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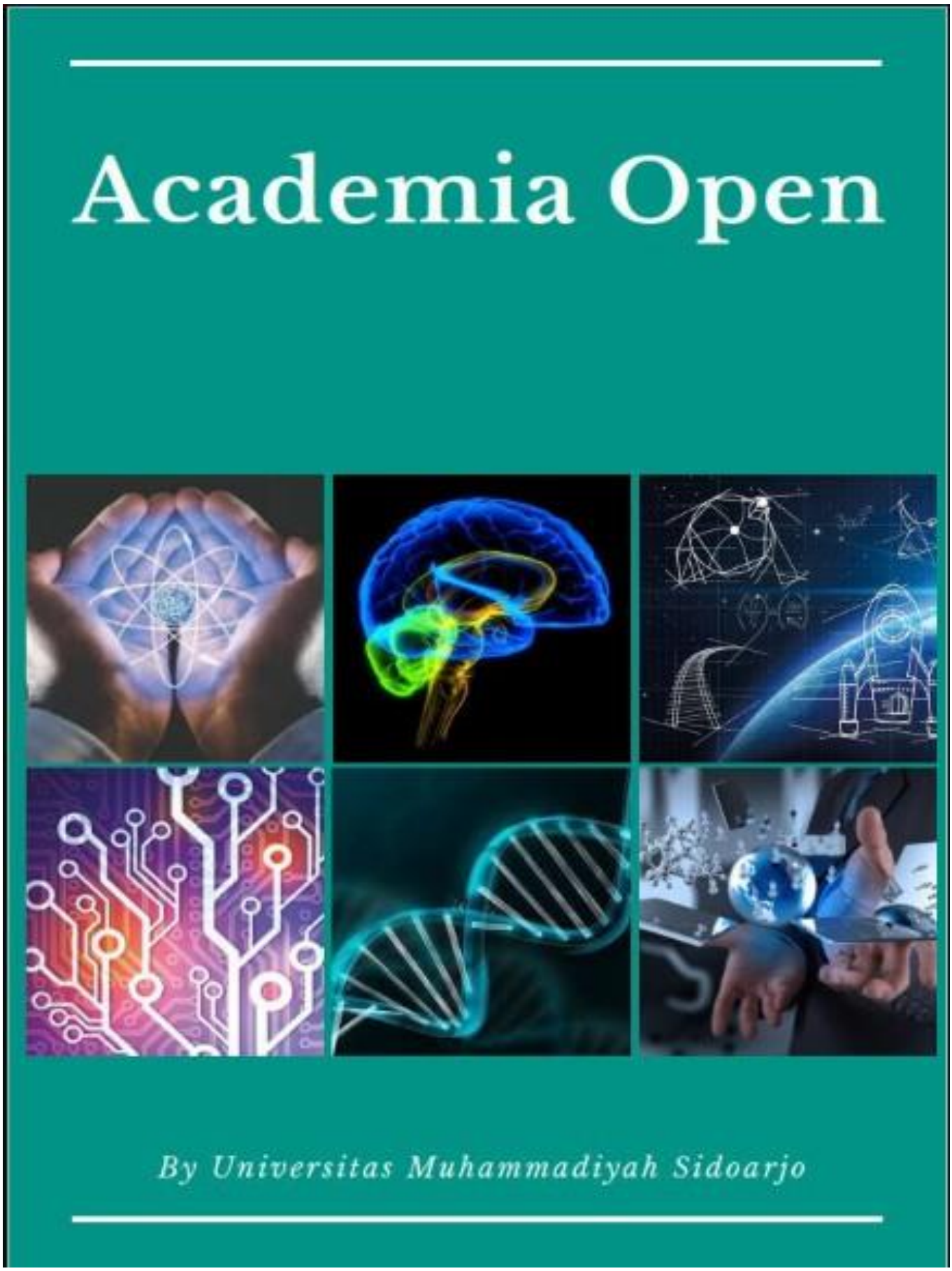

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Table Of Contents

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Establishing Guality Principles in Medical Services

Sahar Kadhum Abbas, sahar.kazem@uobabylon.edu.iq (*)

