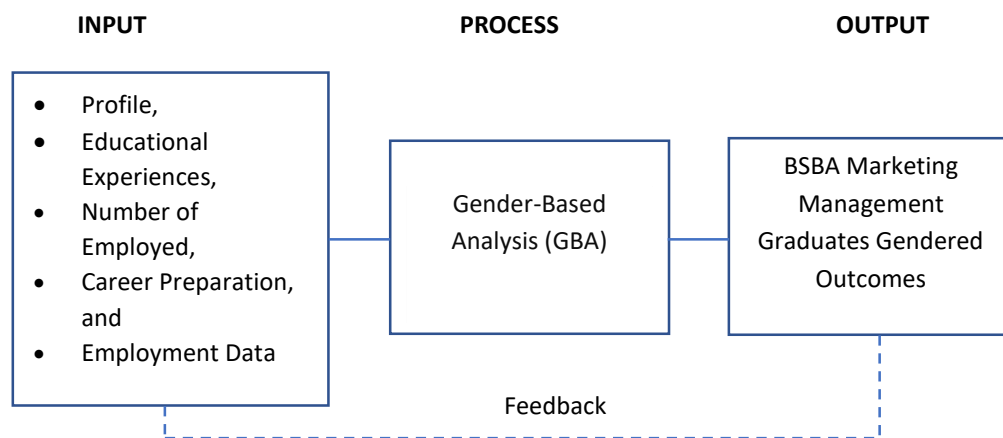


Figure1. Conceptual Framework of the study

METHODOLOGY

Research Design

The study made use of the descriptive research method, which involves observing and describing the profile of the BSBA Marketing Management graduates from SY 2013-2014 to SY 2017-2018 from the College of Business, Economics, and Accountancy at Mariano Marcos State University graduates in terms of their general information, educational experience, employment data, and utilizing the gender-based analysis (GBA).

Data-Gathering Instrument

The study adapted the CHED-Graduate Tracer Study (CHED-GTS) with some modification to suit the purpose of the present study. It was adapted to solicit the profile, educational experiences, number of employed, career preparation, and employment data of BSBA Marketing Management graduates from SY 2013-2014 to SY 2017-2018 from the College of Business, Economics, and Accountancy at Mariano Marcos State University, City of Batac, Ilocos Norte. The questionnaire was pre-tested for reliability and validity, and it was also distributed via the internet.

Data-Gathering Methods

This study was proposed in a Research In-house Review. And subjected to the University Research Ethics Review Board (URERB) of MMSU. The Complete list of graduates was requested from the Office of the Registrar at the Batac Campus.

An online survey was used to collect the data from the graduates. The questionnaire was distributed by the researchers utilizing Google forms for those who are employed outside of the province and country. Moreover, various online platforms such as social media (Facebook, messenger, Instagram) are exploited to contact graduates.

This study use frequency as a statistical tool to determine the profile of the BSBA Marketing Management program graduates from the College of Business, Economics, and Accountancy across genders along with general information, educational experience, and employment data.

Analysis of Data

Data gathered were combined and presented in tabular, graphical and textual forms. The profile, educational experiences, number of employed, career preparation, and employment data of BSBA Marketing Management graduates from SY 2013-2014 to SY 2017-2018 was analyzed using basic statistical descriptive measures such as percentages and frequency in MS Excel.

Sampling Plan

The goal of the study is to collect quantitative information the BSBA Marketing Management graduates from SY 2013-2014 to SY 2017-2018 from the College of Business, Economics, and Accountancy (CBEA) at Mariano Marcos State University graduates. The actual respondents (208 graduates) were a random sample of BSBA Marketing Management graduates from the academic years 2013-2014 to 2017-2018, representing 37.41 percent of the 556 graduates. The actual respondents fall short to the targeted sample size of 278 graduates, or 50%. Nevertheless, this is within the range of the expected response rate for graduate tracer studies, which is between 30 and 60 percent (Schomburg, 2003).

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Year Graduated	<i>N</i>	<i>M</i>	<i>F</i>	<i>n</i>	%
AY 2013-2014	95	6	29	35	36.84%
AY 2014-2015	107	13	30	43	40.19%
AY 2015-2016	122	13	33	46	37.70%
AY 2016-2017	105	9	36	45	42.86%
AY 2017-2018	127	8	31	39	30.71%
Total	556	49	159	208	37.41%

Figure 2. Population of the Study (BSBA Marketing Management Graduates from the Academic Years 2013-2014 to 2017-2018)

RESULTS AND DISCUSSION

1. Profile of the BSBA Marketing Management Graduates

1.1. Sex

The data on the table shows that out of the total 208 graduates, 159 (76%) were female, while 49 (24%) were male. The data shows a significant gender disparity among BSBA Marketing Management graduates from 2013-2014 to 2017-2018, with females outnumbering males by a large margin. Such a gender imbalance may reflect broader societal trends or specific factors that influence career choices among individuals who are pursuing marketing management degrees. This finding aligns with the broader trend observed in various fields, where women are increasingly pursuing higher education and careers in areas traditionally dominated by men. According Jackman and Morrain-Webb (2019), in their study the students believe that female empowerment and gender equity, especially in academic achievement, contribute to their higher performance in school. This is due to societal movements that promote female motivation and strive for gender parity. However, these factors hinder males. These findings support the data in the table, which indicates a global trend of higher graduation rates among females compared to males.

1.2. Civil status

In terms of civil status, in general 88 percent of all the graduates were single. There is a high percentage of single graduates among both male (96%) and female (86%) BSBA Marketing Management students. This is most probably because many students pursue their carrier right after college and may not have had time for family formation or have children. Furthermore, the marketing industry is highly competitive, and many graduates may choose to prioritize their careers over starting a family. According to McLaurin, J. P. (2021), younger generations prioritize focusing on their work, while married men are more likely to have limited career opportunities due to not earning more or advancing. Furthermore, Bursztyn et al. (2017) mentioned that women who are in relationships have to sacrifice more than single women. Perhaps these studies indicates that women and men prioritize their education and career over marriage.

Additionally, a mark percentage of female graduates (14%) are married, single parent, or separated, suggesting potential differences in life stages and responsibilities between male and female graduates at the time of graduation.

1.3. Region of origin

The table shows that most of the graduates (92%) are coming from Region 1, with 94% of male graduates and 91% of female graduates originating from this region. Graduates from other regions, such as Region 2 (3%), Region 4 (1%), Region 5 (1%), NCR (1%), and CAR (2%), have minimal representation in the program. The high concentration of graduates from Region 1 could be attributed to the accessibility and proximity of the educational institution to this region, making it more convenient for students to enroll and attend classes. Likewise, the prevalence of graduates from Region 1 perhaps influenced by socioeconomic factors, include access to educational resources, encouragement and support from family and the community, or personal goals for professional and career advancement, which could impact ones' decisions to pursue higher education in a particular region.

Table 1. The profile of BSBA Marketing Management graduates in terms of sex, civil status and region of origin.

Profile						
	Male		Female		All Graduates	
Sex	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Male	49	100%	-	-	49	24%

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Female	-	-	159	100%	159	76%
Total	49	100%	159	100%	208	100%
Civil Status						
Single	47	96%	137	86%	184	88%
Married	2	4%	20	12%	22	10%
Single Parent	-	-	1	1%	1	1%
Separated	-	-	1	1%	1	1%
Total	49	100%	159	100%	208	100%
Region of Origin						
Region 1	46	94%	145	91%	191	92%
Region 2	2	4%	6	4%	8	3%
Region 4	-	-	1	1%	1	1%
Region 5	-	-	1	1%	1	1%
NCR	1	2%	2	1%	3	1%
CAR	-	-	4	2%	4	2%
Total	49	100%	159	100%	208	100%

2. Educational Experience of the BSBA Marketing Management Graduates

2.1. Reason(s) for pursuing the degree

In terms of reason(s) for pursuing the degree, 51% of respondents said the prospect of immediate employment is their main reason for taking or pursuing the degree, while 38% said the prospect of career advancement is their main reason. Their reasons include the availability of course offerings at the chosen institution (31%), as well as a strong passion for the profession (29%).

As to the analysis among the genders, it also shows that both males and females have the same responses and that the majority reason why they take or pursue the degree is the prospect of immediate employment. The table reveals that the most common reasons for both genders were prospect for immediate employment (51%), strong passion for the profession (29%), and peer influence (27%). The reasons that showed substantial gender differences were peer influence, status or prestige of the profession, and availability of course offering in the chosen institution. More males (39%) than females (24%) reported peer influence as a reason, while more females (30%) than males (37%) reported availability of course offering as a reason. Status or prestige of the profession was also more important for males (22%) than females (7%). Perhaps the males and female different motivations and expectations for pursuing a degree in marketing management. Males may be more influenced by social factors such as peers and prestige, while females may be more concerned about practical factors such as availability and affordability of the course. The assumption may reflect the different gender roles and norms that shape the educational choices and experiences of males and females.

2.2. Scholarship

A great majority of the graduates (76%) did not receive any scholarship, and this proportion is higher for male graduates (82%) than for female graduates (75%). It is possible to assume that there may not be many scholarships being offered, that the scholarships are competitive and selective, that the majority of graduates may not need financial assistance, or that they may not be aware of the scholarship opportunities available to them or due to a lack of dissemination of the scholarship programs for students. The coincides with the study of Aberia and Java (2009) mentioned that scholarships may be available to underprivileged students based on family income, geographical spread, academic standing, and lack of dissemination.

The Batac City Scholar scholarship was awarded to 4 percent of female graduates, while the Barangay Scholar scholarship was awarded to 1 percent of female graduates. The CHED scholarship had 2 percent male graduates and 1 percent female graduates, while the College Scholar scholarship had 3 percent female graduates and 2 percent male graduates. The Laoag City Scholar scholarship had no female graduates, while the Manag Imee Scholar scholarship had 3 percent female graduates and no male graduates. Finally, the Municipal Scholar scholarship had 2 percent female graduates and no male graduates. These scholarships demonstrate that female graduates were more likely to receive the Municipal Scholar scholarship, NCIP EAP scholarship, Provincial Scholar scholarship, SIRIB Scholar scholarship, SK Scholar scholarship, SUC DTP scholarship, and Varsity scholarship. There was a similar representation of male and female graduates in the NCIP EAP scholarship, Provincial Scholar scholarship, SIRIB Scholar scholarship, SK Scholar scholarship, SUC DTP scholarship, and Varsity scholarship.

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2.3. Honor(s) or award(s) received

In terms of scholarship, great majority of the respondents, or 76%, did not avail of a scholarship. Aberia and Java (2009) mentioned that eight hundred seventeen people participated in this study. The majority did not avail of any scholarships, but for those who did, the majority benefited from the Work Study Program, and availed of this for 4 years or until graduation. Perhaps some scholarship programs grant scholarships to deserving underprivileged students based on family income, geographical spread, student academic standing, and low dissemination of scholarship materials and information.

The majority of male graduates (94%) and female graduates (95%) did not receive any honors or awards. This suggests that the criteria or qualifications for receiving honors or awards in the BSBA Marketing Management program are highly competitive or challenging. It indicates that achieving honors or awards within the program requires high levels of academic achievement or significant contributions in specific fields.

Among female graduates, 4 percent received the Cum Laude award, while no male graduates received this honor. This means that female graduates outnumber male graduates in terms of achieving the Cum Laude award. In the study of Dinan, S. (2016), it was noted that honors programs and colleges often thrive at institutions because of the high-caliber women who, often for financial or personal reasons, attend them. High-achieving young women populate honors programs and colleges because they want to get the most out of their education even if they do not attend the most competitive institution that admitted them. The job of honors directors and faculty members is to create dynamic and challenging environments for their students, the majority of whom are female. Maybe it is because young women are in a position to know that they will need to work harder to achieve success. On the other hand, the Most Promising Marketing Manager award was given to 2 percent of male graduates, but no female graduates earned it. This suggests that male alumni outperform female graduates in the Most Promising Marketing Manager category. The non-academic attributes of one's school peers play an important role in academic performance above and beyond one's own non-academic attributes. These results suggest that school-wide interventions and instructional practices designed to improve the non-academic skills of all students will provide additional benefits compared with interventions focusing on students with the most under-developed non-academic attributes (Palardy, G. J., 2019).

