

The Impact of Intellectual Capital on Financial Performance: A Study of Sri Lankan Financial Institution



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ABSTRACT: Intellectual Capital is essential in every economical activity. The aim of this study how intellectual capital impact on financial performance in Sri Lankan financial institution. To achieve objective of this research banking institution has been selected from Colombo Stock Exchange financial directory for the period from 2016 to 2020. Random sampling technique were used to analysis the data. MVIAC model used for the measurement of independent variable in this study. This model is a composite sum of two indicators these are Capital Employed Efficiency (CEE) - indicator of VA efficiency of capital employed and Intellectual Capital Efficiency (ICE) – indicator of value-added efficiency of company's Intellectual Capital base. Intellectual Capital Efficiency is composed of (a) Human Capital Efficiency (HCE) – indicator of value-added efficiency of human capital; and (b) Structural Capital Efficiency (SCE) – indicator of value-added efficiency of structural capital (c) Rational Capital Efficiency (RCE). Finding represent that intellectual capital has significant impact on financial performance of Sri Lankan financial institution, specially banking industry. SCE and CEE has negative impact while RCE impact positively on financial performance.

KEY WORDS: Intellectual Capital, Financial Performance, Financial Industry, Value Added.

PREAMBLE

Assets are very essential for every activity in economics. Assets can be classified as Physical and intellectual Assets. Traditionally Physical Assets like land, labor and capital were considered to be the most valuable assets in economics. Since time conventional physical assets were considered to be the main determinants of the performance of any economic activity. But the fast expansion of science, technology and finally the globalization altered the pattern and structure of the production system. The new production system is mainly driven by technology, knowledge, expertise and relations with stakeholders etc which may collectively be described as Intellectual Capital. Intellectual capital is one of the relatively modern concepts that are increasingly relevant in terms of concept and measurement. Intellectual capital is a concept that is constantly evolving and constantly changing due to the surrounding environment. (Ali, 2018)

Economic companies spend a lot of money in developing intellectual capital to keep pace with technological development. However, the traditional financial statements do not fulfill the disclosure of the true cost of intellectual capital in its various elements. In addition, the financial position reflects the fact that the cost of intellectual capital will be disclosed in the financial statements of the companies in Colombo Stock Exchange. In the new economic system, which is popularly known as the knowledge economy, intangible or intellectual assets have eventually recognized as the prominent resources. Companies like software, finance, pharmaceutical; banking, hotel etc. Depend to a considerable extent on the intellectual capital for earning revenues. Production or Manufacturing companies use Intellectual Capital with its physical assets to sharpen their competitive edge. (Ahangar, 2011)

It is important to find the impact of Intellectual capital on Financial Performance when considering more importance to intellectual capital. Therefore this study will attempt to demonstrate the impact of the disclosure of intellectual capital (human capital, structural capital, and Relational capital) on Financial Performance in Sri Lankan Financial Institution specially in Banking Sector.

The aim of the study is to make an empirical investigation of the impact of intellectual capital on Financial Performance. The tasks of the research are as follows: to analyze the significance of intellectual capital and review the results of previous research

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on Modified Value-Added Intellectual Coefficient (MVAIC) model to evaluate the impact of MVAIC and Financial Performance to make conclusions and work out recommendations for improvement of traditional corporate valuation methods.

The analysis is conducted on a sample of six banking institutions in Listed companies of Colombo Stock Exchange over the period from 2015 to 2020. In the research paper, the quantitative method of research is applied. The research is based on published papers and Financial Statements of Listed Banks on intellectual capital and Financial Performance.

STAKEHOLDER THEORY

Stakeholder theory states that all stakeholders have the rights to obtain organisational information and impact on their interests though they will not use them Deegan (2000). As per Donaldson & Preston (1995), stakeholder theory includes potential and current investors, customers, creditors, employees, suppliers, government, and the public Donaldson & Preston (1995).

