



# An assessment of customer perception of water service quality at uMgungundlovu municipality



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## Dates:

Received: 01 Apr. 2023

Accepted: 10 Nov. 2023

Published: 14 Aug. 2024

## How to cite this article:

Muthwa, X. & Matsiliza, N.S., 2024, 'An assessment of customer perception of water service quality at uMgungundlovu municipality', *Journal of Local Government Research and Innovation* 5(0), a139. <https://doi.org/10.4102/jolgr.v5i0.139>

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**Background:** Municipalities in South Africa are grappling with water service delivery needed to sustain the quality of life for the broader society. Even though the government in post-apartheid South Africa provides safe drinking water, it is still challenged to maintain quality water services by satisfying customers' expectations.

**Aim:** This study investigates communities' perception of water service quality at the uMgungundlovu district municipality. This study intends to recommend strategies to enhance water service provision at uMgungundlovu district municipality.

**Methods:** To address the research aim, this study adopted a mixed-methods approach. This study used a stratified sample of 300 participants drawn from the population of three sub-urban areas and two villages. Data were collected by distributing questionnaires and conducting interviews with participants. A Statistic Package for Social Science was used to analyse quantitative data, and a thematic method was adopted to analyse qualitative data.

**Results:** Findings from this study demonstrate a gap in the dimensions of water services, such as the tangibles, reliability, responsiveness, assurance, and empathy of water services. Therefore, the customer expectations of the determinants of service quality compared were not fully met by the uMgungundlovu district municipality.

**Conclusion:** This article demonstrates that the service quality approach assessed in this study can identify areas of improvement in uMgungundlovu municipality, thereby responding to customers' and stakeholders' needs at uMgungundlovu district municipality.

**Contribution:** This study recommended strategies that can enhance water service quality at uMgungundlovu district municipality.

**Keywords:** service; quality; environment; stakeholders; client satisfaction.

## Introduction

Water services are imperative for the health and well-being of residents when they are managed well for safe drinking. Water is a fundamental human right needed to maintain balance in the environment. Zahid (2018:1) asserts that water is an imperative resource needed to cook, drink, and keep living organisms and people cool and clean, and everyone on the planet requires at least 20 L - 50 L of clean water daily. United Nations Development Programme (UNDP) (2017) suggests equitable access (for a human being) to safe and clean water as a fundamental human right. Many countries, such as South Africa, consider water a human rights issue by ensuring citizens can access clean water and advocating for water affairs in their jurisdiction (Mirumachi et al. 2021). Also, as part of the Agenda 2030 for Sustainable Development Goals (SDG 6), members of the global village are encouraged to practice safe water provision while keeping the environment safe by managing water as a scarce resource (World Health Organization 2017).

The inherited apartheid water governance structures impact the provision of water to communities. As a result, there is uneven municipal service delivery. The rural areas suffer most as they have underdeveloped water systems that increase water shortages (Nel & Rogerson 2016). Consequently, service delivery in rural areas, informal settlements, and black urban neighbourhoods has been insufficient (Democracy Governance Service Delivery 2016:3-5). Following 1994, the government embarked on a large-scale initiative to improve service delivery throughout the country, particularly in black urban and rural communities. Water supply backlogs were addressed as part of the initiative, as water is a valuable but scarce resource in

South Africa (The Water Wheel 2014:31). One of the core human rights that all people are entitled to is access to safe and high-quality water services (Schramm et al. 2018:127).

Conversely, water has become a global issue (Larsen et al. 2016:928). Significant issues such as intermittent, low pressure, and poor water service quality are common characteristics of these problems (Majuru 2015:i). As South African law recognised local governments (Category 1, 2 and 3) as water authorities, they are experiencing mass demonstrations from their community members regarding poor service delivery (*Water Service Act 1997*). The community frequently expresses dissatisfaction with the quality of water services provided. It will be an added advantage for the municipality to address gaps in water service delivery by improving the quality of services based on the identified gaps in this study. Proceeding from the introduction, this article will elaborate on the research problem, literature review, research methodology, data analysis, conclusion, and recommendations.

## Literature review

### Public service quality

Public service quality sparked a new debate among academics as it emerged in public affairs in the post-New Public Management with diverse contexts. Public service in South Africa is determined by the goods and services offered by various government departments to improve and develop the general quality (Aritonang 2017:100). In the context of this article, public service quality is measured through the SERVIQUAL approach by measuring the determinants that illustrate the communities' desires versus the municipality's capability to provide services that will reach the level of their expectations and desires. Alzaydi et al. (2018) assert that service quality is not easy to define even though it involves uncontrollable intangible factors that determine how the customer can be satisfied after receiving goods or services. Public affairs seldom use SERVIQUAL in determining the standard of services. Quality standards in public affairs have been evaluated through a qualitative monitoring and reporting process. The determinants of SERVIQUAL as a tool to measure and evaluate the quality of water are demonstrated in Table 1. All the dimensions explained in Table 1 are part of the SERVIQUAL tool borrowed from a standard quantitative technique and are now adopted in Public Affairs disciplines. To respond to the aim of this study, these dimensions were used to investigate the perceptions of water users as they form the quality of services. Parasuraman, Zeithalm and Berry (1985, 1988, 1991) are some scholars who extended the scholarly debate on using SEVIQUAL in business management to improve the productivity and performance of a product and services. They argue that an organisation must be able to satisfy customers or clients when most of the determinants for service quality are met. There is a growing need for public agencies and organisations such as municipalities to adopt SEVIQUAL determinants to improve customer satisfaction and the quality of their services.

