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Construct Development and Validation of Service Quality in the Context of Private Hospitals in Region XII

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Abstract: *This study developed and validated a context-specific scale to measure service quality in private hospitals in Region XII, Philippines. It addresses the limitations of existing models, such as SERVQUAL and SERVPERF, which do not account for the unique sociocultural and operational complexities of healthcare delivery in developing regions. Employing a sequential exploratory mixed-methods approach, the research unfolded in three phases. Phase 1 involved interviews with hospital staff and patients' attendants, generating 60 items, which were refined to 51 after expert validation. In phase 2, exploratory factor analysis (EFA) of 255 responses identified a six-factor structure – Service Reliability, Clinical Responsiveness, Personalized Care, Facility Accessibility, Patient Engagement, and Outcome-Centeredness – accounting for 74.92% of variance and resulting in 37 items. Phase 3 confirmed the model's validity through confirmatory factor analysis (CFA) with 370 respondents, demonstrating strong fit indices (x^2/df = 1.893; RMSEA = 0.049; CFI = 0.986; TLI = 0.978), affirming the scale's construct validity and internal consistency. The resulting 37-item validated scale serves as a reliable measurement tool for service quality tailored to the private hospital context. It aligns with the Sustainable Development Goals (SDGs) 3, 8, and 11 by promoting evidence-based assessment and continuous improvement in healthcare service delivery.*

Keywords: Confirmatory Factor Analysis, Construct Development, Construct Validation, Exploratory Factor Analysis, Private Hospitals, Service Quality, Sequential Exploratory Mixed-methods

I. INTRODUCTION

In the evolving landscape of healthcare delivery, patient satisfaction has emerged as a crucial indicator of healthcare quality and overall effectiveness of healthcare institutions (Baía&Baptista, 2020; Wirtz, 2021; Friedel et al., 2023). As patient expectations increase, private hospitals are pressured to adopt the best practices to enhance service quality and improve patient outcomes. However, measuring patient satisfaction poses considerable challenges due to the variability of experiences influenced by personal, cultural, and situational factors inherent to healthcare environments.

Existing methodologies for assessing service quality often fall short of addressing the specific requirements of patients within private healthcare systems, particularly in developing regions. Widely utilized frameworks such as SERVQUAL and SERVPERF exhibit substantial limitations in culturally diverse contexts (Endeshaw, 2021; Swain & Kar, 2018). These models, largely constructed upon Western paradigms, may inadequately reflect healthcare practices, cultural norms, and the critical nature of familial involvement, especially relevant in countries like the Philippines (Castillo, 2018). The absence of a comprehensive, culturally pertinent framework for evaluating service quality in private hospitals can erode patient trust, impede competitiveness, and contribute to suboptimal healthcare outcomes.

Existing literature indicates that standardized models of patient satisfaction often overlook critical factors specific to private healthcare settings (Bozkurt & Kilicarslan, 2020; Khrestianto, 2020; Endeshaw, 2021). In the Philippines, out of 1,195 privately-owned healthcare facilities, 772 are hospitals (Philippine Statistics Authority, 2022). Private hospitals face numerous challenges, including funding constraints, organizational dynamics, and regulatory compliance. These issues heighten competition and can lead to increased patient complaints and dissatisfaction. Unlike public hospitals, private healthcare organizations operate in a competitive marketplace where the quality of service significantly impacts patient loyalty, institutional reputation, and financial viability.

Typically, private hospitals report higher rates of patient satisfaction compared to public facilities, especially regarding responsiveness and empathy (Kwateng et al., 2017). Additionally, evidence suggests that perceived service quality in private hospitals is approximately 15% higher than in public hospitals (Swain, 2019; Mutiarasari et al., 2021). Consequently, there is an urgent need to develop a new scale for evaluating service quality that combines universal healthcare quality principles with localized, culturally specific considerations.

The steady growth of the population and urbanization highlights the need for a service quality assessment tool specifically designed for private hospitals in Region XII. The COVID-19 pandemic, which coincided with the 2020 census, further exposed challenges within the healthcare system, underscoring the necessity for improved service evaluation based on empirical data.

The study aims to address the lack of localized tools for evaluating service quality in private hospitals, making Region XII a critical focus for healthcare improvement. By tackling the shortcomings of existing assessment models and incorporating the dynamics of healthcare services, this research seeks to enhance assessments of service quality, improve patient satisfaction, and refine management strategies in private hospitals.

The primary goal of this study is to develop and validate a new measurement scale for service quality, specifically designed for private hospitals in Region XII. By incorporating cultural and regional elements into established service quality frameworks, this research aspires to provide a more nuanced and patient-centered approach. The specific objectives include (1) identifying the key service quality dimensions relevant to private hospitals in Region XII, (2) developing a validated service quality scale in private hospitals, and (3) evaluating the developed service quality scale.

Furthermore, it adds to the ongoing discussion about improving healthcare quality in accordance with the Sustainable Development Goal (SDG) of ensuring good health and well-being. It also supports sustainable economic growth, decent work, and the development of sustainable cities and communities (UNICEF, 2023). Through a comprehensive validation process, this study seeks to offer a solid, evidence-based framework for healthcare practitioners, policymakers, and academic researchers.

1.1 Quality Measurement in Healthcare Institutions

The research conducted by Mutiarasar et al. (2021) underscores the pivotal role of patient satisfaction as a fundamental metric for evaluating healthcare services. The study reveals significant disparities between public and private hospitals in less developed countries, notably indicating that private facilities with elevated patient satisfaction scores experience a 15% re-admission rate. Furthermore, the research highlights the importance of patient retention, revealing that 23% of patients return for subsequent care, and 30% report improved health outcomes.

In a complementary study, Ali et al. (2021) conducted an extensive analysis of service quality measures and patient satisfaction in private hospitals, yielding significant findings. Their research indicates that technical quality accounts for 45% of the variance in patient satisfaction. Additionally, interpersonal interactions significantly influence the patient experience, contributing 35% to the overall satisfaction rating. The physical environment also plays a crucial role, accounting for 20% of patients' satisfaction scores.

Similarly, Nguyen et al. (2021) executed a thorough mixed-methods investigation that provides valuable insights into three key dimensions of service quality in private hospitals within developing countries. Their findings indicate that technical quality significantly impacts patient satisfaction, accounting for 42% of the variance observed. Interpersonal aspects also exert considerable influence, comprising 38% of total assessments, while environmental factors contribute 20% to overall patient satisfaction. The study emphasizes the necessity for context-specific indicators in assessing service quality and the importance of accounting for regional and cultural variations in perceptions of quality. The dimensions in service quality assessments. Their rigorous statistical analysis further substantiates this perspective, revealing a significant correlation between service quality attributes and patient satisfaction ($r = 0.78$, $p<0.001$). Moreover, the findings demonstrate a noteworthy positive relationship between the service environment and overall satisfaction ($r = 0.52$, $p<0.001$).

1.2 Competitive Advantage

In private healthcare institutions, customers' perception of quality is crucial in shaping a hospital's reputation. Hospitals that cultivate a positive image among patients are often associated with services that are more readily accepted and valued (Sugianto et al., 2020). Additionally, a hospital's image is closely tied to its service quality. Patients are inclined to choose hospitals that showcase a strong, positive brand image, as it often reflects a commitment to continuous improvement in service quality.

Research by Javed and Ilyas (2018) and Chakraborty et al. (2021) underscores the importance of evaluating patient satisfaction to gain a competitive edge for private hospitals. Their findings indicate that unique service delivery,

effective market positioning, patient retention, and efficient resource utilization are essential for enhancing overall patient satisfaction.