According to the stakeholder theory, it is the responsibility of organisations to disclose the information about intellectual, social, and environmental performance other than statutory requirements transparently Guthrie, Petty & Ricceri (2005). Also, legitimacy theory further demonstrates that organisation need to create social contract with its stakeholders by voluntarily report all those activities which management perceives relevant to its stakeholders Guthrie, Petty & Ricceri (2005). Therefore, primary consideration requires to be given to stakeholders in order to understand the activities and performance of the company consequently, it will provide valuable insights to meet the global market expectation Lusia & Erida (2015). Thus it is essential to disclose the necessary information to stakeholder in terms of use of assets, asset management, and the reporting of all activities of the company Lusia & Erida (2015).

RESOURCE BASED VIEW

According to the Resource based view (RBV) which focuses on internal resources, organisation should manage rare, inimitable and scarce resources efficiently and effectively in order to sustain the competitive position in the market Xu & Wang (2018), Albertini & Berger (2019). Though RBV considered internal resources it failed to put the main emphasis on the knowledge and intellectual capital Faiza (2020). At this background, new concept named knowledge-based view emerged which emphasised knowledge creates intellectual capital Faiza (2020). In knowledge-based perspective, Capacity of the human resources vary based on the organisation. This will differentiate one organisation from another and facilitate to be innovative in the global market.

In this case, it is necessary to recognize intellectual capital rather focus on traditional ways to measure the company value Wernerfelt (1982). Traditionally organisation performance had been measured and bounded into accounting principles and historical figures where this may inappropriate to knowledge-based economies Gan & Saleh (2008). Intellectual capital contributes infinitely to the productivity, efficiency, and overall profitability though it cannot be quantifiable.

Resources are basically tangible and intangible Mohammadi, Sherafati & Ismail (2014) and also since tangible resources are limited, intangible assets should be considered to gain competitive advantage Albertini & Berger (2019). Intellectual capital will be derived from the difference between book value and market value Ousama, Mashael & Fatima (2020). But it is difficult to derive the value of intellectual capital of company by just focusing on physical assets Kaplan & Norton (2001) also, there are no any commonly agreed upon method to measure the value of intellectual capital yet Ousama, Mashael & Fatima (2020).

INTELLECTUAL CAPITAL AND VALUE-ADDED INTELLECTUAL COEFFICIENT (VAIC)

Intellectual capital has no universally accepted definition. Bayburina & Golovko (2009) mentioned in his panel data analysis, intellectual capital "intangible safety – cushion" where human capital plays a major role in driving long term growth to BRIC companies. Intangible assets comprise of human capital (such as skills, talents, and knowledge), information capital (such as databases, information systems, and technology infrastructure), and organizational capital (such as culture, leadership style, and ability to share knowledge) Kaplan & Norton (2004).

Intellectual capital consists of human capital, relational capital and structural capital Chowdhury, Rana & Azim (2019); Aruppala, Wickramasinghe & Mahakalanda (2015). Human capital consists of capability, knowledge, intuition, creativity, qualification, talent, competencies Ja'fari (2006). Human capital will improve in two ways: when the organisation uses human capital more in routine activities and the employee become important to the organisation Stewart & Thomas (1997). Human capital in short refers individualised knowledge embedded in the mind of employee. This can be further improved and spread through attractive compensation plans, effective training and development programme, opportunities for career development.

Structural capital means the knowledge attached in database, organizational charts, process manuals, strategies, routines which makes its value more than the value of its material Lusia & Erida (2015). These assets (technologies, inventions, innovations, publications and business processes) belong to company which can be reproduced and traded with others Stewart & Thomas

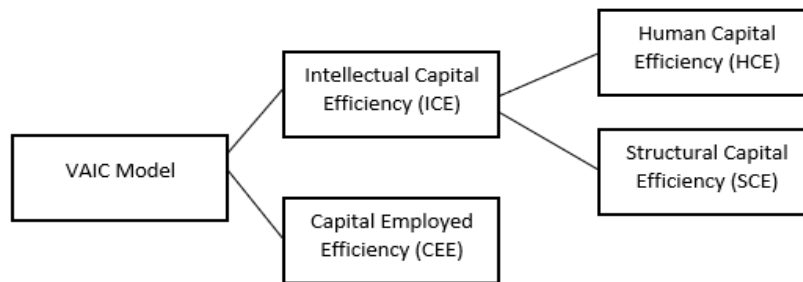
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(1997). This encourages employee for optimum performance thereby it enhances organisational performance Akpinar&Akdemir (1999).Structural capital can be protected through obtaining patent, copyrights, trademark and so on according to Akpinar&Akdemir (1999).

