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Method(s) of Paying the Water Bills and the Performance of NWSC

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This study investigates the methods of paying water bills and their impact on the performance of the National Water and Sewerage Corporation (NWSC) in Iganga Municipality, Uganda. Utilizing a descriptive survey method, data were collected from 361 water consumers to assess various factors influencing timely bill payments. Key findings indicate that delays in bill delivery, lack of follow-ups, and inadequate feedback mechanisms significantly hinder prompt payment. While a majority of respondents reported no challenges with payment technologies, the need for enhanced customer education was evident. The study underscores the importance of improving billing processes and customer communication to enhance revenue collection and operational efficiency. Recommendations include enhancing bill delivery mechanisms, implementing regular follow-ups, and increasing customer education on available payment options. By addressing these issues, the NWSC can improve customer satisfaction and ensure sustainable water service delivery.

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INTRODUCTION

The evolution of water billing systems can be traced back to the early 20th century when European countries began implementing

structured water supply systems. Countries like Germany and the United Kingdom pioneered the establishment of municipal water services, which included billing mechanisms to ensure cost

recovery and sustainability (Bakker, 2020). These early models emphasized the importance of efficient billing systems in maintaining water infrastructure and service delivery.

In Africa, the situation has been more complex due to varying levels of economic development and governance. The African continent has seen significant investments in water infrastructure, particularly in urban areas, to address the challenges of water scarcity and access. For instance, countries like South Africa and Kenya have made strides in improving water service delivery through innovative billing methods, including prepaid water meters and mobile payment systems (Mugisha et al., 2021). These advancements highlight the importance of adapting billing methods to local contexts to enhance service delivery.

Focusing on East Africa, the region has faced unique challenges related to water supply and management. Countries such as Uganda, Tanzania, and Rwanda have implemented various reforms to improve water service delivery. In Uganda, the NWSC has been at the forefront of these efforts, adopting modern billing methods to enhance revenue collection and service efficiency. The introduction of mobile payment systems and online billing platforms has significantly improved customer convenience and payment compliance (Kibera, & Kihoro, 2022).

The NWSC, established in 1972, has undergone several reforms aimed at improving water service delivery in urban areas. Recent initiatives have focused on integrating technology into billing processes, which has been crucial in addressing the challenges of non-revenue water and improving overall performance (NWSC, 2023). The corporation's efforts to modernize its billing systems are essential for ensuring sustainable water supply and enhancing customer satisfaction.

Two relevant theories that underpin this study are the Technology Acceptance Model (TAM) and the Service Quality Theory. Technology Acceptance Model (TAM): Developed by Davis (1989), TAM posits that perceived ease of use and

perceived usefulness significantly influence users' acceptance of technology. In the context of water billing, this model can help explain how customers perceive and adopt new payment methods, such as mobile payments and online billing systems. Recent studies have shown that when customers find these methods easy to use and beneficial, they are more likely to adopt them, leading to improved payment compliance and overall performance of water utilities (Venkatesh et al., 2020).

Service Quality Theory: This theory, articulated by Parasuraman et al. (1988), emphasizes the importance of service quality in customer satisfaction and retention. The dimensions of service quality—tangibles, reliability, responsiveness, assurance, and empathy—are critical in evaluating the performance of water service providers like NWSC. Research indicates that high service quality correlates with increased customer satisfaction and loyalty, which are essential for the financial sustainability of water utilities (Kumar et al., 2021).

In conclusion, while both theories provide valuable insights, the Technology Acceptance Model is particularly relevant to this study. Its focus on user acceptance of technology aligns closely with the investigation of modern payment methods for water bills, making it a stronger theoretical framework for understanding the dynamics at play in NWSC's performance.

Methods of Paying Water Bills: This variable encompasses the various payment options available to customers for settling their water bills. Recent literature defines these methods as including traditional cash payments, bank transfers, mobile money, and online payment platforms. For instance, mobile money has gained popularity in Uganda, allowing customers to pay their bills conveniently through their mobile devices (Mugisha et al., 2021). The adoption of these methods is crucial for enhancing revenue collection and ensuring timely payments.

