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The Impact of Job Loyalty on Healthcare Service Quality: The Mediating Role of Employee Engagement in Aden, Yemen

Dr. Jamal Taleb[1*] & Dr. Liza Obaid[2]

[1]Asst. Professor at the University of Science and Technology, Aden, Yemen.

[2]Asst. Professor at Aden University, Aden, Yemen.

***Corresponding Author**: Dr. Jamal Taleb

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Abstract

Healthcare organizations depend on their workforce to maintain consistent service standards. "The attitudes, commitment and behavior of employees are often the defining factors in how patients experience care and how services are delivered." This study investigates the impact of job loyalty on healthcare service quality in Aden, Yemen, emphasizing the mediating role of employee engagement. A cross-sectional survey was conducted among 300 doctors, nurses, and administrative staff. Data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS. The findings indicate that job loyalty positively influences both employee engagement and service quality. Additionally, job loyalty was found to partially mediate the relationship between employee engagement and healthcare service quality.

Keywords: *Job Loyalty, Employee Engagement, Service Quality, Healthcare, SEM, Aden, Yemen.*

1. Introduction

In Aden, Yemen, the health sector depends on its workforce to provide safe, effective, and patient-centered care despite persistent operational and economic challenges. Even when infrastructure and technology are adequate, service quality is primarily determined by employees' commitment, motivation, and stability. Recent issues, including post-pandemic stress, workforce shortages, and increasing patient expectations, have highlighted the essential role of employee loyalty in maintaining healthcare service quality.

Job loyalty is defined as an employee's emotional attachment to the organization and intention to remain within it. Loyal employees are more likely to exhibit professionalism, discretionary effort, and patient-focused behaviors that enhance healthcare outcomes. In healthcare settings, employee loyalty significantly contributes to service quality dimensions such as reliability, responsiveness, empathy, and assurance.

Employee engagement, characterized by vigor, dedication, and absorption in work, serves as a primary mechanism through which job loyalty enhances service quality. Engaged healthcare employees demonstrate greater attentiveness, motivation, and commitment to patient care. Although employee well-being in healthcare organizations has received growing scholarly attention, limited research has explored the relationships among job loyalty, employee engagement, and healthcare service quality in the post-pandemic context, especially in developing regions such as Aden, Yemen.

Accordingly, this study examines the effect of job loyalty on healthcare service quality and evaluates the mediating role of employee engagement among healthcare workers in Aden, Yemen. The research specifically addresses the following questions:

1. Does job loyalty have a direct effect on the quality of health care service?
2. Is employee engagement a mediating variable of the relationship between job loyalty and healthcare service quality?

2. Research Gap

Existing healthcare management research has extensively examined the relationships among organizational

commitment, employee engagement, and service quality in developed, stable healthcare systems. Numerous studies have confirmed that satisfied, engaged, and committed employees in healthcare positively influence patient satisfaction, safety, and organizational performance. However, significant gaps remain, particularly in fragile and conflict-affected health systems such as in Yemen.

Firstly, most existing studies on healthcare have examined organizational commitment or employee engagement separately, rather than exploring the integrated mechanism by which job loyalty affects healthcare service quality through employee engagement. While prior studies have recognized the importance of employee attitudes in service outcomes, few empirical studies have tested the mediating role of employee engagement in a comprehensive SEM framework in healthcare institutions, especially in developing countries.

Second, most previous studies have been conducted in economically stable countries with relatively strong health care infrastructures and institutional support systems. Their findings may therefore not be fully relevant to Yemen, where healthcare organizations are operating amid political instability, a shortage of human resources, economic hardship, scarce resources, and post-conflict stress. These contextual differences can significantly impact employee loyalty, engagement, and perceptions of service quality. Despite these realities, empirical evidence from Yemen is extremely limited.

Third, research in the Yemeni healthcare sector has paid considerable attention to operational challenges, humanitarian conditions and patient care deficiencies, but comparatively less attention has been given to internal organizational behavior factors such as job loyalty and employee engagement. Very few studies have examined the role of healthcare employees' psychological attachment to their organizations in improving healthcare service quality during crises. This creates a significant theoretical and practical gap in understanding the workforce-related determinants of healthcare performance in Yemen.

Fourth, few studies in Yemen have utilized advanced analytical techniques, such as Partial Least Squares Structural Equation Modelling (PLS-SEM), to examine the direct and indirect relationships between organizational behavior constructs and healthcare service quality dimensions simultaneously. Thus, no studies have investigated the causal links among job loyalty, employee engagement, and service quality in the Yemeni healthcare context.