Customer capital (Relational Capital) represents value embedded in the marketing channel, customer relationshipLusia&Erida (2015) where this can be increased through good relationship with its customer. The value of customer capital can be measured through indicators such as market share, profit gained from each client Value Mohsen et al. (2014).

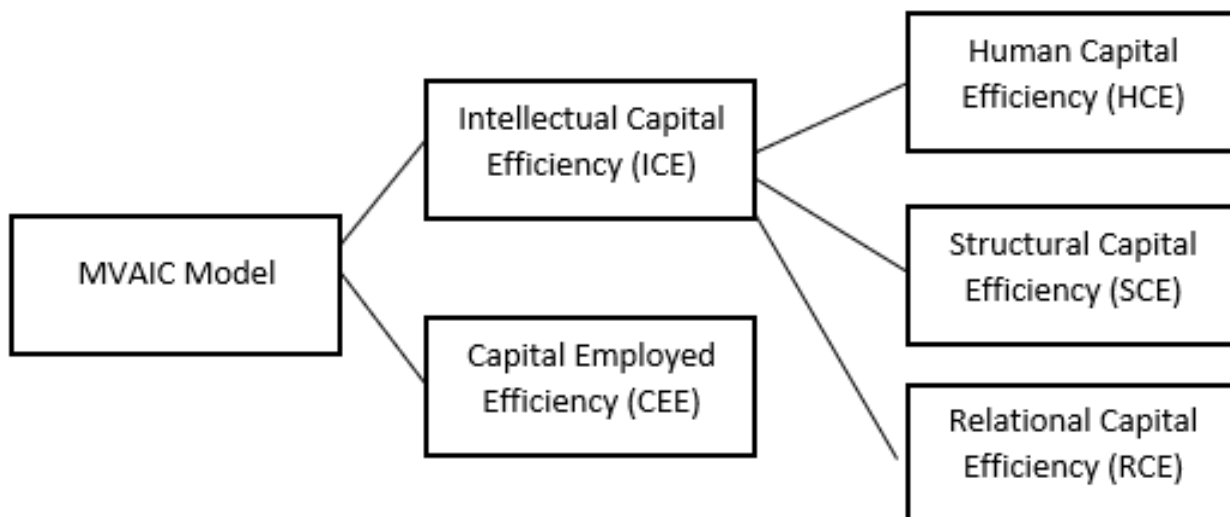
Capital employed considered as the important variable in numerous studies Nimtrakoon (2015); Modal (2016). Capital employed can be defined as the book value assigned to net assets of a firm Pulic (1998). Capital Employed Efficiency stands capital employed divided by the value added Mondal (2016)

Therefore, it is essential to measure the financial performance in terms of intellectual capital. Value Added Intellectual Coefficient (VAIC™) developed by Pulic(2000) will be used to measure the value creation efficiency of the firm using accounting figures Pulic (2000). This model measure to what extent firm’s intellectual capital resources will produce added value to the firmStahle&Aho (2011). This model uses simple ways to calculate coefficients and used in numerous literatures Pulic (1998); Santoso (2011). Also it had been criticized many times in the literature as it ignores the customer capital and the way of calculating structural capital is the difference between value added and human capital Mondal (2016)



Source: Pulic (1998)

At this background Modified Value Added Intellectual Coefficient (MVAIC) model had been proposed by researcher and this is an extended version of traditional VAIC™ (26) (27).



Source: Developed by researchers based on literature review

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FINANCIAL PERFORMANCE

Financial performance refers firm's ability to generate profit. This can be measured using many ratios name Return on Assets (ROA), Return on Capital Employed (ROCE), Earning Per Share (EPS), Return on Equity (ROE). In this study, ROCE and ROA have been used to measure financial performance.