Both male and female graduates, 1% respectively, received the Leadership Award. This indicates that the program values and encourages the development of leadership qualities in all students, regardless of gender. It suggests that both male and female graduates actively participate in leadership roles or possess exceptional leadership talents, leading to the recognition of the leadership award. Among the graduates, 2% of male graduates received the varsity award, while no female graduates received this award. This indicates a higher representation of male graduates in the varsity award category.

Table 2. The educational experiences of the graduates of BSBA Marketing Management in terms of their reasons for pursuing the degree, scholarship, and honor(s) or award(s) received.

Educational Experiences						
Reason(s) for Pursuing the Degree*	Male		Female		All Graduates	
	<i>f</i>	%	<i>f</i>	%	<i>F</i>	%
High grade in the course or subject area (s) related to the course	6	12%	7	4%	13	6%
Good grades in high school	7	14%	9	6%	16	8%
Influence of parents or relatives	10	20%	41	26%	51	25%
Peer influence	19	39%	38	24%	57	27%
Inspired by a role model	7	14%	23	15%	30	14%
Strong passion for the profession	15	30%	46	29%	61	29%
Prospect for immediate employment	25	51%	80	50%	105	51%
Status or prestige of the profession	11	22%	11	7%	22	11%

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Availability of course offering in the chosen institution	18	37%	47	30%	65	31%
Prospect of career advancement	20	41%	59	37%	79	38%
Affordable for the family	13	27%	39	25%	52	25%
Prospect of attractive compensation	11	22%	25	16%	36	17%
Opportunity for employment abroad	8	16%	23	15%	31	15%
No particular choice or no better idea	3	6%	7	4%	10	5%
Others	1	2%	1	1%	1	1%
*Multiple Response						
Scholarship						
Batac City Scholar	-	-	7	4%	7	3%
Barangay Scholar	-	-	1	1%	1	1%
CHED	1	2%	1	1%	2	1%
College Scholar	1	2%	5	3%	6	3%
Laoag City Scholar	1	2%	-	-	1	1%
Manag Imee Scholar	-	-	6	3%	6	3%
Municipal Scholar	-	-	4	2%	4	1%
NCIP EAP	-	-	1	1%	1	1%
Provincial Scholar	4	8%	2	1%	6	3%
SIRIB Scholar	1	2%	8	5%	9	4%
SK Scholar	-	-	1	1%	1	1%
SUC DTP	-	-	1	1%	1	1%
Varsity	1	2%	3	2%	4	1%
None	40	82%	119	75%	159	76%
Total	49	100%	159	100%	208	100%
Honor(s) or Award(s) Received						
Cum Laude	-	-	6	4%	6	2%
Most Promising Marketing Manager	1	2%	-	-	1	1%
Mr. University	1	2%	-	-	1	1%
Leadership Award	-	-	1	1%	1	1%
Varsity Award	1	2%	-	-	1	1%
None	46	94%	152	95%	198	94%
Total	49	100%	159	100%	208	100%

3. Number of Employed BSBA Marketing Management Graduates

In terms of whether they are employed, it revealed that 96% of respondents indicated that they were now employed, 4% that they were not. The reasons provided by 4% of respondents were managing a business, advanced or additional studies, family issues and decisions not to pursue work, no job opportunity, health-related reasons, resignation or layoff while waiting for petition document, and becoming pregnant. Accordingly, the outcomes of students are important, and the improvement of knowledge, skills, and competencies are the main concerns that should be taken up in every educational institution (Deblois, 2021). Employment of students after graduation can be determined by how the expected student outcomes were achieved. Thus, educational institutions' designed curriculum and its implementation are factors for achieving student outcomes (Deblois, 2021). Perhaps the Marketing management graduates of the College of Business, Economics and Accountancy is highly employable.

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According to the analysis of responses by gender, 94% of all male respondents and 96% of all female respondents are currently employed. Perhaps the marketing management program has added value by developing job-related skills and competencies that have prepared its male and female graduates for the workplace. For the 6% male who are not employed mentioned that the main reasons are advanced or additional studies and resignation or layoff. For the 4% female respondents mentioned managing a business, advanced or additional studies, family issues and decisions not to pursue work, no job opportunity, health-related reasons, resignation or layoff while waiting for petition document, and becoming pregnant. This suggests that women may face a wider range of challenges when it comes to employment.

Table 3. The number of employed BSBA Marketing Management graduates.

Number of Employed						
	Male		Female		All Graduates	
Employed	<i>f</i>	%	<i>f</i>	%	<i>F</i>	%
Yes	46	94%	154	96%	200	96%
No	3	6%	5	4%	8	4%
Total	49	100%	159	100%	208	100%

4. Career Preparation of the BSBA Marketing Management Graduate

4.1. Finding the first job

In terms of finding the first job, shows 39% of the respondents mentioned that they found their first job as walk-in applicant. It is interesting to note that only 3% found job arranged by school's job placement officer. This could indicate that these resources be more utilized for more effective platform for job-seekers.

A mark percentage of the male graduates (39%) find their first job as walk-in applicant, 14% were hired by means of the Job Fair or Public Employment Service Officer (PESO) and through recommendation by someone. For a great percentage of the female graduates (38%) found their jobs as walk-in applicants to different private and public establishments, likewise about 38% found their jobs though recommendation by someone. This suggests that walk-in applications, job fairs, and recommendations are common and successful methods of job-seeking for both genders. They provide individuals with a wider range of job opportunities and are more open to different types of jobs.

The Others category accounts for 6% of all graduates finding their first job. It is equally popular among both genders, with 8% of males and 6% of females. This suggests that a small but notable percentage of graduates find their first job through means not listed in the categories mentioned. All of the respondents mentioned that they were absorbed during their internships. This indicates that internships are a crucial pathway to employment for both male and female graduates. It also suggests that companies where these internships take place recognize the value of the skills and experience these graduates bring.

4.2. How long it takes to land a job

In terms of how long it takes to land a job, 47% of the male respondents landed on a job in less than a month, however about 2% landed on a job 2 year to less than 3 years. For the female graduates 49% land on the job in less than a month, though about 1% found and landed a job in 3 years to less than 4 years.

This indicates the importance of early job hunting, persistence, networking, internships, and career counseling for successful job placement.

4.3. Reason for accepting the job

In terms of reason for accepting the job, majority of the respondents (57%) stated that their primary reason for accepting the job was due to the challenges it would present for their career, with salary and benefits coming in second (56%) in importance. Perhaps their major objective is to put their knowledge to use and gain experience to advance in their careers. It is only their secondary goal to achieve monetary commensuration.

Majority of the male graduates (55%) who posted about accepting the job cited special skills as the primary justification. Men may relate to talents more than any other factor in deciding whether or not to accept a job. The primary explanation given by female respondents was career challenge (58%). The difficulties they would face in their chosen careers may affect the female graduates more. The Others category accounts for 10% of all graduates' reasons for accepting the job. It is equally popular among both genders, with 6% of males and 4 % of females. The main reasons male respondents provided are for experience, being the boss to your own business, and opportunity, while female respondent mentioned the need to earn job experience, family

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recommendation and family business. The data suggesting that familial entrepreneurial ventures also influence their career choices for females and male focus more on career growth and advancement opportunities.

Table 4. The career preparation of the BSBA Marketing Management graduate terms of finding the first job, waiting time to land a job, and reason for accepting the job.

Career Preparation						
	Male		Female		All Graduates	
Finding the First Job						
Response to an Advertisement	4	8%	11	7%	15	7%
As walk-in applicant	19	39%	61	38%	80	39%
Recommended by someone	7	14%	51	32%	58	28%
Arranged by school's job placement officer	4	8%	3	2%	7	3%
Family business	-	-	5	3%	5	2%
Job Fair or Public Employment Service Officer (PESO)	7	14%	11	7%	18	9%
Information from friends	4	8%	8	5%	12	6%
Others	4	8%	9	6%	13	6%
Total	49	100%	159	100%	208	100%
How long it takes to land a job						
Less than a month	23	47%	78	49%	101	48%
1 to 6 months	21	43%	68	43%	89	42%
7 to 11 months	4	8%	8	5%	12	6%
1 year to less than 2 years	-	-	4	3%	4	2%
2 years to less than 3 years	1	2%	-	-	1	1%
3 years to less than 4 years	-	-	1	1%	1	1%
Total	49	100%	159	100%	208	100%
Reasons for Accepting the Job						
Salaries and benefits	26	53%	91	57%	117	56%
Career challenge	26	53%	92	58%	118	57%
Related to special skills	27	55%	66	42%	93	45%
Proximity to residence	14	29%	49	31%	54	26%
Others	3	6%	7	4%	10	5%
*Multiple Response						

5. The Employment Data of the BSBA Marketing Management Graduate

5.1. Present employment status

In terms of present employment status, it reveals that great majority of respondents (68%) are regular or permanent employees, while a mark percentage (14%) are contractual workers and 4% have other reasons, such as advancement or further study, family concern and decided not to find a job, health-related reason and no job opportunity. Perhaps the Marketing management program of the College of Business, Economics and Accountancy is employable.

In terms of employment status, 65% of all male respondents had regular or permanent work status, while 69% of all female respondents have the same. Perhaps the graduates were also qualified for the position as supported by their attained education and eligibility.

5.2. Present occupation

In terms of employment type, 45% of respondents identified as customer service agents or representatives, while 13% responded in other ways, including as department managers, BPO team managers, assistant branch managers, plant supervisors, branch admin supervisors, nannies, and factory workers. However, other responses included not applicable responses, which might be because they are taking advanced or further study, family concerns and deciding not to find a job, health-related reasons, no job opportunity and those who were pregnant as their previous responses for those who are not employed or have never been employed.

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With regard to the responses by gender, 49% of all male respondents occupying customer service agent/representative, likewise 44% of all female respondents have the same occupation. It is also relevant to note that 8% and 23% of the male and female respondents' occupation is product/brand/assistant order/billing assistant.

5.3. Industry

In terms of the industry, 21% of respondents work in wholesale and retail trade, repair of motor vehicles, motorcycles, and personal and household goods, 19% work in a financial intermediation firm, and 13% work in transport, storage, and communication. Perhaps these are the most common types of business students related to their course.

According to responses by gender, 16% are employed in wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods, and transport storage and communication types of businesses. Perhaps the majority of the men who responded can relate to the jobs that these companies are providing. For the female graduates, 23% were employed in wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods, and 21% in financial intermediation. Perhaps since they have degrees in marketing, they believe they fit in this type of firm.

5.4. Agency

In terms of agency employed at, majority of respondents (73%) work for private organizations. In terms of the responses by gender, 67% of male graduates work for a private company, while 33% work for the government. While 19% of the female graduates found employment in government, and 81% were hired by private companies. This indicate that graduates tend to find employment in private companies more than in government agencies. However, a higher percentage of male graduates are employed in government compared to female graduates. This could suggest that while private sector opportunities are prevalent for all graduates, male graduates might have a slightly higher inclination or opportunity towards government jobs compared to their female graduates.

5.5. Place of work

In terms of place of work, 91% of respondents are deployed locally. In terms of responses by gender, 96% of male graduates work for local businesses, and only 4% are employed abroad. Within the local economy, 89% of female graduates are employed, and 11% do so abroad. This suggest that graduates predominantly find employment within the locality. However, a slightly higher percentage of female graduates seek and find employment abroad compared to the male graduates. This could suggest a greater inclination or opportunity for international employment among female graduates.

5.6. Gross monthly earning

In terms of gross monthly earnings, reveals that 75 percent of respondents has a 5,001 to 15,000 gross monthly earning and about 13% earns 15,001 to 25,000 a month. For the gender analysis, 76% of the male respondents has a 5,001 to 15,000 gross monthly earning, only 2% earn a gross monthly earning of 45,0001 to 55,000. For the female graduates 75% has a gross monthly earning amounting to 5,001 to 15, 000, 12% has a 15,001 to 25,000 and only 1% has a55,001 and above gross monthly earning. This suggests that the gross monthly earnings of the majority of respondents are relatively modest, with a small percentage earning higher gross monthly earnings.