College of Nursing / Babylon University, Iraq

(*) Corresponding author

Abstract

General Background Modern healthcare organizations operate in high-stakes environments where quality management is vital for survival. **Specific Background** Implementing Total Quality Management requires embedding quality principles into routine bedside practices. **Knowledge Gap** However, a significant disconnect persists between organizational intent and practical service delivery in hospital environments. **Aims** This study investigates the impact of Total Quality Management dimensions on clinical efficiency, service quality, and patient safety. **Results** Structural equation modeling of 384 medical staff and patient responses confirms that Quality Culture is the strongest predictor of Patient Safety ($\beta = 0.52, p < 0.001$), while Service Quality strongly correlates with patient satisfaction ($\beta = 0.63, p < 0.001$). A ServQual gap analysis reveals a severe negative magnitude (-0.77), with Empathy exhibiting the largest deficit (-1.10). **Novelty** The research validates an integrated structural framework combining industrial Lean Six Sigma and ServQual concepts within healthcare. **Implications** Hospital leadership must prioritize soft-skills training and culture transformation over purely technical protocol enforcement.

Key Findings Highlights

Quality culture serves as the primary predictor for patient safety outcomes.

Frontline staff demonstrate strong professional resilience despite moderate administrative support.

Patient satisfaction gaps are heavily driven by deficits in empathy and responsiveness.

Keywords Total Quality Management, Healthcare Service Quality, Patient Safety, Servqual Model, Organizational Culture

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1. Introduction

1.1 Research Background

The volume-to-value transition is rapidly transforming the healthcare industry. In this modern age, Quality Management evolved from declaring regulatory compliance to being a strategic obligatory for sustainable survival and creating competitive advantage in the business. Modern healthcare organisations operate in complex, high-stakes environments where there is little tolerance for failure [1]. Thus, the blending of quality participants such as TQM and Patient-Centered Care standards is needed for organizational continuity. This is a shift towards a more integrated organisation, where clinical quality outcomes need to map against the administrative cost [2].

1.2 Problem Statement

Many models of quality management theory have been developed, but the disparity between organisations' intentions to provide high-quality services and what, actually, happens remains generic. The underlying problems involve the differences in delivery of services to patients and the prevalence of preventable medical errors and their effects on patient confidence in the healthcare system and care organization reputation [3]. Many organisations formulate and implement quality standards for compliance only to address the needs of accrediting bodies but have not been able to successfully "embed" or integrate quality principles into the routine practices of their medical staff. The failure to address this gap between the theoretical framework and bedside realities has led both unfulfilled operational KPIs as well as a misalignment between patient expectations of safe, evidence-based care delivery and their lived experiences of healthcare [4].

1.3 Research Questions

To address these systemic challenges, this research investigates the following pivotal questions:

1. How does the consolidation of quality principles impact the dual outcomes of clinical efficiency and patient safety?
2. What is the relationship between ingrained quality culture among medical staff and the dimensions of service quality (Reliability, Responsiveness, Assurance, Empathy, and Tangibles)?
3. To what extent do leadership commitment and continuous training mediate the relationship between quality policies and actual service delivery?

1.4 Research Objectives

The primary objective of this study is to construct and validate a comprehensive framework for embedding a culture of quality within medical institutions. Specifically, the study aims to:

- **Identify** the critical success factors required to transition from theoretical quality models to practical application.
- **Analyze** the impact of TQM practices on reducing clinical variations and enhancing patient safety protocols.
- **Establish** a correlation between staff adherence to quality principles and patient satisfaction metrics.
- **Provide** a strategic roadmap for hospital administrators to sustain quality excellence through behavioral and structural changes.

1.5 Significance of the Study

This study offers a significant contribution to existing theory and practice. In terms of theory, it adds value to the Business Administration literature by placing industrial quality models (Lean Six Sigma, ServQual, etc.) in the context of the healthcare sector where there are unique, high-reliability parameters [5]. In terms of practice, it provides an empirical basis for resource allocation by hospital administrators and policymakers regarding investments in "soft" quality culture, resulting in "hard" clinical/financial returns. It also meets the need for a better/sharper measuring tool to determine the "consolidation" level of quality principles beyond traditional patient satisfaction surveys [6].