1.3 Measuring Healthcare Service Quality

Numerous studies have centered on enhancing healthcare service quality, particularly in addressing pivotal critical areas. Researchers have scrutinized various dimensions of healthcare service quality; however, a comprehensive framework that assimilates all components of service quality management within a hospital context remains elusive (Swain & Kar, 2018). A significant barrier compounding this challenge is the lack of consensus surrounding the appropriate methodologies for measuring healthcare service quality, as prior investigations have predominantly focused on developing nations. Existing models frequently overlook patients' unique expectations and perceptions within these diverse contexts. This discrepancy accentuates the pressing necessity for a more personalized approach to assessing healthcare quality that aligns with the demands and standards of local populations.

Additionally, context-specific models are urgently needed. Established service quality frameworks, such as SERVQUAL, are often inadequate in addressing the distinctive challenges confronting healthcare sectors in developing nations (Swain & Kar, 2018; Endeshaw, 2021). Therefore, developing a tailored model that considers cultural, social, and economic factors influencing patient perceptions of service quality in these regions is imperative. Additionally, certain researchers have relied on models specifically crafted for the healthcare environment (Yeboah & Dankwa, 2016). Notably, despite the existence of numerous theoretical frameworks (Fatima et al., 2018; Swain & Kar, 2018; Friedel et al., 2023), there remains a significant paucity of empirical studies validating these constructs within the healthcare sector, particularly in developing nations.

This study seeks to address a critical gap in the literature by methodically developing and validating a construct for the healthcare service quality model. The research employs a comprehensive approach that synthesizes qualitative and quantitative methodologies, enhancing the robustness and applicability of the findings within the field. Despite advancements in medical technology and the expertise of healthcare professionals, a substantial gap persists in comprehending how various dimensions of service quality impact patient perceptions and satisfaction.

1.4 Models for Measuring the Quality of Healthcare Services

Measuring service quality in healthcare institutions has long been a topic of discussion. Various studies have introduced different models to evaluate service quality in healthcare settings (Kalaja, 2023; Swain & Kar, 2018). Several of these models in Western regions (Javed & Ilyas, 2018; Kwateng, et al., 2019; Singh & Prasher, 2017; Ali et al., 2021b; Endeshaw, 2021).

Service Quality, called SERVQUAL, is a comprehensive and multidimensional framework developed by Parasuraman and his colleagues in 1985. Originating from extensive empirical research, the SERVQUAL model's initial iteration identified ten dimensions of service quality: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding or knowing the customer, and tangibles.

Table 1. SERVQUAL Model Dimensions

Dimensions	Definition
Tangible	This concept pertains to the tangible elements of a service, encompassing facilities, equipment, personnel, and communication materials.
Reliability	The ability to perform the promised service dependably and accurately.
Responsiveness	The willingness to help patients and provide prompt service.
Assurance	Hospital personnel's knowledge, courtesy, and ability to convey trust and confidence.
Empathy	The provision of caring, individualized attention to customers.

Subsequently, in 1988, these dimensions were refined into five core factors: Tangibles, Reliability, Responsiveness, Assurance, and Empathy (Table 1). This refined framework has since proven valuable for evaluating and enhancing service quality across various sectors (Arul Oli & Dhanasekaran, 2021). Specifically designed to measure and compare the perceptions and expectations of external customers, the model presents several advantages over alternative quality assessment methodologies, including robust reliability and validity. The model is an effective tool for systematically identifying strengths and weaknesses in an organization's delivery service. Furthermore, the model allows for nuanced analysis based on demographic and psychological variables (KhanMohammadi et al., 2023).

Despite its utility, SERVQUAL has been the subject of critical scrutiny, particularly concerning the loadings of its indicators. As Endeshaw (2021) examined, SERVQUAL often fails to address the specific challenges of the healthcare

sector, especially in developing countries. Notably, nine (9) out of the 22 variables demonstrated loadings that fell below the recommended threshold of 0.5. In addition, recent studies have made reservations on the significance of SERVQUAL in patient satisfaction. Kalaja (2023) identified that the primary determinants of patient satisfaction are patients' demographic characteristics, expectations, and experiences. Moreover, Hammanjoda and Singh (2024) suggest the absence of causal relationships between patients' perceptions of quality service delivery and overall satisfaction with the service received. This finding accentuates the ongoing necessity for further exploration and comprehension of findings within the SERVQUAL context. Furthermore, there is a necessity to develop a customized model that considers the cultural, social, and economic factors influencing patient perceptions of service quality in these contexts (Swain & Kar, 2018; Endeshaw, 2021).

1.5 Healthcare Quality Service Models

In addition to SERVQUAL model, notable models have been developed to assess the quality of healthcare services. These include HEALTHQUAL, PubHosQual, and HospitalQual (Endeshaw, 2021).

Nemati et al. (2020) introduced the HEALTHQUAL model, which adapts the SERVQUAL framework specifically to measure the quality of healthcare services. This model incorporates significant aspects of service quality as identified in existing literature. HEALTHQUAL encompasses five key dimensions: Environment, Empathy, Efficiency, Effectiveness, and Efficacy. However, the HEALTHQUAL model serves as a generalized framework, which restricts its effectiveness in specialized healthcare areas such as mental health and emergency care, where specific service attributes play a crucial role. Furthermore, the standardized approach of HEALTHQUAL may not be culturally adaptable, as patients from diverse backgrounds may have varying interpretations of quality. This disparity can lead to misrepresented comparisons (Park et al., 2018).

Aagja and Garg (2010) utilized the Public Hospital Service Quality (PubHosQual) model in their research, which was specifically crafted to enhance the patient experience within public hospitals in India and to assess the quality of these healthcare institutions. The model encompasses 24 items organized into five distinct dimensions of hospital service quality. While this serves as a framework to measure the quality of healthcare services, it is recognized only in public hospitals in India. The framework serves as a significant theoretical construct tailored to the unique context of public healthcare in India, which may exclude considerations of the technical aspects of healthcare services.

In 2014, Itumalla and his colleague introduced the HospitalQual model, which incorporates the disconfirmation paradigm from the SERVQUAL framework. This model effectively monitors, controls, and enhances service quality within the healthcare sector. Nonetheless, the utilization of this framework is confined to the administrative personnel within public healthcare organizations, specifically in relation to patient care services. This limitation underscores the fact that it does not encompass the perspectives or feedback of the clients who have availed themselves of these services.

1.6 Customer Expectations

Service quality is fundamentally defined as the difference between anticipated and actual service delivery (Parasuraman et al., 1985). Consumers' perception of service quality is significantly shaped by the gap between expected service (ES) and perceived service (PS). In this context, research by Jawaid et al. (2018, as cited in Kalaja, 2023) illustrates that patients who set lower expectations typically report higher levels of satisfaction with their healthcare experiences. This phenomenon underscores the notion that the quality of a service is ultimately determined by the consumer's subjective evaluation of the service rendered (Wirtz, 2021). Expectancy-Value Theory has emerged as an essential framework in this discussion, focusing on the nuances of customer expectations and experiences (Spott, 2022). Additionally, customer perspectives have historically been underrepresented in research. Several studies have primarily concentrated on the technical aspects of healthcare delivery, such as the qualifications of healthcare professionals and the quality of medical equipment, often overlooking other critical elements contributing to patient satisfaction (Pellekooren et al., 2021). Furthermore, customer retention continues to pose a challenge within the service industry, where customer perception is a key determinant of satisfaction (Panda et al., 2022).

A comprehensive understanding of consumer expectations and needs is vital for success in today's competitive landscape (Singh & Prasher, 2017). Filipino consumers exhibit unique characteristics that significantly influence their purchasing behavior. Their decision-making processes are shaped by various factors, including the opinions of family members, friends, relatives, and colleagues. Budget constraints also play a crucial role in their purchasing decisions. Over time, these behaviors have evolved, reflecting contemporary philosophies influenced by diverse global cultures, including those from Asia, America, and Europe (Castillo, 2018).