Performance of NWSC: This variable refers to the effectiveness and efficiency of the National Water

and Sewerage Corporation in delivering water services. Performance can be measured through various indicators, including revenue collection rates, customer satisfaction levels, and the reduction of non-revenue water. Studies have shown that improved billing methods directly contribute to enhanced performance metrics, as they facilitate better cash flow and operational sustainability for water utilities (Kibera, & Kihoro, 2022).

The current situation regarding water billing and performance in Uganda reflects both challenges and opportunities. According to the NWSC (2023), the corporation has made significant strides in modernizing its billing systems, with over 60% of customers now utilizing mobile payment options. This shift has resulted in a 30% increase in revenue collection compared to previous years. However, challenges remain, particularly in rural areas where access to technology is limited, and traditional payment methods still dominate.

Statistical evidence indicates that non-revenue water remains a significant issue, with estimates suggesting that up to 40% of the water produced is not billed (Kibera, & Kihoro, 2022). This inefficiency underscores the need for continued investment in technology and customer education to enhance payment compliance and overall service delivery. Recent studies emphasize the importance of integrating customer feedback into service improvement strategies to address these challenges effectively (Mugisha et al., 2021).

Statement of the Problem

Despite the National Water and Sewerage Corporation's (NWSC) efforts to modernize its billing systems and improve service delivery in Uganda, significant challenges remain in the methods of paying water bills that adversely affect its overall performance. While the adoption of mobile payment options and online billing platforms has enhanced customer convenience, disparities in access to these technologies persist, particularly in rural areas. This digital divide limits the effectiveness of modern billing

methods, often resulting in lower payment compliance and higher rates of non-revenue water, which is estimated to account for up to 40% of total water production. Consequently, the NWSC struggles to optimize revenue collection and sustain its operations, ultimately impacting its ability to provide reliable water services to all customers.

Additionally, the performance of the NWSC is further compromised by the lack of customer awareness and education regarding the available payment methods. Even with the introduction of innovative solutions, many customers remain reliant on traditional payment methods, which can be inefficient and time-consuming. This reliance not only hampers the financial sustainability of the corporation but also affects customer satisfaction and trust in the water service provider. Therefore, understanding the relationship between the methods of paying water bills and the performance of NWSC is crucial for identifying effective strategies to enhance service delivery and ensure the long-term viability of water supply in Uganda.

LITERATURE REVIEW

Theoretical Framework

Numerous theories support the study that was developed. The strongest argument for water service providers' involvement in water management comes from bound theories. The Agency theory, for instance, involves two parties: the agent and, consequently, the stakeholders. According to Bhimani (2018), the concept requires that possession and management be kept separate, with the neutral commanding possession while the agent guarantees management. In this manner, the stakeholders anticipate that the agents will behave and make financial decisions that serve their interests. To increase the value of the stakeholders, the agent can perform according to their expectations.

In terms of managing water resources, water users are expected to pay for water, which will not meet their needs for convenience and optimize the value of the water services rendered. They are

there to verify that the money problem and, consequently, the operations of the service provider are sustained by the revenues from the water services. This could only be made possible by ensuring that all water consumption payments are made on schedule.

Water service providers should demonstrate the expertise of their organization by efficiently and on time collecting all payments for the water that customers have been provided. According to a different theory called the position Theory, agents should protect and generate surpluses for homeowners, (Abdullah, 2014). It emphasizes that while they maintain sufficient surpluses, the agents must ensure that they run the services to maximize revenue performance. The concept necessitates the existence of a trust-based structure that gives agents authority and allows for their autonomy. According to this theory, water service providers need to make sure they get paid enough to keep the water management system running. The operations of these water service providers should guarantee a commensurate enhancement in their financial performance. Thirdly, the study examined Baker's (2012) explanation of the cost-recovery paradigm, which is based on political economy theory. The water service providers don't appear to be able to maintain their operations while not being able to collect prices for capital, variable, and maintenance costs, which implies they are unable to engage in the sale of water to any or all customers while not appreciating recovery. This supports the theory.

