

Measuring Service Quality in Azerbaijan's Healthcare Sector with the SERVQUAL Model

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Abstract— This study investigates the application of the SERVQUAL model as a framework for measuring and analyzing service quality in the healthcare sector. The healthcare industry is characterized by its critical role in society, where service quality directly impacts patient outcomes, satisfaction, and trust. The SERVQUAL model, renowned for its ability to assess gaps between customer expectations and perceptions, is adapted in this study to evaluate healthcare services across five key dimensions: tangibles, reliability, responsiveness, assurance, and empathy. These issues are particularly relevant in Azerbaijan, where the healthcare sector is undergoing significant reforms. Efforts to modernize healthcare infrastructure, digitize patient records, and enhance service delivery are ongoing, yet challenges persist in ensuring equitable access and high standards across both urban and rural areas. The findings offer actionable insights for healthcare managers and policymakers, emphasizing the need for targeted interventions to enhance service quality. By addressing these gaps, healthcare providers can foster a more patient-centered approach, improve satisfaction levels, and achieve better health outcomes. The study also underscores the importance of continuous monitoring and evaluation to sustain quality improvements over time.

Keywords—SERVQUAL, healthcare, digitalization, Azerbaijan.

I. INTRODUCTION

The healthcare sector is a critical domain where service quality directly impacts patient outcomes and satisfaction. As patient expectations continue to rise, measuring and improving service quality has become an essential focus for healthcare providers. The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry, offers a comprehensive framework for assessing service quality across various dimensions, including tangibles, reliability, responsiveness, assurance, and empathy.

In Azerbaijan, the healthcare system is undergoing significant transformation, influenced by both economic development and a growing emphasis on patient-centered care. The government has initiated various reforms aimed at enhancing healthcare delivery and ensuring that services meet international quality standards. As a result, the application of the SERVQUAL model in Azerbaijan's healthcare sector can provide valuable insights into how well healthcare services align with patient expectations. To measure service quality in Azerbaijan's healthcare sector using the SERVQUAL model, it is essential to understand the model's application and effectiveness in similar contexts. The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry, evaluates service quality across five dimensions:

tangibles, responsiveness, reliability, assurance, and empathy.

This study aims to utilize the SERVQUAL model to identify gaps in healthcare service quality and provide actionable insights for healthcare managers and policymakers. By focusing on the specific dimensions of service quality as outlined in the SERVQUAL framework, healthcare providers in Azerbaijan can better understand patient perceptions and expectations. This understanding is crucial for developing strategies that enhance service delivery, improve patient satisfaction, and ultimately improve health outcomes.

Furthermore, as Azerbaijan continues to modernize its healthcare infrastructure, integrating tools like the SERVQUAL model will be essential in fostering a culture of continuous improvement within healthcare organizations. By systematically measuring service quality and addressing identified gaps, healthcare providers can enhance their competitiveness and contribute to the overall health and well-being of the population.

II. IMPORTANCE OF SERVICE QUALITY IN HEALTHCARE

Service quality in healthcare is of paramount importance as it directly influences patient satisfaction, health outcomes, and the overall effectiveness of healthcare systems. In Azerbaijan, where the healthcare sector is evolving through reforms and modernization, understanding and improving service quality has become a critical focus for both healthcare providers and policymakers.

In Azerbaijan, the importance of service quality is recognized amid ongoing healthcare reforms aimed at modernizing the system and enhancing patient care. The government has implemented various initiatives to improve healthcare delivery, including the Health Transformation Program initiated in 2003, which emphasizes quality measurement and patient satisfaction. As the population becomes more informed about their healthcare options, expectations regarding service quality have risen. Patients now seek not only effective medical treatments but also a positive experience throughout their healthcare journey. Azerbaijani healthcare institutions are increasingly striving to implement international quality standards to enhance their services. The application of models like SERVQUAL allows these institutions to assess their performance against established benchmarks and identify areas for improvement. The modernization of healthcare facilities involves incorporating advanced technologies that improve both the quality of care and patient experiences. By focusing on tangibles—one of

the SERVQUAL dimensions—healthcare providers can enhance the physical aspects of their services, such as facility cleanliness and equipment availability. To meet rising expectations for responsiveness and empathy—two critical SERVQUAL dimensions—healthcare organizations in Azerbaijan are investing in staff training programs that emphasize communication skills and patient-centered care. The ongoing measurement of service quality using frameworks like SERVQUAL enables Azerbaijani healthcare providers to create a culture of continuous improvement. Regular feedback from patients helps institutions adapt their services to better meet evolving needs.