Previous research has primarily focused on the experiences and perceptions of patients. It is well-established that patients frequently favor hospital services owing to the quality of care provided. Patient satisfaction with the

healthcare process is significantly influenced by the alleviation of symptoms. Moreover, a positive outcome is likely when recovery is achieved, indicating that the perception of care aligns with the patient's prior expectations (Ferreira et al., 2023). This study focuses on the perspectives of patient attendants during hospital admissions.

1.7 Cultural and Regional Dimensions

Cultural and regional dimensions encompass the diverse values, beliefs, and practices observed across varying cultures and societies, which significantly influence individual cognition, perception, and behavior. Hofstede's Cultural Dimensions Framework identifies sixprimary dimensions: individualism-collectivism, power distance, uncertainty avoidance, masculinity-femininity, long-term versus short-term orientation, and indulgence-restraint (Żemojtel-Piotrowska and Piotrowski, 2023). The principal aim of this framework is to elucidate the distinctions among various cultural factors and to evaluate their impact on management practices, firms, and organizations. Additionally, regional dimensions encompass several factors, including geographical location, climate, historical legacy, economic development, political systems, social diversity, and language patterns (Wale, 2024).

Region XII is characterized by its rich and diverse population, which includes several indigenous groups, such as *the T'boli, B'laan*, and *Maguindanaoan*. Each group possesses distinctive cultural identities, traditions, and practices meticulously preserved and transmitted through generations (TourGuidePh, 2025). The region is recognized for its wide array of cultural characteristics. Notably, even when healthcare professionals and patients share the same race, ethnicity, or national origin, divergences in their subcultural identities can still exist. These differences may significantly influence their expectations and perceptions regarding service quality. It is posited that satisfaction arises from a synthesis of beliefs, individual values concerning care, and prior expectations related to the service (Kalaja, 2023).

In their research, Nguyen et al. (2021) offered empirical insights into emergent concepts, emphasizing the considerable influence of cultural appraisals on assessment scores. Their findings indicated that prevailing geographical norms significantly affect patient experiences in healthcare settings, while local service performance standards are pivotal in determining patient satisfaction. Similarly, Endeshaw (2021) highlighted the inadequacies of quality measurement instruments designed within Western contexts, questioning their applicability to healthcare services in developing nations. He advocated for the development of tailored models aimed explicitly at effectively assessing the quality of healthcare services in these regions. Thus, when formulating a framework specific to a particular geographical or cultural area, it is essential to create instruments that accurately assess the relationship between service quality and patient satisfaction.

1.8 Theories Applied to Healthcare Service Quality

Darzi et al. (2022) conducted a comprehensive analysis of 11 different theories that have previously been utilized to assess service quality within healthcare institutions. Their research revealed that less than 50% of the studies they reviewed employed an established framework for measuring service quality. Notably, approximately 70% of the 32 articles examined relied on the SERVQUAL framework, originally developed by Parasuraman, Zeithaml, and Berry in 1988, thus establishing it as the most used service quality framework in the field.

In addition to SERVQUAL, a range of other theoretical approaches have been applied over the last decade to evaluate service quality in healthcare systems. These approaches include Total Quality Management (TQM), the Fuzzy analytical hierarchy process (Singh & Prasher, 2017), the Service Performance (SERVPERF) model, and the Health Monitoring Indicators System (HMIS). Furthermore, Darzi et al. (2022) propose that the elements used to gauge perceived Service Quality in hospitals—drawing from theories that extend beyond the SERVQUAL model—can generally be categorized into the five dimensions identified within the SERVQUAL framework.

1.9 Theoretical Framework

1.9.1 Service Quality (SERVQUAL) Model

The primary theoretical framework for this study is the SERVQUAL model, which conceptualizes service quality as a multifaceted phenomenon composed of five key dimensions: reliability, assurance, tangibles, empathy, and responsiveness. This model has been widely used in healthcare settings to evaluate patients' perceptions of service quality (Swain &Kar, 2018).

While models like SERVQUAL and SERVPERF have been extensively applied in the healthcare sector, it is essential to consider the specific nuances present in private hospital environments. SERVQUAL, as defined by Parasuraman, Zeithaml, and Berry in 1988, conceptualizes service quality as the gap between patients' expectations and their actual experiences across five dimensions. However, scholars such as Swain and Kar (2018) and Endeshaw (2021) argue that the expectation-perception gap model may be less effective in private healthcare settings. This is primarily because patients in these contexts tend to have exceptionally high baseline expectations, which reduces the significance

of the gap when assessing service delivery. Additionally, the SERVQUAL model's foundation in a Western context may not adequately capture the cultural nuances of healthcare services, especially in regions like the Philippines.

Thus, this study aims to employ the SERVQUAL model as its primary theoretical framework for evaluating service quality in private hospitals. By incorporating localized and culturally pertinent dimensions, it seeks to address the limitations of existing Western-centric models. This approach is expected to provide a more precise and contextually relevant framework for assessing service quality within the private healthcare sector in Region XII.

1.9.2 Donabedian Theory

The Donabedian Theory (Donabedian, 1987) provides another crucial framework for evaluating healthcare quality. This approach identifies threeessential components: structure, which pertains to the characteristics of the environments in which care is delivered; process, which encompasses the actions taken to provide that care; and outcome, which relates to the health results for patients and communities.

The theories previously outlined serve as essential theoretical frameworks that illuminate the perspectives and experiences of individuals involved with private hospitals. These frameworks provide valuable insights into the perceptions of patients, healthcare providers, and administrative personnel concerning their interactions and the overall quality of care within these institutions. By examining factors such as patient satisfaction, the effects of healthcare policies, and the complexities of staff-patient dynamics, one can gain a more nuanced understanding of the intricate realities faced by all stakeholders within the private hospital setting.

1.10 Conceptual Framework of the Study

This research seeks to establish a novel service quality measurement instrument specifically designed for private hospitals in Region XII. The development process involved an integration of universal service quality principles with culturally pertinent dimensions to ensure relevance to the target context. Employing a systematic input-process-output model, the study adhered to a structured methodology for creating and validating the scale (Figure 1).

Fig. 1. Schematic Diagram Showing the Variables of the Study

The initial phase of the study involves a comprehensive analysis of established service quality frameworks, specifically SERVQUAL. Furthermore, in-depth interviews with hospital staff and patient attendants will be conducted to gather qualitative data. This methodology aims to emphasize critical service quality dimensions that traditional Western models might overlook.

The process phase utilizes the Exploratory Factor Analysis (EFA) to identify the underlying service quality dimensions distinct to private hospitals within Region XII. Items yielding low factor loadings (≤0.60) or significant cross-loadings (≥0.40 on multiple factors) are subject to exclusion, ensuring the development of a statistically robust measurement model. Following the EFA, Confirmatory Factor Analysis (CFA) will be performed to validate the factor structure and evaluate model fit indices. This methodologically ensures that the new scale meets the practical service quality evaluation's validity and reliability criteria. Lastly, the output phase of this study will yield a validated service quality measurement scale tailored for private hospitals in Region XII.

1.11 Relevance of the Study

The limited research on service quality in the Philippines highlights the significance of this study, which seeks to expand the existing literature by addressing the limitations inherent in Western frameworks such as SERVQUAL and SERVPERF. By introducing dimensions that are culturally relevant, this research offers a unique conceptual framework specifically designed for the Filipino healthcare context, thereby enhancing the effectiveness of service delivery assessments for healthcare providers and administrators.

This research represents a significant advancement in the development and validation of scaling methodologies by utilizing rigorous statistical methods, specifically EFA and CFA. The multi-phase research design ensures that the criterion of a scale is based on empirical evidence and demonstrates a high level of statistical reliability, thereby

enhancing the practicability. Moreover, this study establishes a comprehensive framework for other scholars who aim to design service quality instruments tailored to the unique needs of various industries.