According to Masitenyane and Mokoena (2023), municipalities must embrace service quality and allow customer interaction to rate them to improve their service quality.

The Parasuraman, Zeithalm and Berry (PZB) model in Table 1 tabulates SERVIQUAL dimensions cited by diverse scholars in business and management studies, education, IT, and public affairs disciplines. Bhattacharya, Saha and Banerjee (2016:2) concur with this model by asserting that organisations must commit to delivering services and utilities, stressing the SERVIQUAL principles to achieve their goals. Kassa et al. (2017) assert that SERVIQUAL comprises the use of 10 dimensions – reliability, responsiveness, competence, access, courtesy, communication, credibility, security, customer understanding, and tangibles – applied by the SERVQUAL model to assess the quality of services. In addition, the customers are sometimes aware of these dimensions for the most part and have some experience in assessing levels that range from ideal to wholly undesirable. Ohwo and Agusomu (2018) argue that an organisation can properly assess itself and pinpoint the main factors that raise customer happiness by measuring customer satisfaction using SERVIQUAL. Likewise, Cetin (2020) observes that customer loyalty and happiness in services are grounded on both quality and experience.

To understand SERVIQUAL as a tool, Haider, Sadiq and Tesfamariam (2016) viewed water quality by measuring intangibles in service quality that focused on customer satisfaction. Likewise, Shireen et al. (2021) assessed the bulk water providing service in the Palestinian Water Authority-West Bank Water Department (PWA-WBWD) based on the SERVQUAL framework and reasoned that SERVIQUAL is imperative to evaluate water provision service quality, to reduce the discrepancies between customer expectations and perceptions. To effectively deliver products and services with integrity, service quality is centred around people, and is compatible with their needs and desires, particularly those of the most disadvantaged (Holla, Koziol & Srinivasan 2011; Ringold et al. 2013). Other scholars view the

**TABLE 1:** Service quality determinants.

Reliability	Contains consistency of presentation and dependability; it means that the organisation or agency performs the service right the first time; it also means that the organisation or agency honours its promises.
Responsiveness	It means the employees are ready and willing to provide service; it involves timeliness of service.
Competence	It means that employees offering the service have the required skills and knowledge to perform the service.
Courtesy	Involves politeness, respect, consideration, and friendliness of contact personnel.
Access	Involves approachability and use of contact.
Communication	This means keeping customers informed in a language they can understand and listen to; it may mean that the company must adjust its language for different consumers.
Credibility	It involves trustworthiness, credibility and honesty; it involves having the customer's best interests at heart.
Security	Is the freedom from danger, risk or doubt?
Understanding or knowing the customer	It involves making the effort to understand the customer's needs.
Tangibles	Include the physical evidence of the service.

Source: Parasuraman, A., Zeithaml, V.A. & Berry, L.L., 1985, 'A conceptual model of service quality and its implications for future research', *Journal of Marketing* 49(4), 41–50. <https://doi.org/10.1177/00222429850490040>

dimensions of service quality as determinants that can be evaluated to understand if customers' needs are met (Bueno et al. 2019).

Ordinary people in South Africa started benefiting from the clean and adequate water supply post-1994. Ocampo et al. (2019:2) agree that it is the responsibility of the state to provide fair distribution of clean and safe water. The measuring of water quality standards using service quality in South Africa is at the incipient stage. Mahlasela, Oke and Madonsela (2020) agree that the use of all the dimensions of service quality such as: (1) tangibles, (2) consistency, (3) receptiveness, (4) guarantee, and (5) responsiveness are detrimental to a successful delivery that will satisfy the needs of the consumers. Malakoana, Qwabe and Zondi (2020) also agree with the measurement of service quality that is based on the dimensions of tangibles that can reveal how satisfied the customers surveyed in KwaZulu-Natal are.

Some other scholars have not reviewed the SERVIQUAL dimensions as a generic tool that can be used uniformly. Rivett, Champanis and Wilson-Jones (2013) measured the quality of drinking water using a communication device as a monitoring tool such as a cellphone, instead of determinants of SERVIQUAL, to monitor the progress of service delivery by each component in the value chain of water service delivery. However, the responsiveness of each stakeholder in service provision is imperative for the quality of water provision. Ngobeni and Breitenbach (2021) measured water quality by assessing the value chain of competing components and linking it with water resources and water sanitation. According to Ngobeni and Breitenbach, determinants of water service quality lie within the performance of stakeholders competing in fulfilling their responsibilities within the value chain of water service delivery. Likewise, Winter (2023) asserts that the treatment of water and proper infrastructure are the main determinants for providing water service quality in rural South Africa. It has also come up from the literature that measuring service quality is connected to measuring the efficiency and effective use of water by consumers. Malakoana et al. (2020) observed that a lack of efficiency in water service quality can result in social service protests in South Africa because of discontentment of communities as far as services offered by municipalities are concerned.

As a developmental state, South Africa is mandated to provide services, especially in previously disadvantaged rural areas far from service points, as part of equity and redistribution.

### Intersectoral water governance

The South African Constitution (1996), which serves as the country's ultimate legislation, divides the government into three spheres. These spheres of government have a constitutional relationship to manage water affairs as national, provincial, and local government. According to the constitution, the three governmental realms are distinct,

interdependent, and interlinked (Republic of South Africa 1996). This study demonstrates the intersectoral arrangement in water distribution by observing stakeholders' role in water governance stipulated by the South African Constitution (1996). However, these three spheres of government also collaborate with water boards, public service partners, and private service providers to fulfil the constitutional mandate of the right to clean water to some extent. This falls under the umbrella of cooperative governance, which is defined in the constitution as the political and legal obligation of all branches of government in South Africa to assist and respond to one another on topics of common interest, to cooperate, and to form sociable groups (Republic of South Africa 1996).

