
Service Quality and Customer Satisfaction in Trapiche 2 Waterworks in Tanauan City



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ABSTRACT: This study assessed the service quality and customer satisfaction at Trapiche 2 Waterworks in Tanauan City. The purpose of this research was to determine the quality of water services and their effect on customer satisfaction. A descriptive-correlational design was employed, with data collected from 150 households using stratified random sampling and self-administered questionnaires. The study utilized mean scores and Pearson product-moment correlation for data analysis. Results indicated that the overall service quality, encompassing water quality and quantity with a mean score of 3.00, and personnel service with a mean score of 3.22, was rated as "good" by customers. However, issues such as water discoloration, unpleasant taste, and unreliable supply were noted. Customer satisfaction levels regarding price with a mean score of 3.18, customer service with a mean score of 3.15, and convenience and availability with a mean score of 3.17 were rated as "satisfied," but concern about billing transparency and service consistency remained. A significant relationship was identified between service quality and customer satisfaction with r values that ranged from 0.273 to 0.409 and p values that ranged from 0 to 0.001, emphasizing the need for continuous improvement. The study concluded that enhancing water purification processes, improving personnel training, and increasing transparency in billing could positively impact customer satisfaction. Recommendations included public awareness campaigns on waste management, infrastructure upgrades, and regular customer feedback assessments. This research highlighted the importance of addressing service quality to ensure equitable access to clean and reliable water, ultimately contributing to the community's well-being and sustainability.

KEYWORDS: service quality, water quality and quantity, personnel service, customer satisfaction

I. INTRODUCTION

Water, the essence of life, is at the heart of an escalating global crisis. Despite its abundance on Earth, the mismanagement and neglect of water's invaluable resource have cast a shadow on humanity's future. The precarious situation of water resources worldwide demands urgent attention, as disparities in access and quality persist, threatening communities' well-being and sustainability. As mentioned by Yun et al. (2020), water has been a fundamental necessity for the sustenance and welfare of humanity. However, the combination of rapid population growth, economic advancement, increased vulnerability to disasters, and the effects of climate change have aggravated the issue of water scarcity and its management.

Likewise, waterworks services played a critical role in tackling challenges posed by water scarcity. As an essential resource for human survival and well-being, water requires effective management and distribution to cater to the requirements of an expanding population. Waterworks services played a pivotal role in ensuring that clean and safe water was available for drinking, sanitation, and other essential uses. (Saragih et al., 2019)

In Tanauan City, the issue of providing a safe and reliable water supply has become a top priority. Despite water being abundant in nature, it is a complex challenge for the local water utility, Trapiche 2 Waterworks, to ensure that every household has access to clean and usable water. This committee-managed water system faces obstacles concerning water quality, pricing, and availability, and the need to improve its quality of service for the residents' satisfaction. Overcoming these challenges is crucial because of the fundamental importance of water, which impacts every aspect of human life.

Consumers in Trapiche 2 Waterworks experience water quality issues such as discoloration, unpleasant taste or odor, or the presence of contaminants, which impact its usability for drinking, cooking, and other household purposes. The fact that the availability of the water supply at all times cannot be guaranteed must also be considered. This usually happens when there is a

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disruption in the service, which may be due to pump malfunction, clogging, and/or leaking in the distribution lines, and especially when there is a power failure in the area.

Concerning these issues, some consumers expressed the sentiment that the quality of water and the kind of service they received from the management were not commensurate with the cost they were paying. Service quality in waterworks referred to the level of performance, reliability, and satisfaction experienced by customers concerning the provision of water services. It encompassed multiple aspects, such as the availability of clean and safe water, the efficiency of water delivery and distribution systems, the responsiveness of customer support, and the overall customer experience. It was vital for customer satisfaction, trust, retention, competitiveness, operational efficiency, regulatory compliance, and social impact. By prioritizing service quality, organizations could create positive customer experiences, thereby contributing to their success and the well-being of the communities they served (Yamaqupta et al., 2021).

Furthermore, to address infrastructure issues and provide timely support, the researcher undertook this study to serve as the foundation for enhancing waterworks services in their locality. The urgency of the situation in Tanauan City was underscored by compelling research findings that illuminated the stark disparities in customer satisfaction, highlighting the pressing need for improved access and reliability. Moreover, the far-reaching impact of factors like economic growth, population expansion, and climate change on water resources accentuated the complexity of the issue at hand, which boiled down to service quality (Handayani et al., 2019).