The newly established measurement scale will support evidence-based decision-making in areas such as patient-centered strategies and enhance their competitive advantage. Additionally, the findings are crucial for healthcare consultants, insurance providers, and patient advocacy organizations, as they can inform quality assurance guidelines and reimbursement frameworks, ensuring that hospitals maintain high standards for patient care.

By addressing theoretical frameworks and practical applications, this research significantly enhances healthcare service quality and fosters a patient-centered approach within private hospital settings.

II. METHOD

This study seeks to develop and validate a construct designed to measure service quality in private hospitals located in Region XII. The subsequent sections will elaborate on the methodologies employed in this study.

2.1 Research Design

This study adopts a sequential exploratory approach, integrating qualitative and quantitative techniques. Specifically, it utilized EFA and CFA to construct and evaluate the proposed measurement model. By implementing a mixed-method framework, the research leverages qualitative methods for the initial development of constructs while employing quantitative methods for subsequent validation (Creswell& Plano Clark, 2018). This methodological approach is particularly advantageous for the rigorous processes associated with scale development and validation

(DeVellis, 2017).

Fig. 2. Three Phases of Scale Development and Validation

2.1.1 Phase 1: Item Development

In the initial phase, the focus is on defining service quality within the context of private hospitals. This process begins with a comprehensive literature review that incorporates established SERVQUAL models. Data is collected through qualitative methods, including in-depth interviews with patient attendants and hospital administrators. The insights gained from these stakeholders contribute to the development of a scale that reflects both universal principles of service quality and culturally specific factors relevant to the Philippine healthcare systems.

2.1.2 Phase 2: Scale Development

The second phase involves systematically converting qualitative insights into statements for an item pool. Data collected from in-depth interviews will be analyzed using Colizzi's coding technique, which will help identify key themes necessary for developing the survey items. This phase focuses on generating item statements based on the insights from the interviews, while also establishing the content validity of these items. Additionally, the dimensionality and sampling adequacy of the items will be assessed based on a preliminary survey conducted as part of the study.

Following this, item pool statements will undergo thorough evaluations for content and face validity, and a quantitative survey will be administered to the selected respondents.

2.1.3 Phase 3: Scale Evaluation

The final phase centers on the statistical validation of the newly developed service quality scale. This will involve the applications of CFA (Dabbagh et al., 2023). Utilizing the developed scale, statistical treatments will be employed to identify the underlying dimensions of service quality and to determine the structure of the scale.

2.2 Research Locale

This study was conducted in Region XII, known as SOCCSKSARGEN, comprising South Cotabato, Cotabato, Sultan Kudarat, Saragani, and General Santos City. According to the 2020 census, the region's population reached 4,901,486, reflecting significant growth since 2015, with Cotabato Province growing at an annual rate of 1.64% and South Cotabato at 1.3% (PSA, 2021). This population increase highlights a growing demand for health services, especially in urban areas.

2.3 Research Respondents

The research respondents for this study were selected across two phases. In the qualitative phase, purposive sampling was employed to identify 10 key informants from level 2-accredited private hospitals in Region XII. This included three hospital administrators (a medical director, a nursing director, and a quality assurance officer) and seven patient attendants who had actively cared for admitted patients. These individuals were selected based on their extensive and direct engagement in hospital care, providing rich insights into service quality experiences. Patient attendants, rather than patients, were chosen as primary informants to capture the service quality perspective grounded in active caregiving and sustained interactions with healthcare providers – an approach consistent with Filipino caregiving norms.

To apply the inclusion and exclusion criteria, hospital administrators were required to have a minimum of two years of relevant professional experience. Patient attendants were eligible to participate if they were of legal age and had served as consistent caregivers for patients admitted during the scheduled interview. Only attendants of patients in a private hospital with at least a level 2 Department of Health (DOH) accreditation were included in the study.

Table 2. Total Number of Respondents

Province	EFA		CFA	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Cotabato	4	2%	4	1%
General Santos	220	86%	237	64%
Sarangani	10	4%	3	1%
South Cotabato	17	7%	121	33%
Sultan Kudarat	4	2%	5	1%
Total	255	100%	370	100%

Table 2 presents the distribution of respondents across provinces in Region XII. Following insights from the quantitative phase, a structured survey instrument was developed and distributed to a broader sample in the second phase of the study. Convenience sampling was employed to select respondents for the quantitative phase. Printed questionnaires were administered to available patient attendants from selected private hospitals. A total of 255 responses were collected for EFA, while an additional 370 were used for CFA. The sample sizes were determined following the rule of thumb and item-to-response ratio guidelines cited in the literature (White, 2021).

While the study aimed for broad geographic representation, a regional Mpox outbreak and corresponding health protocols constrained data collection in certain areas (Mamac, 2025). Consequently, General Santos City contributed a disproportionately high share of responses, particularly during the CFA phase. This sampling imbalance may affect the generalizability of the findings and highlights the need for future validation studies across a more evenly distributed sample.

2.4 Research Instrument

This study used two primary methods for data collection: (a) in-depth interviews with research participants and (b) responses gathered from a survey questionnaire. To achieve the research objectives, two instruments were employed to collect information about service quality in private hospitals. The first instrument was designed specifically for gathering data through in-depth interviews (see Appendix A). This process helped in developing various statements related to service quality in private hospitals. To ensure that the questions aligned with the study's objectives, experts reviewed the interview guide questionnaire. Additionally, six validators were provided with a validation sheet to assess the relevance of these items.

In developing the scale for this study, the study adhered to the guidelines proposed by Krosnick and Presser (2009, as cited in Boateng et al., 2018). The Likert scale was designed to range from 1 to 5, enabling the measurement of participants' levels of agreement with each item included in the survey.

2.5 Data Collection

The researcher organized in-depth interviews with key informants, each lasting 20 to 30 minutes, following prior consent obtained through an informative email. These discussions were recorded for accuracy. Additionally, surveys were conducted near selected hospitals to ensure participants met specific criteria without interrupting their patient care duties. The researcher, with the help of enumerators, explained the study's purpose before distributing questionnaires, aiming for a 100% response rate. Participants had sufficient time to complete the questionnaires, which

were then reviewed for completeness. Data collection for the exploratory factor analysis (EFA) phase lasted one month, while the confirmatory factor analysis (CFA) took three weeks

2.5.1 Ethical Considerations

This research study follows ethical principles by obtaining informed consent from participants, ensuring they are fully aware of the study's aims, methods, and risks. Participants' confidentiality is maintained through data anonymization and secure storage, with hospital names kept confidential unless consent is given. They can withdraw at any time without repercussions. Ethical approval was obtained from the Ethics Review Committee, adhering to the Data Privacy Act of 2012 in the Philippines. The researcher remains objective and discloses any potential conflicts of interest. Survey and interview questions are designed to minimize psychological distress, allowing participants to skip uncomfortable questions.

2.6 Data Analyses

The researcher used data analysis for qualitative and quantitative data. For the qualitative data, Colizzi's technique to interpret the participants' responses to questions about their experiences in the hospital was applied. For the quantitative data, the researcher employed statistical tools such as EFA, Cronbach's Alpha, and CFA for this study.

III. RESULTS AND DISCUSSIONS

This section presents a detailed analysis of the findings obtained from the data gathered throughout the three distinct phases of the study.

3.1 Phase 1: Item Development of Scale

The development of the Item Pool Statement (IPS) was obtained from the in-depth interviews and the analysis of existing literature. After reviewing the interview transcriptions, codes and themes were created to summarize the participants' responses. These themes and codes highlighted key aspects of service quality in private hospitals. Feedback from participants was organized into codes and then grouped into broader themes. Using Colaizzi's method for analysis (Praveena & Sasikumar, 2021), the responses were translated into English and thematically aligned with the initial domains of service quality. These domains include fostering meaningful relationships and connections with patients, implementing an effective quality management process, facilitating ongoing improvement through feedback mechanisms, focusing on outcomes, ensuring adequate hospital resources, and providing accessible facilities for patient activities.