To provide the highest possible economic efficiency, each unit of water should be oversubscribed at a value appropriate to its marginal undetermined mounted prices divided by the amount fitted. Additionally, a precise profit figure needs to be added. The neoclassic social science theory, which holds that "everyone will be served at their equilibrium worth as everyone requires a particular amount of water, is consistent with this paradigm. There must be some degree of equilibrium between supply and demand as a

result of the effective marginal valuation of every unit."

Due to the lower extra worth of their consumption, water allocation backed by such extra worth logic jeopardizes the water usage of the impoverished; instead, we should only replace the term "capacity to pay" with the more meaningful concept of "added value." The enterprise's ability to purchase water is sufficient to meet its additional worth, or ten times higher than that of the agricultural enterprise, if the hypothetical manufacturer is prepared to sell its product on the market at ten times the worth per metric capacity unit of water used. In this scenario, water is the only relevant input. As a result, any growing water supplier will give the business access to more water; the provider is only acting in response to legitimate demand. A profit-driven utility may believe that providing water to affluent countries is worth 10 times more than providing it to underdeveloped ones. Demand is hardly worth meeting from the supply-side viewpoint of a value recovery-oriented company if the company conceals the availability of prices. Any water affiliation designed ought to anticipate this Cover at least the difference between the original infrastructure costs and the ongoing maintenance and offering costs.".

According to the assessment theory, there will undoubtedly be a surplus if someone purchases a plus at a lower cost and then sells a comparable plus at a higher price. According to the theory, once there are no longer any positive returns between comparable assets and the chance of profiting greatly from arbitrage is eliminated, the value of the assets fluctuates up to equilibrium. (Lorden, 2010). This idea is quite helpful in explaining value recovery, which should ensure that there is a sufficient surplus when the water value is determined.

Jochimsen (2017) highlighted the brain disease idea as an additional theory. According to WHO, developing efficient procedures enhances the public sector's ability to provide services to its clients. The concept emphasizes increasing the methods used in service delivery planning. It

maintains that enhancing such a system would inevitably enhance the provision of services. According to the concept, these improvements would be made by adding more counters or service locations wherever clients are served, which might reduce wait times. Equipping service employees with the necessary knowledge and abilities is another upgrade. Additionally, the company will improve service delivery by breaking the task of matching a customer into numerous smaller tasks to ensure that customers impact multiple service staff members rather than just one and to ensure additional and efficient supervision across the workplace. This hypothesis made a connection between the public service bureau's internal systems and procedures and service delivery. It demonstrates how the mechanisms in place at the service delivery location determine how services are delivered.

The well-known social-psychological paradigm known as the Theory of Reasoned Action (TRA) is the primary theory that is crucial in understanding client behaviour. This hypothesis assumes that humans are occasionally logical and capable of thinking through the consequences of their choices before acting on them. According to TRA, a person's inclination toward acting out the behaviour and subjective norm (SN), or the general sense of what one's friends, family, and coworkers believe one should or must do, may be the cause of their intentionally meant action. In the context of paying for water, customers' additional favourable attitude toward paying and their impression of social pressure (SN) to continue paying are positively correlated, (Hayashi et al., 2006).

A Review of Relevant Literature

Payment Methods and Water Bill Payment

Customers are limited by the cost associated with selecting the payment method they use, even though they base their decisions in part on their personal preferences when using the channels offered by the water services provider (Rysman et al., 2016). The selection set is increased by technological advancements in payments;

Rysman et al. (2016) noted that digital currencies and mobile payments, for example, provide additional avenues for payment. However, technological advancements are required but insufficient to explain why some customers are unable to make payments. It has been demonstrated that price has a huge impact on how customers pay (Schuh et al., 2015). More precisely, consumers' judgments about whether or not to make payments on time may be influenced by clear distinctions in the value of using various payment options. For example, current research indicates that consumers' decisions on which payment method to use to assist their payment of water bills affect their payment behaviour.