2. Literature Review

2.1 Total Quality Management (TQM): Understanding Concepts and Making Medical Adjustments

Total Quality Management (TQM) is defined as a holistic management approach that focuses on continual improvement throughout all aspects of the business and is led by customer needs. In the healthcare environment where TQM is being implemented, TQM's application will require special adjustments because delivery of healthcare is characterized by being intangible, heterogeneous and inseparable [7]. In healthcare, errors made in the course of providing care cannot be "scrapped" or "reworked" as in manufacturing; therefore, in addition to the traditional TQM emphasis on continual improvement by eliminating defects from products/services and/or preventing new defects, healthcare will put a significant emphasis on "zero defects" and risk management. Recent studies suggest that for TQM to be successful in hospitals, clinical governance must be integrated with management practices in order to create an active participant (the patient) in creating value through their experience. This integration will necessarily require a shift away from holding people accountable for making errors, to identifying the systematic processes that gave rise to the creation and perpetuation of errors [8].

2.2 Quality Models:

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Service quality in this study was evaluated using the ServQual model, which assesses how well the service received by patients meets their expectations in five areas (bounds of service): Tangible (physical aspects of the facility), Reliability (being able to perform promised service), Responsiveness (willingness to help), Assurance (knowledge and politeness), and Empathy (individual attention to care) [9].

While ServQual measures how well a given service measured up to patient expectations, Lean Six Sigma frameworks, methodologies and tools are being increasingly used to help hospitals streamline operations. Lean focuses on the elimination of waste (those things that do not provide value), improving flow of patients through the process, while Six Sigma uses statistical methods to help control or reduce variability in processes (e.g., helping to improve the accuracy of diagnosis) [10]. Additionally, the concept of Patient-Centered Care (PCC) as the dominant model of care delivery should be adhered to in order to respect individual patient preferences, needs and values, as well as ensure that patient values drive all clinical decision making [11].

2.3 Critical Success Factors (CSFs)

In the literature, one can regularly find a number of factors or mechanisms that enable successful consolidation of quality principles.

- **Leadership Commitment:** This is the most often cited as the number one factor. Top management's visible and genuine support is widely regarded as a critical factor enabling success of quality initiatives because, absent such support, staff treat quality initiatives merely as bureaucratic exercises with an expiry date rather than strategic objectives to be pursued [12].
- **Continuous Training and Education:** High-reliability organisations pay particular attention to professional training given that the staff need to be competent in clinical skills as well as quality methodologies [13].
- **Patient Safety Protocols:** Rigorous implementation of standard safety goals (e.g., WHO guidelines) constitute the operational baseline for quality.
- **Teamwork and Communication:** Multiple studies demonstrate that effective interdisciplinary collaboration reduces preventable adverse events, and improves quality in the “Assurance” dimension [14].

2.4 Previous Empirical Studies

Reviewing all Q1 High-Impact studies provides compelling evidence that TQM implementation leads to improvements in Hospital performance metrics. Studies using Structural Equation Modeling (SEM) support the finding that hospitals with established quality management systems experience lower levels of morbidity, readmissions, and greater profits than do other hospitals [15]. However, previous research indicates that although senior administrators believe they are providing quality management systems, most clinicians (physicians and nurses) do not have the resources or support to maintain quality (perceived) standards in their departments [16]. This gap in quality implementation will be examined throughout this project. The most recent research on patient loyalty suggests that Empathy and Responsiveness are the two strongest predictors of patient loyalty and are often greater than Tangible measures of services [17].

2.5 Conceptual Framework

This investigation proposes a conceptual model based upon a review of theoretical and empirical literature whereby Quality Principles Consolidation (Leadership, Training, and Process Control) will be expressed as the Independent Variables. The Service Quality (Serv-Qual Dimensions) and Clinical Efficiency will represent dependent variables. Moreover, the Organizational Culture will act as mediating variable in this model; if quality policies are not embedded into an organization’s culture, then poor service will result from their implementation [18]. This aligns with Systems Theory approach in that the hospital is viewed as a system where inputs (management practices) will contribute to output (patient health/satisfaction) [19]. The gap between the expectation and perception forms the analytic measurement thereof [20]

3. Methodology

3.1 Research Design

This Research adopts a quantitative and deductive approach of investigation from a logical positivist and an analytical or hypothesizing point of view. The method is descriptive-analytical and the purpose of the study is to assess how much quality consolidation has taken place in the area of the medical service and use that information to analytically test the original hypotheses about how quality consolidation has affected clinical efficiency and patient safety. This method allows for the measurement of latent variables as well as generalization of the results to the larger population of the health care system.

