A Theoretical Framework of Service Quality and Customer Satisfaction with Empathy as Moderator in UAE Healthcare Services

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Abstract

Healthcare service quality is a multidimensional construct that continues to challenge policymakers and practitioners, particularly in rapidly developing contexts such as the United Arab Emirates (UAE). Despite substantial investment in advanced infrastructure, medical technologies, and workforce development, patient satisfaction remains below expectations. This underscores the need for a comprehensive framework that captures both technical and institutional dimensions of healthcare delivery. This study proposes a Theoretical framework that integrates the SERVQUAL model, emphasizing Reliability, Assurance, Responsiveness, Tangibility, and Empathy, with the PubHosQual model, which incorporates Social Responsibility as a critical institutional dimension. Empathy is positioned as a moderating variable, reflecting its role in humanizing healthcare interactions and strengthening the relationship between service quality and patient satisfaction. Drawing on recent regional and international evidence, the framework hypothesizes both direct effects of service quality dimensions on patient satisfaction and moderation effects of empathy. The proposed model provides theoretical and practical contributions. Theoretically, it extends existing service quality models by elevating empathy from a single dimension to a relational amplifier. Practically, it offers healthcare providers and policymakers a diagnostic tool to evaluate

strengths and weaknesses in service delivery, guiding interventions that enhance both efficiency and human-centered care. By embedding empathy into service quality reforms, UAE healthcare organizations can foster trust, loyalty, and satisfaction, advancing the nation's vision of patient-centered, world-class healthcare.

Keywords: service quality, customer satisfaction, empathy, UAE healthcare

1. Introduction

Healthcare service quality is widely recognized as a multidimensional construct that influences patients, families, healthcare professionals, policymakers, and society. In healthcare settings, service quality assessment is particularly complex because it extends beyond technical competence to include interpersonal care, communication, and emotional support. These complexities are further amplified in culturally diverse systems such as that of the United Arab Emirates (UAE), where patient expectations and perceptions are shaped by social norms, cultural values, and institutional practices (Al-Yateem et al., 2026; Al-Shamsi, 2026).

The SERVQUAL model remains one of the most influential theoretical frameworks for evaluating service quality, conceptualizing it as the gap between customer expectations and perceived performance across dimensions such as reliability, assurance, responsiveness, tangibility, and empathy. Despite its widespread use, SERVQUAL has been criticized for its limited ability to capture institutional and public-sector characteristics, particularly in government healthcare settings. Contemporary healthcare studies increasingly argue that service quality measurement must move beyond transactional encounters to incorporate systemic, organizational, and contextual dimensions (Galal et al., 2026; Alfandia & Arifafarina, 2026).

To address these concerns, healthcare-specific models such as PubHosQual were developed to reflect the distinctive nature of public hospitals, emphasizing professionalism, social responsibility, and institutional accountability. Recent empirical evidence continues to demonstrate that perceived healthcare quality significantly influences patient satisfaction and loyalty outcomes in public healthcare systems (Galal et al., 2026). However, much of the existing literature applies service quality frameworks in isolation, limiting their explanatory power in complex public healthcare environments.

In the UAE, healthcare systems are characterized by advanced infrastructure, rapid digital transformation, and a highly skilled multinational workforce. National strategies emphasize innovation, evidence-based practice, and patient-centred care (Al Amiri et al., 2026; Hasan, Kumar, & Riaz, 2026). Despite these advancements, patient satisfaction outcomes remain inconsistent. Recent household survey data from Dubai indicate persistent gaps in satisfaction with healthcare services, particularly in relation to waiting times, communication, and service responsiveness (Ibrahim et al., 2025; Mosleh et al., 2025). These findings suggest that technological and structural improvements alone are insufficient to meet patient expectations.

Parallel challenges have been observed across different healthcare domains in the UAE. Studies on emergency departments highlight dissatisfaction related to prolonged waiting times and process inefficiencies (Mosleh et al., 2025), while research on community pharmacies reveals concerns regarding service implementation and patient engagement amid digital transformation (Jarab et al., 2026). Additionally, evidence from dental and mental health services underscores the importance of perceived care quality and emotional support in shaping health-related quality of life and patient experiences (Hashim et al., 2026; Al-Yateem et al., 2026).

