



ISSN 2621- 458X

## **The Quality of Water Distribution Services of the Regional Drinking Water Company (PDAM) Tirta Waesai in Barru Regency.**

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### **ABSTRACT**

This study aims to evaluate the quality of water distribution services provided by the Regional Drinking Water Company (PDAM) Tirta Waesai in Barru Regency. The research focuses on assessing the service delivery based on key dimensions such as reliability, responsiveness, assurance, empathy, and tangibility. Using a qualitative descriptive approach, data were collected through interviews, observations, and documentation from PDAM staff and community members as service recipients. The findings reveal that while PDAM Tirta Waesai has made efforts to meet customer expectations, several challenges persist, including inconsistent water pressure, delayed response to complaints, and limited infrastructure in certain areas. The study suggests the need for improved infrastructure investment, enhanced customer service training, and the implementation of a more responsive feedback mechanism to ensure sustainable and high-quality water distribution services.

**Keywords:** Water, Distribution, Service, Quality, PDAM.



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### **A. INTRODUCTION**

Access to clean and sustainable water is a fundamental human right and a critical component of public health and economic development. Water distribution services provided by local utilities play a pivotal role in ensuring the availability

and accessibility of clean water for domestic and industrial needs. In Indonesia, Regional Drinking Water Companies (Perusahaan Daerah Air Minum/PDAM) are responsible for supplying clean water to communities across various regencies. However, disparities in service quality continue to pose challenges in achieving equitable and efficient water distribution (Puspitasari & Yulianti, 2022).

In Barru Regency, PDAM Tirta Waesai serves as the primary agency tasked with water provision to households and institutions. Although the company has expanded its network coverage over the years, consumer satisfaction regarding water quality, pressure consistency, and response to service issues remains varied. According to Pratiwi and Ramadhani (2023), the perception of service quality in water distribution is often influenced by timeliness, communication, and technical reliability. This highlights the importance of evaluating PDAM's performance to ensure alignment with public service standards.

Service quality in public utilities, including water distribution, is commonly measured using the SERVQUAL model, which encompasses five key dimensions: tangibility, reliability, responsiveness, assurance, and empathy. These indicators enable a holistic analysis of the effectiveness of services delivered to consumers (Setiawan & Hidayat, 2021). Understanding how PDAM Tirta Waesai performs across these dimensions will provide critical insights into areas that require improvement to meet community needs effectively.

The water distribution infrastructure in many regions still suffers from aging pipelines, inadequate maintenance, and underdeveloped technology. A study by Andayani and Kusuma (2022) notes that infrastructure quality directly affects the consistency and safety of water services. In remote and rural areas such as parts of Barru, these issues become more pronounced, often leading to consumer dissatisfaction and public complaints about service unreliability and water shortages.

Community involvement and feedback are also essential components in improving water service delivery. Citizens' perceptions and experiences should be systematically collected and used to inform PDAM's strategies. As stated by Nugroho and Lestari (2023), customer-centric approaches in public utilities have been proven to enhance accountability and performance. Therefore, PDAMs must adopt participatory service evaluations to ensure that public expectations are adequately met.

Moreover, clean water is closely tied to sustainable development goals (SDGs), particularly Goal 6, which aims to ensure availability and sustainable management of water and sanitation for all. Government support, regulatory oversight, and institutional collaboration are required to optimize the function of regional water companies (UN-Water, 2023). In this context, PDAM Tirta Waesai's role is vital for advancing local development in Barru Regency.

Challenges such as limited water source capacity, climate variability, and high operational costs also hinder the effectiveness of water distribution. PDAMs must adapt to environmental and demographic changes by investing in modern technology, enhancing workforce capacity, and securing stable financing. According to Hanafiah and Rachmawati (2023), resilience and innovation are critical success factors in managing public water utilities amidst rising demand and climate risks.

Service quality issues often extend beyond technical failures to include administrative inefficiencies. Delayed responses to consumer complaints, lack of transparency in billing, and inadequate communication are frequently cited by users as common concerns. These non-technical aspects, when left unaddressed, can significantly erode public trust (Fatmawati & Saputra, 2022). Therefore, a comprehensive assessment must also consider institutional management practices.

The current study seeks to evaluate the quality of water distribution services provided by PDAM Tirta Waesai using both consumer feedback and institutional

analysis. Through a qualitative descriptive method, this research will gather insights from PDAM officials and local community members to map strengths and weaknesses. Findings from this study are expected to offer evidence-based recommendations to enhance service delivery.

Ultimately, ensuring the quality of public water distribution services is not only a matter of operational efficiency but also a moral and developmental imperative. As local governments strive to provide equitable public services, systematic evaluation and continuous improvement must become integral to the performance of PDAMs. By focusing on PDAM Tirta Waesai in Barru Regency, this study contributes to broader efforts in strengthening public service quality in Indonesia.

