

Customer Insights on the Quality Service Delivery of Water in Malolos, Bulacan

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Abstract. Water services significantly impact people's daily lives in various ways, encompassing health, sanitation, and home comfort. In Malolos, Bulacan, projects like the bulk water interconnection have made the supply more stable and reached more communities. Even so, many households still face weak pressure, unclear policies, and service interruptions. This study examined how residents perceive their water service and how these perceptions influence their overall satisfaction. A survey was carried out among 379 customers of a private water service provider in Malolos. The questions focused on water quality, availability, pressure, sanitation, complaint handling, reliability, and the processes for reconnection, disconnection, and policy implementation. The data was then analyzed to see how these areas relate to customer satisfaction. Most respondents were satisfied with water quality and availability, and many noticed improvements brought by new projects. However, low and uneven pressure was a recurring issue. On the service side, people rated complaint handling, reconnection, and communication as only fair. Delays, sudden disconnections, and unclear billing rules were familiar sources of frustration. These issues show that while access has improved, service management still needs attention. The study suggests that solving technical problems alone is not enough. Customer trust depends just as much on how services are managed and delivered. To improve, providers should focus on maintaining pressure stability, streamlining office processes, and providing timely and transparent information to customers. Listening to feedback, training staff to be more responsive, and introducing measures like a "Customer Bill of Rights" can also help. Balancing technical upgrades with improved customer service will lead to more reliable water delivery and greater confidence in the utility.

Keywords: Customer insight; Service delivery; Service marketing; Water

1.0 Introduction

Today, quality water service delivery plays a vital role in sustaining the lives of people, society, and the environment. Keeping people healthy, producing food, protecting the environment, and creating jobs are all essential (World Bank, 2022). In 2022, 6 billion people, or 73% of the world's population, drank from properly managed, contaminant-free, on-site water systems that were accessible when needed (World Health Organization, 2023). Maintaining high-quality water service is essential for public health across all its uses, as it affects people's everyday lives. However, challenges are inevitable in supplying quality water. It is said that one specific and expanding issue is the lack of access to safe water. In this regard, severe water scarcity could force 700 million people to move by 2030 (UNICEF, 2020). These global problems could significantly impact its people, economy, society, and environment. Furthermore, according to the United States Agency for International Development (USAID) annual report, up to 30 million individuals in sub-Saharan Africa may still lack access to a basic water

supply. With help from the national government and relief organizations, several major water service providers, including utilities in Senegal and Kenya, prevented outages.

On the other hand, many smaller operators were severely struggling financially. In July 2020, small to mid-sized utilities in Nepal reported significant losses, and 4 out of 10 said they had not received any money since the pandemic started. Though well-meaning, Ghana's free water mandate—the longest-running and most comprehensive in Africa—puts small-town and rural water providers under significant financial strain due to late payments for lost revenue. Despite the challenges, more people can access clean drinking water and properly run sanitation services (USAID, 2023). There is no question that the quality of water service delivery is significant, and the performance of the water supply has a global impact.

Additionally, Switzerland is ranked first among countries with the best water systems and the cleanest drinking water. Switzerland has abundant glacier water sources, but the government's aggressive efforts and rigorous rules have kept it clean. 80% of Switzerland's tap water is supplied directly from the ground, with the remaining 20% sourced from lakes. At the same time, the Netherlands is ranked tenth. The Netherlands has one of the world's most reliable water delivery systems and innovative approaches to water filtration. Most of the country's supply chain comprises groundwater and surface water, which are tightly protected from contamination (Carter, 2023). This is compared with the Philippines, where access to safe water is challenging for a significant portion of the population.

Compared with global and Philippine water quality, the provision of quality water services is crucial for sustaining life, ensuring public health, and supporting various aspects of society and the environment. However, challenges persist, with up to 30 million people lacking access to basic water in sub-Saharan Africa. The Philippines also faces operational difficulties in maintaining the appropriate standard of water service, as evidenced by interruptions in water supply due to turbid water from dams and typhoons. Additionally, meeting the increasing demands of a rapidly expanding population and promoting sustainable development relies on the efficient and reliable supply of water services.

These challenges underscore the need to address water sources, operational concerns, and infrastructure issues to ensure dependable water services in the Philippines. The comparison of global and Philippine water quality services reveals common challenges in ensuring the efficient and reliable supply of water services, while highlighting specific issues and experiences unique to each context. Addressing these challenges requires a comprehensive approach considering each region's specific needs and circumstances.