Beyond patient outcomes, healthcare service quality is closely linked to workforce conditions. Research in the UAE demonstrates that job satisfaction, work environment, and professional empowerment among healthcare workers significantly influence service delivery and patient experiences (Alkhateeb et al., 2025; Aljawarneh et al., 2025; Al Amiri et al., 2026). These findings reinforce the need for service quality models that account for both patient perceptions and institutional dynamics within public healthcare organizations.

A critical yet underexplored dimension in this context is empathy. While empathy is traditionally embedded within service quality models as a direct dimension, recent healthcare research suggests that it functions more dynamically within care relationships. Empirical studies show that empathy enhances professional competence, resilience, and patient trust, particularly in high-pressure healthcare environments (Shehadeh et al., 2026). In culturally diverse healthcare systems, empathy may condition how patients interpret service quality attributes such as reliability, assurance, and responsiveness, thereby influencing satisfaction outcomes.

Despite growing recognition of empathy's importance, empirical research rarely examines its moderating role in the relationship between service quality and patient satisfaction. This gap is particularly evident in UAE public healthcare research, where studies often focus on satisfaction levels or isolated service attributes without integrating interpersonal, institutional, and contextual factors (Ibrahim et al., 2025; Al-Shamsi, 2026).

In response to these gaps, the present study proposes an integrated Theoritical framework that combines SERVQUAL and PubHosQual dimensions to capture both interpersonal and institutional aspects of healthcare service delivery. Importantly, the framework positions empathy as a moderating variable that shapes the strength of the relationship between perceived service quality and patient satisfaction. By empirically testing this framework in the UAE public healthcare context, the study aims to contribute to service quality theory and provide actionable insights for policymakers and healthcare administrators seeking to enhance patient-centered care and satisfaction outcomes.

2. UAE Healthcare Services

The United Arab Emirates (UAE), despite being a relatively young nation, has made substantial progress in developing a modern healthcare system that aligns with international standards. Since its formation, the UAE has prioritized healthcare as a strategic national objective, investing heavily in infrastructure, workforce development, and digital health transformation. These efforts have positioned the country as a regional healthcare hub and enabled the delivery of advanced medical services across both public and private sectors (Al-Shamsi, 2026; Hasan, Kumar, & Riaz, 2026).

The UAE healthcare system operates through a mixed model of public and private provision. While private healthcare facilities account for a large share of service delivery, public sector investment remains significant, reflecting the government's commitment to universal access, equity, and quality improvement. Recent analyses highlight that public healthcare institutions continue to play a critical role in population health, particularly in emergency care, chronic

disease management, and preventive services (Al Hazarmerdi, 2025; Ibrahim et al., 2025). Regulatory authorities have also emphasized international accreditation and evidence-based practice as mechanisms to enhance service quality and patient safety (Al Amiri et al., 2026).

Over the past two decades, healthcare services in the UAE have undergone rapid transformation, with notable improvements in accessibility, clinical capacity, and technological integration. The adoption of business intelligence systems, digital platforms, and innovative care models has strengthened operational efficiency and decision-making within healthcare organizations (Hasan, Kumar, & Riaz, 2026; Jarab et al., 2026). Nevertheless, recent empirical evidence suggests that these structural and technological advancements have not consistently translated into higher patient satisfaction.

National and regional studies continue to report challenges related to service delivery processes, including prolonged waiting times, uneven service responsiveness, and communication gaps. Findings from a large household survey in Dubai reveal that satisfaction with healthcare services remains moderate, with waiting time and service coordination emerging as key areas of concern (Ibrahim et al., 2025). Similar patterns have been observed in emergency departments across the Northern Emirates, where overcrowding and process inefficiencies negatively influence patient experiences (Mosleh et al., 2025).

In addition to patient-facing challenges, workforce-related issues further affect healthcare service quality in the UAE. Research indicates that job satisfaction, work environment, and professional empowerment among healthcare workers are closely linked to service performance and patient outcomes (Alkhateeb et al., 2025; Aljawarneh et al., 2025). The reliance on a multinational expatriate workforce, while beneficial for skill diversity, also introduces challenges related to communication, cultural alignment, and continuity of care (Oidem, 2025; Al-Yateem et al., 2026).