3.2 Phase 2: Scale Development

In-depth interview data were systematically converted into formalized item statements for scale development. A total of 60 hypothetical but contextually grounded interview excerpts were gathered from 10 identified interviewees, representing a diverse linguistic mix of English, *Tagalog*, *Ilonggo*, and *Cebuano*. The development process followed established best practices in Qual-Quan scale design (Boateng et al., 2018), beginning with open coding of raw narrative data.

3.2.1 Content Validity

The content validity of the 60-item scale was quantitatively evaluated using both the Item-Level Content Validity Index (I-CVI) and the Scale-Level Content Validity Index based on the Average Method (S-CVI/Ave). Ten experts with advanced degrees evaluated the content of the IPS (Lawshe, 1975). The I-CVI results revealed that 40 out of 60 evaluated items attained scores of 0.80 or higher, signifying a substantial consensus among experts regarding their essentiality. These items satisfy the recommended threshold for acceptable content validity. In contrast, 8 items were found to fall below the 0.80 threshold, highlighting a lack of sufficient.

3.2.2 Sampling Adequacy

Prior to conducting EFA, statistical assumptions were tested to evaluate the suitability of the dataset for factor extraction. As shown in Table 3, the KMO index yielded a value of 0.948, which exceeds the commonly accepted threshold of 0.60 for adequate sampling (Kaiser, 1974). This indicates that the level of interrelationships among the variables is commendable (Hair et al., 2019).

Table 3. Sampling Adequacy and Multidimensionality Assumptions in Factor Analysis

	Statistic

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.948
Bartlett's Test of Sphericity	Approx. Chi-Square	9523.159
	Df	666
	Sig.	<.001

Taken together, these findings confirm that the dataset meets the necessary assumptions for proceeding with EFA using maximum likelihood extraction and VARIMAX rotation. The sample size and inter-item correlations are deemed adequate to support the extraction of the latent construct underlying the scale items.

Table 4. Latent Roots Creation

Factor	Initial Eigenvalue	% of Variance	Cumulative Variance %
1	5.619	15.186	15.186
2	5.499	14.863	30.049
3	5.045	13.635	43.684
4	4.034	10.903	54.587
5	3.826	10.341	64.928
6	3.696	9.989	74.917

As illustrated in Table 4, the latent roots criterion for the extracted factors highlights the percentage of variance associated with each factor. The first factor exhibits an initial eigenvalue of 5.619, corresponding to a variance of 15.186%. The second factor has an initial eigenvalue of 5.499, with a variance of 14.863%. The third factor shows an initial eigenvalue of 5.045 and a variance of 13.365%. The fourth factor presents an initial eigenvalue of 4.034 and a variance of 10.903%. The fifth factor displays an initial eigenvalue of 3.826, equating to a variance of 10.341%. Finally, the sixth factor has an initial eigenvalue of 3.696, reflecting a variance of 9.989%. Collectively, these six factors account for a cumulative total of 74.917% of the overall variance, thereby surpassing the recommended minimum variance threshold of 60% established for EFA in the behavioral and social sciences (Hair et al., 2019).

The substantial proportion of variance explained and the strong loadings of retained items reflect both conceptual coherence and statistical robustness of the derived dimensions. These results provided a sound empirical foundation for subsequent CFA and scale validation efforts.

3.2.3Results: Exploratory Factor Analysis

To determine the dimensionality of the scale in accordance with established best practices for scale development, a more stringent factor loading threshold of ±0.60 was applied (Hair et al., 2019, p. 168). Table 5 presents the rotated component matrix, which illustrates how the items have clustered within the identified dimensions. The results indicated a six-factor solution that accounts for a cumulative variance of 74.917%, suggesting that the extracted dimensions effectively capture a significant portion of the variability in the responses. Additionally, as shown in the table, items with high factor loadings and low uniqueness values demonstrate a strong representation within the extracted dimensions.

Table 5. Rotated Factor Loadings from VARIMAX Rotation

ITEM	1	2	3	4	5	6	Uniqueness	Communalities
@42	0.514						0.303	0.697
@43	0.529						0.335	0.665
@44	0.542						0.229	0.771
@45	0.73						0.195	0.805
@37	0.761						0.268	0.732
@38	0.778						0.152	0.848
@40	0.784						0.124	0.876
@20		0.533					0.197	0.803
@21		0.58					0.259	0.741
@22		0.581					0.308	0.692
@23		0.592					0.368	0.632
@24		0.68					0.238	0.762
@25		0.754					0.227	0.773
@27		0.767					0.221	0.779
@28			0.544				0.273	0.727
@29			0.547				0.265	0.735

@49	0.571				0.224	0.776
@1	0.579				0.299	0.701
@2	0.61				0.247	0.753
@3	0.639				0.235	0.765
@4	0.639				0.266	0.734
@5	0.689				0.276	0.724
@6		0.552			0.296	0.704
@7		0.629			0.286	0.714
@8		0.685			0.33	0.67
@30		0.774			0.156	0.844
@31		0.821			0.164	0.836
@34			0.511		0.244	0.756
@10			0.529		0.245	0.755
@11			0.689		0.194	0.806
@12			0.709		0.232	0.768
@13			0.774		0.185	0.815
@15				0.513	0.251	0.749
@16				0.571	0.251	0.749
@17				0.588	0.349	0.651
@18				0.601	0.31	0.69
@19				0.737	0.279	0.721

3.3 Phase 3: Scale Evaluation

The subsequent discussions focus on the final phase of the scale development process, which pertains to the validation through CFA of the generated item statements reflecting service quality in the context of private hospitals in Region XII.

3.3.1 Results: Confirmatory Factor Analysis

To validate the underlying factor structure of a newly developed instrument for assessing service quality in private hospitals, CFA was conducted on a sample of 370 responses. In accordance with the guidelines established by Hair et al. (2019), an iterative model refinement process was undertaken, progressing through four models to enhance both theoretical coherence and statistical fit.

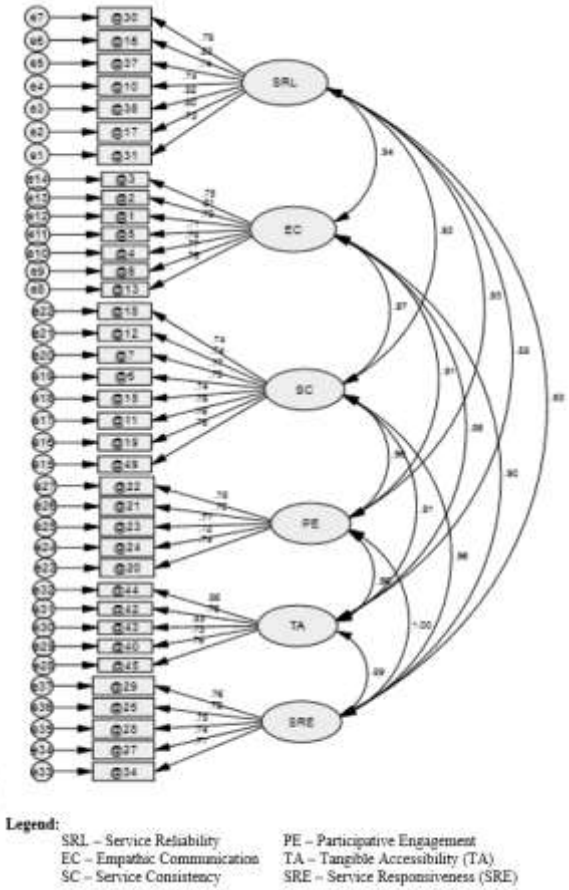

Fig. 3. Baseline CFA Model of Service Quality in Private Hospitals in Region XII

Figure 3 illustrates the baseline CFA model representing service quality within private hospitals in Region XII. The model reflects a six-factor structure comprising Service Reliability (SRL), Empathetic Communication (EC), Service Consistency (SC), Participative Engagement (PE), Tangible Accessibility (TA), and Service Responsiveness (SRE). Each latent construct is assessed through multiple observed indicators, with standardized factor loadings ranging from 0.74 to 0.87, each exceeding the established threshold of 0.70. This outcome demonstrates robust item reliability and supports convergent validity, as noted by Hair et al. (2019). The analysis reveals significant intercorrelations among the six constructs, highlighting that while each factor is conceptually distinct, they are closely interconnected, collectively reflecting the multidimensional nature of service quality in the hospital context. These findings corroborate the theoretical framework established in the qualitative phase and validate the inclusion of all six dimensions in the subsequent validation process.