Several theories and empirical studies have examined the relationship between service quality and customer satisfaction, particularly in essential public services such as water provision. This section presents a detailed review of relevant theories, international studies, and local research that frame the context of this study. The Expectation Confirmation Theory (Oliver, 1980) complements this framework by proposing that customer satisfaction results from a comparison between pre-purchase expectations and post-purchase experiences. When expectations are met or exceeded, positive confirmation occurs, leading to satisfaction. When they fall short, dissatisfaction is likely to result. This theory is especially relevant in understanding repeated customer interactions with utilities, where expectations evolve based on previous service experiences. The Kano Model (Kano, 2018) further categorizes customer expectations into three types: basic needs, performance needs, and excitement needs. In the case of water services, the consistent availability of clean water represents a basic need; pressure and timeliness of service could be seen as performance needs; and responsiveness to customer concerns may be viewed as an excitement factor that differentiates one provider from another. The absence of basic needs results in strong dissatisfaction, while the presence of excitement needs creates delight.

In the Philippines, meeting the increasing demands of a rapidly expanding population and promoting sustainable development relies heavily on the efficient and reliable supply of water services. According to the Philippine Water Supply and Sanitation Master Plan (PWSSMP), more than 12 million individuals — roughly 12.32 percent of the population — still obtain their water from unsafe sources. In addition, some areas lack Water Service Providers (WSPs). Meanwhile, 31% of the nation's established water districts must be operating. Water districts serve the largest share of the population across all regions. The top three regions with the highest percentage of population covered by water districts are Region VII (Central Visayas), Region 10 (Northern Mindanao), and Region III (Central Luzon). On the other hand, Region IX (Zamboanga Peninsula) (11%) and SOCCSKSARGEN

(15.8%) have the lowest percentage of the population served by service providers (NEDA, 2019).

The Metropolitan Waterworks and Sewerage System (MWSS) in Metro Manila provides water supply and sanitation services to its cities and municipalities. The region's division consists of two water utility companies: Maynilad Water Services Inc. (MWSI) for the west zone of the metropolitan area and Manila Water Company Inc. (MWCI) for the east zone (Metropolitan Waterworks & Sewerage System, 2023). However, as with any complex system, water districts frequently face challenges in maintaining the appropriate service standard. Due to problems with privatization, price increases, and disruptions in the water supply, MWSI found it challenging to fulfill its financial commitments and provide its services as a startup utility (Dumlao, 2019). In 2018, MWSI-supplied water users experienced intermittent periods of low water pressure or no water at all. The disruption was caused by a notable increase in turbidity in the water supplied by the Ipo dam due to intense southwest monsoon rains (Galvez, 2018).

In 2020, a typhoon hit the country, causing another water interruption. The concessionaire was investigated following several complaints. The water utility company should have notified its customers of the potential disruption caused by reduced production at Maynilad's La Mesa water treatment plant (Lalu, 2020). The Philippines faces many obstacles in delivering reliable water services, ranging from contaminated water sources to operational challenges across different areas. To prevent service interruptions, it is critical to address privatization issues and improve infrastructure, as demonstrated by MWSS's experiences, particularly with Maynilad Water Services.

Studying the assessment of the quality of service delivery by a private water provider is relevant for several reasons. First and foremost, for assurance, it will help ensure the safety of the water supplied to customers, as many people directly consume tap water, which, if contaminated, can lead to diseases such as diarrhea, cholera, typhoid, polio, and hepatitis. Secondly, customer feedback regarding service delivery, both in technical and environmental aspects, is crucial for continuous improvement. Addressing occasional water disruptions with proper notification contributes to customer satisfaction with the water district. Promoting sustainable water-use practices and awareness of appropriate water consumption are also essential.

Lastly, this study aims to evaluate the relationship between water service quality and customer satisfaction in Malolos, Bulacan. Overall, the relevance of this research lies in increasing customer awareness of water quality, ensuring they receive the correct value for the amount that they pay for water services, and contributing to the well-being of the community and the environment. By conducting a comprehensive study on water supply providers, this study can extract valuable insights that will serve as a foundation for crafting strategic recommendations. These findings will pinpoint existing problems and challenges, paving the way for targeted solutions that ultimately enhance the efficiency and quality of water supply services.