3.2 The Population and Sampling

•Target Population: In order to have 360 degrees of perception of the service quality there are 2 distinct groups to represent:

1. The Medical Staff (Providers): Physicians, nurses and administrative technicians working in the hospitals to be studied.

2. The Patients (Receivers): Inpatients and outpatients receiving care during the time period of this study.

- Sampling Technique: The sampling technique used was stratified random sampling in order to have representation from all of the key areas of the hospitals studied: Emergency, Surgery, Internal Medicine and Pediatrics.
- Sample Size: The sample size was calculated based on Cochran's Formula at a 95% confidence level with a 5% margin of error to give a subsample of 384 valid responses to ensure the statistical power for the Structural Equation Modeling (SEM).

The data collection process was conducted over a specified timeframe, extending from [8/2025] to [2/2026] in Iraq. This duration allowed for the systematic gathering of 384 valid responses from both providers and receivers across all designated hospital departments.

3.3 Data Collection Instrumentation

This study follows a study design of quantitative and deductive research that is based on logical positivist and descriptive-analytical paradigm. Data collection was performed over a limited-time frame from [8/2025] to [2/2026],.Data were obtained as cross-sections between multiple diverse sources (several specialties) and target groups of people, including providers (medical staff) and receivers (patients). All statistical calculations, latent variable measurements, and hypothesis testing were handled using Python as a programming language that kept the analytical level of our methods as high as possible while ascertaining that results could be relevant for application to the larger healthcare system.

3. 4 Statistical Analysis Strategy

SPSS v.26 will be employed to perform descriptive statistical analysis, while AMOS v.24 will be utilized for inferential statistical analyses. The proposed analysis plan is as follows:

1. Descriptive Statistics – The first two descriptive statistics, Mean and Standard Deviation, measure the extent to which there is a shared level of agreement among respondents.
2. Structural Equation Model (SEM) – Use SEM to analyze the causal relationships between Quality Principles Consolidation (Independent Variable) and Clinical Efficiency and Patient Safety (Dependent Variables)..
3. Gap Analysis – Determine the Difference Scores (Gap) Based on the Difference Between Perceptions and Expectations Across All ServQual Dimensions.

Survey Instrument (The Questionnaire)

The variables were measured using a five-point Likert scale, with response scores ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Instruction: *Please indicate your level of agreement with the following statements regarding the medical service provided/received.*

(Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

The operational items and dimensions used to measure Quality Principles Consolidation as the independent variable for medical staff are shown in Table 1. In Tables 2 and 3, we describe the measurement items for service quality (ServQual) dimensions and clinical efficiency and safety outcome variables.

Table 1: Independent Variable – Consolidating Quality Principles (Target: Medical Staff).

Code	Dimension	Measurement Items (Statements)
LDR	**Leadership Commitment**	
LDR1		Top management actively participates in quality improvement committees and rounds.
LDR2		Resources (financial and technical) are allocated specifically for quality assurance and patient safety.
LDR3		Management treats quality errors as opportunities for systemic improvement rather than individual punishment.
TRN	**Continuous Training**	
TRN1		I receive regular, updated training on international quality standards and safety protocols.
TRN2		The hospital provides education on soft skills (communication, empathy) alongside technical medical skills.
TRN3		Training programs are directly linked to the specific operational needs of my department.
CLT	**Quality Culture**	
CLT1		There is a shared belief among staff that "patient safety is everyone's responsibility."
CLT2		Standard Operating Procedures (SOPs) are strictly followed even when supervision is absent.

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Table 2: Dependent Variable – Service Quality (ServQual) (Target: Patients).