### The role of the national and provincial government in water provision

The South African government structure is inherited from the British unitary system that denotes that powers are centralised to the national government. Although some forces are devolved to the provincial government, the local government has no full autonomy. The national government apportions grants to provinces to execute water policies and legal prescripts. The president oversees the cabinet and the legislature, which goes with all the nine regions and the 39 national departments. A legally binding prescript also delegates the provincial legislature and executive to execute water policies by sharing their revenues (*Public Service Act 103, 1994*). The provincial government is expected to oversee local governments' water affairs through delegated responsibility. The *Water Service Act (1994)* and the *National Water Act (1998)* are the most prominent pieces of legislation that ensure the delivery and governance of water affairs in South Africa (Republic of South Africa 1998).

### Local government role in water provision

Local government at the lowest level has partial policy autonomy. Each municipality is only mandated to adopt by-laws that apply to its jurisdiction. Hence, it is interdependent and interrelated with the provincial and national spheres of government in managing water affairs. Municipal councils operate these municipalities, with the legislative and executive responsibility for issues affecting their residents. In addition, the local government has government departments that ensure policies are carried out effectively. However, municipal government strategies and action plans must adhere to national and provincial regulations to preserve the state's continuation. There are 283 municipalities in South Africa, classified into three groups by law: metropolitan, district, and local municipalities. Section 152 of the Constitution (1996) outlines the purpose of local government as:

[T]o provide democratic and accountable local government, to ensure the provision of sustainable services to communities, to promote social and economic development, to promote a safe and healthy environment, and to encourage the environment of communities and community organisation in local government matters. (Bowman & Kearney 2017; Ndevu & Muller 2017:13)



Water service provision is primarily the responsibility of the local government. According to section 84 of the *Municipal Act (Act 117, 1998)*, district and metropolitan municipalities are responsible for providing water services. The constitution's Schedule Four, Section B, authorises municipal governments to provide water, but only to provide drinking water. These municipalities have been designated as water service authorities. Municipalities must fulfil the right to a primary water supply (*Water Service Act 108, 1997*). The *Water Service Act* stipulates that municipalities are responsible for water supply. The Act specifies that:

[W]ater service authorities can be any of the following: district officials, municipal officials, or rural councils, as outlined in the local government transition Act, and these parties are responsible for making water supplies available. (*Act 209, 1993:Chapter XIX*)

Water services authorities are also in charge of guaranteeing that the right to essential water services is gradually implemented by available resources and developing a framework for developing a water services structure to ensure inexorably significant, efficient, cost-effective, and sustainable water access (*Water Services Act 108, 1997*). Moreover, water service providers collect, procure, and contract services rendered. As a service authority, the local municipality can assign the service provider role to an independent agency (private sector) operating within its jurisdiction. The *Municipal System Act* governs the procedure of hiring an external agency. Finally, customers must be educated about the value of water as a vital resource (*Act 32, 2000*).

According to *Section 11 of the Water Services Act (1997)*, the local government must provide the necessary facilities and infrastructure to meet people's demands. This act is imperative as it adopted a guide that has strengthened the legal framework within which water governance can be observed by municipalities and stakeholders in their operations. This ensures collaborative arrangement among water users, departments, and water service authorities in providing customer care, reliable water service provision, reasonable cost of delivering water, and sustainable measures to ensure water quality and development of water strategy for reasonable and proper water service delivery methods.

## Water service delivery in South Africa

A number of municipalities is staggering with the provisioning of water service quality. Hamer et al. (2018:609–611) confirmed mixed feelings of responses from water users on their access and availability of water to the residents of the Vukani municipality. Their satisfaction profiles on water availability are based on how they rated the municipal response to the needs of the residents and municipal response on access to essential services such as water during numerous disruptions. Numerous cases also demonstrate how residents echoed their dissatisfaction with the municipality's responsiveness to water complaints (Breen & Gillanders 2022). It surfaced that water service delivery affects water quality in some municipalities (Robati & Rezaei 2022). It appears that communities are treated differently

because some communities receive good responses from the municipalities while others do not.

Residents' new culture of non-payment for municipal services has also crippled water service delivery in some municipalities (Enwereji & Potgieter 2018). Municipalities have accused some communities of deliberately ignoring their warnings to pay rates and services to prevent the water and electricity supply from being cut off. In the meantime, community members also accused municipalities of maladministration and for providing faulty invoices; hence, they retaliated by ignoring warnings from the municipality to cut off their supply because of failing to pay their services and rates. Majuru (2015:23) asserts that when the community faces technical water challenges, such as a lack of booster pumps to enhance the pressure of water given to the community, the municipality is compelled to step in and address the issues.

A case in point is the study by Mogakane (2018:iv), which observes that the community of Hlulekani objected to water access and the efficiency of the municipality's water services. The study also discovered a gap between what municipal managers reported about the efficiency of their water services and what communities observed. The district claimed that the water delivery system was ineffective and inefficient, but the manager claimed it was efficient. In another case, Malatjie (2016:66) also discovered that the community in Giyani Municipality viewed water service delivery as ineffective. There needs to be more contact between municipal officials, councillors, and communities, which also hampered effective water service delivery.

The SDGs are interconnected with providing clean and safe water to humans, which is also a human rights issue. This means that the delivery of water can result in significant trade-offs and synergies between the objectives of the 2030 SDG and their underlying targets. This article aims to examine the perception of users on water service quality. Analysing the case interlinkages of 2030 SDGs to water service quality implies the role of the municipality. According to research, their importance is projected to grow on near-global scales in an emerging nation such as South Africa, and there is a necessity to monitor SDG indicators for the provision of water.