2.0 Methodology

2.1 Research Design

This study employs a quantitative correlational research design to investigate the relationship between water service quality and customer satisfaction among customers of a private water service provider in Malolos, Bulacan. A correlational design was deemed most appropriate because the primary goal was to examine the statistical relationship between independent variables (e.g., water availability, water pressure, responsiveness, reconnection procedures, and service policy implementation) and the dependent variable (customer satisfaction). This design enabled the researchers to collect quantifiable data through surveys, identify patterns, and analyze associations without manipulating variables. The structured nature of quantitative research enabled the systematic collection of responses, which were essential for assessing trends and general perceptions across a relatively large sample.

2.2 Participants and Sampling Technique

The study involves 379 participants who were private water service customers residing in Malolos, Bulacan. These were chosen based on their varying levels of reported service issues, making them ideal for comparative analysis. Purposive sampling was employed in this study. Inclusion criteria required participants to be current customers for at least five years and aged 21 or above. Households with disconnected services not due to billing or technical issues were excluded to maintain focus on service experience. Before data collection, participants were informed of the study's purpose, and their participation was voluntary.

2.3 Research Instruments and Data Procedure

Data were collected using a structured questionnaire aligned with the Customer Satisfaction Survey format of the Metropolitan Waterworks and Sewerage System Regulatory Office (MWSS-RO). The questionnaire consisted of multiple sections measuring specific variables, including water availability, pressure, customer service responsiveness, reliability of service processes, fairness of disconnection and reconnection practices, and accuracy of policy dissemination. Each item used a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Hence, enhancements were made to the instrument, which professionals in water service administration and academic research subsequently validated. The final survey was administered face-to-face, with researchers guiding respondents to ensure accuracy and a complete understanding of the questions. The setting included public spaces and household visits, ensuring accessibility and comfort for the participants.

2.4 Data Analysis Procedure

Data were analyzed using descriptive statistics to determine average levels of customer satisfaction across service variables; a weighted mean was calculated to summarize and interpret participants' overall perceptions of water service quality. Pearson correlation analysis is used to test the relationship between service quality dimensions and customer satisfaction. This method was selected for its appropriateness in measuring the strength and direction of linear relationships between interval variables. The significance level was set at 0.05 to determine statistical relevance. The results were interpreted by comparing the correlation coefficients with established benchmarks to assess the practical impact of observed relationships.

2.5 Ethical Considerations

This study ensured that all resources, including related literature, studies, and theories, were cited correctly and not plagiarized. It also considers various ethical aspects to protect informants' rights and ensure adherence to proper procedures during data collection. The survey instrument includes a reminder for respondents. Participation was voluntary, and each respondent obtained informed consent before the survey was administered. Respondents were assured that all responses would remain confidential and would be used solely for academic purposes.

Additionally, the methods were modified to enhance the validity and consistency of the data and its analysis. Before data collection, approval was obtained by submitting a signed letter of intent. Informants were informed and provided consent through a letter outlining the interview's purpose, the study's goal, and the confidentiality of their data. Information from informants was kept confidential and used solely for research purposes. This study ensured that interview recordings were shared exclusively among group members. Confidentiality is emphasized alongside informed consent, with data gathered ethically to maintain accuracy and relevance to the study. The researchers made every effort to ensure that informants felt appreciated for their contributions to the study. Following ethical procedures, all gathered data is authentic and accurately reflects the informants' factual statements without alteration or distortion. Informants were also not threatened or harmed in exchange for their statements.

3.0 Results and Discussion

The most common water service-related issues experienced by 379 residents of Malolos, ranked by frequency and percentage, are presented in Table 1. The most reported issue is low water pressure, reported by 83% of respondents and ranked first in frequency. This is followed by water stress (53%) and billing problems (44%), which are ranked second and third, respectively. Problems such as water contamination and low water intake are notable issues, each affecting around 43–44% of customers, indicating widespread concerns about water quality and quantity. While often associated with water loss and higher bills, leaking pipes are reported by 29% of respondents and rank sixth, suggesting they are less common but still relevant issues related to pressure or stress, and remain impactful. Problems like sewer flooding, aging infrastructure, and misconnected pipes are less frequently reported but remain important, as they can lead to broader system failures or health hazards if left unaddressed.