In the literature, there are numerous definitions and measurement methods for the concept of service quality. Among these, the most commonly used method is the SERVQUAL model. According to this model, service quality is determined by measuring the gap between the perceived quality of the service and the customers' expectations. This study aims to identify potential similarities and differences in quality perceptions by examining some SERVQUAL model studies conducted in healthcare services found in national and international literature.

The findings of the research indicate that the results of the studies reviewed from both national and international literature are largely similar. In studies from both literatures, it was determined that patients most frequently had expectations related to the reliability dimension. Correspondingly, the highest perceived service quality dimension was also found to be reliability. On the other hand, in both literatures, the lowest perceived service quality and the most significant negative gap were identified in the physical characteristics dimension. The similarities observed in the expectations and perceptions of participants in both national and international studies suggest that health is a universal concept. (Figure 1).

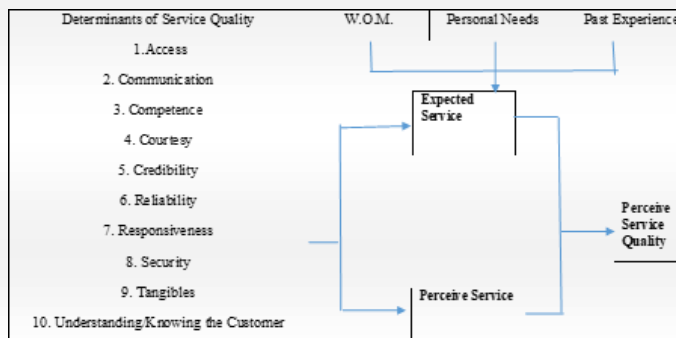


Figure 1: Parasuraman, A., Zeithaml, V.A., Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*. 49:41-50.

The 10 service quality factors identified by customers have been grouped under five separate dimensions in the development of the SERVQUAL scale. These dimensions and their characteristics are as follows (Parasuraman et al., 1988):

- Tangibles: Physical facilities, equipment, and appearance of personnel.
- Reliability: The ability to deliver the promised service reliably and accurately.
- Responsiveness: The willingness to help customers and provide prompt service.

- Assurance: Employees are knowledgeable, courteous, and able to inspire trust and confidence in customers.
- Empathy: The ability of the organization to put itself in the customer's place and provide individualized attention.

The SERVQUAL scale was developed based on these five dimensions to measure service quality. This scale consists of two sections. The first section includes 22 questions aimed at identifying customer expectations. The second section contains 22 questions designed to assess customers' perceptions of quality. Based on these responses, gap scores are calculated. Parasuraman and colleagues emphasized that the structure forming the foundation of the SERVQUAL model is a comprehensive service quality measurement method that can be adapted in various ways when needed (Parasuraman et al., 1988).

In light of the information provided by the SERVQUAL model, the scale aims to identify the gap between customer perceptions and expectations (Parasuraman et al., 1991). When customer perceptions match their expectations, no gap is formed, and it is concluded that the service quality is at the desired level. If customer perceptions are lower than expectations, a negative gap occurs, indicating low service quality. Conversely, if customer perceptions exceed expectations, a positive gap arises, indicating an excess of service quality, which is the most desirable outcome (Burböck, 2014).

Studies conducted on the perception of quality in healthcare services measured by the SERVQUAL model in national and international literature show significant similarities. In both literatures, participants place the most importance on the reliability dimension. However, differences were identified in the dimensions with the lowest expectation levels. In international literature, participants had the lowest expectations in the tangibles dimension, while in national literature, the empathy dimension had the lowest expectations. Conversely, in both literatures, participants had the highest perception scores in the reliability dimension. Similarly, in both literatures, the dimension with the lowest perception scores was tangibles.