## Problem statement

The uMgungundlovu district municipality has been dealing with increased public pandemonium over water shortages, ultimately leading to community reactions and violent riots (Mwelase 2016:2). Improper water access, municipal responsiveness, and ineffective water infrastructure are just a few of the problems that the communities are dealing with. For 4 years, places such as Maqongqo in the uMgungundlovu district have been without water (Ngubane 2019).

Social protest for delivery emanates from the inability of the municipality at Mpofana Village to fulfil the promises of

clean water and sanitation (Sithole 2019). Stakes are high at uMgungundlovu as well as the community has displayed behaviour of no confidence in the municipality that has been unable to provide enough water services to all surrounding communities. The water infrastructure still requires upgrading to provide safe and reliable drinking water. According to the Water and Waste Report (2017), areas such as Mtulwa, Gomane, Makeni, and Imendle do not meet water quality requirements because of microbiological failures that include power shortages, inadequate chlorine contact time, power shortages, and high raw water turbidity that is caused by high rainfall.

## Aim

This study investigates communities' perception of water service quality at the uMgungundlovu district municipality. This study intends to recommend strategies to enhance water service provision at uMgungundlovu district municipality.

## The location of the study uMgungundlovu district municipality

uMgungundlovu district municipality is located near Pietermaritzburg, the capital city in KwaZulu-Natal province, with 11 municipalities. Therefore, uMgungundlovu is the seat of Pietermaritzburg. The Zulu language is dominant in the area as most of the 1 million people are Zulus. The uMgungundlovu district municipality is a Category C municipality located in the KwaZulu-Natal Midlands with the local municipalities in the accompanying towns: Impendle – Impendle, Mkhambathini – Camperdown, Mpofana – Mooi River, Msunduzi – Pietermaritzburg, Richmond – Richmond, uMngeni – Howick, and uMshwathi – New Hanover/Wartburg.

The uMgungundlovu district municipality hosts the Premier's office, the Legislative capital chamber of KwaZulu-Natal, and the High Court of Pietermaritzburg. uMgungundlovu is close to KwaZulu-Natal University and the University of Technology and Technical Vocational Education (TVET) Colleges.

This district municipality is a certified water service authority in partnership with the uMngeni water agency. Hence, it is a relevant municipality to conduct research. Water shortages have also impacted this district because of drought and inadequate service delivery (Muthwa 2021). The Department of Water Affairs (2023) promised to improve the provision of water in Pietermaritzburg and other areas of uMgungundlovu that are affected by water service delivery challenges (ILO 2023). The uMgungundlovu district municipality is relevant to this study.

It has all the geographic, social, and economic factors needed for collecting suitable rich data that can respond to the aim of the study. The geographical setting has users of water that other social and economic activities around this area can attract. The district also hosts the annual comrade marathon



Source: <https://www.google.com/search?q=umgungundlovu+district+municipality>

MAP 1: UMgungundlovu municipal area.

from Durban to Pietermaritzburg. This event attracts tourists from different countries and South African towns and villages. There are other facilities in this area that boost its economy. These include the retirement mecca for senior citizens in sporting, health, and commercial industries. It is also developing its industrial zones as hubs for timber, dairy, and agriculture with a modern, sophisticated infrastructure with easy access to airports, the N3 arterial, and railway stations.

## Research methodology and procedures

Properly selecting research methodology is fundamental to a promising study (Ragab & Arisha 2018). A review of the literature informs how researchers set the methodologies that others have used that are like any of those you intend to use (Kumar 2019). As a result, the method used in this study was informed by the literature on water service quality. The methodology refers to the fundamental procedures or techniques used to categorise, process, evaluate, and analyse information on a specific topic (Kumar 2018). This research was carried out in the uMgungundlovu district municipality.

The study adopted a mixed-method approach. The study targeted people from the following seven local municipalities in the uMgungundlovu district municipality: Impendle, Mkhambathini, Mpofana, uMsunduzi, Richmond, uMngeni, and uMshwathi. This study uses random sampling as a probability sampling method to select participants for quantitative data. The non-probability sampling method,

which uses the researcher’s discretion, was employed to select respondents for the qualitative data. The total number of households’ community members selected for the study is 310. A total of household community members answered the questionnaire, and 24 officials and ward committee leaders from each of the six local municipalities were interviewed (Impendle Local, Mkhambathini, Mpfana, uMsunduzi, Richmond, uMngeni, and uMshwathi). Data were collected using a semi-structured interview guide and a questionnaire.

The Statistical Package for the Social Sciences (SPSS) version 26 was used to analyse the coded responses to the various questions. Both descriptive and inferential statistical analyses were conducted. For the qualitative data, a thematic approach was used to analyse data. The researchers read, reflected, and established concepts within the data acquired, then divided codes into categories and themes. The codes were merged to form categories, which were then used to create the pieces reported to address some research objectives in this study.

### Demographic profile of the participants

The combined results in Figure 1 show that the majority of respondents were black people (93.3%), followed by mixed race people (2.3%), Indian people (2.3%), and white people (1.0%), and that the majority of respondents were between the ages of 30 years and 39 years (33.2%), followed by those between the ages of 40 years and 49 years (19.2%), those between the ages of 18 years and 29 years, those between the ages of 50 years and 59 years (15.4%), and those 60 years and older (12.9%).