This distribution of report issues underscores the multifaceted challenges faced by water utilities and their customers (MWCI, 2023). High rates of low water pressure and water stress point to systemic supply and distribution challenges, possibly linked to infrastructure limitations or overuse. Billing problems and water contamination, both affecting nearly half of respondents, highlight the need for improved administrative processes and enhanced water-quality monitoring. Less frequent but still notable problems, such as leaking pipes

and aging infrastructure, suggest ongoing maintenance and modernization needs. Addressing these issues requires a comprehensive approach that combines infrastructure upgrades, improved customer service, and proactive water-quality management to ensure reliable, safe water access for all users. Rahman et al. (2024) similarly found that supply reliability, water availability continuity, and billing transparency are among the strongest drivers of consumer satisfaction and trust in water utilities. They reported that households consistently link service interruptions, low pressure, and unpredictable billing to dissatisfaction and lower perceived service quality.

Table 1. Common Water Service-Related Issues Experienced by Residents

Common Problems	Frequency	Percent	Rank
Low Water Pressure	313	83%	1
Water Stress	202	53%	2
Billing Problems	168	44%	3
Water Contamination	165	44%	4
Low Water Intake	164	43%	5
Leaking Pipes	110	29%	6
Sewer Flooding	83	22%	7
Aging Infrastructure	70	18%	8
Misconnected Pipes	53	14%	9

Table 2 indicates that, in general, customers agree that water is clean, safe, clear, and odor-free, with weighted means (WM) ranging from 3.55 to 3.64 and a consistent "Agree" response across all indicators. The overall WM of 3.6 and the standard suggest a positive consensus among users, though some variability in responses exists. Although customers agree on water availability, the moderate scores and notable variability suggest partial confidence and possible localized issues. This aligns with national observations that many Philippine water utilities struggle with consistent quality and consumer satisfaction due to aging pipes and intermittent supply (ADB, 2021). This reflects a satisfactory perception of water quality and availability among most customers, aligning with the company's commitment to delivering potable, reliable water services.

Table 2. Water Service Provider in Terms of Water Availability

Water Availability	WM	Verbal Interpretation
Water is clean and safe.	3.64	Agree
Water is free from smell and odor.	3.55	Agree
Water is clear.	3.61	Agree
Overall	3.6	Agree

Table 3 shows that customer perceptions of water pressure and related services are generally in the middle, with weighted means (WM) for all indicators — acceptable water pressure (2.74), regular sewerage services (2.76), and proper wastewater management (2.87) — falling within the "Somewhat Agree" range. The overall WM of 2.79 suggests that while some improvements may have been made, many customers remain unconvinced or only moderately satisfied with the current state of water pressure and associated sanitation services.

Table 3. Water Service Provided in Terms of Water Pressure

Water Pressure	WM	Verbal Interpretation
Water pressure is at an acceptable level.	2.74	Somewhat Agree
Sewerage services/septic tank desludging are regularly conducted.	2.76	Somewhat Agree
Wastewater is managed correctly.	2.87	Somewhat Agree
Overall	2.79	Somewhat Agree

Despite significant infrastructure investments and expansion projects in recent years, water pressure has remained a significant challenge, with only a small fraction of barangays previously enjoying adequate supply and pressure. Recent efforts, such as the interconnection with the Bulacan Bulk Water Infrastructure and extensive pipelaying, have increased the number of barangays with maximized water supply and improved average water pressure in select areas. However, the neutral customer feedback indicates that these improvements may not yet be uniformly experienced across all households, and continued efforts are necessary to ensure consistently acceptable water pressure and related sanitation services throughout the service area.

Table 4 reveals that customers somewhat agree with the water provider's complaint resolution process, with all indicators — ease of filing (2.96; WM), timely resolution (2.77), and satisfactory outcomes (2.90) — falling within

the "Somewhat Agree" range. The overall WM of 2.88 indicates moderate variability in customer experience, suggesting that while some users may find the process adequate, others may encounter delays or inefficiencies.