Thus, with the predicaments, this study ventures into the core of this multifaceted challenge, focusing on the Trapiche 2 Waterworks in Tanauan City. It seeks to meticulously assess service quality, customer satisfaction levels, and the intricate relationship between these factors. With this study, water scarcity, inefficiency, and dissatisfaction relative to service quality are unravelled, which can help every individual in Tanauan City to have equitable access to clean, reliable, and satisfying water services.

In summary, given that global warming evolves into a terrifying and serious problem, it is of paramount importance that everyone, group, and/or nation unites in doing something that can halt or at least lessen its impact, which can be hazardous to the social, economic, and environmental state of the world. In general, this research is conducted to improve the water quality and service in the area and bring about customer satisfaction, but in the end, it also serves as a contributing factor to people's role in making this world a better place to live in by opening their eyes to the importance of water to mankind, its proper usage, and conservation for its sustainability. Moreover, it is necessary to in still in their minds that the earth is their haven; thus, it is proper for them, the entire humanity, to love, cherish, and protect it even in the simplest way people can because every precautionary measure or contribution to this effect, when accumulated, no matter how small, can be a great help in preserving and protecting our dear mother nature.

II. OBJECTIVES OF THE STUDY

This study aimed to investigate the relationship between service quality and customer satisfaction in Trapiche 2 Waterworks in Tanauan City. Specifically, it addressed the following questions:

1. What is the level of service quality of Trapiche 2 Waterworks in Tanauan City as assessed by its customers in terms of:
 - 1.1 Water Quality and Quantity, and
 - 1.2 Personnel Service?
2. What is the level of customer satisfaction in Trapiche 2 Waterworks in Tanauan City in terms of:
 - 2.1 Price,
 - 2.2 Customer Service, and
 - 2.3 Convenience and Availability?
3. Is there a significant relationship between the level of service quality of Trapiche 2 Waterworks in Tanauan City and the level of customer satisfaction?
4. Based on the findings of the study, what action plan may be proposed?

III. METHODOLOGY

This study adopted a descriptive-correlational research design. According to Siedlecki (2020), it describes individuals, events, or conditions by studying them as they are without trying to manipulate any variables. The design includes collecting and analysing data to know if there is a relationship between them. This design aimed to explore the relationship between service quality and customer satisfaction at Trapiche 2 Waterworks in Tanauan City. By collecting and analysing quantitative data, this approach allowed for the identification of patterns and correlations without manipulating any variables. The descriptive aspect provided detailed information on the variables, while the correlational aspect assessed the strength and direction of their relationships.

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IV. RESULTS AND DISCUSSION

TABLE 1.1 LEVEL OF SERVICE QUALITY OF TRAPICHE 2 WATERWORKS IN TANAUAN CITY AS ASSESSED BY ITS CUSTOMERS IN TERMS OF WATER QUALITY AND QUANTITY

Indicators	X	VI
1. The water is free from odor.	3.35	VG
2. The taste of the water from the waterworks is pleasant.	3.04	G
3. The water from the waterworks is clear and free from visible impurities	2.80	G
4. The water is safe for drinking, cooking, or other household purposes.	2.88	G
5. The water pressure in the area is satisfactory.	2.99	G
6. The waterworks consistently maintains an enough supply of water.	2.93	G
General Assessment	3.00	G

Legend: 3.25 - 4.00 Strongly Agree - Very Good (VG) 2.50 - 3.24 Agree - Good (G) 1.75 - 2.49 Disagree - Fair (F) 1.00 - 1.74 Strongly Disagree - Poor (P)

Water Quality and Quantity was Good (**3.00**) as to the level of service quality of Trapiche 2 Waterworks in Tanauan City as assessed by its customers. Furthermore, the indicator “The water is free from odor” had the highest computed mean of **3.35** verbally interpreted as Very Good while the indicator “The water from the waterworks is clear and free from visible impurities” had the lowest mean of **2.80** verbally interpreted as Good.

Trapiche 2 Waterworks in Tanauan City has good service quality in terms of water quality and quantity as assessed by its customers. Customers are generally satisfied with the service provided by Trapiche 2 Waterworks. The water quality and quantity meet their expectations, contributing to a positive perception. Nevertheless, there remains space for enhancement especially in areas such as taste, clarity, and consistency of supply, to achieve a “Very Good” rating across all indicators. Waterworks need to continue monitoring these indicators and take customer feedback into account to further improve their service quality. This will not only enhance customer satisfaction but also ensure the provision of a safe and reliable water supply, which is crucial for the well-being of the community.