Employment Data						
Present Employment Status	Male		Female		All Graduates	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Regular	32	65%	110	69%	142	68%
Temporary	1	2%	3	2%	4	2%
Casual	4	8%	5	3%	9	4%
Contractual	5	10%	23	15%	28	14%
Self-employed	3	6%	13	8%	16	8%
Other(s)	4	8%	5	3%	9	4%
Total	49	100%	159	100%	208	100%
Present occupation						
Management Trainee in marketing	1	2%	-	-	1	1%
Marketing Assistant	3	6%	15	9%	18	9%
Account Executive	1	2%	3	2%	4	2%
Merchandising Assistant	1	2%	1	1%	2	1%

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Customer Service Agent/Representative	24	49%	70	44%	94	45%
Junior Sales Trainer	1	2%	-	-	1	1%
Receptionist	-	-	3	2%	3	1%
Entrepreneur	3	6%	15	9%	18	9%
Product/Brand/Assistant Order/Billing Assistant	4	8%	36	23%	40	19%
Others	11	22%	16	10%	27	13%
Total	49	100%	159	100%	208	100%
Industry						
Agriculture, Hunting and Forestry	1	2%	3	2%	4	2%
Construction	2	4%	1	1%	3	1%
Education	5	10%	7	4%	12	6%
Electricity, Gas and Water Supply	-	-	2	1%	2	1%
Financial Intermediation	6	12%	33	21%	39	19%
Health and Social Work	3	6%	6	4%	9	4%
Hotels and restaurants	2	4%	7	4%	9	4%
Manufacturing	1	2%	7	4%	8	4%
Other Community, Social and Personal Service Activities	6	12%	11	7%	17	8%
Public Administration and Defense, Compulsory Social Security	2	4%	7	4%	9	4%
Real Estate, Renting and Business Activities	1	2%	9	6%	10	5%
Transport Storage and Communication	8	16%	19	12%	27	13%
Wholesale and Retail Trade, repair of motor vehicles, motorcycles and personal and household goods	8	16%	36	23%	44	21%
Others	4	8%	11	7%	15	7%
Total	49	100%	159	100%	208	100%
Agency Employed						
Private	33	67%	128	81%	161	77%
Government	16	33%	31	19%	47	23%
Total	49	100%	159	100%	208	100%
Place of Work						
Local	47	96%	142	89%	189	91%
Abroad	2	4%	17	11%	19	9%
Total	49	100%	159	100%	208	100%
Gross Monthly Earning						
5,000 and below	2	4%	15	9%	17	8%
5,001 - 15,000	37	76%	119	75%	156	75%
15,001 - 25,000	9	18%	19	12%	28	13%
25,001 - 35,000	-	-	1	1%	1	1%
35,001 - 45,000	-	-	1	1%	1	1%
45,001 - 55,000	1	2%	2	1%	3	1%
55,001 and above	-	-	2	1%	2	1%
Total	49	100%	159	100%	208	100%

SUMMARY OF FINDINGS

The study was undertaken to track the employment whereabouts of the BSBA Marketing Management graduates at the College of Business, Economics and Accountancy from SY 2013-2014 to SY 2017-2018. The study used the Gender-Based Analysis.

The study treated the BSBA Marketing Management graduates profile, educational experiences, number of employed, career preparation, and employment data using gender-based analysis.

Beyond the Degree: Gendered Outcomes for BSBA Marketing Management Graduates

The study made use of the descriptive research method and adapted the instrument prescribed by the CHED-Graduate Tracer Study (CHED-GTS). An online survey was used to collect the data from the graduates and utilized Google forms and various online platforms such as social media to contact them. It uses frequency as a statistical tool to treat responses. The actual respondents (209 graduates) were a random sample of BSBA Marketing Management graduates from the academic years 2013-2014 to 2017-2018, representing 37.59 percent of the 556 graduates.

The following are the salient findings of the study:

For the profile of BSBA Marketing Management graduates from 2013-2014 to 2017-2018, there were more female than male graduates. There is a high percentage of single graduates among both males and females, and almost all of the male and female respondents are from Region 1.

In terms of their educational experiences, both males and females were primarily motivated by the prospect of immediate employment as their main reason for pursuing the degree. Among those who did, female graduates were more likely to achieve the Cum Laude award, while male graduates were more likely to receive the Most Promising Marketing Manager award and the Varsity award. Female graduates tended to excel in academic honors like Cum Laude, while male graduates were more represented in non-academic awards like Most Promising Marketing Manager and Varsity awards.

Regarding the number of employed BSBA Marketing Management graduates, both male and female graduates have high employment rates, indicating the program's effectiveness in equipping graduates with job-related skills and competencies.

For their career preparation, both male and female graduates commonly found jobs through walk-in applications and recommendations, indicating the success of these methods regardless of gender. Internships are an important pathway to employment for all graduates, as some respondents were absorbed during their internships. Nearly half of male and female respondents landed a job in less than a month, highlighting the importance of early job hunting and persistence. Male graduates often cited special skills as their primary justification for accepting a job, while female graduates focused more on career challenges.

In terms of employment data, there is a relatively balanced distribution of employment status between male and female graduates, with both having a majority in regular or permanent employment, indicating stability in their employment. Both male and female graduates are commonly employed as customer service agents, indicating a common career path in the industry. There are slight differences in industry preference between male and female graduates, with male graduates slightly more represented in wholesale and retail trade, and female graduates slightly more in financial intermediation. Male graduates have a slightly higher representation in government jobs compared to female graduates. Female graduates have a slightly higher percentage of employment abroad compared to male graduates. A small percentage earns higher gross monthly earnings, with some male respondents earning higher than female respondents in the highest earning bracket.

It is recommended that:

1. Offer a more diverse curriculum that caters to different career aspirations
2. Ensure equal opportunities for both genders to excel in academic and non-academic honors and awards
3. Prioritize and improve internship programs
4. Increase awareness and utilization of job placement resources
5. Encourage ongoing learning and skill development
6. Stay up-to-date with industry trends and offer specialized training
7. Address any gender disparities in employment and offer targeted support for female graduates.
8. Organize events and initiatives to help graduates network with each other and industry professionals.
9. Encourage collaboration and learning among alumni to support career growth.
10. Continuously monitor and evaluate the program's effectiveness and use feedback to improve the program offerings.

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Effectiveness of Job Responsibility Initiatives for Satisfaction on Commitment of Non-Academic Staff In Universities in Kenya: A Case of University of Eldoret



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ABSTRACT: The level of job commitment by non-academic staff in universities is a critical factor that influences organizational success. By creating a supportive work environment, offering growth opportunities, promoting work-life balance, and recognizing employee contributions, universities can enhance the job commitment of their non-academic staff and ultimately improve overall performance. By balancing workload, providing support, recognition, and growth opportunities, institutions can cultivate a more committed workforce that contributes positively to the overall success of the university. The level of satisfaction obtained from job responsibilities assigned to nonacademic staffs in universities plays a significant role in determining their commitment levels. Incorporating job responsibilities into the management and leadership practices within universities, universities can foster a work environment where non-academic staff feel fulfilled, engaged, and committed to their roles and the mission of the university. However, this is deficient in most universities, including Kenya, which is contrary to a multifaceted role non-teaching staff play in supporting national development goals in many nations. The purpose of this study was to evaluate the extent to which effectiveness of job responsibility influences commitment of non-academic staffs in University of Eldoret in Kenya. The study was based on expectancy theory of motivation. This study adopted on a quantitative research approach. The study utilized a correlational research design to determine the extent of relationship between job responsibility and commitment of non-academic staff in the research site. A sample size of 137 nonacademic staffs was drawn from target population of 208 using Yamane formula. both Stratified random sampling and simple random samplings were used to select units of analysis. Structured self-administered questionnaires were used for primary data collection. Data analysis utilized descriptive statistics as well as inferential statistics with the aid of the Statistical Package for Social Sciences (SPSS) version 25. Analyzed data was presented in using suitable tables and figures. The study's findings revealed a positive significant relationship between job responsibility and commitment of workers ($\beta_1=0.802$, $p=0.000<0.05$). The study concluded that there is a significant relationship between job responsibility and commitment of non-academic staff in the university of Eldoret.

KEYWORDS: Job Responsibility, Commitment, Satisfaction, Non-academic Staff, University,

1.0 INTRODUCTION

In France, the role and responsibilities of non-academic staff in universities have evolved over time, reflecting changes in the higher education landscape and administrative needs. Historically, non-academic staff in French universities have played a crucial role in supporting the academic mission of institutions by providing essential services and administrative support. Their commitment to ensuring the smooth functioning of university operations has been integral to the overall success of these institutions. Non-academic staff in French universities have traditionally been responsible for a wide range of tasks, including administrative support, facilities management, student services, financial management, human resources, and IT support. Over the years, their roles have become more specialized and diverse to meet the growing demands of modern universities. With the increasing complexity of university operations, non-academic staff have taken on additional responsibilities related to compliance with regulations, data management, strategic planning, and stakeholder engagement (Carpentier & Picard, 2023). Despite having many positive developments in the universities, nonacademic staff in French universities face various challenges some of which hinder their commitment at work. However, these challenges also present opportunities for the non-academic staff to enhance their skills, adopt innovative practices, and contribute to the strategic goals of their institutions (Vergnaud, 2023).

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The non-academic staff in universities in China, provide valuable service that enhance smooth functioning and management of these institutions. Their responsibilities and commitment have evolved over time, reflecting the changing nature of higher education in the country. During the early period, non-academic staff in Chinese universities primarily focused on administrative tasks such as record-keeping, maintenance, and support services. Their commitment was essential for maintaining the basic functioning of the institutions. Consequently, their roles were limited, and they were often overlooked in comparison to the academic staff (Pringle & Woodman, 2022). During the Mao Era (1949-76) Chinese universities underwent significant changes, with a focus on ideological education and the integration of academic and non-academic staff. Non-academic staff were expected to contribute to the political and ideological education of students, in addition to their regular duties. Their commitment was to the overall goals of the Communist Party and the nation-building process. With the introduction of reforms and the opening up of China to the world, universities experienced rapid growth and modernization. This led to an increased demand for professional non-academic staff to manage the expanding administrative and support systems. Their responsibilities expanded to include human resources, finance, information technology, and facilities management. The commitment of non-academic staff shifted towards enhancing the overall efficiency and quality of university operations (Pringle & Woodman, 2022). In the 1990s, Chinese universities started adopting market-oriented reforms, which led to the establishment of various service centers, such as career services, international offices, and student affairs. Non-academic staff played a vital role in the development and management of these centers. Their commitment was directed towards providing better services to students, faculty, and the wider community (Wenjie & Guorui, 2021). In contemporary China, non-academic staff continue to play a significant role in the smooth functioning of universities. They are responsible for managing various aspects of university life, including student services, research administration, alumni relations, and campus safety. Their commitment is focused on ensuring the efficient operation of the institution, enhancing the student experience, and supporting the academic mission of the university (Chen, 2022). However, they continue to face motivational challenges in their duties (Liu and Skerkey, 2023).

In South African universities, non-academic staff play critical roles in supporting the success of the institutions. Their job responsibilities and commitments have evolved over time, influenced by historical contexts and changing demands within the higher education sector. During the apartheid era, universities were segregated along racial lines, with non-academic staff often marginalized and limited in their opportunities for advancement. Non-academic staff, much like academic staff and students, were subject to these segregationist policies. They faced discrimination and marginalization based on their race, with opportunities for advancement often limited or nonexistent. Non-white staff members were typically relegated to lower-paying and lower-status positions within universities, reflecting the broader racial hierarchy imposed by apartheid laws. The transition to democracy in 1994 brought about significant changes in the higher education landscape, leading to a more inclusive and diverse environment within universities (Moodley & Fataar, 2017; Langa, 2019). As part of this transformation process, there have been initiatives to redress past inequalities and promote the full participation and representation of all staff members, regardless of race, gender, or other factors. These efforts have included policies aimed at promoting diversity in hiring and advancement, providing training and professional development opportunities for non-academic staff, and fostering a more inclusive and supportive work environment within universities (Moleke & Mokubedi, 2018). The Non-academic staff in South African universities have a wide range of job responsibilities that are essential for the efficient operation of these institutions. Despite facing challenges such as limited resources, high workloads, and sometimes inadequate recognition, non-academic staff demonstrate resilience and professionalism in carrying out their duties. Their commitment is vital for creating a conducive learning and working environment for students, academic staff, and other stakeholders ((Dlamini, 2018; Maphosa, 2016; Singh, 2018).

In Uganda, non-academic staffs in universities job responsibilities are diverse and encompass a wide range of tasks that contribute to the smooth running of the university. Historically, non-academic staff in Ugandan universities were initially tasked with administrative duties such as record-keeping, clerical work, and general office management. However, as universities grew and became more complex, the roles of non-academic staff expanded to encompass a broader range of functions. These now include human resources management, finance, procurement, maintenance, security, and student support services, among others. Despite the importance of their roles, non-academic staff in Ugandan universities face several challenges that can affect their commitment to their tasks. These challenges range from inadequate resources, limited professional development opportunities, bureaucratic hurdles, and sometimes insufficient recognition for their contributions (Nakimuli, 2023; Najjum, Gallagher & Nambi, 2022). Despite these critical roles, non-teaching staffs face challenges that make them non committal to their tasks (Mugizi, et al. 2022).