Table 4. Responsiveness of Private Water Provider in Malolos' Customer Service in Terms of Complaint Resolution

Complaint Resolution	WM	Verbal Interpretation
Filing of complaints is straightforward and systematic.	2.96	Somewhat Agree
Complaints are resolved within the prescribed timeframe.	2.77	Somewhat Agree
Resolutions to complaints are satisfactory/acceptable.	2.90	Somewhat Agree
Overall	2.88	Somewhat Agree

This aligns with the company's stated processing timelines (1–5 business days for applications) and the availability of complaint channels through platforms such as its Facebook page, though service delivery inconsistencies may persist. The "Somewhat Agree" rating suggests room for improvement in streamlining complaint management, particularly in reducing resolution times and ensuring consistent outcomes. While private water providers offer structured complaint-filing mechanisms, the moderate satisfaction levels highlight a need for enhanced responsiveness and transparency to address customer concerns more effectively. The variability in responses may reflect differences in how individual cases are handled or the complexity of resolving issues such as water pressure or infrastructure-related complaints, which have historically been challenging in the area.

Table 5 indicates customer perceptions of water providers' service reliability are somewhat agreed, with all metrics filing accuracy (3.31 WM), timely processes (3.14 WM), information accessibility (3.05 WM), clarity (3.17 WM), and requirement dissemination (3.15 WM) scoring within the "Somewhat Agree" range. The overall WM of 3.16 suggests moderate variability, reflecting inconsistent user experiences. While some customers find the processes and information adequate, others may encounter delays or communication gaps, highlighting a need for more standardized, transparent service protocols.

Table 5. Responsiveness of Private Water Provider Malolos' Customer Service in Terms of Service Reliability

Service Reliability	WM	Verbal Interpretation
Files/records are accurate and up to date.	3.31	Somewhat Agree
The process is completed within a reasonable amount of time.	3.14	Somewhat Agree
Information from the water provider is readily available.	3.05	Somewhat Agree
Information from the water provider is clear and relevant.	3.17	Somewhat Agree
Requirements are properly disseminated.	3.15	Somewhat Agree
Overall	3.16	Somewhat Agree

These ratings aligned with broader operational challenges observed in previous tables, such as variable water pressure and infrastructure limitations, which may, in turn, affect perceptions of service reliability. Despite current infrastructure expansions, including pipe-laying projects and shifts to treated surface water, reliability scores remain neutral, indicating that administrative and communication processes require refinement to match the scale of technical improvements.

Table 6 reflects customers' somewhat-agreed sentiment toward water providers' reconnection process, with weighted means (WM) ranging from 3.01 to 3.08 across the indicators ease of filing, reasonable requirements, and error-free documentation. The overall WM of 3.04 indicates moderate variability in experiences, suggesting inconsistencies in service delivery. While some customers find the process straightforward, others likely encounter bureaucratic hurdles or inefficiencies, as echoed in Reddit complaints about abrupt water disconnections and reconnection challenges. The "Somewhat Agree" rating aligns with broader customer service limitations observed in previous tables, such as inconsistent complaint resolution and service reliability. Private water providers stated reconnection protocols (including processing times of 1–5 business days) may not fully address customer frustrations, particularly when compounded by sudden service interruptions or unclear communication.

Table 6. Responsiveness of Private Water Providers' Customer Service in Terms of Reconnection Process

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Reconnection Process	WM	Verbal Interpretation
Filing applications is simple and easy.	3.01	Somewhat Agree
Documentary requirements are reasonable.	3.03	Somewhat Agree
Documents issued are free from defects or typographical errors.	3.08	Somewhat Agree
Overall	3.04	Somewhat Agree

The lack of strong, positive feedback highlights the need for streamlined procedures and increased transparency

to enhance user satisfaction. According to Vilarinho et al. (2024), customers evaluate water utilities not solely on the technical performance of the supply but also on procedural transparency and accessibility, including how easily one can request services such as reconnection, the clarity of documentary requirements, and the predictability of timelines.

Table 7 reveals customers have somewhat agreed perceptions of policy accuracy, with weighted means (WM) ranging from 3.06 to 3.22 across clarity, implementation, updates, and dissemination. The overall WM of 3.12 indicates moderate variability, suggesting that while some customers find policies adequate, others encounter inconsistencies or communication gaps.