Hence, while the UAE has achieved substantial progress in healthcare infrastructure, regulation, and innovation, persistent challenges related to service consistency, patient experience, workforce dynamics, and process efficiency remain. These issues underscore the need for a comprehensive and context-specific framework to evaluate healthcare service quality in public hospitals, one that integrates institutional, interpersonal, and cultural dimensions to better align healthcare delivery with patient expectations and satisfaction outcomes (Al-Shamsi, 2026).

2.1 Healthcare Service Quality

Healthcare service quality is a multidimensional construct that encompasses technical competence, organizational processes, and interpersonal care. In the UAE, healthcare systems are supported by advanced infrastructure, digital technologies, and continuous policy reforms aimed at improving service delivery and patient-centred care. Despite these efforts, recent empirical evidence indicates that patient perceptions of healthcare service quality remain inconsistent, particularly in public healthcare settings (Al-Shamsi, 2026; Ibrahim et al., 2025).

Recent studies conducted in the UAE highlight persistent service delivery challenges that

negatively influence perceived quality. Issues such as prolonged waiting times, process inefficiencies, overcrowding in emergency departments, and communication gaps between healthcare providers and patients continue to undermine patient experiences (Mosleh et al., 2025; Ibrahim et al., 2025). These findings suggest that improvements in infrastructure and technology have not been uniformly matched by enhancements in service responsiveness and interpersonal care.

The SERVQUAL model remains a foundational framework for conceptualizing service quality through five core dimensions: reliability, assurance, responsiveness, tangibility, and empathy. While originally developed for general service contexts, SERVQUAL has been widely adapted to healthcare due to its focus on patient perceptions and experiential outcomes. However, contemporary healthcare research increasingly recognizes that SERVQUAL alone may be insufficient to capture the complexity of public healthcare systems, where institutional accountability, professionalism, and social responsibility play a central role.

In this regard, healthcare-specific models such as PubHosQual extend traditional service quality frameworks by incorporating institutional and ethical dimensions that are particularly relevant in public hospital environments. Recent empirical research in healthcare systems comparable to the UAE demonstrates that perceived healthcare quality significantly influences patient satisfaction and loyalty, reinforcing the importance of integrating both interpersonal and organizational dimensions of service quality (Galal et al., 2026).

Within the UAE context, a more comprehensive evaluation of healthcare service quality therefore requires an integrative approach that captures both patient–provider interactions and institutional responsibilities. Studies focusing on healthcare innovation, evidence-based practice, and digital transformation in the UAE emphasize that service quality outcomes are shaped not only by clinical excellence but also by organizational culture, workforce capability, and system-level coordination (Al Amiri et al., 2026; Hasan, Kumar, & Riaz, 2026). Additionally, workforce-related factors such as job satisfaction, work environment, and professional competence among healthcare staff have been shown to indirectly influence patient perceptions of service quality (Alkhateeb et al., 2025; Aljawarneh et al., 2025).

These findings support the need for an integrated service quality framework in the UAE that combines the experiential focus of SERVQUAL with the institutional emphasis of PubHosQual. Such an approach enables a more holistic assessment of healthcare service quality, reflecting both technical performance and public-sector accountability. This integrated perspective provides a robust foundation for examining how service quality dimensions influence patient satisfaction within UAE public healthcare institutions.).

2.2 Customers' Satisfaction in UAE Healthcare

Customer satisfaction in healthcare refers to patients' overall evaluation of their care experiences, shaped by prior expectations, perceived service quality, emotional responses, and treatment outcomes. In the UAE, healthcare systems are characterized by advanced facilities, specialized medical services, and a highly qualified workforce. However, recent

empirical evidence indicates that patient satisfaction levels remain uneven, particularly within public healthcare settings (Al-Shamsi, 2026).

Recent population-based and facility-level studies provide insight into the determinants of patient satisfaction in the UAE. Findings from the 2023 Dubai Household Survey reveal moderate levels of satisfaction with healthcare services, with waiting times, service coordination, and communication identified as key sources of dissatisfaction (Ibrahim et al., 2025). Similar results have been reported in emergency departments across the Northern Emirates, where prolonged waiting times and overcrowding negatively influence patient experiences and satisfaction (Mosleh et al., 2025).