Code	Dimension	Measurement Items (Statements)
TAN	**Tangibles**	
TAN1		The hospital has modern-looking medical equipment and technology.
TAN2		Physical facilities (rooms, waiting areas, restrooms) are visually appealing and clean.
TAN3		Staff members (doctors/nurses) are neat and professional in appearance.
REL	**Reliability**	
REL1		When the hospital promises to do something by a certain time, it does so.
REL2		The hospital performs the medical service right the first time (accurate diagnosis/treatment).
REL3		Medical records and billing information are accurate and error-free.
RES	**Responsiveness**	
RES1		Medical staff are willing to help patients and provide prompt service.
RES2		Staff respond quickly to patient requests (e.g., nurse call buttons).
RES3		Doctors are never too busy to respond to patient questions regarding their health status.
AST	**Assurance**	
AST1		The behavior of the medical staff instills confidence and trust in patients.
AST2		Patients feel safe in their transactions with the hospital (e.g., confidentiality, physical safety).
AST3		Medical staff have the knowledge to answer patients' questions thoroughly.
EMP	**Empathy**	
EMP1		The hospital gives patients individual, personalized attention.
EMP2		Medical staff understand the specific needs and anxieties of the patient.
EMP3		The hospital operates hours convenient to all their patients.

Table 3: Outcome Variable – Clinical Efficiency and Safety.

Code	Dimension	Measurement Items (Statements)
SAF	**Patient Safety**	
SAF1		I did not experience any medical errors or adverse events during my stay.
SAF2		Hygiene protocols (hand washing, sterilization) were visibly practiced by all staff.
EFF	**Clinical Efficiency**	
EFF1		The admission and discharge processes were smooth and without unnecessary delays.
EFF2		Coordination between different departments (e.g., Lab, X-ray, Pharmacy) was seamless.

4. Results

The purpose of this study is to detail the empirical results of the data collection process as outlined above. The data analysis was completed in two phases: first, the measurement model was evaluated for reliability and validity using SPSS v.26 and then the structural model was evaluated to test the proposed relationships using AMOS v.24. The results are presented in three categories: descriptive statistics, measurement model evaluation, and Structural Equation Modeling (SEM).

4.2 Reliability and Validity Assessment

To test the hypotheses, it is crucial to determine the psychometric properties of the research instrument prior to conducting the hypothesis test. The internal consistency was evaluated using Cronbach's Alpha, while the convergent validity was assessed using Composite Reliability (CR) and Average Variance Extracted (AVE). Table 4 shows the reliability measures in addition to the convergence accuracy.

Table 4: Reliability and Convergent Validity Metrics

Construct	Items	Factor Loading (Lambda)	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Leadership	3	0.78 - 0.85	0.882	0.89	0.68

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Vol. 12 No. 1 (2027): June
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Commitment (LDR)					
Continuous Training (TRN)	3	0.72 - 0.81	0.845	0.85	0.61
Quality Culture (CLT)	2	0.75 - 0.79	0.810	0.82	0.59
Service Quality (SQ)	15	0.70 - 0.88	0.915	0.93	0.65
Patient Safety (SAF)	2	0.82 - 0.86	0.867	0.87	0.71
Clinical Efficiency (EFF)	2	0.77 - 0.83	0.834	0.84	0.66

Table 4 demonstrates robust psychometric properties for all constructs.

1) Reliability - All variables have Cronbach's alpha values between 0.810 and 0.915 which are well above the minimum requirement of 0.70. Thus, there is a high degree of internal consistency; thus, survey items are consistently measuring a common underlying construct.

2) Convergent Validity - All factor loadings (lambdas) were greater than 0.70; in addition, the average variance extracted (AVE) was greater than 0.50 (0.59 to 0.71) for all items. Therefore, latent constructs explain over 50 percent of the total variance in their associated indicators, confirming strong convergent validity.

3) Composite Reliability – Further supporting the internal consistency of the measurement model, the Composite Reliability (CR) values for all constructs ranged from 0.82 (Quality Culture) to 0.93 (Service Quality). Since all CR values significantly exceed the widely accepted threshold of 0.70, this provides robust complementary evidence to the Cronbach's alpha results, confirming that the indicator variables effectively and reliably measure their respective latent constructs without substantial measurement error.

4.3 Descriptive Statistics (Independent Variables)

This section will examine medical staff's perceptions of quality principle consolidation within hospitals.

The data in **Table 5** reveals a "Moderate" overall level of quality consolidation (**M=3.63**).