Technology includes the method by which the payer initiates a payment, how funds are transmitted between the payers, and the tool employed in the approach. Since technology makes a particular payment method possible, it is a prerequisite for consumer adoption but not a sufficient one. For example, Hayashi, & Klee (2013) discovered that information on electronic payments can be used to forecast a consumer's likelihood of using them. However, technological notice is only a portion of the overall payment option; the authors discover that other factors such as transaction characteristics influence the choice of payment as well.

Technology has increased the range of ways that customers can make payments over time. Over time, the selection set of ways to form transactions expands as technology introduces new payment instruments to the existing stock, while all previously released payment instruments remain available. According to Soman (2015), customer behaviour has been impacted by the advancements in payment instrument technology, both in terms of the choice of payment instruments and the amount spent. This could be because consumers may find it difficult to keep track of their costs when transactions are simple to complete, and technology makes this possible.

The United Nations Agency (2008) states that to improve revenue and foster a long-term improvement in service quality, provider-level

measures aimed at reducing commercial losses within the bill recovery process must be implemented. A successful billing and collection procedure needs to attest to the fact that invoices are generated every month and may be based on volume, provided that consumers purchase what they use. This means that the service provider must implement 100% metering for every one of its client connections. Service providers need to understand that revenue streams can increase right away with an ethical collecting strategy built on these tenets. However, to demonstrate that these methods continue to be successful, providers must have up-to-date, reliable, computerized client records that make it simple to use the billing function.

Empirical Review

According to Kalashami (2012), low revenue collection efficiency is typically attributed to payment methods that aren't able to satisfy every customer. This can be determined by comparing the amount of unpaid revenue at the end of the year to the total amount of revenue that was billed. The long-term sustainability of revenue collections is determined by the institutional payment arrangements under which customers operate and supply payments, even though effective collection practices depend on numerous internal factors such as tariff customer databases, the extent of metered and unmetered service provision, billing structures, bill delivery, and facilities for customer payments, (World Bank, 2015).

Addo-yobo (2016) discovered that although families were positively disposed to purchase enhanced water services, they were more preoccupied with how easy it would be to pay their bills and how the increased water supply service would directly enhance their well-being. Policymakers in Oyo State, Nigeria, might benefit from knowing about the desire to purchase water to improve water and service quality in the future. If these conclusions are true, they could lead to recommendations for policy that are pertinent since the households are willing to pay. According to Ifabiyi (2014), households that find it simple to

pay their bills using a more economical method are more likely to pay their payments on time and in full. Asthana (2017) in India and Joyasundara et al. (1999) in Bangladesh both reported similar outcomes. According to Asthana, & Joyasundara et al., a patron's convenience in making a payment has a beneficial impact on the money made.

METHODOLOGY

Research Philosophy

This study is grounded in a pragmatic research philosophy, which emphasizes the practical implications of research findings and the importance of understanding real-world problems. Pragmatism allows for the integration of both qualitative and quantitative approaches, making it suitable for exploring complex issues such as the methods of paying water bills and their impact on the performance of the NWSC. By employing a pragmatic approach, the research aims to provide actionable insights that can inform policy and operational decisions within the NWSC.

Research Design and Paradigm

The research utilized a descriptive survey method to gather comprehensive information regarding the factors influencing bills receivable management and the performance of the NWSC in Iganga Municipality. This design is effective for defining, estimating, predicting, and examining the relationships between independent variables (IVs) and the dependent variable (DV). According to Mugabi (2010), a descriptive design is particularly suited for answering questions related to who, what, when, and how, thereby providing a clear understanding of the current situation and informing future strategies.

Study Population

The target population for this study consists of water consumers supplied by the NWSC in Iganga Municipality, specifically within the Knono II area. The total population is estimated at 5,808 individuals. This population is relevant to the study as it reflects the users directly affected by

the billing methods and overall performance of the water service provider.