Age, gender, and race were measured as imperatives to this study. The number of years of participants occupations enabled the researcher to gauge the experiences and exposure of participants on water services. Gender expectations of society enabled the researchers to understand the perceptions of participants of different genders. Race identification can assist researchers in understanding the participants’ views based on their race profiles. These variables can also help the researcher to

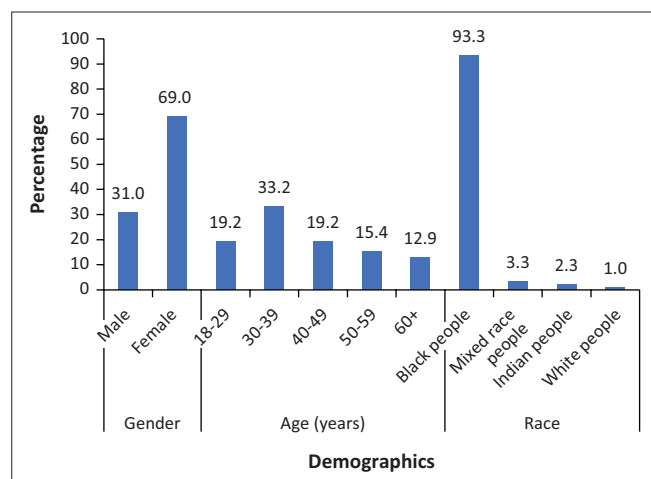


FIGURE 1: Age, gender, and race.

understand the challenges of viewing them with a traditional perception of society rather than accepting their expositions at that particular point when research is conducted.

Regarding education, most respondents (40%) have graduated from college, while others (31.1%) have finished high school. In addition, as shown in Table 2, some of them (11.2%) have earned tertiary degrees, while others (9.4%) have no formal education and others (7.7%) have completed all or part of their primary schooling. The education level of the participants in this study was significant as it contributed to their understanding of the study’s objectives, the questionnaire, and the interviewing procedure. The figures of educated people in the Table 2 indicate that residents can read and understand communication and information relevant to using services in their context. Water is a natural resource, but it is scarce when it must be paid for and when it is not available to the residents. Education can assist residents in finding ways of using water sparingly and contribute to maintaining a balance between their demands and the water supply by the municipality. A lack of community members’ education can lead to poor health conditions and water hazards.

Regarding employment status, most respondents (71.3%) are either unemployed students, housewives, or pensioners, followed by those employed part-time (13.7%), self-employed (9.7%), and some had full-time employment (5.3%), depicted in Figure 2.

TABLE 2: Participants education.

Valid	Frequency	%	Valid %	Cumulative %
No formal education	27	9.4	9.4	9.4
Some or all primary school	22	7.7	7.7	17.1
Some high school	89	31.1	31.1	48.3
Matric	116	40.6	40.6	88.8
Tertiary education	32	11.2	11.2	100.0
<b>Total</b>	<b>286</b>	<b>100.0</b>	<b>100.0</b>	<b>-</b>

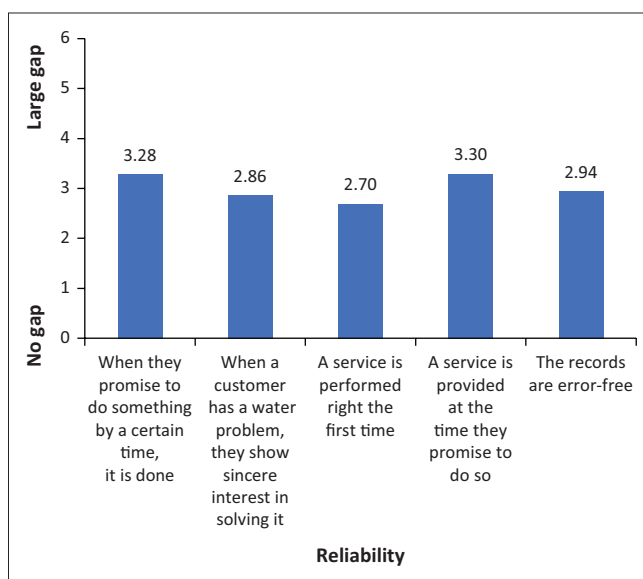


FIGURE 2: Reliability.

According to Rananga and Gumbo (2015:231), monthly income determines one's willingness to pay water bills. With the high unemployment status indicated in Table 3, the residents at uMngungundlovu need a source of income to pay for the rates and other expenses.

## Data analysis and discussion

This section discusses the study's findings and analysis. Table 1, Table 2, and Table 3 show that the reliability of all five constructs was successful.

### Reliability analysis

Kansara (2020) defines reliability as the extent to which results obtained from a research project can be replicated under a similar methodology. To measure the reliability, Cronbach's coefficient is used, and a Cronbach's alpha value superior to 0.7 for a combined measure is declared reliable (Kiliç 2016).

All these values for alpha are more than 0.7, as depicted in Table 4, indicating that single composite measures for all these constructs are reliable.

All these values for alpha are more than 0.7, as depicted in Table 5, indicating that single composite measures for all these constructs are reliable.

Table 6 presents the values for alpha, which are more significant than 0.7, and depicts a single composite measure

**TABLE 3:** Employment status.

Valid	Frequency	%	Valid %	Cumulative %
Unemployed or student or housewife or pensioner	214	71.3	71.3	71.3
Employed full time	16	5.3	5.3	76.7
Employed part-time	41	13.7	13.7	90.3
Self-employed	29	9.7	9.7	100.0
<b>Total</b>	<b>300</b>	<b>100.0</b>	<b>100.0</b>	-

**TABLE 4:** Reliability statistic of expectation constructs.

Construct	Expectations		
	Name	Items	Cronbach's alpha
Tangibles	EXP_TAN	1–5	0.874
Reliability	EXP_REL	6–10	0.869
Responsiveness	EXP_RES	11–14	0.866
Assurance	EXP_ASS	15–18	0.888
Empathy	EXP_EMP	19–23	0.859

EXP\_TAN, expectations tangibles; EXP\_REL, expectations reliability; EXP\_RES, expectations responsiveness; EXP\_ASS, expectations assurance; EXP\_EMP, expectations empathy.