Before Kenya gained independence in 1963, there were only a few educational institutions, primarily missionary schools, which laid the foundation for higher education in the country. Non-academic staff, such as janitors, cooks, and gardeners, played a significant role in supporting the limited number of students and teachers in these institutions. Their primary responsibilities

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included maintaining cleanliness, preparing meals, and managing the grounds. The commitment of these staff members was essential for the survival and growth of these educational establishments during this period. After Kenya's independence, the government focused on expanding access to education, leading to the establishment of more universities and colleges. Non-academic staff continued to play a vital role in supporting these institutions, with their responsibilities expanding to include administrative tasks such as record keeping, finance management, and human resource management. The commitment of these staff members remained high, as they recognized the importance of their roles in the growth and development of Kenyan higher education (Imana, 2020 King'oo, Kimencu & Kinyua, 2020). During the liberalization of 1980s and 90s, Kenyan universities experienced significant growth, leading to an increase in student enrollment and faculty numbers. This expansion required additional support from non-academic staff, who took on more responsibilities in areas such as information technology, security, and student services. Their commitment to their roles remained strong, as they recognized the importance of providing quality support to both faculty and students. In recent years, Kenyan universities have undergone significant changes due to privatization and globalization. Non-academic staff have had to adapt to new technologies and work practices, while also maintaining high levels of professionalism and efficiency. Their job responsibilities have expanded to include areas such as marketing, alumni relations, and international collaborations. The commitment of non-academic staff has remained unwavering, as they continue to play a critical role in ensuring the success of Kenyan universities in today's competitive global environment (Oanda & Ogola, 2011; Kibet & Mutai, 2013). In spite of the crucial roles they provide, most of them are well motivated to a level of driving self-satisfaction from the job responsibilities they offer. These has led to occasional industrial disputes that have affected the smooth running of the universities, especially the university of Eldoret (Serem & Ongesa, 2023). It is against this background that this study was carried out to evaluate the effectiveness of job responsibility offered to nonacademic staff in the university of Eldoret influence their commitment at work, and devise strategies that would inspire them to drive self-satisfaction from their work.

1.2 Problem Statement

The nonacademic staffs provide fundamental services that enhance the performance of universities. They do so by offering crucial functions that boost smooth functioning of these institutions. The success of the universities is dependent on the level of contributions of non-academic staff. A well self-driven spirit among the non-academic staff is adequate to spur the performance of the universities to greater heights of success (Wambui, 2022; Tapanila, Siivonen & Filander, 2020). This is possible if they find enthusiasm in conducting the job responsibilities assigned to them such that they are able to experience self-fulfillment and self-satisfaction. Intrinsic motivation therefore inspires university support staff to remain committed in their duties (Manalo, & Apat, 2021).

Despite these, the performance of non-academic staff at the University of Eldoret (UoE) has been halted in the recent past because of the conflicts involving the management of this university and the aforementioned staff. The outcome of the dispute has been devastating to the normal service delivery to the university. This has been presumably caused by poor motivational mechanisms adopted by the university, among other factors (Serem & Ongesa, 2023). If this problem is not sufficiently resolved, the working conditions of the nonacademic will decline and this will affect the quality of service delivered in the university. This study was therefore carried out to evaluate the influence of effectiveness of job responsibility for self-satisfaction on the commitment of the nonacademic staff in the University of Eldoret in Kenya.

1.2 Objective of the Study

To evaluate effectiveness of job responsibility influences commitment of nonacademic staff at University of Eldoret in Kenya.

1.3 Hypothesis of the Study

H₀₁: There is no significant relationship between effectiveness of job responsibility and commitment of non-academic staff at University of Eldoret in Kenya

2.1 Underpinning Theory

The study was underpinned by the Expectancy Theory, developed by Victor H. Vroom in 1964. According to this theory, people are motivated to act in certain ways based on their expectations about the outcomes of their actions and the value they place on those outcomes. According to this theory, employee motivation depends on their belief that effort will lead to performance, performance will lead to outcomes, and those outcomes are desirable. Job responsibilities play a crucial role in shaping employees' perceptions of the effort-performance link. If employees believe that their efforts in fulfilling their job responsibilities will result in successful performance, they are more likely to be motivated to exert effort. When employees see a direct connection between their performance in fulfilling job responsibilities and the attainment of desired outcomes, they are more likely to be motivated and committed. Conversely, if employees perceive a lack of correlation between performance and outcomes, their motivation and

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commitment may diminish. When employees find the outcomes associated with their job responsibilities to be personally meaningful and rewarding, their motivation and commitment are likely to be higher. However, if job responsibilities consistently lead to undesirable outcomes or lack recognition, employees may become disengaged and less commitment.

Expectancy theory has been widely recognized and accepted in organizational psychology and management literature. However, some critics argue that the model's complexity makes it difficult to apply in practice, as it requires accurate assessments of all three components for each individual in an organization. Additionally, its assumptions about rational decision-making may not always align with real-world behavior. They argue that more research is needed to establish the validity of the model's assumptions and predictions. Critics also point out that individuals may not always be able to accurately assess or predict outcomes, as their cognitive abilities are limited, leading to biased judgments and decision-making processes. Another critique of expectancy theory is that it does not adequately consider the social context and influence on individuals' decisions and motivations. Social norms, peer pressure, and organizational culture can significantly impact an individual's behavior and motivation, which may not be fully captured by the expectancy theory model (Kuhl, 2021 Mitchell, 2021). The theory was used as a basis to establish if nonacademic staff at the University of Eldoret were offered meaningful job responsibilities that would provide opportunities for success, desirable outcomes, and personal fulfillment in order to foster high levels of motivation and commitment in the university.

2.2 Effectiveness of Job Responsibility and Employee Commitment

Dompelage (2019) carried out a study to investigate factors affecting job satisfaction of the non-academic staff members of University of Kelaniya. The study was based on a quantitative research approach. Thirty members of the nonacademic staff were selected using convenient sampling technique from the departments in the faculties of social sciences and humanities. Data was collected using questionnaire and analyzed using factors analysis. The study established that working condition, job security, autonomy or freedom, relationship with colleagues, relationship with superiors, promotion and pay were the major factors affecting the job satisfaction of non-academic staff of the University.

Yunita, et al. (2021) sought to find out the relationship between academic and non-academic responsibilities with job-related stress among academic and non-academic staffs. Primary data was collected by use of structured questionnaires since the study was based on a survey research design. The results of this study showed that the both categories of staff were moderately stressful with their job. The findings showed that there is no significant relationship between job-related stress and academic responsibilities but marginally there is significant relationship of the job-related stress and non-academic responsibilities.

Mavis, Akua and Seth (2017) examined job satisfaction and commitment of nonacademic staff in the College of Technology of the University of Education Winneba – Kumasi (COLTEK) and their influence on job performance. This study was based on case study research design since the unit of observation was one institution. Both primary and secondary data were used. Primary data was collected using questionnaires and observation while relevant written sources were used to obtain information for discussing results and literature review. The study had a response rate of 93%. Descriptive was used to analyze quantitative data. The study established a significant relationship between the study's variables and conclusively recommended management of the university to establish relevant strategies to boost effective condition of service among the workers.

Wakyaya (2015) sought to establish the effect of workers' performance in private universities in Uganda. One of the study's objectives was to establish the level of job satisfaction in Kampala International University. This study was based on a null hypothesis that assumed that job satisfaction has no effect on employee performance. The hypothesis was tested at 95% level of significance. This was a case study design because the unit of observation was a single institution which was adequate to conduct an in-depth investigation of the relationship between job satisfaction and employee performance. Data collected was subjected to both qualitative and quantitative analysis techniques. The findings of this study established a significant relationship between job satisfaction and employee performance in Kampala International University.

Olike and Kwasira (2018) analyzed the effect of transformational leadership style on enhancing the performance of non-teaching employees in selected Public Universities in Western Kenya. This study utilized a descriptive survey design. The target population was 1054 nonacademic workers from which a sample size of 290 was selected from the universities and became the units of analysis. Primary data for this study was collected by use of a questionnaire that had closed ended questions. adopted as the main instrument for collecting data. The collected data was analyzed by the aid of SPSS version 25. Quantitative data was analyzed using correlation analysis and regression analysis to test the hypotheses' significance levels. The results indicated a positive relationship between transformational leadership style and employee performance of the nonacademic staff.

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Durga and Lodhwal (2013) investigated the influence of demographic characteristics on job satisfaction. The study considered key attributes and attitudes of the type of work they do. This study used a proportional stratified sampling in which 250 nonacademic staff of Banaras Hindu University were selected. This research established that there is a significant relationship between the demographic characteristics of the respondents and job satisfaction.

Premium Researchers (2022) investigated the effect of job satisfaction on employee performance. This study was based on a null hypothesis that assumed that there is significant effect of job satisfaction on employee performance. This study employed the use of questionnaires to collect data. Descriptive data analysis involved the use of tables and percentages while for inferential statistics the researcher used chi-square. The findings of this study established a significant relationship between job satisfaction and employee performance.

Sereti and Wekesa (2023) analyzed the effect of job environment on employee job satisfaction among non-teaching staff in public universities in selected public universities in Kenya. The research utilized a descriptive research design. This study targeted 547 workers from Kisii University, 472 from Jaramogi Oginga Odinga University of Science and Technology and 412 from Rongo University. The questionnaires were used for the collection of data from the respondents. Specifically, the study focused the effect of physical workplace environment and employee job satisfaction. The findings of this study indicated that there is a strong positive relationship between employee environment and employee job satisfaction is ($r = 0.585$; $p = 0.00$). This implied that for every unit increase in employee work environment, there is a positive increase of 0.585 in employee satisfaction.

3.0 RESEARCH METHODOLOGY

3.1 Research Design

The study adopted a quantitative research approach. In this approach quantitative data involved the use of structured questions based on structured questionnaires. A correlational research design was used to establish the nature of relationship that exists between job responsibility and employees' commitment in the aforementioned site. The study was carried out at the University of Eldoret purposively because it is one of the universities in Kenya that has experienced conflict between the management and non-academic staff on matters related to motivation. The target population for this study was all the 208 all non-teaching permanent employees who had been working for the last five years at the institution. These were purposively selected because they assumed to have the necessary knowledge and experience to respond on the research questions. They were drawn from various departments as shown in Table 1.

Table 1: Target Population

Category	Target population	Percentage
Administrators	20	9.6
Operations officers	82	39.4
Communication officers	26	12.5
Customer service officers	30	14.4
ICT officers	23	11.1
Finance officers	27	13.0
Totals	208	100.0

Source: University of Eldoret (2022)

A sample size of 137 respondents was obtained from the target population of 208 using Yamane formula (1967) as represented Table 2.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = sample size required

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N =population size (208)

e²= level of precision (0.05)²

n=137

Table 2: Sample Size

Category	Target population	Sample size
Administrators	20	13
Operations officers	82	54
Communication officers	26	17
Customer service officers	30	20
ICT officers	23	15
Finance officers	27	18
Totals	208	137

Source: Research (2023)

Stratified random sampling technique was used to select samples proportionally since the target population was heterogeneous. Then the researcher used simple random sampling technique to select the individual respondents randomly from each stratum. This was done by use of computer-generated random numbers. The selected subjects then became units of analysis for the study. According to Gupta (2008) a sample is regarded as large if and when it exceeds 30 and therefore 137 was considered an appropriate size for this study. A self-structured questionnaire was used to collect primary data for the study. The closed ended questions were framed on a likert scale of 1 to 5. These were suitable in collecting quantitative data. The filled-up questionnaires were collected using drop-pick later method. To test reliability and validity of the questionnaires, the study conducted a pilot study in which 14 questionnaires were issued to the non-academic staff in Moi University-main campus. These respondents were not part of the sample that was used in the final study. The pilot respondents represented 10% of the sample size (Mugenda and Mugenda, 2003). The results of the piloted research instruments enabled the researcher to determine the consistency of responses made by respondents and adjust the items accordingly by revising the questionnaire items. To test validity, the research questions were tested and pretested to randomized sample for accuracy by use of content validity. This ensured that the questions accurately measured what was needed. The Cronbach's alpha was used to determine the reliability of the research instrument. The internal consistency reliability was established to be 0.76. This value was above 0.7 thus the research instruments were reliable to be used to collect data (Castillio, 2009). Collected data were organized and edited to remove any inconsistencies, and errors that would have made analysis difficult. Descriptive and inferential statistics was used to analyze the data with the aid of SPSS version 25. Descriptive statistics included percentages, frequencies, and measures of central tendency. Linear regression analysis was adopted to establish the extent to which job responsibility influenced commitment of nonacademic staff at University of Eldoret. The hypothesis was tested at 0.05 significant level. This provided the basis of rejecting or accepting the null hypothesis. The analyzed data was displayed using tables based on APA version 6.