Beyond operational factors, patient satisfaction in the UAE is also influenced by interpersonal and emotional aspects of care. Research examining oral health and dental anxiety among adults in the UAE highlights the importance of perceived care quality, provider communication, and emotional support in shaping health-related quality of life and satisfaction outcomes (Hashim et al., 2026). Studies focusing on families of critically ill patients further emphasize that unmet informational and emotional needs can significantly reduce satisfaction with healthcare services (Al-Sayaghi & Al-Jabri, 2026).

Workforce-related factors play an indirect yet critical role in shaping patient satisfaction. Evidence from the UAE demonstrates that healthcare professionals' job satisfaction, work environment, and professional competence are closely associated with service responsiveness and patient-centered care delivery (Alkhateeb et al., 2025; Aljawarneh et al., 2025). Moreover, the multicultural composition of the UAE healthcare workforce introduces additional challenges related to communication, cultural alignment, and continuity of care, which can affect patient trust and satisfaction (Oidem, 2025; Al-Yateem et al., 2026).

Comparative and regional research reinforces the central role of service quality in determining patient satisfaction. Studies conducted in public healthcare systems in developing and transitional economies consistently demonstrate that perceived service quality is a primary predictor of patient satisfaction and loyalty intentions (Galal et al., 2026). These findings suggest that dissatisfaction with healthcare services is not unique to the UAE but reflects broader structural and experiential challenges faced by public healthcare systems.

Overall, the evidence indicates that enhancing patient satisfaction in the UAE requires a multidimensional approach that addresses both operational efficiency and interpersonal quality of care. Improving responsiveness, communication, and emotional support, alongside structural and technological advancements that is essential to strengthening patient trust, satisfaction, and long-term engagement with public healthcare services.

2.3 Empathy in UAE Healthcare

Empathy, defined as the ability of healthcare providers to understand and respond to patients' emotional, psychological, and cultural needs, plays a critical role in shaping patient satisfaction. While traditionally considered a dimension within service quality models such as SERVQUAL, recent research supports treating empathy as a moderating variable, which can amplify or attenuate the relationship between service quality and patient satisfaction

(Shehadeh et al., 2026; Al-Yateem et al., 2026).

In the UAE's multicultural healthcare environment, empathy assumes heightened importance. Patients represent diverse cultural, linguistic, and socio-economic backgrounds, and empathetic communication helps bridge differences in expectations and perceptions. Evidence from UAE healthcare contexts demonstrates that empathetic care strengthens the positive effects of service quality on patient satisfaction, fostering trust, confidence, and emotional reassurance alongside technical competence (Al-Sayaghi & Al-Jabri, 2026; Hashim et al., 2026). Conversely, low levels of empathy may diminish satisfaction, even when clinical and operational service quality is high, highlighting the relational dimension of patient experience (Shehadeh et al., 2026).

Empirical studies also indicate that empathy contributes to professional competence and resilience among healthcare workers, which indirectly enhances patient-centered care and satisfaction (Al Amiri et al., 2026). By acting as a relational amplifier, empathy influences patient perceptions, loyalty, and engagement, particularly in high-pressure or complex healthcare environments (Al-Yateem et al., 2026; Al-Sayaghi & Al-Jabri, 2026).

By positioning empathy as a moderator rather than a direct antecedent, this study provides a nuanced framework for understanding how technical service quality and institutional processes translate into patient satisfaction in the UAE. Integrating empathy into the analysis acknowledges that healthcare delivery is not solely a matter of infrastructure or clinical skill but is fundamentally relational, particularly in culturally diverse public healthcare settings.

2.4 SERVQUAL and PubHosQual Model Theory

Healthcare service quality is a complex, multidimensional construct that cannot be fully captured by a single theoretical model. Among the most widely used frameworks are SERVQUAL and PubHosQual, each offering distinct insights into measuring and improving service quality in healthcare. Endeshaw (2021) emphasizes that combining patient-centered and institutional approaches provides a more complete understanding of healthcare quality in diverse contexts.

The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1985, 1988, 1991), conceptualizes service quality as the gap between patient expectations and perceived service performance, typically measured across five dimensions:

1) Reliability: the ability to deliver services consistently and accurately, including accurate diagnoses, timely treatment, and adherence to clinical protocols.

2) Assurance: the competence, courtesy, and trustworthiness of healthcare providers, particularly critical in multicultural settings like the UAE, where patients may have diverse expectations and health literacy levels.