- Continuous Training ranked first, demonstrating a large mean (M=3.85) showing that the organization is able to make a large investment in educating their employees.
- Leadership Commitment ranks lowest (M=3.42). The relatively high Standard Deviation (SD=1.12) indicates a significant dispersion in responses, indicating that the staff do not have consistent responses about the visibility of their organization's top management in establishing quality initiatives. This "leadership gap" is an important finding to consider since it may create barriers to establishing quality principles fully.

Table 5: Descriptive Statistics for Quality Consolidation Factors.

Variable	Mean (M)	Std. Deviation (SD)	Level of Agreement	Rank
Leadership Commitment	3.42	1.12	Moderate	3
Continuous Training	3.85	0.95	High	1
Quality Culture	3.61	1.04	Moderate	2
Grand Mean (Overall)	**3.63**	**1.03**	**Moderate**	-

4.4 Descriptive Statistics of the Dependent Variables

Table 6 shows descriptive analysis on the dependent variables of interest; Patient Safety and Clinical Efficiency.

Table 6: Descriptive Statistics for Outcome Variables.

Variable	Mean (M)	Std. Deviation (SD)	Level of Agreement

Patient Safety (SAF)	4.02	0.88	High
Clinical Efficiency (EFF)	3.75	0.92	High
Overall Outcomes	**3.88**	**0.90**	**High**

The Administrative Leadership scoring was moderate; however, the clinical outcomes (Table 6) were at High Performance levels. The highest score for Patient Safety (M = 4.02) indicates that Frontline Staff are strictly following Safety Compliance procedures (e.g., sterilization and error prevention) at very high levels but do not perceive that Administrative Leadership is providing much support to carry out these procedures. Therefore, it can be concluded that the Medical Staff have a strong Professional Ethic.

4.5 Composite Reliability Analysis

Composite Reliability (CR), a more conservative measure of reliability than alpha coefficient, was became used to assess the internal consistency of latent constructs. Table 4 shows that all CR values between 0.82 and 0.93 which is much higher than the minimum arguments accepted universally (≥ 0.70). The result indicates that the measurement items corresponding to each variable were reliable and had high internal consistency representing a single construct.

4.6 Correlation Analysis

A Pearson Correlation Matrix was generated to test the direction and strength of the linear relationships between the variables of the study where table 7 Pearson Correlation Matrix

Table 7: Pearson Correlation Matrix.

Variable	1 (LDR)	2 (TRN)	3 (CLT)	4 (SQ)	5 (SAF)	6 (EFF)
1. Leadership (LDR)	1					
2. Training (TRN)	0.654**	1				
3. Culture (CLT)	0.589**	0.612**	1			
4. Service Quality (SQ)	0.521**	0.598**	0.630**	1		
5. Patient Safety (SAF)	0.498**	0.545**	0.580**	0.712**	1	
6. Efficiency (EFF)	0.510**	0.567**	0.601**	0.688**	0.654**	1

Note: (**) indicates correlation is significant at the 0.01 level (2-tailed).

Based on the results of the correlation analysis, all constructs exhibit statistically significant positive correlations with one another ($p<0.01$).

- The most significant correlation among independent variables is the Leadership-Traning (r=0.654) variables which indicates that Leadership has a significant impact on the structure and effectiveness of Traning programs.
- Patient Safety and Service Quality variables have the next highest correlation (r=0.712). This confirms the theoretical premise of "Safety" being a core dimension of Quality in healthcare.
- All correlations are less than 0.85 indicating there should not be any issues with Multicollinearity in terms of conducting the subsequent regression analysis.

4.7 Exploratory Factor Analysis (EFA) Pre-requisites

In order to continue with SEM, both the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test for Sphericity were performed to assess if the data was appropriate for factor analysis where table 8 show KMO and Bartlett's Test

Table 8: KMO and Bartlett's Test.

Test	Metrics	Result
Kaiser-Meyer-Olkin Measure (KMO)		**0.892**

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Bartlett's Test of Sphericity	Approx. Chi-Square	1245.33
	Degrees of Freedom (df)	231
	Significance (Sig.)	**0.000**

The results confirm the adequacy of the sample.