EMPIRICAL REVIEW OF EFFECT OF INTELLECTUAL CAPITAL ON THE FINANCIAL PERFORMANCE

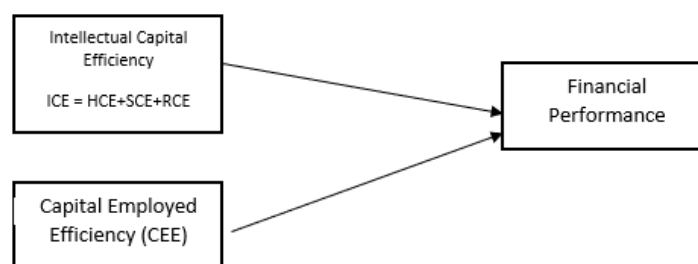
In the comparative study conducted in Pakistan food & personal care and textile sectors had been considered. As per the result, food & personal care sector had shown human capital efficiency (HCE), structural capital efficiency (SCE) and capital employed efficiency (CEE) have shown significant and positive influence on return on assets (ROA) and return on equity (ROE) of the firms. In contrast, there are no significant association reported among structural capital efficiency (SCE), relational capital efficiency (RCE) and financial performance of textile firms. As per Lusia&Erida (2015) if the company develop intellectual capital it will positively contribute to the organisation by means of increased sale and revenue thereby profit of the company will increase. As a result of that, ROA, ROCE will also move in the positive direction.

Especially in the study of Mohammdi, Sherafati& Ismail (2014); Suraj &Bontis (2012); Latif Malik & Aslam (2012) stated that relational capital has the greatest significant influence on firm's financial performance. Also, numerous secondary studies reported Mondal (2016); Latif Malik & Aslam (2012); Pal &Soriya (2012). that there is a significant positive impact of intellectual capital in financial performance. Thus, due to the inconsistent findings reported in the relationship between intellectual capital and financial performance, there are enough studies required to be done to fulfil the gap especially taking relational capital into consideration.

Calisir, Gumussoy&Bayraktaroglu (2010) in the study of information technology (IT) and telecommunication sectors using VAIC Capital Employed Efficiency CEE reported as the significant factor on financial performance. Also, in the study of Dženopoljac, Janosevic&Bontis (2016) using VAIC positive influence of CEE on the selected firms' performance.

In many foreign primary studies intellectual capital had been researched and reported positive influence on financial performance Emadzadeh et al. (2013); Kojori, Aghajani&Rasooli (2013); Santoso (2011) There are more studies needed in Sri Lankan context considering MVIAC model to measure intellectual capital.

Aforementioned studies confirm that capital has significant positive impact on financial performance of firms. But those studies are relatively out-dated and not conducted in Sri Lankan context. Therefore, this study intends to apply MVAIC into Sri Lankan context and attempt to focus on the impact of each intellectual capital on financial performance.



RESEARCH POPULATION AND SAMPLING

Listed Banks has been selected as population to answer research question. There are 14 Banking Limited has been listed in Colombo Stock Exchange among 14 Banks, six banks are selected as sample by Random Sampling Techniques. Selected sample banks as follows: Commercial Bank of Ceylon Plc, Hatton National Bank Plc, National Development Bank Plc, Sampath Bank Plc, Sanasa Development Bank Plc and Union Bank of Colombo Plc.

RESEARCH METHODOLOGY

for the purpose of conducting the analysis in this study, Return on Assets (ROA) and Earning Per Shares (EPS) are taken as measures for financial performance. It is, therefore, decided that for the purposes of the present study, the commonly used proxy measures will be applied. Consequently, the proxy measures for each dependent variable are defined as follows:

1. Return on Assests (ROA):
2. Earning per Shares (EPS):

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MVIAC model used for the measurement of independent variable in this study. This model is a composite sum of two indicators these are Capital Employed Efficiency (CEE) - indicator of VA efficiency of capital employed and Intellectual Capital Efficiency (ICE) – indicator of value-added efficiency of company’s Intellectual Capital base. Intellectual Capital Efficiency is composed of (a) Human Capital Efficiency (HCE) – indicator of value-added efficiency of human capital; and (b) Structural Capital Efficiency (SCE) – indicator of value-added efficiency of structural capital (c) Rational Capital Efficiency (RCE)