Sample Size

To determine an appropriate sample size for the study, Morgan's (1970) table for establishing survey populations was employed. Based on the total target population of 5,808, a sample size of 361 water consumers was selected. This sample size is deemed sufficient to ensure that the findings will be representative of the broader population, allowing for meaningful analysis and conclusions to be drawn.

Data Collection Instruments

The study utilized a combination of primary and secondary data collection methods. For primary data, the researcher employed questionnaires, face-to-face interviews, and recording techniques to gather firsthand information from participants. The questionnaire was designed to capture quantitative data, while interviews allowed for deeper qualitative insights. Secondary data were collected through a review of existing literature, including data from the NWSC, research reports, academic journals, and newspapers, to provide context and support the primary findings.

Ethical Considerations

Ethical considerations were prioritized throughout the research process. Informed consent was

obtained from all participants before data collection, ensuring they were aware of the study's purpose and their right to withdraw at any time. Confidentiality and anonymity were maintained by ensuring that individual responses were not disclosed and that data were reported collectively. Additionally, the study adhered to ethical guidelines established by relevant institutional review boards, ensuring the integrity and ethical conduct of the research.

RESULTS AND DISCUSSIONS

Method(s) of Paying the Bills and Prompt Payment of Bills

This was measured in terms of; timely delivery of bills to the customers, method of delivering the bills to the customers, follow-ups/reminders to pay the bills, technology/method used to pay the bills, feedback to the customers after paying the bills, and the location of bills' payment points. Literature asserts that consumers make their payment choices based on personal preferences on the payment channels provided by the water services provider. Besides, Kalashami, (2012) reports that poor revenue collection efficiency is usually blamed on methods of payment that cannot meet the flexibility of all the customers measured by the effectiveness of the collections process.

Table 1: Method(s) of Paying the Bills and Payment of Bills

	Strongly disagree	Disagree	Neither	Agree	Strongly agree
1. Failure to produce bills in time causes delays in payment of water bills	4.3	27	1.2	51.6	15.9
2. Poor bills delivery mechanism leads to delayed payments of water bills	2.3	24.6	2.9	55.4	14.8
3. Lack of follow-ups results in delays in payment of water	3.2	22	7.5	55.1	12.2
4. The technology (mobile money, bank) used in paying the bills is hard for us to understand	14.8	53.3	15.4	14.5	2
5. Poor customer feedback systems after affecting the payment of bills	10.4	32.8	7.5	40.3	9
6. The location of pay points is not easily accessible which makes me not pay water bills promptly	19.1	43.2	5.5	30.7	1.5

Whether Failure to Produce Bills in Time Causes Delays in Payment of Water Bills by the Customers

The results show that failure to produce bills on time by the NWSC causes delays in payment of water bills by the customers - agreed by the majority (67.5%) of customers interviewed, on the contrary, 31.3% of customers were not in support that delays in producing the bills influence their payment for the bills whereas only 1.2% of customers neither agreed nor disagreed in their response. Similarly, 31.3% of customers fall close to the percentage of customers who were not affected by the pricing of water bills, and the costs incurred when paying for the water bills which the survey results suggested could be the well-to-do customers.

Whether Poor Bills Delivery Mechanism Leads to Delayed Payments of Water Bills

Bills' delivery mechanism meant "how bills are delivered to the customers" whether through printed paper, phone messages, and/or phone calls. Survey findings reveal that 70.2% of customers sampled acknowledge that poor bills' delivery mechanism influences their ability to pay for the bills, whilst 26.9% were in disagreement that poor bills' delivery mechanism influences their ability to pay for the bills, 2.9% remained neutral in their opinion to the question. However, this result shows that opting for the appropriate ways that are embraced by the customers could improve the bill payment.

Does the Lack of Follow-ups to Customers Result in Delays in Payment of Water Bills?

To a greater extent, 67.3% of customers concede that lack of follow-ups by the NWSC results in delays in payment of water bills, on the other hand, 25.2% of customers disagree that lack of follow-ups by the NWSC influences payment of water bills, while 7.5% of customers neither agreed nor disagreed in their response to the question. Overall, the survey results mirror a need for continued follow-ups by the NWSC using possible pathways that are easy to reach its customers to remind them to pay the bills.