As supported by Dietrich and Burlingame (2020), assessing water quality and quantity involved evaluating various parameters to determine if water is safe and suitable for its intended use. Odor, or the presence of any noticeable smell, was one of the factors considered in water quality assessments. Since some odors in water might indicate the presence of contaminants that pose potential health risks, waterworks must regularly monitor water quality.

Table 1.2 Level of Service Quality of Trapiche 2 Waterworks in Tanauan City as assessed by Its Customers in terms of Personnel Service

Indicators	X	VI
The personnel at the waterworks...		
1. are friendly and approachable.	3.33	VG
2. respond promptly to customer inquiries or concerns.	3.29	VG
3. provide clear and accurate information about water-related issues.	3.11	G
4. are courteous and respectful.	3.21	G
5. efficiently handle billing and payment matters.	3.21	G
6. addresses issues and concerns professionally.	3.15	G
General Assessment	3.22	G

Legend: 3.25 - 4.00 Strongly Agree - Very Good (VG) 2.50 - 3.24 Agree - Good (G) 1.75 - 2.49 Disagree - Fair (F) 1.00 - 1.74 Strongly Disagree - Poor (P)

Personnel Service was Good (**3.22**) as to the level of service quality of Trapiche 2 Waterworks in Tanauan City as assessed by its customers. Moreover, the indicator “The personnel at the waterworks are friendly and approachable” had the highest average score of **3.33** verbally interpreted as Very Good. In contrast, the indicator “The personnel at waterworks provide clear and accurate information about water-related issues” had the lowest mean of **3.11** verbally interpreted as Good.

Trapiche 2 Waterworks in Tanauan City has good service quality in terms of personnel service as assessed by its customers. It implies that personnel service has a generally satisfactory level of service quality. Nonetheless, potential enhancement in the provision of clear and accurate information. Increasing communication and information dissemination in this regard could further elevate the level of service quality and overall satisfaction. Boninsegni et al. (2020) stated that friendliness creates a positive interaction between service providers and customers. When personnel were friendly, welcoming, and polite, customers felt valued, respected, and satisfied with their overall experience. Friendly interactions could enhance customer loyalty and lead to repeat and recommendable business. Also, some customers may feel anxious or uncertain when

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seeking a service. Friendly personnel could help alleviate these concerns by creating a welcoming and reassuring environment. When customers perceived that service providers were approachable and accommodating, it could reduce their anxiety levels and enhance their overall experience.

Table 2.1 Level of Customer Satisfaction in Trapiche 2 Waterworks in Tanauan City in terms of Price

Indicators	X	VI
The price of water provided by Trapiche 2 Waterworks...		
1. is reasonable.	3.37	HS
aligns with its quality and services.	3.19	S
2. is competitive compared to other water service providers in the area.	3.20	S
3. is affordable for low-income households in the area.	3.17	S
4. is worth the value and benefits it provides.	3.08	S
5. is from a transparent billing structure and comprehensive pricing policies provided.	3.05	S
General Assessment	3.18	S

Legend: 3.25 - 4.00 Strongly Agree - Highly Satisfied (HS) 2.50 - 3.24 Agree - Satisfied (S) 1.75 - 2.49 Disagree - Moderately Satisfied (MS) 1.00 - 1.74 Strongly Disagree - Not Satisfied (NS)

Price was Satisfied (**3.18**) as to the level of customer satisfaction of Trapiche 2 Waterworks in Tanauan City as assessed by its customers. Additionally, the indicator "The price of water provided by Trapiche 2 Waterworks is reasonable" had the highest computed mean of **3.35** verbally interpreted as Highly Satisfied while the indicator "The price of water provided by Trapiche 2 Waterworks is from a transparent billing structure and comprehensive pricing policies provided" had the lowest computed mean of **3.05** verbally interpreted as Satisfied.

There is a positive assessment of Trapiche 2 Waterworks pricing, indicating that customers find the price reasonable, competitive, affordable, and worthy of the value and benefits it provides. The transparency of the billing structure and pricing policies also appeared to be satisfactory. However, room for improvement for stakeholders and policymakers in making informed decisions about water service provision is needed to highly satisfy the customers.