The model $y = \alpha + \beta_1 X_1 + u$ was subjected to a test using linear regression to establish whether employee skills were a predictor of performance of manufacturing industry.

Where Y =dependent variable (commitment of nonacademic staff)

X₁= independent variable (job responsibility)

α = constant

β_1 =the coefficient of the independent variable

u = the error term.

To ensure research ethics, the researcher adhered to all requirements, relevant rules and procedures of conducting a study. The respondents participated in this study voluntarily and their identities were not revealed.

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4.0 FINDINGS

This study had the following findings

4.1 Response Rate

Out of 137 questionnaires issued to the respondents, 118 questionnaires were dully filled and returned. This translated to 86 % response rate. This response rate was considered adequate for the study (Mugenda and Mugenda, 2003).

4.2 Descriptive Analysis Influence of Job Responsibility on Employee’s Commitment

The study sought to assess influence of job responsibility on employee’s commitment at university of Eldoret. Participants were asked to provide their opinions on a 5-point Likert scale ranging from 1 -5, whereby 1=strongly disagree 2=disagree 3="neutral 4=agree and 5=strongly agree. The analysis of the average scores from the responses was carried out on a continuous scale. Scores below 1.5 were categorized as strongly disagree, scores between 1.5 and 2.4 were considered as disagree, scores between 2.5 and 3.4 were seen as neutral, scores between 3.5 and 4.5 were interpreted as agree, and scores above 4.5 were regarded as strongly agree.

A total of five statements were utilized to assess the influence of job responsibility on employee’s performance at university of Eldoret, and participants' responses were collected using a 5-point Likert scale as shown in Table 3.

Table 3: Respondents’ Opinions on the influence of Job Responsibility on Employee’s Commitment

Statement		SA	A	N	D	SD	Mean	Sd
1. Employees have a self-monitoring mechanism at their place of work	F	32	49	6	21	10	3.61	1.29
	%	27.1	41.5	5.1	17.8	8.5		
2. There is a clear career development plan for the workers in the institution	F	48	35	8	17	10	3.80	1.34
	%	40.7	29.7	6.8	14.4	8.5		
3. Employees perform their duties independently	F	40	42	3	24	9	3.68	1.33
	%	33.9	35.6	2.5	20.3	7.6		
4. Employee are held accountable for the work they perform	F	33	51	7	19	8	3.69	1.23
	%	28.0	43.2	5.9	16.1	6.8		
5. Employee are able to control work activities they perform	F	42	38	6	20	12	3.66	1.38
	%	35.6	32.2	5.1	16.9	10.2		

Source: Researcher (2023)

Table 3 showed that 81(68.6%) of the respondents agreed that Employees have a self-monitoring mechanism at their place of work. However, 31(26.3%) of the respondents disagreed that employees have a self-monitoring mechanism at their place of work. Further, the study results also showed that the respondents agreed with the statement that employees have a self-monitoring mechanism at their place of work with mean rating of 3.61 and a standard deviation of 1.29.

Also, 83(70.4%) of the respondents agreed and 27(22.9%) disagreed that the there is a clear career development plan for the workers in the institution. Further, the study results also showed that the respondents agree with the statement that there is a clear career development plan for the workers in the institution with mean rating of 3.80 and standard deviation of 1.34.

Further, 82(69.5%) of the respondents agreed that employees are perform their duties independently. On contrary 33(27.9%) of the respondents disagreed that employees are perform their duties independently. Further, the mean rating of 3.68 and standard deviation of 1.33 indicates that the respondents agreed that employees perform their duties independently.

The study nonetheless showed that, 84(83.1%) of the participants agreed that employees are held accountable for the work they perform and 27(24.1%) disagreed with the statement employee are held accountable for the work they perform. Further, the study results also revealed that the mean rating of 3.69 and a standard deviation of 1.23 indicate that the participants agreed with the statement that employees are held accountable for the work they perform.

Finally, 80(67.8%) of the respondents agreed that employees are able to control work activities they perform. On contrary to that, 32(27.9%) of the respondents disagreed that employees are able to control work activities they perform. Further, the study results also indicated that the respondents agree with the statement that employee are able to control work activities they perform with mean rating of 3.66 and standard deviation of 1.38.

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4.3 Linear Regression Analysis of Job Responsibility on Employee’s Commitment

The linear regression analysis examines how the commitment of employees, which is the dependent variable, is affected by the independent variable i.e. job responsibility. The subsequent sections present the outcomes of this analysis.

Table 4: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.787 ^a	.619	.616	.61126

Source: Researcher (2023)

The coefficient of determination (R^2) and correlation coefficient (R) shows the degree of association between the influence of job responsibility and employee’s commitment at the university of Eldoret. The results of the linear regression in Table 4 indicate that $R^2 = 0.619$ and $R = 0.787$. R value indicates that there is a strong linear relationship between the influence of job responsibility and employee’s performance at the university of Eldoret. The R^2 indicates that explanatory power of the independent variables is 0.619. This means that 61.9% of variation in employee’s commitment is explained by job responsibility at the university of Eldoret. This implies that the job responsibility had a positive influence on employee’s commitment at the university of Eldoret. The analysis of variance was employed in the study to determine if the model's predictive capabilities surpassed those of the mean, as illustrated in Table 5.

Table 5: Model Fitness Results

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	70.525	1	70.525	188.754	.000 ^b
Residual	43.342	116	0.374		
Total	113.867	117			

Source: Researcher (2023)

From Table 5 the F-test offers a comprehensive evaluation of the significance of the established regression model. The F-value signifies the importance of all the variables in the equation, confirming the overall significance of the regression. The F-statistics produced ($F = 188.754$) was significant at $p=0.000$ thus confirming the fitness of the model and therefore, there is statistically significant relationship between the influence of job responsibility on employees on performance at university of Eldoret. The study sought to establish the Regression Model Coefficients in order to use in the regression equation. The study results are presented in Table 6.

Table 6: Regression Model Coefficients

	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	0.864	0.213			4.052	0.000
Job responsibility	0.802	0.058	0.787		13.739	0.000

Source: Researcher (2023)

The study results in Table 6 revealed that there was positive linear effect of influence of job responsibility on employee’s commitment. Since ($\beta_1=0.802$, $p=0.000<0.05$), the study therefore rejected the third null hypothesis H_{03} and concluded that there is a statistically significant influence of job responsibility on commitment of non-academic staff at University of Eldoret in Kenya.

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However, this reveals that an increase in influence of job responsibility increases commitment of non-academic staffs by 0.802 units.

$$Y = 0.864 + 0.802X_1 \dots\dots\dots \text{Equation 4.3}$$

4.4 Hypothesis Testing

To determine whether responsibility influences commitment of nonacademic staff, H_0 hypothesis which states that “There is no significant relationship between job responsibility and the commitment of nonacademic staff at University of Eldoret” was tested.

Decision rule: If the calculated p value is found to be less than the critical value of 0.05, then the null hypothesis is rejected. Regression results indicated in Table 6 confirm the appropriateness of the model fit for this data since the computed p value of 0.000 was much smaller compared to critical value of 0.05. These findings implied the existence of a positive significant relationship between job responsibility and commitment of nonacademic staff. This led to a rejection of the null hypothesis and the adoption of an alternative hypothesis which states that, “There is a significant relationship between job responsibility and commitment of nonacademic staff” is accepted.

4.5 Discussion of Findings

The study findings were discussed based on the data analysis

4.5.1 Job Responsibility and Commitment of Nonacademic Staff

The regression analysis indicates that there is a positive significant relationship between the job responsibility and commitment of nonacademic staff at University of Eldoret since the p value obtained was 0.000 which is less than the critical value of 0.05 as shown in Table 6.

The study’s findings concur with Mavis, Akua and Seth (2017) whose research established a significant relationship between the study’s variables and conclusively recommended management of universities to establish relevant strategies to boost effective condition of service among the workers. The results of this research also agree with Wakyaya (2015) whose findings of this study revealed a significant relationship between job satisfaction and employee performance in Kampala International University. The findings are in agreement with Dompelage (2019) who found out that working conditions, job security, autonomy or freedom, relationship with colleagues, relationship with superiors, promotion and pay are major factors affecting job satisfaction of non-academic staff of universities. These findings also comply with Durga and Lodhwal (2013) whose research established that there is a significant relationship between the demographic characteristics of the respondents and job satisfaction. On the same note, the results concur with Premium Researchers (2022) findings who revealed that there is a significant relationship between job satisfaction and employee performance, implying that employees tend to increase their output when they find satisfaction in the tasks they are allocated. A study by Sereti and Wekesa (2023) further confirm that for every unit increase in employee work environment, there is a positive increase in employee satisfaction.

5.0 CONCLUSION

The study provides evidence supporting the existence of a significant relationship between job responsibility and commitment among nonacademic staff in universities. This finding suggests that as job responsibilities increase, so does the level of commitment among these staff members. The results emphasize the importance of effective job design within university administrative roles. Ensuring that staff members have meaningful responsibilities aligned with their skills and interests can foster a stronger sense of commitment to their roles and the institution. The study underscores the significance of fostering employee engagement among nonacademic staff members. By recognizing the impact of job responsibilities on commitment levels, universities can implement strategies to enhance job satisfaction, promote career development, and improve overall employee engagement.

6.0 RECOMMENDATIONS

Based on the findings of the study indicating a significant relationship between job responsibility and commitment among nonacademic staff of universities, management can consider the following recommendations:

Conduct a thorough review of job descriptions for nonacademic staff roles to ensure that they accurately reflect the responsibilities and expectations associated with each position. Revise job descriptions as needed to align with the findings of the study and to optimize job design for promoting higher levels of commitment.

Offer training and development programs aimed at enhancing the skills and competencies required to fulfill job responsibilities effectively. Investing in employee development not only improves job performance but also increases job satisfaction and commitment.

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Foster a work environment that encourages autonomy and empowerment among nonacademic staff members. Provide opportunities for staff to take ownership of their roles, make decisions, and contribute meaningfully to organizational goals. Empowered employees are more likely to feel committed to their work and the institution.

Implement recognition and reward systems that acknowledge and appreciate the contributions of nonacademic staff members who demonstrate high levels of commitment and performance in fulfilling their job responsibilities. Recognizing and rewarding excellence can reinforce desired behaviors and motivate employees to remain committed to their roles.

Create channels for open communication and feedback between management and nonacademic staff members. Encourage regular dialogue to address concerns, provide support, and solicit input on job responsibilities and organizational practices. Effective communication fosters trust and engagement, leading to higher levels of commitment among employees.

Recognize the importance of work-life balance in maintaining employee commitment and well-being. Implement policies and practices that support flexible work arrangements, time off, and wellness initiatives to help nonacademic staff members manage their responsibilities effectively while maintaining a healthy balance between work and personal life.

Continuously monitor and evaluate the effectiveness of interventions aimed at optimizing job responsibility and promoting commitment among nonacademic staff members. Collect feedback, assess outcomes, and make adjustments as needed to ensure that organizational practices align with the goals of enhancing employee commitment and satisfaction.

By implementing these recommendations, management can leverage the relationship between job responsibility and commitment to cultivate a motivated and dedicated workforce among nonacademic staff within universities.