3) Responsiveness: the willingness and ability of staff to address patient needs, concerns, and emergencies promptly, which is essential in outpatient, inpatient, and emergency services.

4) Tangibility: the physical environment of healthcare facilities, including cleanliness, signage, equipment, and overall infrastructure, which influences patient perceptions of quality.

5) Empathy: the ability to understand and respond to patients' emotional, psychological, and cultural needs, ensuring personalized care and enhancing satisfaction.

SERVQUAL has been widely applied in developing countries to measure gaps in healthcare quality, though it faces challenges in adapting to local cultural and institutional contexts (AlOmari, 2021). Despite these limitations, SERVQUAL remains valuable for capturing patient perceptions of technical and relational service quality.

The PubHosQual model complements SERVQUAL by addressing organizational and institutional dimensions of service quality in public hospitals. Key dimensions include:

- Social Responsibility: reflecting the ethical, professional, and community-oriented practices of healthcare institutions, including equitable access, transparency, and accountability.

- Professionalism: adherence to ethical standards, continuous staff development, and commitment to high-quality care.

- Institutional Accountability: governance and management practices that ensure consistent and safe service delivery (Almomani, Al-Ghdabi, & Banyhamdan, 2020).

In the UAE context, integrating SERVQUAL and PubHosQual provides a holistic framework for evaluating healthcare quality. While SERVQUAL captures patient-facing dimensions such as responsiveness and empathy, PubHosQual addresses institutional factors that influence trust, satisfaction, and loyalty. This integrated approach is particularly relevant in UAE hospitals, which combine advanced technology and highly skilled staff with diverse patient populations and complex organizational structures.

Furthermore, positioning empathy as a moderating variable strengthens this framework by highlighting the relational dimension of care. Empathy enhances the effect of both technical and institutional quality dimensions on patient satisfaction, ensuring that healthcare delivery is not only efficient but also human-centered and culturally sensitive.

In conclusion, combining SERVQUAL and PubHosQual provides a robust theoretical foundation for assessing healthcare service quality in the UAE. It bridges technical competence, institutional responsibility, and relational care, offering a multidimensional lens for understanding patient satisfaction and guiding healthcare improvement strategies (Endeshaw, 2021; AlOmari, 2021; Almomani, Al-Ghdabi, & Banyhamdan, 2020).

2.5 Synthesis of Healthcare Review

The literature demonstrates that healthcare service quality in the UAE has advanced substantially, yet systemic challenges persist. Operational inefficiencies, including overcrowding, prolonged waiting times, and inconsistent responsiveness, continue to undermine patient experiences and satisfaction (Mosleh et al., 2025; Ibrahim et al., 2025).

Despite modern facilities and highly skilled professionals, recent evidence indicates that a significant proportion of patients in the UAE report dissatisfaction with public healthcare services, particularly in emergency and outpatient care (Al-Shamsi, 2026; Hashim et al., 2026). Regional and international comparisons reinforce that perceived service quality is a primary determinant of patient satisfaction, loyalty, and engagement in public healthcare systems (Galal et al., 2026; Al-Yateem et al., 2026).

Theoritical models such as SERVQUAL provide a foundational lens for assessing healthcare service quality through dimensions including reliability, assurance, responsiveness, tangibility, and empathy (Parasuraman, Zeithaml, & Berry, 1985, 1988, 1991). While SERVQUAL emphasizes patient perceptions and interpersonal care, the PubHosQual framework complements this approach by incorporating institutional and ethical dimensions, such as professionalism and social responsibility, which are particularly relevant in public healthcare contexts (Al Amiri et al., 2026; Hasan, Kumar, & Riaz, 2026). Integrating these models enables a more comprehensive evaluation of service quality in UAE public hospitals, capturing both technical performance and organizational accountability (Alfandia & Arifafarina, 2026; Galal et al., 2026).

Empathy emerges as a critical relational factor that shapes patient experiences and satisfaction outcomes. Empirical evidence from UAE and comparable healthcare contexts highlights that empathy enhances trust, engagement, and perceived care quality, particularly in multicultural healthcare environments where communication and cultural understanding are essential (Shehadeh et al., 2026; Al-Sayaghi & Al-Jabri, 2026; Al-Yateem et al., 2026). Positioning empathy as a moderating variable recognizes its capacity to strengthen or attenuate the influence of technical and institutional service quality dimensions on patient satisfaction.