In the words of Saputra and Djumarno (2021), customers assessed the value they received from a product or service based on its price. When the price aligned with their perceived value, customers were more likely to feel satisfied with their purchase. A reasonable price indicated that the product or service offered good quality and met their expectations, leading to a positive perception of value.

Table 2.2 Level of Customer Satisfaction in Trapiche 2 Waterworks in Tanauan City in terms of Customer Service

Indicators	X	VI
The customer service representatives of Trapiche 2 Waterworks...		
1. are knowledgeable and able to assist with inquiries or concerns.	3.23	S
2. apply prompt response time for addressing customer inquiries or concerns.	3.17	S
3. are accessible through various communication channels (e.g., phone, email, website).	3.14	S
4. are responsive to follow up on customer issues until they are resolved.	3.12	S
5. treat all customers with respect and fairness.	3.13	S
6. provide clear and understandable explanations of billing or payment inquiries.	3.09	S
General Assessment	3.15	S

Legend: 3.25 - 4.00 Strongly Agree - Highly Satisfied (HS) 2.50 - 3.24 Agree - Satisfied (S) 1.75 - 2.49 Disagree - Moderately Satisfied (MS) 1.00 - 1.74 Strongly Disagree - Not Satisfied (NS)

Customer Service was Satisfied (**3.15**) as to the level of customer satisfaction of Trapiche 2 Waterworks in Tanauan City as assessed by its customers. Furthermore, the indicator "The customer service representatives of Trapiche 2 Waterworks are knowledgeable and able to assist with inquiries or concerns" had the highest computed mean of **3.23** verbally interpreted as Satisfied while the indicator "The customer service representatives of Trapiche 2 Waterworks provide clear and understandable explanations of billing or payment inquiries" had the lowest computed mean of **3.09**, verbally interpreted as Satisfied.

The result implies that while the overall customer service at Trapiche 2 Waterworks in Tanauan City is satisfactory, there is a need for improvement in communication, particularly in providing clear and understandable explanations for billing and payment inquiries. With it as the lowest satisfaction rating indicates that it is a potential pain point for the customers. To enhance overall customer satisfaction, Trapiche 2 Waterworks should focus on improving communication skills, providing ongoing training, and implementing regular feedback mechanisms to address specific customer concerns.

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Furthermore, providing timely and prompt responses to customer inquiries or concerns is essential. Customers appreciated a quick acknowledgment of their issues and a proactive approach to resolving them. Prompt responses demonstrated that their concerns are taken seriously, increasing their satisfaction with the customer service experience (Rane et al., 2023)

Table 2.3 Level of Customer Satisfaction in Trapiche 2 Waterworks in Tanauan City in terms of Convenience and Availability

Indicators	X̄	VI
1. The operating hours of Trapiche 2 Waterworks are convenient for everyone.	3.27	HS
2. The location of Trapiche 2 Waterworks is easily accessible.	3.24	S
3. The availability of emergency support (e.g., water leaks, pipe bursts) is responsive.	3.15	S
4. The payment options provided by Trapiche 2 Waterworks are convenient to use.	3.13	S
5. The customer service representatives are always on call.	3.10	S
6. The notification for water service interruptions (e.g., scheduled maintenance) is disseminated on a timely basis.	3.15	S
General Assessment	3.17	S

Legend: 3.25 - 4.00 Strongly Agree – Highly Satisfied (HS) 2.50 - 3.24 Agree – Satisfied (S) 1.75 - 2.49 Disagree – Moderately Satisfied (MS) 1.00 - 1.74 Strongly Disagree - Not Satisfied (NS)

Convenience and Availability was Satisfied (**3.17**) as to the level of customer satisfaction of Trapiche 2 Waterworks in Tanauan City as assessed by its customers. Furthermore, the indicator "The operating hours of Trapiche 2 Waterworks are convenient for everyone" had the highest computed mean of **3.27** verbally interpreted as Highly Satisfied while the indicator "The customer service representatives are always on call" had the lowest computed mean of **3.10**, verbally interpreted as Satisfied.

This suggests that customers were generally satisfied with the service of Trapiche 2 Waterworks in terms of convenience and availability. Trapiche 2 Waterworks is doing well in terms of providing convenient and readily available services to its customers. The customers find the service timing suitable and accommodating. Yet, it also suggests that enhancing the availability of customer service representatives is necessary to further enhance customer satisfaction to reach the "Highly Satisfied" category. It will be beneficial for the organization to identify specific areas where they can enhance their services. For instance, improving the operating hours and the responsiveness of customer service representatives could potentially increase the overall customer satisfaction level.