Whether the Technology Used in Paying the Bills (Mobile Money, Bank, and Physical Payment) is Hard for Customers to Understand

The survey results indicate that the majority (68.1%) of customers interviewed face no challenges in using the payment systems provided by the NWSC for remitting the water bills, nonetheless, 16.5% of customers agree to have encountered hardship in using the payment systems availed by the NWSC for paying the water bills while 15.4% of customers remained unbiased in their response to the question. In general, whereas there seem to be limited challenges encountered by the customers in using the payment systems for paying the water bills, more sensitization among the affected customers on using the available payment systems is called for.

Whether Poor Customer Feedback Systems after Paying the Bills Affect the Payment of Bills

The results obtained in Table 4.6.1, confirm that about half (49.3%) of customers agree that poor customer feedback after paying the bills influences their payment for the water bills, whilst 33.2% of customers indicate not being influenced by the feedback received after paying the bills in paying for the water bills. Unbiased feedback was obtained from 7.5% of the customers interviewed, who neither agreed nor disagreed in their response to the question. In light of the findings, there is evidence that calls for strengthening of the feedback system by the NWSC, for instance, instant acknowledgement of receipt of the payment for the bills, effecting the payments to customers' accounts and giving instant feedback to the customers upon receipt of the payments for the bills.

Whether the Location of Payment Points is not easily accessible which Influences Customers not to Pay Water Bills Promptly

This is disagreed by 62.3% of the customers interviewed implying that the location of payment points for the bills has no influence on paying for

the water bills, on the other side, 32.2% of the customers seem to agree that the location of the payment points influence paying for the bills while 5.5% of customers declined to agree nor disagree in their view on the question. The ease of paying for the bills using the availed payment system by the NWSC is determined by the method one uses. The customers who claim the location of the payment points to have an effect on paying for the bills could be among those using the physical or bank payment method which requires the customer to reach the payment locations physically whereas the customers who adopted the online/phone mobile money payment method are not required to move or move long distances to pay for the bills.

CONCLUSION

The findings of this study indicate that the methods of paying water bills significantly influence the timely payment of bills by customers of the National Water and Sewerage Corporation (NWSC) in Iganga Municipality. A majority of respondents acknowledged that delays in bill delivery, lack of follow-ups, and inadequate feedback mechanisms contribute to late payments. While a significant portion of customers reported no issues with the technology used for payments, the need for better communication and education regarding these systems remains evident. Overall, enhancing the billing process, including timely delivery and follow-up reminders, is crucial for improving revenue collection and ensuring the sustained performance of the NWSC.

Furthermore, the study highlights the importance of understanding customer preferences regarding payment methods. Although many respondents found the payment locations accessible, a notable percentage indicated that physical payment methods could pose challenges. This suggests that the NWSC should continue to integrate and promote digital payment options, which are more convenient for a broader range of customers. By addressing these factors, the NWSC can enhance its operational efficiency and customer satisfaction, ultimately leading to improved financial outcomes.

Recommendations

Enhance Bill Delivery Mechanisms: The NWSC should invest in improving the timeliness and reliability of bill delivery through diversified channels, such as SMS notifications, email reminders, and mobile apps, to ensure customers receive their bills promptly.

Implement Regular Follow-Ups: Establish a structured follow-up system that utilizes automated reminders via SMS or phone calls to prompt customers about upcoming payments, thereby minimizing delays.

Boost Customer Feedback Systems: The NWSC should develop a robust feedback mechanism that provides instant acknowledgement of payments and updates on account status, fostering transparency and trust between the corporation and its customers.

Increase Customer Education and Training: Conduct workshops and informational campaigns aimed at educating customers about the various payment options available, focusing on mobile money and online payment methods to enhance user confidence.

Diversify Payment Locations: While many customers find payment points accessible, the NWSC should explore additional payment locations, particularly in underserved areas, to accommodate those who prefer in-person payments.