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Psychoeducation Increasing Coping and Reducing the Family's Burden of Caring for the Elderly with Stroke Rehabilitation



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ABSTRACT: Stroke is one of the diseases that most often causes a decrease in functional abilities in sufferers, giving rise to severe dependency and dependency (Riskasdas) 2018. Stroke treatment to increase independence and minimize dependency is carried out through a stroke rehabilitation program. The family as caregivers plays an important role in providing post-stroke rehabilitation at home. However, sometimes families experience stress due to the burden of caring for elderly people with stroke. One effort that can be made to overcome psychological impacts is through psychoeducational activities. The aim of the research is to determine the effect of multimedia-based psychoeducation to improve coping and reduce the burden on families in caring for elderly people in stroke rehabilitation. This research used a pre-posttest with control on 30 families selected by purposive sampling. Data were collected using closed questions and the results of data collection were analyzed using univariate and bivariate using t tests. The research results showed that the multi-media based psychoeducational intervention showed significant differences between the intervention group and the control group in aspects of stroke coping and rehabilitation. Information from the research results can be used by officers to determine the effect of psychoeducation to improve coping and reduce the burden on families caring for elderly people who are undergoing stroke rehabilitation

KEYWORDS: Psychoeducation, Multimedia, Family Coping, Elderly; stroke rehabilitation

INTRODUCTION

In the current era, there has been a shift from infectious diseases towards non-communicable diseases (NCDs). One of them is a stroke. Stroke is one of the diseases that most often causes a decrease in functional abilities in sufferers, giving rise to severe dependency and dependency (Riskasdas) 2018. Comprehensive stroke treatment to increase independence and minimize dependency in stroke patients can be done through a rehabilitation program (Winstein et al., 2016)

In Indonesia, this rehabilitation program is usually carried out in hospitals or clinics by physiotherapists and other health professionals who are members of the rehabilitation team. Rehabilitation services at hospitals or clinics are usually outpatient services, where stroke sufferers must come to the hospital or clinic every day or several times a week. Sometimes stroke patients cannot do this, especially those who experience severe to total dependence. Results Research regarding the effects of home-based stroke rehabilitation on increasing the functional abilities and independence of stroke sufferers has been conducted in several countries, such as Denmark (Rasmussen et al., 2016), Thailand (Chaiyawat & Kulkantrakorn, 2012), and Norway (Askim et al., 2016). 2010) with various rehabilitation models and results. Various factors can prevent stroke patients from receiving a rehabilitation program at a hospital or clinic. These include not having family to accompany them, a long distance from the hospital or clinic, not being able to take public transportation, and not being able to have to queue for a long time at the hospital or clinic. With these various obstacles, stroke sufferers who might be able to gradually recover if they receive an appropriate rehabilitation program become worse and complications arise that could have been avoided, such as joint pain and stiffness, wrong walking patterns, posture disorders and chronic weakness. Therefore, a program is needed that can overcome the obstacles of stroke patients through education on home-based rehabilitation activities. A home-based rehabilitation program is a rehabilitation program carried out in the patient's own home accompanied by his family. This program aims to increase the patient's independence and functional ability in carrying out basic activities such as eating, drinking, dressing, urinating, defecating, bathing, walking and climbing stairs. One important factor that needs attention is how the family supports the elderly. According to Friedman (2010), family support is the attitude, actions of family acceptance towards family members, in the form of informational support, assessment support, instrumental support and emotional support. So family support is a form of interpersonal

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relationship that includes attitudes, actions and acceptance of family members, so that family members feel that someone is paying attention. Handayani quoted Friedmen's statement stating that family support is a form of family therapy that is very valuable because it can make elderly people feel at ease in living the rest of their lives. This statement is also supported by Kuntjoro 2012, which states that in order to help the elderly remain active, family and social support is needed (Kuntjoro, 2012).

The results of Rahayu and Isnaeni's research in 2017 strengthen the importance of family support for the elderly by stating that there is a relationship between family support and the risk of falls at home in the elderly. Based on the available information, there is a need for rehabilitation measures in the form of exercise and health education with the help of multi-media facilities and assistance from the family. This is because with the development of information and communication technology (ICT), health education media are becoming increasingly diverse. Multi-interactive media is an interesting media because it is a combination of animated images and sound so that health education becomes more interesting. Dian Novitasari's research in 2016 on the influence of using interactive multimedia on students' ability to understand mathematical concepts proved that interactive multimedia has an effect on their ability to understand a concept that is the target of research. Today's technology, especially in the field of multi-media, has increasingly developed. Multimedia is a combination of various media (file formats) in the form of text, sound images, videos and animations which are packaged in digital files. According to Sadiman .et al (2010:14) Educational media as a learning resource that can channel messages can help overcome errors in learning. Interpretation. The ability to understand is very important because by understanding, interventions can be carried out as expected in the context of promotion and prevention. These promotive and preventive efforts play a very important role in preventing and overcoming falls in the elderly.

RESEARCH METHODS

This research is a quantitative research, the research design used is quasi-experimental with a pre-post test design with control with psychoeducational intervention using multimedia to improve coping and reduce the burden on families of caring for the elderly, stroke rehabilitation. The sample was 30 families with elderly people undergoing stroke rehabilitation. Data analysis was carried out using paired t tests and unpaired t tests. This research has received ethical review approval from the Poltekkes Kemenkes Jakarta 3

RESULTS AND DISCUSSION

This study aims to obtain an overview of the effect of interactive multimedia-based psychoeducational interventions to improve coping and reduce the burden on families caring for the elderly with stroke rehabilitation. The number of respondents in the sample was 30 people for the intervention group and 30 people for the control group. Furthermore, the research results are described as follows:

A. Research Results

1. Description of Respondent Characteristics

The results of the analysis of the characteristics of respondents in the intervention group and control group based on age are as follows:

A. Table 5.1: Characteristics of respondents based on age

Variable	Group	N	Mean	Median	SD	Mean- max
Age	Intervention	30	47,35	48,00	11,598	25-65
	Control	30	46,90	66,00	4,350	28-65

The results of the analysis show that the average respondent in the intervention group was 47.35 years, the youngest age was 25 years. And the oldest was 65 years old, while in the control group the average respondent was 46.90 years old with the youngest age being 28 years old and the oldest being 65 years old.

B. Table 5.2: Distribution of Elderly Characteristics Based on Gender, Education, Occupation and relationship with the elderly

Variable	Intervention Group		Control group		N	%
	N	%	N	%		
Gender						
1. Boy	8	26,7	7	23,3	15	25
2. Female	22	73,3	23	76,7	45	75

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Education						
1. Elementary school						
2. Middle school	5	16,7	7	23,3	12	20
3. High school	8	26,7	9	30,0	17	28
4. Academ/Universuty						
	17	56,7	9	30,0	26	44
	0	0	5	16,7	5	8
Work						
1. Self-employed	5	16,7	3	10,0	8	13
2. Civil servants	0	0	1	3,3	1	2
3. Rich	4	13,3	5	16,7	9	16
4. Housewife	19	63,3	19	63,3	38	63
5. Not workin	2	6,7	2	6,7	4	6
Relationship with elderly						
1. Child						
2. Son-in-law	15	50,0	19	63,3	34	56
3. Wife/husband	0	0	1	3,3	1	2
4. Others	11	36,7	8	26,7	19	32
	4	13,3	2	6,7	6	10

Table 5.2 shows that the characteristics of the intervention and control groups of women with educational background for the intervention group and control group, the majority of whom have a high school education, the occupation for the intervention group and control group is housewife (IRT), while the relationship with the elderly in the intervention group and the majority of the control group is as follows. Child.

2. Homogeneity test

This test is a requirement before carrying out a bivariate test. The test used for numerical data uses the independent t test. This test is used because it compares the means of two groups of data, namely the intervention group and the control group. The chisquare test is used for categorical data, because the data you want to compare is the difference in proportions from two groups of data. In detail, it can be seen in the following table:

Table 5.3: Analysis of equality of respondents based on age, gender, education, employment, and relationship with the elderly between groups

Variabel		Intervensi (n=70)		Control (n=70)		Nilai p*
		N	%	N	%	
1. Age	< 60 years	24	80	24	80	0,559
	> 60 years	6	20	6	20	
2. Gender	1. Male	8	26,7	7	23,3	0,404
	2. Female	22	73,3	23	76,7	
3. Education	1. Elementary school					0,058
	2. Middle school	5	16,7	7	23,3	
	3. High school	8	26,7	9	30,0	
	4. Academy/University					
		17	56,7	9	30,0	
	0	0	5	16,7		

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4. Employment	1. Entrepreneur	5	16,7	3	10,0	0,442
	2. Civil servants	0	0	1	3,3	
	3. Employee	4	13,3	5	16,7	
	4. IRT	19	63,3	19	63,3	
	5. Not working	2	6,7	2	6,7	
5. Relationship with the elderly	1. Child	15	50,0	19	63,3	0,078
	2. Son-in-law	0	0	1	3,3	
	3. Wife/husband	11	36,7	8	26,7	
	4. Others	4	13,3	2	6,7	

The results of the equality test analysis (homogeneity) in table: 5.3 above show that there are no differences in age, gender, education, employment, and relationship with the elderly between the intervention group and the control group before being given the Multimedia-Based Psychoeducation intervention.

3. Differences in scores before and after intervention with Multimedia-Based Psychoeducation in the intervention and control groups

Table 5.4: Analysis of scores for problem solving, psychoeducation and rehabilitation of students before and After Multimedia-Based Psychoeducational Intervention

Variable		Mean	SD	95% CI	T	P value
problem solving coping	Group. Intervention Before	42,27	3,523	-8.216-4251	-6.431	0.000
	After	48,50	4,599			
	Difference	-6.233				
Group Control	Before	45,90	3.933	-1.732-0132	-.1.755	0.090
	After	46,70	3.218			
	Difference	-0.800				
psychoeducation	Group. Intervention Before	58,53	4.369	-9.564-3369	-4.270	0.000
	After	65,00	6.988			
	Difference	-6.467				
Group Control	Before	61,20	6.059	1.299-0.568	-0.568	0.574
	After	61,70	6.972			
	Difference	0.500				

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stroke rehabilitation	Group. Intervention Before After Difference	81.13 87.57 -6.433	13.930 6.521	12.592-0274	-2.136	0.041
	Group Control Before After Difference	69,03 71,07 -2.033	10.420 9.461	-4.521-0454	-1672	0.105

The results of the analysis showed that there was a significant difference in problem-solving coping in the intervention group and the control group before and after the Multimedia-Based Psychoeducation intervention (p value = 0.000) with the difference in the average value of the increase in problem-solving coping scores in the intervention group being greater (difference value = 6.233). while in the control group the average difference in scores was 0.800. Furthermore, the results of the analysis of the Psychoeducation variable also showed that there was a significant difference in the intervention group before and after the Multimedia Based Psychoeducation intervention (p value = 0.000) with the difference in the average value of the increase in Attitude score in the intervention group being greater (difference value = 6,467) whereas in The control group had an average difference in score of 0.500. Likewise, the Stroke Rehabilitation variable showed that there was a significant difference in the intervention group before and after the Multimedia Based Psychoeducation intervention (p value = 0.041) with the difference in the average value of increasing Skills scores in the intervention group being greater (difference score = 6.433), while in the control group the average difference score was 2.033

4. Differences in problem solving, psychoeducation and stroke rehabilitation coping scores between groups

Table 5.5: Analysis of problem solving coping scores, psychoeducation and stroke rehabilitation after intervention using multimedia-based psychoeducation

Variables	Group	N	Mean	SD	95% CI	F	P value
problem solving coping	Intervention	30	48,50	4.599	-0.251-3.851	6.389	0.014
	Control	30	46.70	3.218			
Psychoeducation	Intervention	30	65.00	6.988	0.059-6.659	1.953	0,040
	Control	30	61,70	5.972			
Stroke rehabilitation	Intervention	30	87.57	6.521	9.094-17.906	2.010	0.000
	Control	30	74.07	10.140			

The results of the analysis show that there is a difference in problem solving coping ($p= 0.014$) between the intervention group and the control group after the Multimedia Based Psychoeducation intervention. Likewise, there was a difference in psychoeducation between the intervention group and the control group ($p= 0.040$). Likewise, there was a difference in stroke rehabilitation ($p= 0.000$) between the intervention group and the control group after the Multimedia Based Psychoeducation intervention.

B. DISCUSSION

1. Respondent characteristics

The results of the study based on the characteristics of respondents which included age, gender, education, employment, and relationship with the elderly between groups showed that there were no differences in age, gender, education, employment, and relationship with the elderly between the intervention group and the control group before being given a psychoeducational-based intervention. Multimedia, shows the equality of intervention and control respondents with a strong level of homogeneity. The

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characteristics of respondents can influence the client's stroke rehabilitation program. Results of homogeneity test analysis using the t test because it compares the means of the two groups, namely the intervention group and the control group.