When examining the gap between perceived service quality and expectations, the tangibles dimension was found to have the largest negative gap in both literatures. However, there is a difference in the dimensions with the smallest negative gap. In international studies, the smallest negative gap occurred in the assurance dimension, while in national studies, it occurred in the empathy dimension.

In the literature, the most commonly used method for measuring quality perception in healthcare services is the SERVQUAL model. This study reviewed research conducted using the SERVQUAL model in healthcare from national and international literature. Studies meeting specific inclusion criteria were considered. The aim was to identify the dimensions with the highest and lowest expectation and perception scores among participants and determine in which dimensions gaps occurred, comparing these results nationally and internationally to identify potential similarities and differences.

The review revealed that in both national and international studies, the reliability dimension received the highest expectation scores from participants. This finding stems from

the fact that health is a critical element for humans. The studies indicated that patients value healthcare workers who are willing to help them and perform their duties correctly and reliably. Thus, patients prefer competent healthcare delivery over flashy presentations (Papanikolaou and Zygiaris, 2014). The high expectations in the reliability dimension can also be attributed to age and education factors. Younger participants and those with higher educational levels tend to have higher reliability expectations due to their increased awareness.

In both literatures, the highest perception scores were also observed in the reliability dimension. This alignment between expected and perceived service quality is a positive outcome. High perceptions of reliability suggest that healthcare workers fulfill their promises and exhibit a high capacity to deliver services accurately.

When examining the lowest expectation scores, the empathy dimension stands out in the national literature, while tangibles are the lowest in the international literature. The low expectations for empathy in national studies may be linked to a lack of sufficient doctors and an excessive workload for each doctor (Lonia et al., 2010). In contrast, the low expectations for tangibles in international studies may stem from patients prioritizing timely and accurate responses to their needs over physical facilities (Butt and Run, 2010).

In both national and international literatures, the lowest perception scores were in the tangibles dimension. Additionally, the largest negative gap occurred in this dimension in both literatures. The discrepancy between perceptions and expectations can be partly explained by the rising expectations among younger, more educated, and higher-income individuals.

The importance of service quality in healthcare cannot be overstated, particularly in a rapidly changing environment like Azerbaijan's. By prioritizing high-quality service delivery through structured frameworks such as SERVQUAL, healthcare providers can enhance patient satisfaction, improve health outcomes, and maintain a competitive advantage in the sector. As Azerbaijan continues its journey towards a more effective and patient-centered healthcare system, focusing on service quality will be essential for achieving long-term success and better health for its population.

What specific improvements can be achieved in the healthcare sector of Azerbaijan using the SERVQUAL model?

The SERVQUAL model can facilitate several specific improvements in Azerbaijan's healthcare sector, focusing on enhancing service quality and patient satisfaction. Here are some key areas where the model can be applied effectively.

- ✓ The SERVQUAL model helps healthcare providers identify discrepancies between patients' expectations and their actual experiences. By systematically measuring these gaps across the five dimensions—tangibles, reliability, responsiveness, assurance, and empathy—healthcare institutions can pinpoint specific areas needing improvement.
- ✓ Based on the insights gained from SERVQUAL assessments, healthcare organizations can implement targeted training programs for their staff. This training can focus on improving communication skills, fostering a more empathetic

approach to patient care, and enhancing responsiveness to patient needs. Such initiatives can lead to more positive interactions between healthcare providers and patients.