**TABLE 5:** Reliability statistic of perception constructs.

Construct	Perceptions		
	Name	Items	Cronbach's alpha
Tangibles	PER_TAN	1–5	0.855
Reliability	PER_REL	6–10	0.832
Responsiveness	PER_RES	11–14	0.789
Assurance	PER_ASS	15–18	0.808
Empathy	PER_EMP	19–23	0.847

EXP\_TAN, perceptions tangibles; EXP\_REL, perceptions reliability; EXP\_RES, perceptions responsiveness; EXP\_ASS, perceptions assurance; EXP\_EMP, perceptions empathy.

of reliability in all these constructs. To reach the single measure, the researcher has to calculate the average score for the items in each construct.

## Discussion and summary of the main empirical findings

Communities, municipal officials, and other stakeholders, such as the Umngeni Water Board, were probed to rate the quality of water services at uMngungundlovu. The responses were analysed quantitatively and qualitatively, and the findings are tabled according to the following themes of SERVIQUAL.

### Tangibles in water services

The community rated tangibles to assess the physical evidence of water services at uMngungundlovu. The reliability statistics are consistent with the fact that there is a gap between the community's expectations and what the municipality offers regarding equipment and machinery. Almomani (2018) and Goran (2014) attest that poor infrastructure indicates a gap in tangibles when the community expectations are not met regarding the physical facilities and their appearance as maintained by the municipality. The results reflect a gap in the water services as the community expectations are not met as far as modern technology is used to support the offices where services are delivered. One of the participants expressed her perception of the tangible of water and said:

'Not well maintained. If you drive around our areas, you will see burst pipes that have been like that for months and if it not years and they are failing to fix water pumps on time.' (R1)

Even though the community shared their disappointments, some ward committee members attest to their excellent involvement in upgrading the infrastructure to support the community's desires. It also emerged from the interviews that employees at water service points displayed a professional look by wearing uniforms. There is a need for an upgrade on the provision of correct methods of communication during the COVID-19 lockdown. When municipal officials could not communicate with rural communities by distributing pamphlets or statements, very few households living in the suburbs could read online news and announcements in local papers regarding water supply and shortages.

**TABLE 6:** Reliability statistic of gap between constructs.

Construct	GAP		
	Name	Items	Cronbach's alpha
Tangibles	GAP_TAN	1–5	0.852
Reliability	GAP_REL	6–10	0.842
Responsiveness	GAP_RES	11–14	0.805
Assurance	GAP_ASS	15–18	0.811
Empathy	GAP_EMP	19–23	0.845

EXP\_TAN, gap tangibles; EXP\_REL, gap reliability; EXP\_RES, gap responsiveness; EXP\_ASS, gap assurance; EXP\_EMP, gap empathy.



**TABLE 7:** Reliability statistics.

Gap	GAP_REL6	GAP_REL7	GAP_REL8	GAP_REL9	GAP_REL10
N					
Valid	286	286	286	286	285
Missing	0	0	0	0	1
Mean	3.28	2.86	2.70	3.30	2.94
Median	4.00	3.00	3.00	4.00	3.00
SD	1.614	1.669	1.665	1.491	1.600
<b>Percentiles</b>					
25	2.00	1.00	1.75	2.00	2.00
50	4.00	3.00	3.00	4.00	3.00
75	5.00	4.00	4.00	5.00	4.00

GAP\_REL, gap reliability; SD, standard deviation.

**TABLE 8:** Test statistics.

Gap	zero – GAP_REL6	zero – GAP_REL7	zero – GAP_REL8	zero – GAP_REL9	zero – GAP_REL10
Z	-14.301†	-14.027†	-13.831†	-14.399†	-14.195†
Asymp. sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000

Note: Wilcoxon signed ranks test; GAP\_REL, gap reliability; Asymp. sig., asymptotic significance. †, Based on positive ranks.

**TABLE 9:** Test statistics.

Gap	zero – GAP_RES11	zero – GAP_RES12	zero – GAP_RES13	zero – GAP_RES14
Z	-14.285†	-14.175†	-14.140†	-13.853†
Asymp. sig. (2-tailed)	0.000	0.000	0.000	0.000

Note: Wilcoxon signed ranks test; GAP\_RES, gap responsiveness; Asymp. sig., asymptotic significance.

†, Based on positive ranks.

## Reliability

Findings from the study demonstrate a gap in reliability, which involves consistency of performance by the municipality and dependability. Table 7 and Table 8 and Figure 2 reveal a gap between what communities expect and what the uMgungundlovu district municipality provides concerning water services promised to be delivered on time and sufficiently. Awortwe (2018) supports that a gap in reliability exists when community expectations are met. This study further revealed that the municipality is inconsistent in demonstrating a sincere interest in addressing and solving customers' water challenges. A gap is identified as the non-attainment of the expectations of the communities. What the municipality has offered for the first time aligns with a study by Kansara (2020). Wahid et al. (2017:46) also agree that reliability accounts for performance expectations and service dependably and accurately.