The results of the equality test analysis showed that there were no differences in age, gender, education, employment and relationship with the elderly between the intervention group and the control group before being given the multi-media based psychoeducational intervention, meaning that all respondents as well as those in the control and intervention groups had the same characteristics in terms of aspects, age, , education, employment and relationships with elderly people undergoing stroke rehabilitation

2. Coping in resolving family problems in solving the problem of caring for the elderly with stroke rehabilitation

Based on the research results, it is known that there is a difference in problem solving coping ($p=0.014$) in the intervention group and the control group before and after the multimedia psychoeducation intervention. There was also a difference in psychoeducation between the intervention and control groups ($p=0.040$) and in the aspect of stroke rehabilitation there was a difference ($p=0.000$) in the intervention group and the control group after the multimedia psychoeducation intervention was carried out.

Stroke is a disease that causes a decrease in functional abilities in the sufferer, causing dependence on the family or environment. Family as a source of social support can be a key factor in implementing stroke rehabilitation. Conflicts that occur in the family can make situations and conditions worse. Some of them are caused by feelings of not being appreciated, jealousy between families, privacy issues being disturbed, the economy, poor communication, and religious differences within the family. Without realizing it, conflicts that occur in the family can have a negative impact on family members. Even though the family is not always a positive source of mental health, they are most often an important part of the healing process (Kumfo in Videbeck, 2008).

Psycho-education is an effort made to strengthen coping strategies in overcoming problems from the psychological aspect experienced by families in caring for elderly people undergoing stroke rehabilitation, such as anxiety problems. Family anxiety in caring for elderly people with stroke rehabilitation can vary in the form of restlessness, feelings of discomfort, disturbed sleep patterns, digestive disorders. Concentration disorders and somatic disorders. In an effort to solve problems, according to researchers, each individual will try to get out of a situation that makes him anxious, so this shows that psychoeducation is really needed to help families determine effective coping strategies while caring for family members with stroke rehabilitation. Family coping is a positive response in accordance with the affective problem, perception and response used by the family and its subsystem to solve a problem or reduce stress caused by problems or events such as stroke rehabilitation (Friedman, Bowden & Jones, 2010). Coping is an effort made by each individual to overcome the problems faced. Adaptive coping mechanisms from the family in resolving stroke rehabilitation problems due to stressors or pressure in the form of rational and constructive Psycho-education has an important role in the interaction between stressful situations and adaptation in the form of efforts to overcome the demands experienced by controlling emotional responses as a coping strategy. by family. The family is the smallest social unit which is an important element in a person's important social life. A family consists of family members who are interconnected and interdependent in providing support, love and attention in harmony carrying out their respective roles for a common goal (Irma, 2015). Family support in stroke treatment in the form of regular rehabilitation can minimize disability due to stroke and help elderly people carry out their daily activities independently.

According to research by Setryaningrum, Rosalina and Wakhid (2012), the higher the family support for stroke patients, the more obedient they are to undergoing the rehabilitation program. Therefore, the role and support of the family is very necessary in accompanying stroke patients in undergoing rehabilitation. Along with rehabilitation activities as a care process for stroke sufferers, families will experience physical and emotional exhaustion. To overcome this, families need to carry out coping strategies while caring for the elderly with stroke rehabilitation, such as seeking social support and positive reappraisal, planful problem solving and positive reappraisal simultaneously in overcoming the stress caused by stroke rehabilitation and all its problems.

3. Reduce the burden on families caring for the elderly with stroke rehabilitation

The burden of caregiving is defined as the extent to which the care giver can feel their emotional state and physical health, social life and financial status as a result of caring for the elderly (Jagannarhan, Thirrhalli, Hamza Nagendra & Gangadhar; 2014). The results of the study show that there is a significant difference in reducing the burden on the family with problem solving coping. in the intervention group and control group after the Multimedia Based Psychoeducation intervention. Likewise, there was a difference in psychoeducation between the intervention group and the control group ($p= 0.040$). Likewise, there was a difference in stroke rehabilitation ($p= 0.000$) between the intervention group and the control group after the Multimedia Based Psychoeducation intervention.

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Elderly people with post-stroke are a condition that must receive special treatment, namely through rehabilitation. The results of research conducted by Yudi H, Ardianto, Rijal and Fadhia Adliah (2020) showed that after being given a home-based stroke rehabilitation program, the treatment group experienced increased muscle strength, decreased risk of falls, and improved ADL independence, a review from Mayo (2016) showed that stroke elderly who were treated at home without receiving a home-based rehabilitation program had a higher risk of dependency and death than stroke elderly who received a home-based rehabilitation program. Research conducted by Berg et al. (2016) in Adelaide, Australia showed that home-based rehabilitation assisted by family or people caring for the elderly had a significant effect on the quality of life of stroke elderly. The same results were also obtained in the research of Vloothuis et al. (2019) conducted in Amsterdam, a home-based rehabilitation program was actually better at dealing with anxiety in stroke elderly people and depression in close families who cared for stroke elderly people.

Coping strategies are efforts to change a person's knowledge and behavior continuously to manage specific internal or external demands that are considered to exceed a person's abilities. Everyone has a response to reduce stress when under excessive pressure. This is what is meant by stress coping efforts, so that each person has different stress coping Nur Fitriana, (2014). Every individual will try to get out of a stressful situation or condition. Families can carry out several coping strategies to solve problems in caring for elderly people with stroke rehabilitation through mentoring activities by relying on sources from their own environment or by using humor. Humor is recognized as one of the tools that can be used to relieve anxiety and tension in facing stroke rehabilitation in the elderly. Sharing or disclosure activities bring families closer to each other and maintain and overcome anxiety levels together. Also through joint problem solving through activities to discuss problems faced regarding stroke rehabilitation in the elderly or by normalization, namely the family's tendency to normalize everything when coping with the stressors of stroke rehabilitation in the elderly. In this study, assistance was carried out for 1 month with activities in the form of family assistance by cadres in carrying out stroke rehabilitation. This is intended so that the elderly feel more comfortable and improve when given support and training by those closest to them, so that it is hoped that the elderly will also be motivated to take part in post-stroke rehabilitation. In addition, home-based rehabilitation facilitated by elderly family members is more cost-effective and allows for carried out through supervision from a physiotherapist or rehabilitation team for the elderly family member. The results of research conducted by Widarti and Krisnawati (2017) showed that elderly people were given regular visits for three months. The results show that the intervention provided is in the form of home care to ensure that all stroke patients' needs are controlled and met. Capable reduce levels of anxiety and depression in stroke patients. It is hoped that the home-based rehabilitation program can relieve the patient's anxiety and depression by involving the people closest to the patient.

4. Increased coping and reduced family burden in caring for the elderly by stroke rehabilitation

The results of the study showed that there was a difference in problem solving coping ($p=0.014$) between the intervention group after the Multimedia Based Psychoeducational intervention in treating lasia with stroke rehabilitation and the control group. The impact of stroke causes physical and emotional changes in the elderly. Physical changes in the elderly will affect the level of independence. Independence is the freedom to act, not depend on others, not be influenced by others and be free to regulate oneself or one's activities, both individuals and groups, regardless of health or disease. Factors that influence the level of independence of elderly people in carrying out daily life activities, such as: age, immobility, and easy falling (Nugroho, 2012). Post-stroke physical treatment in the form of rehabilitation is an absolute necessity for the elderly to be able to improve their movement and therapy abilities. The rehabilitation program is a tertiary prevention effort with the aim of reducing weakness, disability and helping the elderly to adjust to their condition and maintain optimal quality of life. . The medical rehabilitation program is a form of integrated health service with a medical, psychosocial – educational – vocational approach to achieve the maximum possible functional abilities. Medical rehabilitation aims to overcome disease conditions through a combination of medical interventions, prevent complications, maximize functional abilities, increase activity, and strive for a quality life (Ministry of Health of the Republic of Indonesia, 2012). Rehabilitation provides great benefits in restoring movement and function to the elderly after a stroke, the enthusiasm and motivation of the elderly to exercise really helps speed up the recovery process and the role of the family in motivating them to do exercise, caring for and accompanying the patient is also very helpful in the success of rehabilitation (Nugraha, 2016)

Caring for elderly people with dependency due to stroke who require rehabilitation is a stressor for the family because it will be a burden for the family. Family burden, namely the burden of care, is defined as the extent to which the care giver can feel their emotional state and physical health, social life and financial status as a result of caring for the elderly (Jagannarhan, Thirrhalli, Hamza Nagendra & Gangadhar; 2014). The family will carry out coping strategies to overcome this problem. Coping is constant cognitive and behavioral change in an effort to overcome specific internal and/or external demands that exhaust or exceed an individual's resources (Lazarus, 1985 in Nasir and Muhith, 2011). Effective coping is coping that helps someone to tolerate and

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accept stressful situations and not worry about pressure that they cannot control (Lazarus and Folkman, (1984) in Nasir and Muhith, 2011). Coping mechanisms are ways that individuals use to solve problems, overcome changes that occur, and threatening situations, both cognitively and behaviorally. Coping is also referred to as a process in which a person tries to regulate the perceived discrepancy between desires (demands) and income (resources) which are assessed in a stressful situation, coping can be directed at improving or mastering a problem, it can also help change perceptions of the discrepancy, accept danger, escape or avoid stressful situations (Nasir and Muhith, 2011).

Family coping strategies for dealing with elderly stroke rehabilitation can also be carried out through external family coping strategies, although it is realized that internal coping sources are very important. Some external family coping strategies include: seeking information related to stressors resulting from stroke rehabilitation in the elderly from various sources, apart from that, maintaining affective relationships with the community as sustainable coping, where family members are active participants in organizations operating in the field of stroke rehabilitation problems. Efforts to strengthen support can be done through seeking spiritual support, such as prayer activities which are identified as very important efforts for families in reducing the family burden through activities to overcome stressors related to stroke rehabilitation in the elderly.

5. Interactive multimedia-based psychoeducation towards increasing coping and reducing it family burden in caring for elderly people with stroke rehabilitation

The results of the study showed that there was a significant difference in problem-solving coping between the intervention group before and after the Multimedia-Based Psychoeducation intervention and the control group. It was also found that the Attitude score in the intervention group was greater than the control group, as well as the aspect of the stroke rehabilitation variable showing that there was a significant difference in the group. intervention before and after the Multimedia Based Psychoeducation intervention where the Skills score in the intervention group was greater than in the control group. Caring for clients with stroke rehabilitation will cause stress for the family. Stressful conditions that can occur as a result of actions, stress regarding information, stress due to weakness, stress due to the environment and privacy, stress related to social and economic matters, stress related to spirituality as well as coping and perception of problems.

Psychoeducational intervention using interactive multimedia provides increased knowledge and skills to families in providing care to family members (elderly) who experience problems in their ability to carry out daily activities due to undergoing stroke rehabilitation. The experience of family members who have had a stroke and are undergoing rehabilitation with their ability to carry out daily activities disrupted, can have negative outcomes for caregivers, including anxiety, stress, strain, physical and mental health problems. Continuous and long-lasting stressors often produce negative impacts and can affect a person's ability to fulfill ADLs (Soetjningsih, 2010). Facing situations like this, families must have adaptive coping strategies to manage the full situation because dysfunctional family coping tends to use habitual defensive strategies which may not eliminate or eliminate and weaken stressors (Ebstein et al., 1993; Whit, 1974 in Friedman et al., 2010). The coping behavior used by caregivers in dealing with problems is the result of self-resilience (resilience) in resolving problems and solving problems (Hidayatulq, 2013). If the family or someone who helps them can identify an upcoming stressor, anticipatory guidance and preventative coping strategies are provided to weaken or reduce the impact of the stressor (Friedman et al, 2010). Caregivers who have good coping strategies will be able to reduce the increase in depression in caregivers and can solve the problems they are facing wisely.

A home-based rehabilitation program is a rehabilitation program carried out in the patient's own home accompanied by his family. . Through this program, a physiotherapist or rehabilitation team comes to visit the patient at home to provide home-based stroke rehabilitation. The aim of this program is to increase the patient's independence and functional abilities in carrying out basic activities such as eating, drinking, dressing, urinating, defecating, bathing, walking and climbing stairs. In accordance with the results of several studies that have been conducted in several countries, such as Denmark (Rasmussen et al., 2016), Thailand (Chaiyawat & Kulkantrakorn, 2012), and Norway (Askim et al., 2010) where the aim of the research is to find out the picture A home-based rehabilitation program that is suitable for stroke sufferers to reduce the level of dependency of stroke sufferers and increase functional ability to carry out daily activities.