Table 6. Model Fit Indices Evaluation

	X^2	X^2/df	GFI	CFI	TLI	RMSEA	PCLOSE
Model 1	2246.54	3.66	0.748	0.858	0.546	0.085	0.00
Model 2	739.450	3.257	0.865	0.924	0.91	0.078	0.00
Model 3	257.85	2.528	0.926	0.964	0.951	0.064	0.008
Acceptable Values	**79.49**	**1.893**	**0.967**	**0.986**	**0.986**	**0.049**	**0.510**
Good Fit Values		**<3.00**	**≥0.90**	**≥0.90**	**≥0.90**	**≤0.08**	**0.05**

Table 6 illustrates the progressive enhancement in model fit indices achieved through the careful refinement of the structural model, specifically by eliminating highly correlated factors and error terms. The initial model exhibits suboptimal fit, indicating the necessity for respecification. Subsequent modification yielded significant improvements, particularly in Model 3, where all indices either satisfied or exceeded the recommended cutoffs and retained only two latent constructs: Empathetic Communication (EC) and Patient Engagement (PE). These results reflect a yielded goodness-of-fit index in accordance with widely accepted criteria (Hair et al., 2019).

After a comprehensive evaluation of model fit, Model 3 was found to be the most suitable choice, based on the baseline model (GFI = 0.967, CFI = 0.986, TLI = 0.986, RMSEA = 0.049). During the EFA phase, six distinct factors were identified. However, the subsequent CFA revealed that only two of these factors demonstrated the necessary robustness and reliability to be included in the final model. This iterative refinement process highlights the importance of theory-driven model adjustments and emphasizes the robustness of the final model structure (Kline, 2016). The retention of these constructs underscores their vital role in measuring service quality within the unique cultural and operational context of private hospitals in Region XII.

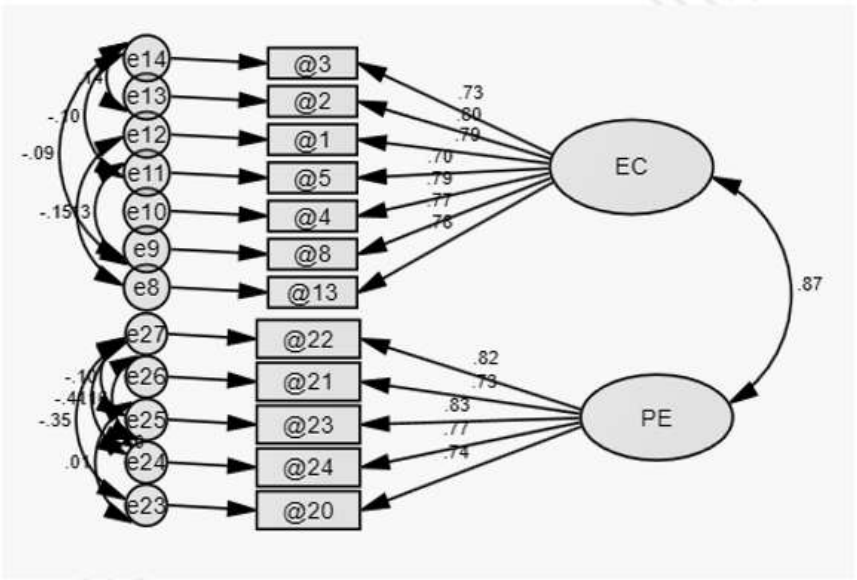

Fig. 4. Best Fit Model of Service Quality in the Context of Private Hospitals in Region XII

3.3.2 Significance of the Model

Empathic Communication (EC) emphasizes the genuine concern of hospital staff for patients through clear explanations, emotional support, and strong relationships, fostering trust and respect in nursing care while aligning with Filipino values such as *malasakit* (compassion) and *pakikipagkapwa* (relational solidarity), ultimately leading to improved patient outcomes (Kwame & Petucka, 2021; Menguin, 2022; Arshad et al., 2024). On the other hand, Participative Engagement (PE) highlights the importance of involving patients and their families, particularly in Region XII where family caregivers (*bantay*) play a vital role, resulting in better treatment adherence and satisfaction (Marzban et al., 2022). The integration of EC and PE creates a culturally sensitive model that enhances patient satisfaction and effectively addresses the limitations of traditional Western healthcare frameworks, specifically tailored for private hospitals in Region XII.

Items related to Empathic Communication (EC) exhibited strong standardized loadings exceeding 0.70, confirming convergent validity. The critical ratios (C.R.) were significantly above ±1.96, with highly significant p-values ($p < 0.001$), demonstrating robust indicator reliability. Similarly, Participative Engagement (PE) items showed strong loadings between 0.733 and 0.830 and significant p-values, further supporting their dimensionality and convergent validity (Table 7).

These results indicate that both EC and PE constructs provide strong evidence of construct validity within the measurement model. Factor loadings for EC ranged from 0.704 to 0.797, and for PE from 0.733 to 0.830, aligning with Hair et al. (2019) criteria for strong convergent validity. The EC items, reflecting attentive listening and emotional responsiveness, and the PE items, representing patient participation and engagement, reliably measure their respective constructs.

Table 7. Factor Loadings for CFA Model 3

			Estimate	S.E.	Standardize	C.R.	P
@13	<---	EC	1		0.775		
@8	<---	EC	1.023	0.066	0.768	15.526	***
@4	<---	EC	1.089	0.067	0.794	16.277	***
@5	<---	EC	0.869	0.062	0.704	13.982	***
@1	<---	EC	0.97	0.064	0.786	15.073	***
@2	<---	EC	1.091	0.067	0.797	16.267	***
@3	<---	EC	0.913	0.063	0.728	14.431	***
@20	<---	PE	1		0.74		
@24	<---	PE	0.957	0.069	0.771	13.793	***
@23	<---	PE	0.952	0.064	0.83	14.76	***
@21	<---	PE	0.93	0.069	0.733	13.414	***
@22	<---	PE	1.033	0.079	0.824	13.131	***

The consistent high loadings across both factors confirm the empirical strength and conceptual coherence of the items, with no problematic cross-loadings. Overall, the factor structure shows both convergent and discriminant validity, underscoring the reliability of the instrument for assessing service quality in private hospitals.

Table 8. Covariance Between Latent Factors

			Estimate	S.E.	C.R.	P
EC	<-->	PE	0.437	0.046	9.477	***

Table 8 demonstrates that the latent constructs of Empathetic Communication (EC) and Participative Engagement (PE) show a significant positive covariance (Estimate = 0.437, $p<0.001$). This moderate relationship indicates that, while these constructs are distinct, they are both conceptually and empirically related. This connection is beneficial within a service quality framework that highlights the importance of interpersonal interaction and collaborative decision-making (Parasuraman et al., 1988).

Table 9. Reliability Coefficients

Sub-Scale	Number of Items	Cronbach's Alpha
SE	7	0.908
PE	5	0.862
Total Scale	12	0.935

The results presented in Table 9 indicate that the Cronbach's alpha values for both subscales, as well as the overall instrument, exceed that 0.70 threshold, signifying excellent internal consistency. Notably, the reliability of the total instrument is very high ($\alpha = 0.935$), which underscores the robustness of the scale in measuring service quality within the context of private hospitals.