RESEARCH MODEL

To answer research question, linear multiple regression analysis is performed based on the following general models

$$FP = \beta_1 (HCE) + \beta_2 (SCE) + \beta_3 (RCE) + \beta_4 (CEE) + \epsilon$$

Where, FP = Financial Performance as measured by the Return on Assets and Earning per Shares, HCE = Human Capital Efficiency as measured by the ratio of the value added to intellectual capital, SCE = Structural Capital Efficiency as measured by the ratio of the value added to intellectual capital, RCE = Rational Capital Efficiency as measured by the ratio value added to intellectual capital and CEE = Capital Employed Efficiency as measured by the ratio of the value added to capital employed.

DATA ANALYSIS AND RESULT DISCUSSION

Data has been analysed by the way of descriptive statistics and regression analysis to find the impact of Intellectual capital on Financial Performance. 30 observation included for data analysis.

Table 01: Descriptive Statistics

Statistics	N	Minimum	Maximum	Mean	Std.Deviation
ROA	30	0.033435	0.342587	0.1558001	0.1009551
EPS	30	10.8646074	34.562487	11.504261	17.263777
HCE	30	0.4352255	1.47585	0.8795684	0.002548
SCE	30	0.550361	0.942667	0.8957412	0.1037487
RCE	30	0.300431	1.287007	0.9021751	0.5684712
CEE	30	0.0423531	1.132547	0.2875427	0.12476504
Valid N (list wise)	30				

Source: Empirical Result (2021)

Table 01 shows the Independent and Dependent variable description. For the measurement of Financial performance ROA and EPS has been calculated and analysed those have described with 15.58% and 11.50 % respectively. CEE explain with 28.75% of mean as measured by the capital employed efficiency. HCE, SCE and RCE describes intellectual capital efficiency. HCE, SCE and RCE show 8.79%, 8.95% and 9.02% of mean value respectively. The mean value of RCE indicated that company rational capital is more effective in creating value than HCE and SCE during the study periods. EPS is very high value when compare with ROA for the measurement of Financial Performance.

Table 02: Linear Multiple regression results of Financial Performance

Variable	Standard error	β	t - statistic	Significance
Constant	0.009	0.001	0.145	0.886
HCE	0.005	0.264	1.765	0.091***
SCE	0.15	-0.001	-0.135	0.094***
RCE	0.055	0.228	4.151	0.000*
CEE	0.109	-0.043	-0.395	0.096***
Profitability; Adj. R ² = 0.334; F Statistic = 3.782; Significance = 0.006*. * and *** represent 1 and 10% significant (Sig) level respectively.				

Source: Empirical Result (2021)

Table 02 shows the result of regression of the Financial Performance with HCE, SCE, RCE and CEE for multiple regression model of the financial performance. In this table shows Adjusted R² = 0.334 and significance = 0.006 < 0.01 empirical result shows that

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only research model is fit with 10% significance level to explain dependent variable. Hypothesis of there is significance influence of Intellectual Capital Efficiency on Financial Performance is accepted with significant influence of intellectual capital efficiency and Capital employed efficiency on financial performance at 10% significance level as p value < 0.1 . However, Rational Capital Efficiency is significantly influencing the financial performance as $RCE = 0.000 < 0.01$ accepted level at 99% confidence level. There for Rational Capital efficiency has strong significance influence on financial performance while SCE and CEE shows negative influence by the measurement of intellectual capital efficiency on financial performance. Research model of this study can be explained as follows with a help of empirical result.

$$FP = \beta_1 (HCE) + \beta_2 (SCE) + \beta_3 (RCE) + \beta_4 (CEE) + \epsilon$$

$$FP = \beta_1 0.264 + \beta_2 (0.001) + \beta_3 0.228 + \beta_4 (0.043) + \epsilon$$

The principal purpose of this study is to investigate the influence of capital structure on financial performance of financial institution in Sri Lanka. To achieve the purpose of this study listed banking institution has been selected from Listed company directory of Colombo Stock Exchange, Sri Lanka. Intellectual Capital Efficiency had been calculated by HCE, SCE and RCE. Combination of intellectual capital efficiency and capital employed efficiency is the measures of intellectual capital. Finally, intellectual capital has significance impact on financial performance in Sri Lankan financial institution.