The results of research by Sobirin, Husna and Sulistyawan (2014) regarding the role of the family in motivating stroke patients with patient compliance in participating in rehabilitation, stated that the less favorable role of the family was found to be greater in post-stroke patients who were disobedient in carrying out rehabilitation. The greater the role of the family in motivating post-stroke family members, the more confidence the post-stroke patient will have in recovering and undergoing rehabilitation. The role of the family in motivating the elderly with stroke rehabilitation will have a positive impact in the form of strength and enthusiasm in following the healing process regularly.

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The family is the smallest social unit which is an important element in a person's important social life. A family consists of family members who are interconnected and interdependent in providing support, love and attention in harmony carrying out their respective roles for a common goal (Irma, 2015). According to research by Setryaningrum, Rosalina and Wakhid (2012), the higher the family support for stroke patients, the more obedient they are to undergoing the rehabilitation program. Therefore, the role and support of the family is very necessary in accompanying stroke patients in undergoing rehabilitation. Family support is support consisting of verbal and non-verbal information or advice, real assistance or actions provided by social familiarity and obtained because of the presence of those who have emotional ties or behavioral effects on the receiving party (Nursalam & Kurnawati, 2007 in Setryaningrum 2012) . A stroke patient's recovery will be greatly helped if the family provides encouragement, shows confidence in the patient's improvement, and allows the patient to do as many things as possible and live as independently as possible. According to Jannah & Azzam (2015) Family support is an important factor that can influence a person's compliance with treatment or therapy. The family is the smallest and closest unit to the patient. The family has a role as a motivator and supporter for other family members in implementing health programs independently. The family is also the main caregiver for other family members who experience health problems. If someone in the family is sick, the other family will provide motivation so that the success of rehabilitation is greater.

CONCLUSIONS AND SUGGESTIONS

The research results show that:

1. Characteristics of respondents in the intervention group are families with an average age of 47.35 years, female with a high school educational background, and work as a housewife and relationship with the elderly as child, while in the control group it is a family with an average age 46.90 years old, with gender, female, high school educational background, and work as a housewife and relationship with the elderly as a child
2. Multi-media based psychoeducation has a different effect on the use of coping in the intervention group and the control group, where the difference in the average value of the increase in problem-solving coping scores is greater, as well as in the attitude aspect there is an increase in scores, and in the aspect of stroke rehabilitation activities there is a significant difference. which is in the aspect of improving skills
3. Psychoeducation is able to have an influence in solving coping problems and reducing the burden on families in caring for elderly stroke rehabilitation

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The Influence of Income, Education, and Number of Family Members on Household Consumption Expenditures in Bandar Sari Village, Way Tuba District, Way Kanan Regency



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ABSTRACT: The Influence of Income, Education, and Number of Family Members on Household Consumption Expenditures in Bandar Sari Village, Way Tuba District, Way Kanan Regency. Thesis. Yogyakarta: Faculty of Economics and Business, Yogyakarta State University 2024. This research aims to determine the effect of income, education and number of family members on household consumption expenditure in Bandar Sari Village, Way Tuba District, and Way Kanan Regency. This research is quantitative descriptive. The subjects in this research were households in Bandar Sari Village. This research population applies to all households in Bandar Sari Village. The number of samples in this study was 100 households. The sampling technique uses simple random sampling technique. Data collection techniques used questionnaires and interviews. The data analysis technique used is multiple regression analysis. The results of this research are as follows: (1) income has a positive and significant effect on household consumption expenditure in Bandar Sari Village with a coefficient value of 0.182 and a significance value of $0.001 < 0.05$; (2) education has a positive and significant effect on household consumption expenditure in Bandar Sari Village with a coefficient value of .117 and a significance value of $0.01 < 0.05$; (3) the number of family members has a positive and significant effect on household consumption expenditure in Bandar Sari Village with a coefficient value of .414 and a significance value of $0.001 < 0.05$. (4) together income, education and number of family members influence household consumption expenditure in Bandar Sari Village with a probability value of $0.001 < 0.05$ and the coefficient of determination (R^2) value of 0.612 is obtained, this value shows that 61.2% Consumption levels are influenced by income, education and number of family members, while the remaining 38.2% is influenced by other independent variables that were not studied.

KEYWORDS: Income, Education, Number of Family Members, Consumption Expenditures.

I. INTRODUCTION

In a country's economic activities, consumption plays an important role in it and has a huge influence on the stability of a country's economy. Consumption is one of the determining factors for Indonesia's economic growth and is also an indicator of the welfare of the Indonesian population. Because household consumption provides income to national income (Rafiq, 2016). Specifically for household consumption expenditure, there is the most determining factor, namely the level of household income. The higher the income of a household or society, the higher the level of consumption (Masagus, 2007).

Consumption expenditure is the main component of Gross Domestic Product contributed by the household consumption sector. In fact, when compared with other sectors, household consumption expenditure has the largest contribution. The level of public consumption has a significant influence on economic stability. The Central Statistics Agency (BPS) noted that spending on household consumption will grow by 4.93% in 2022. This growth is 2.91% higher than in the previous year which was 2.02%, an increase after the Covid-19 pandemic. This identifies the increase in people's income levels. This increase will strengthen people's purchasing power and encourage high public consumption by increasing the variety of choices of goods or services offered, both local and foreign products.

According to Friedman and Modigliani, everyone will gain higher satisfaction if they can maintain stable consumption expenditure than if they have to experience increases and decreases in their consumption. But Modigliani went on to state that people will try to stabilize their consumption levels throughout their lives and also attach importance to the role of wealth or assets as a determinant of consumption behavior.

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The form of consumption needs in households is not only in the form of food but also non-food. Household needs for consumption show developments that occur because of changes in lifestyle and household consumption behavior. According to (Dumairy, 1996) household consumption expenditure can be grouped into food consumption and non-food consumption. Food consumption is public expenditure used to meet food needs, consisting of grains, tubers, vegetables, side dishes, fruit, ready-made food and drinks, tobacco and betel. Meanwhile, non-food consumption is spending to meet needs other than food. The non-food expenditure allocation consists of housing and fuel, various goods and services, education costs, health costs, clothing, footwear, durable goods, taxes and insurance premiums, and party needs.

According to Pratama Rahardja and Mandala Manurung in their book, Macroeconomic Theory, one of the factors that can be used as a benchmark for consumption levels is: (a) Economic factors which include household income, household wealth, number of durable consumer goods, interest rates, estimates about the future, and government policies in reducing inequality in income distribution, (b) Demographic factors which include the number of family members, population composition, education level and area of residence, (c) Non-economic factors include socio-cultural factors. The characteristics of one region will be different from other regions. Households in Bandar Sari Village of course also have different characteristics. In this case, researchers will analyze how big the influence is on consumption expenditure, according to (T. Gilarso in Fathia, 2015 p. 3), including: income, education, and number of family members.

The welfare of Bandar Sari Village households will increase if consumption expenditure is met. There are many things that can improve household welfare in Bandar Sari Village, Way Tuba District, Way Kanan Regency. The thing that can fulfill the welfare of household consumption expenditure is by paying attention to the income earned as we know that if a person's income is high, it will also be followed by high consumption, but in reality, the income earned by the household tends not to be too large but the consumption required can be far from the income earned. Awareness of the importance of education, where education is very important to see the quality of human resources. For households that have education, it will certainly improve the way they work and how they earn a better income. Fulfilling the number of family members who are covered will influence the amount of household consumption and consumption expenditure in the household. This is because the number of household members means the economic burden that will be borne will increase. Thus, it is necessary to pay close attention to household consumption expenditure, especially regarding the level of income, which is still low, the level of education can be said to be still quite low, on average they are households with the last level of education completed, namely elementary school, and the average number of family members is 4 -5 people with many family members covered.

II. METODOLOGI

This type of research is descriptive research using a quantitative approach and then analyzed using multiple linear regression. Researchers in this study used the sampling technique used in this study using a simple random sampling technique. The location of this research was carried out in Bandar Sari Village, Way Tuba District, and Way Kanan Regency. The sample used in this research was 100 respondents. The respondents were households in Bandar Sari Village, Way Tuba District, and Way Kanan Regency.

III. RESEARCH AND RESULT

Variable	B	T Count	Sig.	Information	R ²	F
(Constant)	,830	3,142	0,02	Significant	0,612	50,528
Income	0,182	3,964	0,01	Significant		
Education	,117	5,886	0,01	Significant		
Number of Family Members	,414	5,112	0,01	Significant		

a) The Effect of Income on Household Consumption Expenditures

Based on the regression equation formed from the results of the regression analysis, the regression coefficient for the Income variable is 0.182 with a significance level of $0.001 < 0.05$, which means that if income increases by 1%, household consumption expenditure will also increase by 18.2%. The income variable has a partial effect on consumption expenditure showing significant positive correlation results. This indicates that the level of income can influence consumption expenditure made by households.

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This happens because the household income in Bandar Sari Village in each household is different, usually households with high income consume excessively, and households with low income consume moderately.

b) The Effect of Education on Household Consumption Expenditures

Based on the results of research using multiple regression analysis, namely the results of data analysis that has been carried out, the education variable does not have a significant effect on consumption expenditure. This is shown in the significant value of this variable which is .117 with a significance level of $0.01 > 0.05$, which means that the coefficient of the education level variable has a significant effect on consumption expenditure. So based on the research results, the education variable has a partial effect on consumption expenditure.

c) The Effect of Number of Family Members on Household Consumption Expenditures

Based on the results of multiple regression analysis, the coefficient for the variable number of family members is .414 with a significance level of $0.001 < 0.05$, meaning that if the number of family members increases by 1, household consumption expenditure will also increase by 41.4%. So based on the research results, the variable number of family members has a partial effect on consumption expenditure showing significant positive correlation results. This indicates that the number of family members is related to the size of the economic needs. A large family will also have large dependents so that their consumption will be greater. Apart from that, the more members there are, the more a child has to share the attention he gets from his parents with his siblings. So, parents can't just think about one child. On the other hand, families with a smaller number of members will have lighter responsibilities so it will be easier to meet the living needs of their family members.

d) The Influence of Income, Education, and Number of Family Members on Household Consumption Expenditures

Based on the results of multiple regression analysis, the ANOVA test produces an Fcount value of 50.528 with a significance value obtained from the results of linear regression analysis being 0.01, this value is smaller than 0.05 so that H_0 is rejected and it can be concluded that simultaneously (together) , income, education and number of family members have a significant effect on household consumption expenditure. The contribution of money made by these three variables to consumption expenditure is 61.2%, while the remaining 38.2% is explained by other causes outside these three variables.

IV. DISCUSSION

The F significance test basically shows whether all the independent variables intended in the model have a joint influence on the dependent variable. The F test is used to test whether the two independent variables and one moderating variable simultaneously influence the dependent variable. In this research, the method used is to compare the F-count and Ftable values.

If $F\text{-count} < F\text{-table}$, then the independent variable simultaneously has no effect on the dependent variable (hypothesis is rejected).

If $F\text{-count} > F\text{-table}$, then the independent variable simultaneously influences the dependent variable (hypothesis is accepted).

Based on the table above, the F-count has a value of 50.528 which is greater than the F-table, namely 1.66071 and a significance value of 0.001 ($p < 0.05$). Thus, it can be said that income, education and number of family members simultaneously influence consumption expenditure.

From the results of the R2 test, the adjusted R2 value is 0.612 or 61.2%, this shows that this value shows that 61.2% of consumption expenditure is influenced by income, education, and number of family members while the remaining 38.2% is influenced by other variables. which was not researched.

V. CONCLUSIONS

The data analysis technique used is multiple regression analysis. The results of this research are as follows: (1) income has a positive and significant effect on household consumption expenditure in Bandar Sari Village with a coefficient value of 0.182 and a significance value of $0.001 < 0.05$; (2) education has a positive and significant effect on household consumption expenditure in Bandar Sari Village with a coefficient value of .117 and a significance value of $0.01 < 0.05$; (3) the number of family members has a positive and significant effect on household consumption expenditure in Bandar Sari Village with a coefficient value of .414 and a significance value of $0.001 < 0.05$. (4) together income, education and number of family members influence household consumption expenditure in Bandar Sari Village with a probability value of $0.001 < 0.05$ and the coefficient of determination (R2) value of 0.612 is obtained, this value shows that 61.2% Consumption levels are influenced by income, education and number of family members, while the remaining 38.2% is influenced by other independent variables that were not studied.

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