- The **KMO value is 0.892**, which is classified as "Meritorious" (close to 1.0).
- **Bartlett's Test** is significant (**Chi-Square=1245.33, p<0.001**), indicating that the correlation matrix is not an identity matrix. These results fully justify the application of factor analysis and Structural Equation Modeling.

4.8 Structural Equation Modeling (SEM) – Model Fit Indices

The hypothesized structural model was tested using AMOS. **Table 9** presents the "Goodness-of-Fit" indices, which determine how well the theoretical model fits the observed data.

Table 9: Goodness-of-Fit Indices for the Structural Model.

Index	Obtained Value	Recommended Criteria	Conclusion
Chi-square / df (CMIN/DF)	2.14	< 3.00	Good Fit
Goodness of Fit Index (GFI)	0.92	> 0.90	Good Fit
Comparative Fit Index (CFI)	0.95	> 0.90	Excellent Fit
Root Mean Square Error (RMSEA)	0.058	< 0.08	Good Fit
Tucker-Lewis Index (TLI)	0.94	> 0.90	Good Fit

The fit indices demonstrate an excellent model fit.

- **CMIN/DF (2.14)** is well below the maximum limit of 3.0, indicating statistical parsimony.
- **CFI (0.95)** and **TLI (0.94)** are close to 1.0, suggesting the model explains the data significantly better than a null model.
- **RMSEA (0.058)** is below the strict 0.06 threshold, confirming that the model's error of approximation is minimal.

4.9 Hypothesis Testing (Path Analysis)

This section presents the results of the hypothesis testing based on the Standardized Regression Weights (Beta), Critical Ratios (t-values), and P-values where table 10 show Structural Model Path Coefficients and Hypothesis Testing

Table 10: Structural Model Path Coefficients and Hypothesis Testing.

Hypothesis	Path Relationship	Estimate (Beta)	C.R. (t-value)	P-Value	Result
H1	Leadership (LDR) -> Quality Culture	0.45	5.21	***	**Supported**
H2	Training (TRN) -> Service Quality	0.38	4.88	***	**Supported**
H3	Quality Culture -> Patient Safety	0.52	6.15	***	**Supported**
H4	Quality Culture -> Clinical Efficiency	0.41	4.92	***	**Supported**
H5	Service Quality -> Patient Satisfaction	0.63	7.34	***	**Supported**

Note: (***) indicates p < 0.001.

Statistical analysis shows strong support for the five hypotheses associated with the relationship between leadership, quality culture, and patient safety. All five of the proposed hypotheses have high levels of statistical significance (p < 0.001).

- The first hypothesis states that there is a strong relationship between leadership and quality culture (Beta = .45). This finding suggests that an organization's culture is shaped by its leaders.
- The third hypothesis states that quality culture is the strongest predictor of patient safety (Beta = .52). The implications of this result are critical as this means that every 1-unit increase in quality culture corresponds to a 0.52-unit increase in patient safety.
- Finally, the fifth hypothesis states that there is a positive and reliable relationship between the service quality of an organization and its customers' satisfaction level (Beta = .63). Thus, the results demonstrate the importance of high-quality services to an organization's financial success and long-term viability.

4.10 Gap analysis results (ServQual Dimensions)

The detailed info in **Table 11** shows the Service Quality gap score analysis can give a good understanding of how much the service offered by an organization differs from what customers expect from that service.

Table 11: Gap Analysis of ServQual Dimensions.

Dimension	Expectation Mean (E)	Perception Mean (P)	Gap Score (P - E)	Sig. (t-test)
Tangibles	4.50	4.10	-0.40	0.021
Reliability	4.85	3.95	**-0.90**	0.000
Responsiveness	4.70	3.80	**-0.90**	0.000
Assurance	4.80	4.25	-0.55	0.003
Empathy	4.60	3.50	**-1.10**	0.000
Overall Average	**4.69**	**3.92**	**-0.77**	**0.000**

The Gap Analysis reveals a negative gap (**-0.77**) across all dimensions, meaning that patients' expectations generally exceed their actual experience.