REFERENCES

- 1) Ahangar, R. G. (2011). The relationship between intellectual capital and financial performance: An empirical investigation in an Iranian company, *African Journal of Business Management* Vol. 5(1), pp. 88-95.
- 2) Akpinar, A. T., and Akdemir, A. (1999). Intellectual Capital. Third European Conference, pp. 332-340.
- 3) Albertini, E. and Berger-Remy, F. (2019). 'Intellectual capital and financial performance: A meta-analysis and research agenda', *Management*, 22(2), pp. 216–249. Retrieved from <https://doi.org/10.3917/mana.222.0216>
- 4) Ali, O. A. (2018). The effect of disclosure of intellectual capital components on the market price of shares in Jordanian Industrial companies: An Empirical Study, *International Journal of Economics and Financial Issues*, 8(5), 156 – 167.
- 5) Aruppala, D., Wickramasinghe, V., and Mahakalanda, I. (2015). 'Intellectual capital and financial performance in Sri Lankan banks', 2nd International Conference of Multidisciplinary Approaches (iCMA). University of Sri Jayewardenepura, 11-12 September
- 6) Bayburina, E. and Golovko, T. (2009). 'Design of Sustainable Development: Intellectual Value of Large BRIC Companies and Factors of their Growth'. *Electronic Journal of Knowledge Management*, 7, pp.535–557.
- 7) Calisir, F., Gumussoy, C. A., and Bayraktaroglu, A. E. (2010). 'Intellectual capital in the quoted Turkish ICT sector', *Journal of Intellectual Capital*, 11(4), pp. 538-554.
- 8) Chowdhury, L. A. M., Rana, T., and Azim, M. I. (2019). 'Intellectual capital efficiency and organisational performance: In the context of the pharmaceutical industry in Bangladesh', *Journal of Intellectual Capital*, 20(6), pp.784–806. Retrieved from <https://doi.org/10.1108/JIC-10-2018-0171>
- 9) Deegan, C. (2000). *Financial Accounting Theory*. Sydney: McGraw-Hill Book Corporation.
- 10) Donaldson, T. and Preston, L.E. (1995). 'The Stakeholder Theory of the Corporation: Concepts, Evidence and Implications', *The Academy of Management Review*, 20(1), pp. 65-91.
- 11) Dženopoljac, V., Janošević, S., and Bontis, N. (2016). 'Intellectual capital and financial performance in the Serbian ICT industry', *Journal of Intellectual Capital*, 17(2), pp.373-396.
- 12) Emadzadeh, Afzali, N., Bagheri, A., Rahimpour, M., Ezadi, F., and Rahmani, M. (2013). 'Effect of intellectual capital on firm performance', *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(2), pp. 98-103.
- 13) Gan, K. and Saleh, Z. (2008). 'Intellectual Capital and Corporate Performance of Technology-Intensive Companies: Malaysia Evidence', *Asian Journal of Business and Accounting*, 1(1), pp. 113–130.
- 14) Guthrie, J., Petty, R., and Ricceri, F. (2005). 'The Voluntary Reporting of Intellectual Capital', *Journal of Intellectual Capital*, 7 (2), pp. 254-271.
- 15) Irina, B. and Elvira, Z. (2014). 'Intellectual capital and company value', *Procedia - Social and Behavioural Sciences*, 110, pp. 887 – 896. Retrieved from doi: 10.1016/j.sbspro.2013.12.934.
- 16) Ja'fari, M. Enb Rasul., A., Rezaee Nour, J., and Akhavan, P. (2006). 'A comparative study of approaches to knowledge assets measurement'. Paper presented at Fifth International Conference on Industrial Engineering, Tehran.
- 17) Kaplan, R.S. and Norton, D.P. (2001). 'Transforming the balanced scorecard from performance measurement to strategic management', *Accounting Horizons*, 15(1), pp. 87-104.