Roy et al. (2020) mentioned that customers had diverse schedules and commitments, and their ability to access services at their preferred time was crucial. When businesses offered extended operating hours or flexible service options, it accommodated customers' varying needs and enhanced their satisfaction. The flexibility to access services when it was most convenient for them demonstrated a customer-centric approach. Additionally, convenience was a significant driver of customer satisfaction. When businesses offered operating hours that suited customers' lifestyles and provided services at accessible locations, it reduced the effort and time required from customers. This convenience factor positively impacted satisfaction by making it more convenient for customers to engage with the business.

Table 3 Test of Significant Relationship between the Level of Service Quality of Trapiche 2 Waterworks in Tanauan City and the Level of Customer Satisfaction

Service quality of Trapiche 2	Customer satisfaction	r value	p value	Remarks	Decision
Water quality and quantity	Price	.273**	.001	Significant	Reject Ho
	Customer Service	.287**	.000	Significant	Reject Ho
	Convenience and availability	.279**	.001	Significant	Reject Ho
Personnel service	Price	.319**	.000	Significant	Reject Ho
	Customer Service	.409**	.000	Significant	Reject Ho
	Convenience and availability	.322**	.000	Significant	Reject Ho

There was a significant relationship between the level of service quality of Trapiche 2 Waterworks in Tanauan City and the level of customer satisfaction. For water quality and quantity, the correlation with customer satisfaction regarding price, customer service, convenience, and availability all showed a moderate relationship and was statistically significant with p-values of .001, .000, and .001 respectively. In terms of Personnel Services, the relationship is high. The correlation with customer satisfaction

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regarding price, customer service, convenience, and availability showed a statistical significance all with p-values of 0.00. There was enough statistical evidence to reject the null hypothesis.

This suggests that improvements in water quality, quantity, and personnel service could positively influence customer satisfaction regarding price, customer service, and convenience.

Dam and Dam (2021) underscored in their study that service quality has a direct and significant impact on customer satisfaction. When customers perceived that the quality of service they received met or exceeded their expectations, it led to higher levels of satisfaction.

The Proposed Action Plan

Improving public awareness of waste impact on water quality, enhancing water purification facilities, and implementing effective waste collection and management systems are important key actions for Trapiche 2 Waterworks, especially given the finding that "water from the waterworks is clear and free from visible impurities" received the lowest mean score from all the survey indicators. This emphasizes the need to address potential sources of contamination and ensure water purity. By raising public awareness of responsible waste disposal, investing in advanced filtration technologies, and optimizing waste management practices, Trapiche 2 Waterworks can enhance water quality, alleviate risks of impurities, and improve customer satisfaction. These proactive measures align with the wider goal of providing safe and reliable water services, essential for the well-being of the community.

Table 4 The Proposed Action Plan

Improving Quality Service of Waterworks in Trapiche 2 Tanauan City						
KEY AREAS	OBJECTIVES	STRATEGIES/ ACTIVITIES	TIME FRAME	PERSONS INVOLVED	SOURCE OF FUND	SUCCESS INDICATORS
Improvement of Public Awareness on Waste Impact on Water Quality	To increase public awareness regarding the impact of waste disposal practices on water quality.	<ul style="list-style-type: none"> - Develop educational materials highlighting the direct correlation between proper waste disposal, water quality, and personnel service. - Conduct community workshops emphasizing the importance of responsible waste management in maintaining water quality standards and enhancing personnel service. - Implement targeted social media campaigns to disseminate educational content and engage the community in adopting sustainable waste management practices. 	Monthly workshops; ongoing social media campaigns	Public Relations Department, Community Leaders	Public Awareness Budget from Barangay Funds	Increased community knowledge (measured Through surveys) and reduction in improper waste incidents by 80%.
Enhancement of Water Purification Facilities to Address Contaminants	To optimize water purification systems in addressing contaminants from waste.	<ul style="list-style-type: none"> - Evaluate current purification systems to identify specific areas for improvement related to water quality and personnel service. - Research and assess available filtration technologies to determine the most suitable options for addressing identified contaminants. - Develop a phased plan for facility upgrades, prioritizing critical areas based on their impact on water quality and personnel service. - Provide comprehensive training for water management personnel to familiarize them with new equipment and procedures, ensuring a smooth transition and optimal performance. - Conduct a thorough assessment of current waste collection systems to identify areas for improvement and optimization. - Develop a comprehensive plan for waste collection route optimization, considering factors such as population density and waste generation rates. 	Annually for major upgrades; quarterly reviews	Water Management Department, Technical Engineers.	Infrastructure Budget, Grants	80% Improvement in water quality parameters, compliance with health standards.
Implementation of Effective Waste Collection and Management Systems	To minimize the risk of waste contamination in water systems by improving waste collection and management practices	<ul style="list-style-type: none"> - Implement recycling incentives and educational programs to encourage community participation and promote sustainable waste management practices. - Enforce regulations and penalties for non-compliance with waste disposal guidelines, ensuring accountability and reinforcing the importance of personnel service in maintaining water quality standards. 	Semi-annually for system updates; monthly monitoring	Waste Management Division, Local Government.	Operating Budget	Decreases in unmanaged waste by 80%, increased in the recycling rate by 80%