## **B. RESEARCH METHODOLOGY**

This study employs a descriptive qualitative approach, aiming to provide an in-depth description and analysis of the service quality in water distribution by PDAM Tirta Waesai in Barru Regency. The qualitative method is chosen because it allows the researcher to uncover the meaning behind service practices and to explore public perceptions of the service delivery from multiple perspectives.

The subjects of this study include the management of PDAM Tirta Waesai (particularly those in the distribution, finance, and customer service divisions), residential customers receiving direct service, and key stakeholders such as local government officials and members of the Regional House of Representatives (DPRD). Informants were selected using purposive sampling, considering their roles, responsibilities, and level of understanding related to the research topic.

Data were collected through the following techniques:

1. In-depth interviews with PDAM executives, employees, service users, and relevant government stakeholders.

2. Participant observation of water distribution activities and customer service practices both in the office and field.
3. Documentation analysis, including annual reports of PDAM, regional regulations, media articles, and government documents related to public water service management.

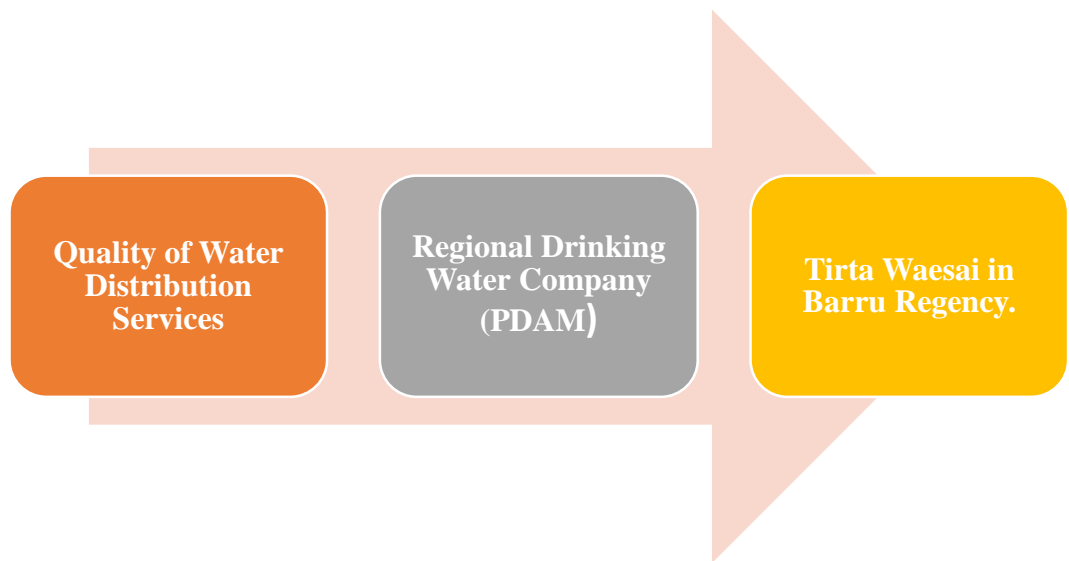
To ensure the validity of the data, this research applied triangulation of sources and methods by cross-verifying information obtained from interviews, observations, and documentary evidence. In addition, member checking was conducted to validate whether the researchers' interpretation accurately reflected the perspectives of the informants.

Data were analyzed using thematic analysis, which involved coding and categorizing data into key themes associated with service quality. These include timeliness, reliability of water distribution, response to customer complaints, service continuity, and infrastructure readiness.

The theoretical framework guiding this study is based on the SERVQUAL model by Parasuraman, Zeithaml, and Berry (1988), which identifies five key dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. These dimensions are used to evaluate and interpret the level of service delivered by PDAM Tirta Waesai.

The research site is focused on the operational area of PDAM Tirta Waesai, particularly in Lalolang Urban Village, Tanete Rilau Subdistrict, and surrounding areas with active customer coverage and dense population. The fieldwork was conducted over a three-month period, from March to May 2025, including stages of data collection, analysis, and validation.

Through this methodology, the study aims to provide a comprehensive and evidence-based understanding of the quality of water distribution services in Barru Regency, as well as to formulate actionable recommendations for service improvement and policy enhancement.



**Figure 1** Research flow diagram

### **C. RESEARCH RESULTS AND DISCUSSION**

#### ➤ **Research results**

The findings of this study reveal that the quality of water distribution services provided by PDAM Tirta Waesai in Barru Regency has significantly improved in several key areas. Observations and field data indicate that the service is focused not only on availability but also on water quality and promptness. This is part of the company's effort to build customer trust and satisfaction. Quality service has become a foundation for the company to retain and increase its customer base across the region.