Taken together, these insights underscore the need for a Theoritical framework that integrates technical, institutional, and relational dimensions of service quality to comprehensively explain patient satisfaction in UAE healthcare services. Such an integrative approach accounts for the complex interplay between clinical performance, organizational practices, and empathetic care, offering a robust foundation for both theoretical advancement and practical interventions in public healthcare delivery.

3. Formulating Theoritical Framework

Healthcare service quality is widely recognized as a multidimensional construct, encompassing both technical competence and institutional responsibility. To capture this complexity within the UAE healthcare context, this study integrates two established models: SERVQUAL and PubHosQual.

The SERVQUAL model conceptualizes service quality as the gap between patient expectations and perceived service performance, represented by five dimensions: Reliability, Assurance, Responsiveness, Tangibility, and Empathy (Parasuraman, Zeithaml, & Berry, 1985). Subsequent refinements validated its applicability across multiple service sectors, including healthcare, and demonstrated its utility in measuring patient satisfaction and service

delivery gaps (Parasuraman, Zeithaml, & Berry, 1988, 1991). In UAE hospitals, SERVQUAL has been applied to evaluate patient satisfaction, highlighting discrepancies between expectations and actual experiences in both public and private healthcare settings (Al-Shamsi, 2026; Ibrahim et al., 2025).

The PubHosQual model extends this framework by incorporating institutional and ethical dimensions, particularly Social Responsibility, which reflects accountability, community engagement, and professional conduct in public hospitals (Al Amiri et al., 2026; Hasan, Kumar, & Riaz, 2026). Empirical evidence indicates that PubHosQual offers a more comprehensive perspective for evaluating service quality in public healthcare, particularly in contexts where institutional trust, governance, and cultural sensitivity are critical (Galal et al., 2026). Integrating SERVQUAL and PubHosQual in the UAE ensures that both technical and institutional dimensions of healthcare service delivery are captured (Alfandia & Arifafarina, 2026; Al-Yateem et al., 2026).

Within this integrated framework, Service Quality serves as the independent construct, represented by six dimensions: Reliability, Assurance, Responsiveness, Tangibility, Empathy, and Social Responsibility. Customer Satisfaction functions as the dependent construct, reflecting patients' overall evaluation of their healthcare experiences in terms of clinical outcomes, service efficiency, and relational quality (Ibrahim et al., 2025; Mosleh et al., 2025).

Empathy is positioned as a moderating variable in the framework. Defined as the ability of healthcare providers to understand and respond to patients' emotional, psychological, and cultural needs, empathy humanizes the care process and shapes patient interpretations of service quality. Recent UAE-based and regional studies demonstrate that empathy enhances trust, loyalty, and satisfaction in healthcare interactions, particularly in multicultural and high-pressure environments (Shehadeh et al., 2026; Al-Sayaghi & Al-Jabri, 2026; Hashim et al., 2026).