Consequently, this study addresses these gaps by integrating Organizational Commitment Theory, Social Exchange Theory, and SERVQUAL into a unified SEM framework to analyze the direct and indirect effects of job loyalty on healthcare service quality through employee engagement.

engagement among healthcare workers in Aden, Yemen. Additionally, the study offers context-specific evidence from a fragile healthcare environment and contributes to the healthcare management literature in developing and conflict-affected settings.

3. Conceptual Framework and Hypotheses

3.1 Conceptual Framework

The study integrates organizational Commitment Theory, Social Exchange Theory (SET), and the SERVQUAL model into a Structural Equation Modelling (SEM) framework to explain how job loyalty impacts healthcare service quality through employee engagement. Rather than viewing these theories in isolation, the proposed model conceptualizes them as complementary perspectives that account for employees' psychological attachment, behavioral responses, and organizational outcomes.

The explanation for the antecedent variable, job loyalty, is grounded in organizational Commitment Theory (Meyer & Allen, 1991). The theory suggests that employees who develop a strong emotional bond and loyalty to their organization are more likely to remain with the organization, align with organizational goals, and voluntarily put in more effort towards the organization's success. As a result, committed employees in healthcare organizations are expected to have higher professional standards, greater responsibility for patient care, and consistent contributions to organizational effectiveness. Thus, job loyalty is the main organizational attitude that initiates the next behavioral processes in the proposed SEM model.

Organizational Commitment Theory explains the development of employee loyalty, whereas Social Exchange Theory (Blau, 1964) explains the conversion of loyalty into work behavior. SET suggests that employment relationships are based on reciprocal exchanges between employees and their organizations. Healthcare workers respond to positive experiences of organizational support, fairness, recognition, and trust with greater psychological investment in their work. The reciprocal process is reflected in employee engagement, which is defined as the vigor, dedication and absorption of employees in their work (Schaufeli et al., 2006). So, employee engagement is the behavioral mechanism through which organizational commitment impacts organizational performance.

The final outcome of this reciprocal process is evaluated using the SERVQUAL framework (Parasuraman et al., 1988), which conceptualizes service quality through

dimensions such as reliability, responsiveness, assurance, and empathy. In health care settings, these dimensions reflect the quality of the interactions between health care professionals and patients. The present study assumes that highly engaged healthcare employees are more attentive, responsive, empathetic, and committed to delivering patient-centered services, thereby improving perceived healthcare service quality. Therefore, SERVQUAL is the theoretical basis for the measurement of the dependent variable, the evaluation of the organizational consequences of employee attitudes and behaviors.

The SEM model integrates these three theoretical perspectives to create a coherent causal sequence. Organizational Commitment Theory explains how employee loyalty develops, and Social Exchange Theory explains the psychological mechanism through which loyalty leads to greater.

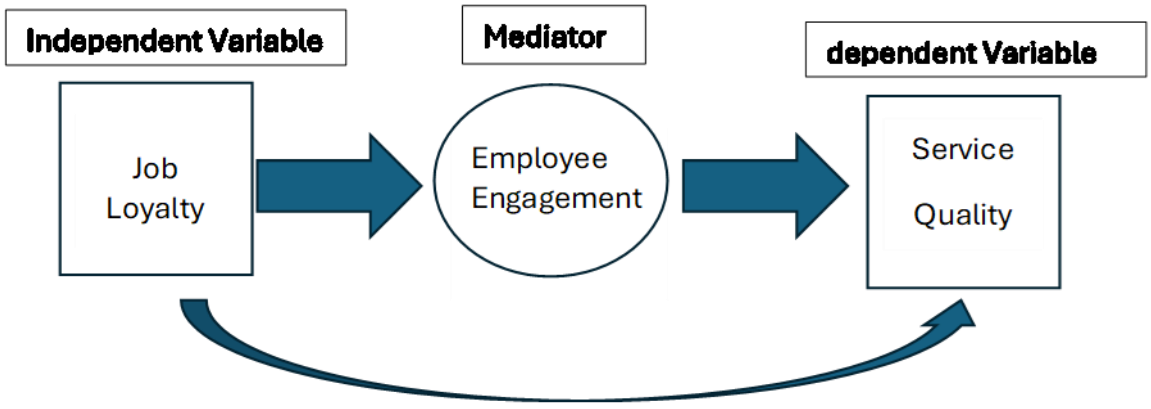
employee engagement, and SERVQUAL explains how this engagement is reflected in improved quality of healthcare services. Hence, employee engagement serves as a mediating construct between organizational commitment and service outcomes.