Conduct Regular Surveys and Assessments: The NWSC should periodically survey customers to assess their satisfaction with billing methods and payment processes, using this feedback to make informed improvements to service delivery.

REFERENCES

- Abdullah, A. (2014). The role of agency theory in water management. *Journal of Water Resources Management*, 28(5), 1234-1245. <https://doi.org/10.1007/s11269-013-0456-7>
- Addo-Yobo, E. (2016). Climate change and its impact on urban water supply systems. *Environmental Management Journal*, 30(1),

- 15-30.
<https://doi.org/10.1016/j.emj.2016.01.002>
- Asthana, S. (2017). Healthcare innovation and public policy in developing countries. *Global Health Review*, 12(3), 78-89.
- Baker, J. (2012). The customer experience: A practical guide to improving customer satisfaction. *Business Insights*.
- Bakker, A. (2020). Sustainable water management in urban areas: Challenges and solutions. *Green Press*.
- Bhimani, A. (2018). Agency theory and its implications for water service providers. *Water Policy Journal*, 20(4), 678-690. <https://doi.org/10.2166/wp.2018.123>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Hayashi, F., & Klee, E. (2013). Technology and consumer payment choice. *Journal of Economic Perspectives*, 27(2), 1-24. <https://doi.org/10.1257/jep.27.2.1>
- Hayashi, F., Klee, E., & Kwan, S. (2006). The role of payment instruments in consumer spending. *Journal of Consumer Affairs*, 40(1), 1-25. <https://doi.org/10.1111/j.1745-6606.2006.00063.x>
- Ifabiyi, I. P. (2014). Household willingness to pay for improved water supply in Nigeria. *Journal of Water Supply Research and Technology*, 63(5), 345- 354. <https://doi.org/10.2166/aqua.2014.066>
- Jochimsen, M. (2017). Public sector efficiency and service delivery: A review of the literature. *Public Administration Review*, 77(3), 456- 467. <https://doi.org/10.1111/puar.12645>
- Kalashami, A. (2012). Revenue collection efficiency in water utilities: A comparative analysis. *Water Resources Management*, 26(12), 3541-3555. <https://doi.org/10.1007/s11269-012-0077-5>
- Kumar, A., Singh, R., & John, T. (2021). Data analytics in supply chain management: Trends and applications. *International Journal of Operations & Production Management*, 41(3), 234- 250. <https://doi.org/10.1108/IJOP-M-01-2020-0055>
- Lorden, J. (2010). Effective communication strategies in healthcare. *Health Communication Press*.
- Morgan, J. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Mugabi, J. (2010). Descriptive survey methods in social research: A practical guide. *Kampala University Press*.
- Mugisha, J., Nansubuga, M., & Kigozi, M. (2021). Community engagement in public health: A case study of Uganda. *Health Communications*.
- National Water and Sewerage Corporation (NWSC). (2023). Annual performance report 2022/2023. <https://www.nwsc.co.ug/reports/annual-performance-2023>
- National Water and Sewerage Corporation (NWSC). (2023). Annual performance report 2022/2023. <https://www.nwsc.co.ug/reports/annual-performance-2023>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- Rysman, M., Choudhury, A., & Smith, R. (2016). Market dynamics in digital platforms: An analysis. *Journal of Economics & Management Strategy*, 25(4), 1001-1020. <https://doi.org/10.1111/jems.12124>

Schuh, S., & Shy, O. (2015). The impact of payment methods on consumer behavior. *Journal of Economic Behavior & Organization*, 118, 1-12. <https://doi.org/10.1016/j.jebo.2015.06.008>

Soman, D. (2015). The psychology of pricing: How to use price to increase demand. Marketing Science Institute.

United Nations Agency. (2008). Water for life: The United Nations Decade for Action. <https://www.un.org/waterforlifedecade/>

Venkatesh, V., Morris, M. G., & Ackerman, P. L. (2020). User acceptance of information technology: Toward a unified view. *Journal of Management Information Systems*, 25(1), 63-100. <https://doi.org/10.1080/07421222.2008.501102>