V. CONCLUSIONS AND RECOMMENDATIONS

Consistent with the findings, the following conclusions were drawn:

1. That Trapiche 2 Waterworks in Tanauan City generally provides a satisfactory level of service quality in terms of water quality, quantity, and personnel service, as assessed by its customers. The high rating for odor-free water suggests that customers are generally satisfied with the water's quality and quantity. However, they least agreed that the water is clear and free from visible

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impurities. Additionally, customers express satisfaction with the friendliness and approachability of the waterworks personnel. Nonetheless, they least agreed that the personnel at waterworks provide clear and accurate information about water-related issues.

2. That customers are generally satisfied with Trapiche 2 Waterworks' price, customer service, convenience, and availability. The pricing meets customer expectations and contributes to their satisfaction, although it is least agreed that the price of water comes from a transparent billing structure and comprehensive pricing policies. Customers expressed contentment with the level of customer service, particularly appreciating the knowledge and assistance provided by the waterworks personnel, which positively impacts their overall satisfaction. However, they least agreed that the customer service representatives provide clear and understandable explanations of billing or payment inquiries. Additionally, Trapiche 2 Waterworks has effectively catered to the convenience needs of its customers through convenient operating hours, though it is least agreed that customer service representatives are always on call.

3. That there is a significant relationship between service quality and customer satisfaction, implying that improvements in water quality, quantity, and personnel service can be positively associated with customer satisfaction in terms of price, customer service, and convenience.

4. That the action plan proposed is necessary for better customer satisfaction in Trapiche 2 Waterworks in Tanauan City.

RECOMMENDATIONS

Based on the conclusions, listed below are the recommendations:

1. The waterworks management team in Trapiche 2 Tanauan City is recommended to implement measures aimed at improving water clarity and ensuring the absence of visible impurities. This can be achieved through enhancing filtration and treatment processes to deliver clearer water with no visible impurities. Additionally, establishing training programs for waterworks personnel to improve their communication skills and knowledge regarding water-related issues is crucial. Providing regular training sessions and implementing a system for updating personnel on water quality and related topics will enhance their ability to provide clear and accurate information to customers.

2. Customer service personnel may develop a transparent billing structure, clearly communicating water pricing breakdowns to customers. They may optimize representative availability, ensuring coverage during peak demand times. Additionally, implementing regular customer satisfaction surveys and analyzing feedback can help identify improvement areas. This feedback-driven approach enables the development of action plans and resource allocation to enhance customer service continually.

3. Since there is a significant relationship between service quality and customer satisfaction, the waterworks management team is suggested to implement a holistic improvement plan addressing water quality, quantity, and personnel service to enhance overall service quality and customer satisfaction. Additionally, the team should raise public awareness about the impact of waste disposal on water quality through educational campaigns and community outreach initiatives. Optimizing water purification systems to effectively address contaminants from waste is essential along with improving waste collection and management practices to significantly reduce the risk of waste contamination in water systems. Implementing these measures collectively will contribute to safeguarding water quality and public health.

4. Future researchers may opt to conduct comparative studies between Trapiche 2 Waterworks and other water service providers to explore variations in service quality and customer satisfaction across different contexts. This research can provide valuable insights into best practices and identify specific areas for improvement in water management strategies. By comparing and analyzing these findings, stakeholders can develop actionable strategies to enhance overall service quality and customer satisfaction in water service provision, thereby maximizing the outputs of such comparative studies.

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