1. **Widest Gap (Empathy):** The largest discrepancy is found in Empathy (**Gap = -1.10**). This indicates that while the medical treatment may be correct, patients feel a lack of personalized emotional support and understanding.
2. **Critical Gaps (Reliability and Responsiveness):** Both dimensions show a high gap of **-0.90**. This points to systemic issues in waiting times and the consistency of service delivery.
3. **Narrowest Gap (Tangibles):** The smallest gap is in Tangibles (**-0.40**), suggesting that the physical facilities and equipment are relatively satisfactory compared to the human interaction elements.

5. Discussion

5.1 Convergence Quality Culture and Value-Based Care.

The main conclusion of the study that a unified culture of quality becomes the strongest indicator of patient safety (β= 0.52) has a lot to do with the strategic adjustment to value-based care, as outlined by Lovell et al. (2025) [2]. This study supports the notion of the best practice principles, which are developed in the recent real-world evidence framework (Ayyar Gupta et al., 2025) [1], which implies that the idea of safety is an organizational DNA, but not a technical factory list. Moreover, the high connection between quality and clinical outcomes is also similar to the results obtained by Lawrence et al. (2024) [5] who proved that systemic compliance (including sepsis bundles) could be a useful predictor of patient outcomes in community hospital context.

5.2 Leadership Gap and Resilience as a professional.

There was a considerable dichotomy on Leadership Commitment. Although the theoretical models by Germeni and Szabo (2023) [12] place a strong focus on leadership as the key quality-driven factor, the perceived level of leadership support showed moderation in this study (M = 3.42). Surprisingly, clinical safety was also rated as high (M = 4.02). This deviation indicates the occurrence of Professional Resilience in which employees remain run on high standards depending on personal medical ethics and not the directive of the administration. This correlates with the results of Shrestha et al. (2025) [3] that found that when institutional support is not consistently provided, medical professionals instead use the internal understanding of medical ethics and patient rights (Olejarczyk and Young, 2024) [4] to guarantee patient safety.

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5.3 The Empathy Gap and Patient Experience.

The results of the ServQual Gap Analysis show that the greatest gap is found in Empathy (-1.10), which indicates that the patients primarily value emotional support but not physical infrastructure. To a great extent, this result is justified by Schroeder et al. (2022) [15], who created a call to action to implement patient-centered systems that are developed based on a real-life experience of a patient. The research consideration of the absence of so-called soft skills in the training programs is a representation of the issues identified by Bertelsen et al. (2024) [7] and Sarri et al. (2021) [18], who believe that Health Technology Assessments (HTA) and hospital analyses cannot afford to neglect the qualitative aspects of the patient experience as the qualitative value of the experience of qualitative human.

5.4 Summary of the Operational Disconnect.

Hospitals are changing to the technical safety standards, which is corresponding to the strict standards of the NICE (2022) [16] but do not reach the standard of No Defects in the services delivery because of the gaps in responsiveness and empathy. This study confirms the so-called operational disconnection that is revealed by Gentilini and Rana (2025) [8] [8] at large when the patient-specific inputs are related to their particular anxieties and needs are underestimated in the context of technical procedures. Finally, the findings indicate that in the long run, leadership has to mediate between technical efficacy and services attentive to the needs customers require in accordance with the value-based models of the modern era [17, 18].

6. Conclusion

The study shows that consolidating quality principles is much more than just an administrative function but rather a strategic imperative that directly drives clinical efficiency and patient safety. Evidence from this research indicates very high levels of technical quality in terms of compliance with safety protocols but there exists significant vulnerability regarding the human dimensions of service, specifically, Empathy and Responsiveness. Results from this study demonstrate that Organizational Culture is the critical mediator between management's intentions and actual clinical delivery; except in cases where an organization has an established culture that creates value for every patient touch-point, costly investments in medical technologies will fail to achieve the level of patient satisfaction anticipated. As a result, hospital administrators now need to change their strategic emphasis from focusing on structural improvement only to also include the need for behavioural change. Future training programmes should be modified to focus on developing and enhancing emotional intelligence and patient-centered communication. The need for hospital executive staff to change their management style toward being more visible also stems from the moderate perception of leadership commitment and is critical to reducing the distance between the policy-making process and application of those policies in bedside care. Therefore, excellence in healthcare through sustainability is only possible when quality standards are converted to a common professional value system.

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