The framework assumes that when empathy is high, the positive effects of service quality dimensions on patient satisfaction are strengthened, as patients perceive care to be both clinically competent and emotionally supportive. Conversely, low empathy can attenuate these effects, even in technically proficient services, as patients may perceive care as impersonal or detached. By integrating SERVQUAL and PubHosQual dimensions with empathy as a moderator, the proposed Theoritical framework provides a holistic lens for understanding patient satisfaction in UAE healthcare services, encompassing technical performance, institutional responsibility, and interpersonal sensitivity (Al-Shamsi, 2026; Al Amiri et al., 2026; Hasan, Kumar, & Riaz, 2026). This integrated framework is illustrated in Figure 1, highlighting the independent, dependent, and moderating constructs that guide the study's hypotheses and empirical investigation.
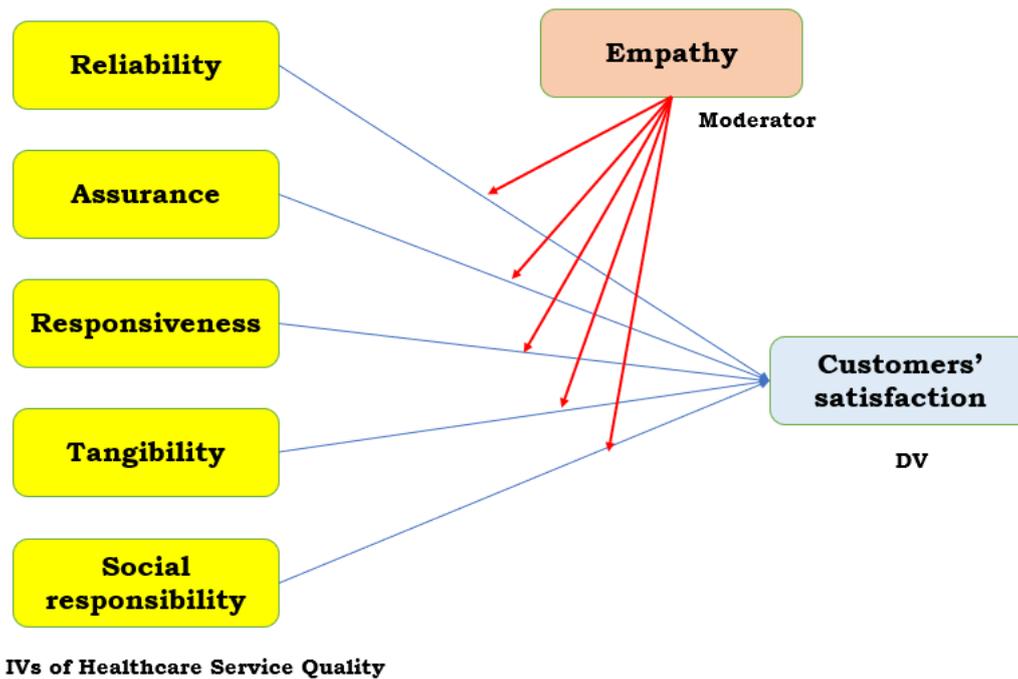
Figure 1. The theoritical framework

3.1 Hypotheses of the Framework

Based on Figure 1, the integration of SERVQUAL and PubHosQual dimensions, and the moderating role of empathy, the following hypotheses are proposed:

H1: Reliability has a positive effect on patient satisfaction. Reliability, defined as the ability of healthcare providers to consistently deliver accurate and dependable services, is expected to enhance patient satisfaction.

H2: Assurance has a positive effect on patient satisfaction. Assurance, reflected in the competence, courtesy, and credibility of healthcare professionals, is hypothesized to strengthen patient confidence and satisfaction.

H3: Responsiveness has a positive effect on patient satisfaction. Responsiveness, measured by the promptness and willingness of staff to assist patients, is expected to improve satisfaction outcomes.

H4: Tangibility has a positive effect on patient satisfaction. Tangibility, including physical facilities, medical equipment, and the appearance of personnel, is hypothesized to positively influence patient satisfaction.

H5: Social Responsibility has a positive effect on patient satisfaction. Social responsibility, encompassing ethical practices, community engagement, and institutional accountability, is expected to enhance patient satisfaction in public healthcare settings.

Moderation Hypotheses

H6a: Empathy moderates the relationship between Reliability and patient satisfaction. The positive effect of reliability on satisfaction is stronger when healthcare providers demonstrate empathy.

H6b: Empathy moderates the relationship between Assurance and patient satisfaction. The positive effect of assurance on satisfaction is amplified when providers show empathetic concern.

H6c: Empathy moderates the relationship between Responsiveness and patient satisfaction. The positive effect of responsiveness on satisfaction is enhanced when empathetic communication accompanies prompt service.

H6d: Empathy moderates the relationship between Tangibility and patient satisfaction. The positive effect of tangibility on satisfaction is strengthened when patients perceive empathetic interactions alongside physical quality indicators.

H6e: Empathy moderates the relationship between Social Responsibility and patient satisfaction. The positive effect of social responsibility on satisfaction is greater when institutions demonstrate empathetic concern for patients and communities.

4. Application of the Framework

The formulated Theoritical framework provides a structured lens for examining the relationship between service quality and patient satisfaction in UAE healthcare services, with empathy positioned as a moderating variable. By integrating the SERVQUAL and PubHosQual models, the framework captures both technical dimensions which are Reliability, Assurance, Responsiveness, Tangibility and institutional dimensions such as Social Responsibility (Parasuraman, Zeithaml, & Berry, 1985, 1988, 1991; Al Amiri et al., 2026; Hasan, Kumar, & Riaz, 2026). This dual perspective ensures that evaluations encompass both clinical performance and organizational accountability.