- ✓ The tangibles dimension of SERVQUAL emphasizes the importance of physical facilities and equipment. By investing in modernizing healthcare infrastructure—such as updating medical equipment, ensuring cleanliness, and creating a welcoming environment—hospitals can significantly enhance the patient experience.
- ✓ Regularly collecting patient feedback through surveys based on the SERVQUAL model allows healthcare providers to stay attuned to patient perceptions and expectations. This ongoing feedback loop enables institutions to make real-time adjustments to their services, fostering a culture of continuous improvement.
- ✓ The insights from SERVQUAL assessments can drive a shift towards more patient-centered care practices. By prioritizing patients' preferences and needs in service delivery, healthcare organizations can enhance overall satisfaction and build stronger relationships with patients.
- ✓ Healthcare institutions in Azerbaijan can use the SERVQUAL framework to benchmark their service quality against international standards. This benchmarking process helps identify best practices from other countries that could be adapted to improve local healthcare services.
- ✓ Implementing quality assurance programs based on SERVQUAL findings allows healthcare organizations to establish clear performance metrics for service delivery. These programs can help maintain high standards of care and ensure compliance with regulatory requirements.

By utilizing the SERVQUAL model, Azerbaijan's healthcare sector can achieve significant improvements in service quality through targeted interventions in training, infrastructure, patient feedback mechanisms, and quality assurance programs. These enhancements are essential for meeting rising patient expectations and ensuring better health outcomes in an evolving healthcare landscape.

CONCLUSION

The use of the SERVQUAL model to assess healthcare service quality, both in national and international research, reveals significant similarities across regions. While factors such as geography, culture, and economic conditions naturally shape individuals' expectations and perceptions, this study highlights a remarkable consistency in healthcare expectations and perceptions worldwide. This suggests that health is a universal concept, as all individuals, irrespective of background, require healthcare for their well-being. This study is limited by the scope of indexes used, the range of publication years considered, and its focus on the core five dimensions of the SERVQUAL model. Future research could expand the index selection, include articles from a broader time period, and examine additional dimensions beyond the initial five. Additionally, further studies could explore how factors like geographic location, culture, economic

conditions, and healthcare system structures influence patient expectations and perceptions. The application of the SERVQUAL model in Azerbaijan's healthcare sector offers a comprehensive framework for evaluating and improving service quality. By identifying gaps between patient expectations and actual experiences, healthcare institutions can target areas for improvement across dimensions such as tangibles, reliability, responsiveness, assurance, and empathy. This process is vital for enhancing patient satisfaction, building trust, and improving health outcomes. As Azerbaijan continues its healthcare reforms, the SERVQUAL model proves to be a valuable tool for meeting international quality standards and embracing patient-centered care practices. Investments in infrastructure, staff training, and continuous feedback mechanisms are crucial to transforming the healthcare system to meet patients' growing expectations. By fostering a culture of continuous improvement and utilizing SERVQUAL insights to shape policies and strategies, Azerbaijan's healthcare providers can ensure sustainable progress in service delivery. Ultimately, focusing on service quality through the SERVQUAL model aligns with the broader goals of strengthening healthcare systems, improving population health, and maintaining a competitive edge in an evolving healthcare environment. As Azerbaijan advances in its healthcare reforms, applying structured, evidence-based models like SERVQUAL will be key to developing a more effective, equitable, and patient-focused healthcare system.

Recommendations for Azerbaijan:

1. *Adaptation:* Tailor the SERVQUAL dimensions to meet the specific needs and expectations of patients in Azerbaijan. This may include modifying survey items to better capture local nuances in healthcare services.
2. *Comprehensive Evaluation:* Use SERVQUAL to conduct a detailed assessment of patient expectations and perceptions, identifying critical areas for improvement such as equipment upgrades or staff training.
3. *Focus on Key Dimensions:* Prioritize dimensions like reliability and assurance, which have proven vital in other healthcare settings. Ensuring dependable and trustworthy services can greatly enhance patient satisfaction.
4. *Continuous Improvement:* Utilize insights from SERVQUAL assessments to implement targeted interventions and track their impact over time. This iterative approach will help sustain improvements in service quality.

By applying the SERVQUAL model and learning from its use in similar contexts, Azerbaijan's healthcare sector can systematically assess and enhance service quality, ultimately leading to improved patient outcomes and satisfaction. Customizing the model to local needs, collecting patient feedback, and focusing on continuous improvement will be essential steps toward achieving these goals.

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