IV. Conclusion and Recommendations

This study developed and validated a service quality measurement scale specifically for private hospitals in Region XII, Philippines. By utilizing a sequential exploratory mixed-methods design, it addressed the limitations of existing Western-centric models like SERVQUAL and SERVPERF, introducing dimensions that are culturally relevant.

The Confirmatory Factor Analysis (CFA) identified two key constructs: Empathic Communication (EC) and Participative Engagement (PE). These dimensions reflect the interpersonal and collaborative aspects vital for healthcare in the Philippines, where family involvement and relational trust are essential.

The study recommends that hospital administrators adopt the validated 37-item scale to assess service quality and improve patient satisfaction. Leadership should implement training programs in empathic communication to enhance staff skills aligned with the mission of compassionate care.

Investing in patient feedback mechanisms and shared decision-making is essential for improving patient engagement and satisfaction. Integrating EC and PE into strategic planning can help hospitals stand out in the healthcare market, linking service excellence to patient retention.

Future research should validate this scale in different regions of the Philippines and address the sampling bias observed. Comparative analyses with established frameworks like SERVQUAL and considerations for emerging contextual variables, such as digital health and cultural sensitivities, are also recommended.

Ultimately, applying the EC and PE dimensions provides a transformative approach to healthcare delivery, promoting relational and participative care while aligning with strategic business goals and contributing to development agendas like the Sustainable Development Goals (SDG) 3, 8, and 11.

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REFERENCES

[1] Baía, A. and Baptista, T. (2020). Impact of Service Quality on Patient Satisfaction: In a Public Hospital in Cap Vert. *European Journal of Business and Management*. doi:https://doi.org/10.7176/ejbm/12-27-01.

[2] Wirtz, J. (2021). *Master Class: Service Quality - The Gaps Model & Diagnosing Quality Shortfalls*. *www.youtube.com*. Available at: https://www.youtube.com/watch?v=f-7aJY7wRE0.

[3] Friedel, A.L., Siegel, S., Kirstein, C.F., Gerigk, M., Bingel, U., Diehl, A., Steidle, O., Haupeltshofer, S., Andermahr, B., Chmielewski, W. and Andermahr, I.K. (2023). Measuring patient experience and patient satisfaction—how are we doing it and why does it matter? A comparison of European and U.S. American approaches. *Healthcare*, [online] 11(6), p.797. doi:https://doi.org/10.3390/healthcare11060797.

[4] Endeshaw, B. (2020). Healthcare service quality-measurement models: a review. *Journal of Health Research*, 106(117), pp.106–117. doi:https://doi.org/10.1108/JHR-07-2019-0152.

[5] Swain, S. and Kar, N.C. (2018). Hospital service quality as antecedent of patient satisfaction – a conceptual framework. *International Journal of Pharmaceutical and Healthcare Marketing*, 1(1).

[6] Castillo, F. (2018). Consumer Buying Behavior: The Multicultural Influence in the Philippines. *The International Journal of Business Management and Technology*, 2(2), pp.71–65.

[7] Bozkurt, Y. and Kiliçarslan, M. (2021). Evaluation of the relationship between service quality and patient satisfaction in hospitals: Case of Acibadem Hospital. *International Journal of Computational and Experimental Science and Engineering*, 7(1), pp.13–24.

[8] Philippine Statistics Authority. (2021). Highlights of the Region XII (SOCCSKSARGEN) Population 2020 Census of Population and Housing (2020 CPH) | Philippine Statistics Authority. [online] Available at: https://psa.gov.ph/content/highlights-region-xii-soccsksargen-population-2020-census-population-and-housing-2020-cph.

[9] Khrestianto, I., Rochmah, T., Pramundita, B. and Samsulhadi, A. (2020). Correlation between perceived service quality and patient satisfaction with behavioral intention at a hospital in Surabaya. *EurAsian Journal of Biosciences*, 14(2), pp.3213–3216.

[10] Kwateng, K., Lumor, R. and Acheampong, F.O. (2017). Service quality in public and private hospitals: A comparative study on patient satisfaction. *International Journal of Healthcare Management*, 12(4), pp.1–8. doi: https://doi.org/10.1080/20479700.2017.1390183.

[11] Swain, S. (2019). Do patients really perceive better quality of service in private hospitals than public hospitals in India? *Benchmarking: An International Journal*, 26(2), pp.590–613. doi:https://doi.org/10.1108/bij-03-2018-0055.

[12] Mutiarasari, D., Demak, I.P.K., Bangkele, E.Y., Nur, R. and Setyawati, T. (2021). Patient satisfaction: Public vs. private hospital in Central Sulawesi, Indonesia. *Gaceta Sanitaria*, [online] 35(2), pp.S186–S190. doi:https://doi.org/10.1016/j.gaceta.2021.07.012.

[13] Ali, B.J., Anwer, R.N.A. and Anwar, G. (2021). Private Hospitals' Service Quality Dimensions: The impact of Service Quality Dimensions on patients' satisfaction. *International Journal of Medical, Pharmacy and Drug Research*, 5(3), pp.7–19. doi:https://doi.org/10.22161/ijmpd.5.3.2.

[14] UNICEF (2023). *SDG Goal 3: Good Health and Well-being - UNICEF DATA*. [online] UNICEF DATA. Available at: https://data.unicef.org/sdgs/%20goal-3-good-health-wellbeing/ [Accessed 17 Apr. 2025].

[15] Nguyen, N.X., Tran, K. and Nguyen, T.A. (2021). Impact of Service Quality on In-Patients' Satisfaction, Perceived Value, and Customer Loyalty: A Mixed-Methods Study from a Developing Country. *Patient Preference and Adherence*, 15(1), pp.2523–2538. doi:https://doi.org/10.2147/ppa.s333586.

[16] Sugianto, E., Girsang, E., Nasution, R., Ginting, C.S., Nasution, S. and Ginting, C. (2020). Quality of Service and Customer Value against the Image of the Hospital.

[17] Javed, S.A. and Ilyas, F. (2018). Service quality and satisfaction in healthcare sector of Pakistan — the patients' expectations. *International Journal of Health Care Quality Assurance*, 31(6), pp.489–501. doi:https://doi.org/10.1108/ijhcqa-08-2016-0110.

[18] Chakraborty, S., Sashikala, P. and Roy, S. (2021). Green–agile practices as drivers for patient satisfaction – An empirical study. *International Journal of Healthcare Management*, 15(2), pp.1–6. doi:https://doi.org/10.1080/20479700.2020.1870346.

[19] Yeboah, J. and Dankwa, D. (2016). Development and Validation of Healthcare Service Quality Construct. International Journal of Economics. *Commerce and Management*, 4(12), pp.38–54.

[20] Fatima, T., Malik, S.A. and Shabbir, A. (2018). Hospital healthcare service quality, patient satisfaction and loyalty. *International Journal of Quality & Reliability Management*, 35(6), pp.1195–1214. doi:https://doi.org/10.1108/ijqrm-02-2017-0031.

[21] Kalaja, R. (2023). Determinants of Patient Satisfaction with Health Care: A Literature Review. *European Journal of Natural Sciences and Medicine*, 6(1).

[22] Singh, A. and Prasher, A. (2017). Measuring healthcare service quality from patients' perspective: using Fuzzy AHP application. *Total Quality Management & Business Excellence*, 30(3-4), pp.284–300. doi:https://doi.org/10.1080/14783363.2017.1302794.

[23] Ali, J., Jusoh, A., Abbas, A. and Nor, K. (2021b). Global Trends of Service Quality in Healthcare: A bibliometric analysis of Scopus Database. *Journal of Contemporary Issues in Business and Government*, 27(1), pp.2917–2930.

[24] Arul Oli, A. and Dhanasekaran, C. (2021). A study related to product service systems (PSS), SERVQUAL and knowledge management system (KMS) – A review. *Materials Today: Proceedings*, 80(3), pp.3579–3584. doi:https://doi.org/10.1016/j.matpr.2021.07.321.