One of the most crucial indicators of service quality is the **tangible** aspect, particularly the availability of infrastructure and facilities. As stated by Mr. Andi Muliadi, S.Sos, the company has prepared adequate facilities and even organized Door Prize events for customers with a history of late payments. This approach not only encourages customer loyalty but also incentivizes prompt payments, thereby enhancing customer satisfaction and potentially attracting new customers.

This statement underscores the company's awareness of the importance of investing in supporting facilities. Improvements include distribution tools and

office infrastructure that reflect PDAM's commitment to meeting public expectations. Upgrades to service counters, customer complaint areas, and administrative systems with digital integration have become more visible. Additionally, the regular maintenance of water pipes is carried out to ensure uninterrupted water distribution.

In terms of **reliability**, PDAM has shown consistent performance. The ability to maintain regular water flow and minimize technical disruptions reflects the company's dependable operations. Staff members work diligently to ensure continuous water supply, particularly in densely populated areas. An organized distribution schedule is followed, especially in areas with low water pressure, to ensure all residents receive an equitable supply of clean water.

Mr. H. Amiruddin, S.Sos emphasized that PDAM must provide complete equipment to meet the community's needs. His insights highlight the importance of providing high-quality tools and equipment, such as filtration systems, leak detectors, and pressure regulators. Clean and safe water is only achievable if the company invests in adequate equipment to ensure that its service delivery meets health and hygiene standards. The dimension of **responsiveness** is evident in how PDAM handles customer complaints. Customer feedback related to disruptions or quality issues is addressed quickly through a dedicated call center and social media channels. The company shows commitment by ensuring follow-up actions are taken in a timely manner. This responsiveness builds public confidence and creates a sense of accountability from the service provider.

PDAM Tirta Waesai has also demonstrated progress in the **assurance** dimension of service quality. The company guarantees safe and continuous service through internal training and staff development. Regular training sessions help enhance employee professionalism, improve problem-solving skills, and ensure ethical conduct. As a result, the public develops a stronger sense of trust in the company's ability to meet their expectations consistently.

**Empathy**, or care for customers, is reflected in how employees interact with the public. Staff members are trained to be courteous and patient, especially when dealing with complaints, new installations, or billing issues. PDAM also provides special services for elderly and disabled customers through priority counters. These inclusive practices demonstrate the company's sensitivity to diverse customer needs beyond profit motives.

In addition to SERVQUAL dimensions, several internal factors influence service quality. One is staff development through regular technical and customer service training. These sessions help employees better understand procedures, reduce errors, and improve work performance. A culture of professionalism and collaboration is cultivated, enhancing service delivery standards throughout the organization.

Another critical factor is internal communication. Observations show that coordination among PDAM divisions—especially between technical and customer service units—has been effective. Regular meetings and reports ensure that problems are promptly identified and solved. Open communication fosters efficient decision-making and accelerates issue resolution at the operational level.

Emotional support from leadership also plays a key role. PDAM managers are known for their openness and willingness to accept feedback from employees. This fosters a work environment where staff feel valued, thereby improving morale and motivation. Comfortable and fair working conditions enhance employee engagement and, consequently, the quality of public service delivery.

Motivational strategies are also utilized effectively. The company offers incentives, awards, and team-building events to maintain enthusiasm among staff. These initiatives encourage healthy competition and innovation in the workplace. As a result, PDAM has created a motivated team of employees who are committed to continuous improvement and excellent customer service. PDAM's customer-focused approach is not limited to water supply alone. It also includes relationship-

building with the community. Efforts to improve interactions and maintain mutual respect are key to sustaining long-term trust. Public services delivered with a sense of accountability and friendliness contribute to positive customer experiences.

The Door Prize initiative for late-paying customers exemplifies PDAM's human-centered approach. Rather than punitive measures, the company adopts a persuasive and appreciative strategy. This reflects an understanding of the community's socio-economic conditions and a commitment to collaborative problem-solving, which is crucial in the context of public services. The availability of clean water is fundamental to community well-being. Based on interviews, residents have expressed their satisfaction with more consistent and reliable water services compared to previous years. This improvement is a direct result of PDAM's infrastructure investment and proactive maintenance efforts.

PDAM also conducts public outreach and education on water conservation, home plumbing care, and timely bill payments. These programs are delivered via social media, public banners, and community meetings. Such initiatives demonstrate the company's commitment to raising awareness and building community capacity alongside service delivery. Despite the progress, challenges remain. Issues such as pipeline leakage, inconsistent flow during peak hours, and limited technical staff are still present. Although these problems are not systemic, they require ongoing attention to maintain high service quality and prevent customer dissatisfaction.