Table 7. Service Policies of Private Water Provider in Malolos in Terms of Accuracy

Accuracy	WM	Verbal Interpretation
Policies, rules, and regulations are clear, consistent, and sufficient.	3.22	Somewhat Agree
Policies, rules, and regulations are strictly implemented.	3.15	Somewhat Agree
Policies, rules, and regulations are up to date.	3.06	Somewhat Agree
Policies, rules, and regulations are properly disseminated.	3.06	Somewhat Agree
Overall	3.12	Somewhat Agree

This aligns with prior "Somewhat Agree" ratings on customer service reliability and complaint resolution, reflecting systemic challenges in standardizing administrative processes despite infrastructure improvements such as pipelaying and bulk water integration. The scores for policy dissemination and updates (both 3.06 WM) suggest a need for more proactive communication strategies, particularly to clarify billing practices, reconnection protocols, and infrastructure maintenance timelines. While private water providers have expanded service coverage and shifted to treated surface water sources, administrative transparency must keep pace to match technical advancements. Strengthening policy awareness through digital platforms or community outreach could help bridge this gap and improve customer trust.

Table 8 presents customers' somewhat-agreed perceptions of disconnection policies, with weighted means (WM) ranging from 2.8 to 2.97 for the reasonableness of requirements, timelines, and fees. The overall WM of 2.9 indicates moderate variability, suggesting inconsistent user experiences. While some customers may find disconnection protocols manageable, others likely perceive them as bureaucratic or punitive, as evidenced by Reddit complaints about abrupt disconnections and reconnection fees.

Table 8. Service Policies of Private Water Provider in Malolos in Terms of Fairness of Disconnection

Fairness of Disconnection	WM	Verbal Interpretation
Reportorial/documentary requirements are reasonable.	2.97	Somewhat Agree
The compliance timeline is fair and reasonable.	2.93	Somewhat Agree
Fees and/or penalties imposed are fair and reasonable.	2.8	Somewhat Agree
Overall	2.9	Somewhat Agree

The scores for fairness of fees (2.8 WM) and timelines (2.93 WM) align with broader administrative challenges observed in previous tables, such as inconsistent policy dissemination and customer service responsiveness. Private water providers' adherence to procedural timelines (e.g., 1–5 business days for reconnections) may not fully mitigate frustrations, particularly when compounded by sudden service interruptions or unclear communication. These findings underscore the need for more transparent billing practices and equitable disconnection protocols to align with consumer expectations and reduce perceived arbitrariness.

Table 9 shows that the correlational analysis reveals a statistically significant relationship between water availability and customer satisfaction at a private water provider. Among the tested dimensions, water availability shows the strongest positive correlation (R = 0.563, p = 0.014), indicating that consistent access to clean and safe water is an influential factor in customer satisfaction. This aligns with infrastructure upgrades, such as the Bulacan Bulk Water interconnection and expanded 24-hour supply coverage, which increased treated surface water use to 71% and extended service coverage. Awortwe (2018) explained that the ability to meet customer expectations depended on timely problem detection, water safety, reliability, and consistent water service delivery to build customer satisfaction. These improvements have directly enhanced reliability and quality, driving higher satisfaction among over 40,000 households. However, while availability is rated highly (WM = 3.6/5 for cleanliness and safety), persistent gaps in service consistency may explain why the correlation is moderate rather than vigorous.

Table 9. Relationship Between the Quality of Water Service and Customer Satisfaction

	Customer Satisfaction			
Quality of Water Service	R-value	p-value	Decision	Interpretation
Water Availability	0.563	0.014	Reject Ho	Significant
Water Pressure	0.452	0.032	Reject Ho	Significant

Legend: Significant at 0.05 (p<0.05) Not Significant at 0.05 (p>0.05)

Water pressure also shows a moderate but significant correlation with satisfaction (R = 0.452, p = 0.032), reflecting mixed customer experiences. Despite pipeline expansions and pressure-optimization efforts, only 44 barangays currently benefit from fully optimized supply, leaving some areas with inconsistent pressure. This aligns with "Somewhat Agree" customer ratings for pressure (WM = 2.79/5) and historical complaints (83% prevalence in Table 1), suggesting that while progress has been made, equitable distribution remains a challenge. The findings underscore the importance of balancing infrastructure investments with customer service improvements. While a private water provider has achieved notable technical advancements, "Somewhat Agree" ratings in complaint resolution (WM = 2.88/5) and policy fairness (WM = 2.9/5) indicate administrative and communication gaps. Addressing these alongside ongoing infrastructure projects could strengthen the link between service quality and customer satisfaction, ensuring a more uniform customer experience across all barangays.