[24] Khanmohammadi, E., Talaie, H., and Azizi, M. (2023). A healthcare service quality assessment model using a fuzzy best-worst method with application to hospitals with in-patient services. *Healthcare analytics*, 4, pp.100241–100241. doi: https://doi.org/10.1016/j.health.2023.100241.

[25] Hammanjoda, K., and Singh, A.G (2024). The Effect of Healthcare Service Quality Dimensions on Patient Satisfaction Among Primary Care Settings in Nigeria. *Global Social Welfare*. doi:https://doi.org/10.1007/s40609-023-00329-z.

[26] Nemati, R., Bahreini, M., Pouladi, S., Mirzaei, K. and Mehboodi, F. (2020). Hospital service quality based on HEALTHQUAL model and trusting nurses at Iranian university and non-university hospitals: a comparative study.

[27] Park, E., Lee, H. and Kim, K.S. (2018). The effects of cultural competency on patient-centered care. *International Journal of Nursing Practice*, 24(1), p.e12609.

[28] Aagja, J.P. and Garg, R. (2010). Measuring perceived service quality for public hospitals (PubHosQual) in the Indian context. *International Journal of Pharmaceutical and Healthcare Marketing*, 4(1), pp.60–83. doi:https://doi.org/10.1108/17506121011036033.

[29] Itumalla, R., Acharyulu, G. and Shekhar, B. (2014). Development of HospitalQual: a service quality scale for measuring in-patient services in hospital. *Operations and Supply Chain Management*, 7(2), pp.54–63.

[30] Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing Research*, 17, p.460.

[31] Spott, J. (2022). *Expectancy-Value Theory*. [online] Change Theories Collection. Available at: https://ascnhighered.org/ASCN/change_theories/collection/evt.html.

[32] Pellekooren, S., Ostelo, R., Pool, A., van Tulder, M., Jansma, E. and Chiarotto, A. (2021). Content Validity of Patient-Reported Outcome Measures of Satisfaction With Primary Care for Musculoskeletal Complaints: A Systematic Review. *Journal of Orthopaedic & Sports Physical Therapy*, 51(3), pp.94–102. doi:https://doi.org/10.2519/jospt.2021.9788.

[33] Panda, K., Kumar, A., Hota, S. and Das, S.M. (2022). Service quality, company goodwill and customer perception are the stimuli to customer satisfaction for banks catering home loans. *Journal of Information and Optimization Sciences*, 43(7), pp.1529–1538. doi:https://doi.org/10.1080/02522667.2022.2128512.

[34] Ferreira, D.C., Vieira, I., Pedro, M.I., Caldas, P. and Varela, M. (2023). Patient satisfaction with healthcare services and the techniques used for its assessment: A systematic literature review and a bibliometric analysis. *Healthcare*, [online] 11(5), pp.639–670. doi:https://doi.org/10.3390/healthcare11050639.

[35] Żemojtel-Piotrowska, M. and Piotrowski, J. (2023). Hofstede's Cultural Dimensions Theory. *Encyclopedia of Sexual Psychology and Behavior*, pp.1–4. doi:https://doi.org/10.1007/978-3-031-08956-5_1124-1.

[36] Wale, H. (2024). *Hofstede's Cultural Dimensions Theory*. [online] Corporate Finance Institute. Available at: https://corporatefinanceinstitute.com/resources/management/ hofstedes-cultural-dimensions-theory/.

[37] Tour Guide Ph. (2025). *SOCCSKSARGEN: Where Culture and Nature Meet in Perfect Harmony*. [online] Available at: https://www.tourguideph.com /p/region-xii-soccsksargen.html.

[38] Darzi, M., Islam, S., Khursheed, S. and Bhat, O. (2022). Service quality in the healthcare sector: a systematic review and meta-analysis. *LBS Journal of Management and Research*, 21(1), pp.13–29.

[39] Donabedian, A. (1987). Commentary on some studies of the quality of care", Health Care Financing Review - Annual Supplement. p.75-85.

[40] Creswell, J. and Plano Clark, V.L. (2018). *Designing and conducting mixed methods research*. Thousand Oaks, CA: SAGE.

[41] DeVellis, R.F. (2017). *Scale Development Theory and Applications (4th ed.). Thousand Oaks, CA Sage. - References - Scientific Research Publishing*. [online] www.scirp.org. Available at: https://www.scirp.org/reference/referencespapers?referenceid=2323603.

[42] Dabbagh, A., Seens, H., Fraser, J. and MacDermid, J.C. (2023). Construct validity and internal consistency of the Home and Family Work Roles Questionnaires: a cross-sectional study with exploratory factor analysis. *BMC Women's Health*, 23(1), pp.1–9. doi:https://doi.org/10.1186/s12905-023-02199-1.

[43] White, M. (2022). Sample size in quantitative instrument validation studies: A systematic review of articles published in Scopus, 2021. *Heliyon*, 8(12), p.e12223. doi:https://doi.org/10.1016/j.heliyon.2022.e12223.

[44] Mamac, E. (2025). *14 Mpox cases detected in SOCCSKSARGEN*. [online] GMA Network. Available at: https://www.gmanetwork.com/regionaltv/news/108282/14-mpox-cases-detected-in-soccsksargen/story/ [Accessed 10 Jul. 2025].

[45] Praveena, K.R. and Sasikumar, S. (2021). Application of Colaizzi's Method of Data Analysis in Phenomenological Research. *Medico Legal Update*, 21(2). doi:https://doi.org/10.37506/mlu.v21i2.2800.

[46] Boateng, G.O., Neilands, T.B., Frongillo, E.A., Melgar-Quiñonez, H.R. and Young, S.L. (2018). Best Practices for Developing and Validating Scales for health, social, and Behavioral research: a Primer. *Frontiers in Public Health*, [online] 6(149). doi:https://doi.org/10.3389/fpubh.2018.00149.

[47] Lawshe, C.H. (1975). *A quantitative approach to content validity*. Personnel Psycholology, pp.563–575.

[48] Kaiser, H.F. (1974). *An Index of Factorial Simplicity*. California: PSYCHOMETRIKA, *39*(1) pp.31–35.

[49] Hair, J., Black, W., Babin, B. and Anderson, R. (2019). *Multivariate Data Analysis*. 8th ed. [online] Cengage. Available at: https://eli.johogo.com/Class/CCU/SEM/_Multivariate%20Data%20Analysis_Hair.pdf [Accessed 10 Jul. 2025].

[50] Kline, R.B. (2016). *Principles and practice of structural equation modeling*. 4th ed. New York: The Guilford Press., pp.266–273.

[51] Kwame, A. and Petrucka, P. (2021). A literature-based Study of patient-centered Care and Communication in nurse-patient interactions: Barriers, facilitators, and the Way Forward. *BMC Nursing*, 20(158), pp.1–10. doi:https://doi.org/10.1186/s12912-021-00684-2.

[52] Marzban, S., Najafi, M., Agolli, A. and Ashrafi, E. (2022). Impact of patient engagement on healthcare quality: A scoping review. *Journal of Patient Experience*, [online] 9(1), pp.1–12. doi:https://doi.org/10.1177/23743735221125439.

[53] Menguin, J. (2022). *Pakikipagkapwa-tao: Authentic Interpersonal Relationships (Filipino Values)*. [online] Jef Menguin. Available at: https://jefmenguin.com/pakikipagkapwa-tao

[54] Arshad, M., Sriram, S., Khan, S., Gollapalli, P.K. and Albadrani, M. (2024). Mediating role of physician's empathy between physician's communication and patient's satisfaction. *Journal of Family Medicine and Primary Care*, [online] 13(4), p.1530. doi:https://doi.org/10.4103/jfmpc.jfmpc_1615_23.