In Figure 2, as expected, it was found that customers' perceptions of service quality offered by the uMgungundlovu district municipality did not meet their expectations (all gaps scores are negative in Table 8). Measurements of this study in Figure 2 that reported more significant mean gaps were reliable.

## Responsiveness

Typically, participants are unsatisfied with the level of services the municipality offers as they have a gap of -1.0033 for this dimension. As depicted in Table 8 and

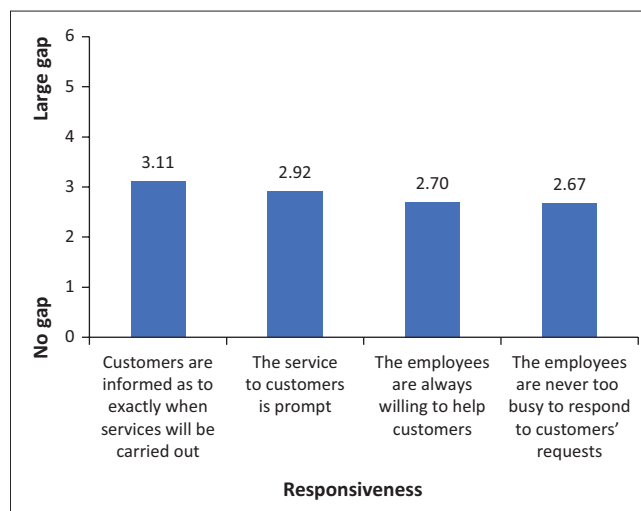
**FIGURE 3:** Responsiveness.

Table 9 and Figure 3, the study reveals an exciting account of experiences that show a gap between their community expectations and experiences and what the uMgungundlovu municipality offers. The responses revealed concerns over less willingness of the municipality to provide timeless services.

Regarding customers, expectations are sabotaged by the need for greater consistency in providing customers with prompt responses during water outages. Sometimes, employees are willing to offer quick responses, but service providers deliver water tanks late in the villages, and they do not go out of their way to assist the villages; they stick to the terms of their contract agreement with the municipality.

The ward communities altered the following statement during the interview:

'Not adequately informed – we do not get involved even our councillors are not informed properly, water get cuts and open as and when the municipality feels.' (pers. comm., 03 October 2020)

Sricharoenpramong (2018) agrees that the provider of services must be willing to respond well and assist customers by providing prompt service. The study demonstrates mixed results regarding the responsiveness of the municipality.

## Assurance

As depicted in Table 10, this study reveals that 24% of participants strongly disagree that the municipality assures them with confidence, while 2.4% strongly agree. This implies a gap between the community's expectations when they are assured that the behaviour of the municipal employees hardly depicts courtesy and care to make sure that communities feel safe when transacting with them. In the 26 years of democracy, the government provided training on customer service by providing 'Batho Pele'



principles and other support mechanisms, but there are still public servants who hardly practice those principles. One of the community members attested to the disappointment by saying:

‘There is no discipline, and some officials are not committed to their job, lack supervision, and do not maintain their equipment, and the infrastructure is too old.’ (R7)

‘No, 70 per cent of their employees is not doing their job, and they do not want to work at all.’ (R6)

‘I do not think so. There is a bad habit of employing friends and being politically connected individually.’ (pers. comm., 07 October 2020).

Many ward committees agreed that the uMgungundlovu municipality hires service providers based on their company portfolio without knowing how they will interact with clients. Some are employed because they are politically connected to the team that administers the supply chain. Sricharoenpramong (2018) indicates that assurance must be courteous while serving clients. Employees who practice courtesy can display confidence, politeness, effective communication, and client respect.

### Empathy

As depicted in Table 12 and Table 13 and Figure 4, the study indicates a gap between what the community expects and what the municipality offers by providing individual attention and increasing operating hours to make it convenient to address customers’ needs. Even though the city has the community’s best interests in mind, it experiences a shortage of resources, which leads to the town being transferred to the national administration. Participants on ward committees agreed that no full attention was paid to the community’s water needs. Some barriers to lack of awareness emanate from poor infrastructure and a shortage of resources to work effectively and efficiently while addressing residents’ concerns. One of the municipal officials indicated the following claim:

**TABLE 10:** The behaviour of the employees instils confidence in customers (community).

Empathy variables	Frequency	%	Valid %	Cumulative %
Strongly disagree	68	23.8	23.8	23.8
Disagree	63	22.0	22.0	45.8
Slightly disagree	37	12.9	12.9	58.7
Slightly agree	69	24.1	24.1	82.9
Agree	42	14.7	14.7	97.6
Strongly agree	7	2.4	2.4	100.0
<b>Total</b>	<b>286</b>	<b>100.0</b>	<b>100.0</b>	-

**TABLE 11:** Test statistics.

Empathy	Three-point five – PER_ASS15 The behaviour of the employees instils confidence in customers (community)	Three-point five – PER_ASS16 The community (customers) feel safe or secure in their transaction with the employees	Three-point five – PER_ASS17 Employees are polite to customers	Three-point five – PER_ASS18 Employees know to answer customer or community water-related queries
Z	-5.599†	-2.384†	-6.527†	-3.067†
Asymp. sig. (2-tailed)	0.000	0.017	0.000	0.002

Note: The results show that there is a significant gap between what the community expect regarding customers receiving individual attention compared to what is actually done by the municipality. Asymp. sig., asymptotic significance.

†, Based on negative ranks.

‘I do not think they pay attention to the water services demands. I do not want to say they are useless but fail to meet the demands.’ (R11)

‘Our complaints are not taken seriously, and we feel they fell on deaf ears. They are only good at taking complaints down during izimbizo (public participation) and making empty promises, but nothing is happening.’ (R12)

Sricharoenpramong (2018) alluded to empathy and agreed that there must be care in providing services to the community.