4.0 Conclusion

The study shows that while technical advancements in water supply, such as bulk water interconnections and increased coverage, have improved reliability, issues with customer interaction and service consistency persist. Although most customers agree that the quality and availability of the water have improved, uneven pressure and inefficient procedures continue to limit complete satisfaction. The findings highlight that customer satisfaction is formed not only by infrastructure but also by management responsiveness and policy clarity. Moderate "Somewhat Agree" ratings in areas such as complaint resolution, reconnection, and disconnection indicate that administrative transparency and timeliness remain important to sustaining customer satisfaction. A significant but moderate correlation between water pressure and satisfaction further underscores the importance of equitable distribution across all barangays.

Hence, sustaining long-term customer satisfaction requires integration of the technical and human dimensions of service. Based on the findings, the following is recommended. Despite system upgrades, water providers must invest in responsive communication, efficient complaint handling, and fair service policy. By integrating operational enhancements with customer-centered governance, water providers can promote reliability and satisfaction, ensuring that every household receives dependable, transparent, and consistent services.

5.0 Contributions of Authors

Ruth R. Sealmoy was responsible for writing the methodology and the study's results. Ma. Lilibeth S. Lee and Emilor E. Dimagiba collaborated on the abstract, introduction, literature review, and conclusions. All three authors contributed to formulating the study's primary objective.

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7.0 Conflicts of Interest

There are no reported conflicts of interest.

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9.0 References

Asian Development Bank (ADB). (2021). Philippines water supply and sanitation sector assessment, strategy, and road map. ADB.

Awortwe, M. (2018). Service quality, delivery, and its effect on customer satisfaction at Ghana Water Company Limited in Takoradi Township. University of Cape Coast.

Carter, R. C. (2023). Professionalising community management of rural water supply: Navigating the transition in Sub-Saharan Africa (Rural Water Supply Network, Skat Foundation)

Department of Environment and Natural Resources [DENR], Department of the Interior and Local Government [DILG], Department of Health [DOH], National Economic and Development Authority [NEDA], & Department of Public Works and Highways [DPWH]. (2019), Philippine water supply and sanitation master plan (PWSSMP). Manila, Philippines: National Economic and Development Authority. https://faolex.fao.org/docs/pdf/phi21438

Department of Trade and Industry (DTI). (n.d.). DTI FOI receiving officer's directory. Retrieved May 12, 2025, from https://tinyurl.com/muxcvstz

Dumlao, D. J. (2019, March 18). Water privatization: Success or failure? The Philippine Star. https://tinyurl.com/bp8m7ex9

Galvez, D. (2018, August 14). Turbid water from Ipo Dam affects Maynilad's supply. *Philippine Daily Inquirer*. https://tinyurl.com/2k4xkey8 Irish Water. (2022). Disconnection and reconnection policy. Retrieved from https://tinyurl.com/yy7ryrt5

Kano, N., Seraku, N., Takahashi, F., & Tsuji, S. (1984). Attractive quality and must-be quality. The Journal of the Japanese Society for Quality Control, 14(2), 39-48. https://tinyurl.com/bdc3bbd7

Nepal COVID-19 Impact Assessment Report. (USAID, 2021). Nepal COVID-19 impact assessment report – USAID's WASH utilities assessment. (Describes early impacts of COVID-19 on Nepali

Nepal COVID-19 Impact Assessment Report. (USAID, 2021). Nepal COVID-19 impact assessment report – USAID's WASH utilities assessment. (Describes early impacts of COVID-19 on Nepail utilities and financial stress on water supply systems).

Rahman, M. M., Khatun, A., & Uddin, M. N. (2024). Evaluating consumer insights in water services. Water Practice & Technology, 19(4), 1135–1148. https://doi.org/10.2166/wpt.2024.061

REAL-Water (2023). Synthesis of water safety planning efforts in Ghana. United States Agency for International Development (USAID). (USAID's work in Ghana on water safety planning).

UNICEF. (2020). Water scarcity. Retrieved from https://www.unicef.org/wash/water-scarcity

Vilarinho, A., Monteiro, S., Lourenço, A., & Monteiro, A. (2024). Developing a customer-centered Water Utility Service Quality Index (WUSQI) for assessing drinking water services. SocioEconomic Planning Sciences, 89, 101834. https://doi.org/10.1016/j.seps.2023.101834

World Bank. (2022). Global water security and sanitation partnership: Annual report 2022. Washington, DC: World Bank.

World Health Organization & United Nations Children's Fund (UNICEF). (2023). Drinking-water. World Health Organization. https://tinyurl.com/5aencf89