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- 18) Kaplan, R.S. and Norton, D.P.(2004). *Strategy Maps: Converting Intangible Assets Into Tangible Outcome*. United State of America: Harvard Business School Publishing Corporation. Retrieved from <https://books.google.lk/books?id=vCnhFu52rosC&lpg=PR9&dq=norton%20and%20kaplan%202004&lr&pg=PR4#v=onepage&q=norton%20and%20kaplan%202004&f=false>
- 19) Kojori, D. K., Aghajani, H. A., and Rasooli, G. (2013). 'Explain the role of intellectual capital on the financial performance of cosmetics companies, with fuzzy approach', *Journal of Basic and Applied Scientific Research*, 3(5), pp.892-900.
- 20) Latif, M., Malik, M. S., and Aslam, S. (2012). 'Intellectual capital efficiency and corporate performance in developing countries: A comparison between islamic and conventional banks of Pakistan', *Interdisciplinary Journal of Contemporary Research*, 4(1),pp. 405-420.
- 21) Lusia, A. A. and Erida, H. (2015). 'The effect of intellectual capital on financial performance and market value of manufacturing companies listed in the Indonesia Stock Exchange 2010 – 2012', *The Indonesian Accounting Review*,5(1), pp..45-54.
- 22) Mohammadi, R., Sherafati, M., and Ismail, M. N. (2014). 'Factors affecting intellectual capital and its role in financial performance of organization', *Indian Journal of Science*, 5(1), pp.314-320.
- 23) Mohammadi, R., Sherafati, M., and Ismail, M. N. (2014). Factors affecting intellectual capital and its role in financial performance of organization, 'Indian Journal of Science', 5(1), pp.314-320.
- 24) Mohsen, I., Mahmoud, M., Nasim, S., and Forough, H. (2014). 'The Effect of Intellectual Capital on Cost of Finance and Firm Value', *International Journal of Academic Research in Accounting*, 4(2), pp.1-8.
- 25) Mondal, A. (2016). 'Application of modified model for measuring intellectual capital performance'. *International Journal of Research in Finance and Marketing*, 6(11), pp.19-30.
- 26) Nimtrakoon, S. (2015). 'The relationship between intellectual capital, firms' market value and financial performance Empirical evidence from the ASEAN', *Journal of Intellectual Capital*, 16(3), pp. 587 - 618.
- 27) Ousama ,A. A., Mashael, T. A., and Fatima, A.H. (2020). 'The relationship between intellectual capital information and firms' market value: a study from an emerging economy', *Measuring Business Excellence*, 24 (1), pp. 39-51.
- 28) Pal, K. and Soriya, S. (2012). 'IC performance of Indian pharmaceutical and textile industry', *Journal of Intellectual Capital*, 13(1), pp.120-137.
- 29) Pulic, A. (1998). 'Measuring the performance of intellectual potential in knowledge economy', *McMaster World Congress on Measuring and Managing Intellectual Capital by the Austrian Team for Intellectual Potential*, pp. 1-20.
- 30) Pulic, A. (2000). 'VAIC – An Accounting Tool for IC Management', *International Journal of Technology Management*, 20, pp.702–714.
- 31) Santoso, E. (2011). *Intellectual capital in Indonesia: The influence on financial performance of banking industry*. University of Phoenix.
- 32) Stahle, P., Stahle, S., and Aho, S. (2011). 'Value Added Intellectual Coefficient (VAIC): A Critical Analysis', *Journal of Intellectual Capital*, 12, pp. 531–551.
- 33) Stewart, Thomas, (1997). *Intellectual Capital: New Wealth of Organizations*.
- 34) Suraj, O. A. and Bontis, N. (2012). 'Managing intellectual capital in Nigerian telecommunications companies', *Journal of Intellectual Capital*, 13(2), pp.262-282.
- 35) Wernerfelt, B. (1982). 'A resource-based view of the firm', *Strategic Management Journal*, 5(2), pp.171-180.
- 36) Xu, J., and Wang, B. (2018). 'Intellectual capital, financial performance and companies sustainable growth: Evidence from the Korean manufacturing industry', *Sustainability*, 10(12), pp. 4651.