In conclusion, PDAM Tirta Waesai has demonstrated a commitment to delivering quality water distribution services. While improvements are still needed, the company's current efforts reflect strong alignment with the SERVQUAL framework. By investing in infrastructure, training, internal communication, and customer care, PDAM is well-positioned to meet growing public expectations.

➤ Discussion

The findings of this research indicate that the water distribution services of PDAM Tirta Waesai in Barru Regency have largely met the expected quality standards as defined by the SERVQUAL model. The five key dimensions—tangibles, reliability, responsiveness, assurance, and empathy—serve as a robust framework to evaluate public service performance, particularly in the context of essential utility services like water distribution. Improvements in these areas reflect positively on PDAM's operational management and customer relations strategies.

From a **tangible** perspective, the availability of adequate facilities and equipment demonstrates PDAM's commitment to enhancing physical infrastructure. Clean and well-maintained facilities are crucial to providing safe drinking water. As noted in the interview with Mr. Andi Muliadi, the company also employs creative strategies such as offering door prizes to maintain positive engagement with customers. This contributes to building goodwill and motivating consumers to maintain regular payments.

**Reliability** has emerged as another strong aspect of the service. Customers can rely on consistent water supply and clear scheduling, which reduces dissatisfaction. The emphasis placed by Mr. H. Amiruddin on equipment completeness shows that PDAM understands how crucial system integrity is to maintaining reliable services. Reliable services also reduce operational disruptions and enhance consumer confidence, especially in residential and commercial areas.

In terms of **responsiveness**, PDAM has developed mechanisms to ensure timely handling of customer concerns. With increasing public expectations and digital communication tools, responsiveness is essential for retaining public trust. The establishment of a dedicated complaints center and the use of social media for feedback collection are critical innovations. These allow PDAM to identify and address problems before they escalate, reinforcing the organization's accountability.

**Assurance** is closely tied to internal human resource practices, particularly training and development. The company's efforts to enhance staff competence through workshops and skill-building initiatives contribute to greater public trust in PDAM's ability to deliver safe, high-quality services. Assurance also involves ethical behavior, professionalism, and transparent communication, all of which foster positive public perceptions and reduce misunderstandings.

The dimension of **empathy** highlights PDAM's efforts to tailor its services to different segments of the community. For example, the provision of specialized counters for elderly and disabled customers shows that the company takes inclusivity seriously. Additionally, PDAM's emphasis on respectful and friendly communication from staff members supports an environment where customers feel heard and valued, beyond transactional interactions.

Several internal factors support the quality improvements at PDAM, including better internal communication and employee motivation. The coordination between departments, regular meetings, and open feedback channels create a collaborative culture that enhances service efficiency. Furthermore, the motivational strategies adopted by the leadership, such as recognition and incentives, are effective in encouraging innovation and dedication among employees.

In summary, the analysis demonstrates that PDAM Tirta Waesai is not only meeting but in several areas exceeding expectations for public utility services. However, continued focus is needed on pipeline maintenance, pressure regulation, and technical staffing. Future strategies should aim to enhance service coverage, invest in smart water management technology, and strengthen community outreach programs to maintain sustainable improvements in service quality.

## D.CONCLUSION AND RECOMMENDATIONS

### ➤ Conclusion

Based on the findings and discussion, it can be concluded that the water distribution service quality provided by PDAM Tirta Waesai in Barru Regency is generally good and meets the key dimensions of the SERVQUAL model. The company has successfully managed to provide adequate tangible infrastructure, ensure reliable and continuous water supply, respond promptly to customer needs, and build customer trust through assurance and empathy. These achievements are supported by effective internal communication, staff training, and motivational initiatives. Nevertheless, there remain challenges such as pipeline maintenance and resource constraints that require ongoing attention.

### ➤ Recommendations

To further improve the quality of water distribution services, PDAM Tirta Waesai should consider the following recommendations:

1. Enhance infrastructure maintenance: Regular and proactive maintenance of pipelines and equipment should be prioritized to reduce leakages and service interruptions.
2. Strengthen staff training programs: Continuous professional development and training are essential to keep employees updated on new technologies and customer service best practices.
3. Improve internal communication: Strengthening communication channels between technical and customer service units can accelerate problem-solving and enhance overall service coordination.
4. Expand community engagement: Implement more extensive public education programs on water conservation, billing processes, and complaint mechanisms to foster customer participation and awareness.

5. Invest in technology: Adopt smart water management systems such as automated monitoring and leak detection technologies to optimize distribution efficiency.
6. Maintain customer-centered services: Continue and expand initiatives like priority services for vulnerable groups and customer incentives to maintain high satisfaction and loyalty.

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