**TABLE 12:** Empathy statistics.

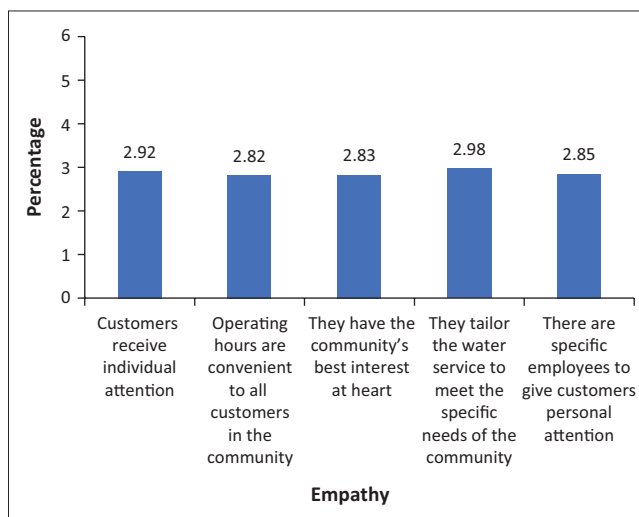
Gap on community expectations	GAP_EMP19	GAP_EMP20	GAP_EMP21	GAP_EMP22	GAP_EMP23
N					
Valid	283	283	283	283	282
Missing	3	3	3	3	4
Mean	2.92	2.82	2.83	2.98	2.85
Median	3.00	3.00	3.00	3.00	3.00
SD	1.598	1.587	1.582	1.649	1.755
<b>Percentiles</b>					
25	2.00	2.00	2.00	2.00	2.00
50	3.00	3.00	3.00	3.00	3.00
75	4.00	4.00	4.00	4.00	4.00

GAP\_EMP, gap empathy; SD, standard deviation.

**TABLE 13:** Test statistics.

Empathy gap	zero – GAP_EMP19	zero – GAP_EMP20	zero – GAP_EMP21	zero – GAP_EMP22	zero – GAP_EMP23
Z	-14.041†	-14.065†	-14.014†	-14.007†	-13.628†
Asymp. sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000

Note: Wilcoxon signed ranks test. GAP\_EMP, gap empathy; Asymp. sig., asymptotic significance. †, Based on positive ranks.



**FIGURE 4:** Empathy.

Also, empathy involves the interaction and consideration of the well-being and emotional loyalty of the customers by employees.

## Conclusion and recommendations

This research demonstrates a gap in the expectations of the communities and what the municipality offers regarding water service provision. There are mixed feelings obtained from the respondents with regard to SERVIQUAL, and this is displayed by dimensions of tangibles, assurance, reliability, responsiveness, and empathy. The majority of the five dimensions' attributes exhibited substantial disagreement. This study also reveals that the unfulfilled determinants of SERVIQUAL can cloud the few good ones, as is portrayed in the case of uMgungundlovu, where the community's negative perceptions about government responsiveness are linked to the dissatisfaction of residents about general local government performance in South Africa. With the evidence of the findings of this study, it can be concluded that the municipal employees and officials do not comply with most of the SERVIQUAL determinants. This study will shed light on other municipalities interested in improving service quality in water governance. The city will receive the research report to learn lessons on addressing their gaps. Scholars can further conduct studies to test the applicability of each determined principle of SERVIQUAL in specific cases. SERVIQUAL is not a one-size-fits-all. There are other ways recommended by literature that can help enhance customer satisfaction.

## Recommendations

### Addressing the service delivery gaps

This study recommends that the uMgungundlovu district municipality should consider revamping its customer service department to address current community concerns.

### Training of staff

Employees at the municipality should be encouraged to take various training courses focusing on customer service and guidelines relating to the operation of quality water services.

### Recruitment of staff

The uMgungundlovu district municipality should consider recruiting knowledgeable people in its customer service department to address community water issues appropriately. Water equipment in the uMgungundlovu district municipality must be updated and upgraded. Improved communication between the uMgungundlovu district municipality and community leaders should be a priority for the uMgungundlovu district municipality. To define work requirements for plumbers and customer service staff, the uMgungundlovu district municipality may consider using the five critical dimensions used in this study to evaluate service quality.

## Acknowledgements

This article is partially based on the author's thesis entitled 'An evaluation of customer satisfaction with water service quality in the Umgungundlovu district municipality' towards the degree of Doctor of Philosophy in Management Sciences: Public Administration in the Department of Public Management, Economics and Law, Durban University of Technology, South Africa] in April 2021, with supervisor Prof Noluthando S. Matsiliza. It is available here: [https://openscholar.dut.ac.za/bitstream/10321/3909/3/Muthwa\\_X\\_2021.pdf](https://openscholar.dut.ac.za/bitstream/10321/3909/3/Muthwa_X_2021.pdf)

## Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

## Authors' contributions

X.M. prepared the original draft. N.S.M. prepared the final draft, responded to reviewed corrections, and added new information and edited the manuscript with new analysis.

## Ethical considerations

Ethical clearance to conduct this study was obtained from the uMgungundlovu district municipality, Gatekeeper, Municipal Manager.

Researchers sought and received ethical clearance from the Ethical Committee of the Durban University of Technology to maintain high ethical standards.

## Funding information

The authors received no financial support for the research, authorship, and/or publication of this article.

## Data availability

Data sharing is not applicable to this article, as no new data were created or analysed in this study.

## Disclaimer

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