In practical research applications, the framework can guide empirical investigations using structural equation modeling (SEM) or other multivariate techniques to test hypothesized relationships. Each dimension of service quality can be operationalized through measurable indicators, allowing for assessment of direct and indirect effects on patient satisfaction (Ibrahim et al., 2025; Mosleh et al., 2025). Empathy, as a moderating construct, can be measured via patient perceptions of provider communication, emotional support, cultural sensitivity, and responsiveness to psychosocial needs (Shehadeh et al., 2026; Al-Sayaghi & Al-Jabri, 2026; Hashim et al., 2026).

For healthcare organizations, the framework serves as a diagnostic and improvement tool, enabling identification of strengths and weaknesses across multiple service quality dimensions:

- Reliability and Responsiveness can be evaluated through patient waiting times, consistency of care, and timeliness of service delivery (Ibrahim et al., 2025; Mosleh et

al., 2025).

- Assurance and Tangibility can be assessed via staff competence, facility standards, and technological readiness (Al-Shamsi, 2026; Hasan, Kumar, & Riaz, 2026).
- Social Responsibility can be measured through institutional ethical practices, community engagement initiatives, and adherence to accreditation standards (Al Amiri et al., 2026; Galal et al., 2026).
- Empathy can be evaluated using patient feedback on interpersonal communication, cultural understanding, and emotional support provided by healthcare professionals (Shehadeh et al., 2026; Al-Yateem et al., 2026).

Policymakers and healthcare administrators can leverage this framework to design interventions that improve both technical efficiency and human-centred care, ensuring that service delivery reforms are aligned with patient expectations and satisfaction goals. Embedding empathy alongside operational improvements is particularly critical in the UAE's multicultural healthcare environment, where diverse patient populations require culturally sensitive, emotionally supportive care (Al-Sayaghi & Al-Jabri, 2026; Al-Yateem et al., 2026; Al-Shamsi, 2026).

By systematically applying this framework, UAE healthcare institutions can enhance patient trust, engagement, and overall satisfaction, contributing to the nation's vision of high-quality, patient-centered healthcare services (Al-Shamsi, 2026; Al Amiri et al., 2026; Hasan, Kumar, & Riaz, 2026).

5. Conclusion

This study has developed a theoretical framework that advances service quality theory by integrating the SERVQUAL and PubHosQual models to explain the relationship between service quality and patient satisfaction in UAE healthcare services. Unlike conventional SERVQUAL-based models, which primarily conceptualize service quality as a direct and largely static determinant of satisfaction, this framework introduces empathy as a moderating variable, thereby capturing the dynamic, relational, and affective dimensions of healthcare service encounters. This extension responds to growing criticism that SERVQUAL insufficiently accounts for the emotional labour and interpersonal interactions that are central to patient experiences in healthcare settings.

By reconceptualizing empathy as a relational amplifier, the framework moves beyond linear service quality–satisfaction assumptions and demonstrates how technical, functional, and institutional service attributes yield differential outcomes depending on the presence of empathetic engagement. This theoretical refinement is particularly salient in high-contact, high-risk services such as healthcare, where patient vulnerability intensifies the importance of emotional responsiveness. In doing so, the framework contributes to service quality theory by bridging process-based quality assessments with patient-centred relational outcomes, offering a more context-sensitive and healthcare-specific understanding of satisfaction formation.

Despite the UAE's advanced healthcare infrastructure, empirical evidence suggests that patient satisfaction remains below expectations, with some residents seeking treatment

abroad or relying on pharmacies for informal consultation. These patterns underscore the limitations of infrastructure- and efficiency-driven quality models and reinforce the need for a holistic service quality perspective that integrates institutional responsibility, interpersonal care, and emotional sensitivity.

From a practical standpoint, the framework provides healthcare providers and policymakers with a diagnostic and evaluative tool capable of identifying not only service quality gaps but also relational deficiencies that weaken patient satisfaction. By embedding empathy into service delivery strategies and performance metrics, healthcare organizations can better align service quality improvements with patient perceptions and expectations. Overall, this framework helps bridge the gap between substantial government investment in healthcare and lived patient experiences, offering a theoretically enriched and practically relevant pathway toward achieving world-class, patient-centred healthcare in the UAE.

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