The integrated framework makes several theoretical contributions. First, it connects organizational behavior theory to healthcare service quality studies by relating employee attitudes to patient-oriented outcomes. Second, it contributes to prior studies that have investigated organizational commitment or employee engagement in isolation by simultaneously modelling direct and indirect relationships. Third, it provides contextualized evidence from the healthcare sector in Aden, Yemen, where workforce commitment and engagement are particularly important, given resource constraints, workforce shortages, and post-conflict challenges. Examination of these relationships in a single SEM framework provides a better explanation of healthcare service quality than any of the three theories could provide separately.

Drawing from this integrated theoretical foundation, the proposed structural model hypothesizes that (a) job loyalty positively affects employee engagement and healthcare service quality and (b) employee engagement partially mediates the relationship between job loyalty and healthcare service quality. This framework aligns with the study's conceptual model and provides the theoretical basis for testing the suggested hypotheses.

Conceptual Framework:

Figure 1. Integrated theoretical framework combining Organizational Commitment Theory, Social Exchange Theory, and SERVQUAL to explain the direct and indirect effects of job loyalty on healthcare service quality through employee engagement.



3.2 Hypotheses Development

H1: Job loyalty positively influences employee engagement among healthcare employees in Aden, Yemen. Job loyalty reflects employees' emotional attachment, commitment, and intention to remain with their organization. According to organizational Commitment Theory (Meyer & Allen, 1991), employees who develop strong organizational commitment are more willing to

invest their physical, cognitive, and emotional resources in their work. Similarly, Social Exchange Theory (Blau, 1964) suggests that employees reciprocate favorable organizational treatment by increasing their psychological involvement and dedication. Employee engagement is characterized by vigor, dedication, and absorption (Schaufeli et al., 2006). Loyal employees generally experience a stronger sense of belonging and organizational identification, which motivates them to become more engaged in their daily work. Previous studies have consistently reported that organizational commitment and loyalty positively influence employee engagement across healthcare organizations (Alshaabani et al., 2021; Nguyen et al., 2023; Yousef & Abualoush, 2023). In healthcare settings, loyal employees are more likely to remain motivated despite demanding working conditions, thereby demonstrating higher levels of engagement. Therefore, the following hypothesis is proposed: H1: Job loyalty positively influences employee engagement among

healthcare employees in Aden, Yemen. H2: Employee engagement positively influences healthcare service quality in Aden, Yemen. Employee engagement has become one of the most important determinants of organizational performance in healthcare. Engaged employees exhibit higher levels of enthusiasm, concentration, and commitment, enabling them to provide responsive, reliable, and patient-centered care. The Job Demands–Resources (JD-R) model further explains that engaged employees utilize organizational resources more effectively, thereby improving work outcomes (Bakker et al., 2023). Numerous empirical studies have demonstrated that employee engagement significantly improves healthcare service quality through enhanced patient satisfaction, teamwork, responsiveness, and safety (Boamah et al., 2022; Agarwal et al., 2023; Alharbi et al., 2023; Osei et al., 2022). In addition, engaged healthcare professionals are more likely to demonstrate empathy, effective communication, and proactive problem-solving, which directly support the SERVQUAL dimensions of reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Accordingly, employee engagement is expected to improve healthcare service quality. H2: Employee engagement positively influences healthcare service quality in Aden, Yemen. H3: Job loyalty positively influences healthcare service quality in Aden, Yemen. Organizational Commitment Theory argues that loyal employees consistently demonstrate behaviors that support organizational objectives and service excellence. Employees who identify strongly with their organization are more likely to maintain professional standards, collaborate with colleagues, and provide high-quality patient care. Previous research has consistently found a positive relationship between organizational commitment and healthcare service quality. Al-Hussami et al. (2021) reported that committed nurses contribute significantly to patient satisfaction and quality outcomes. Ahmed et al. (2022) similarly found that organizational commitment enhances healthcare service performance among frontline healthcare workers. Furthermore, Yousef and Abualoush (2023) showed that employee commitment contributes directly to organizational effectiveness and healthcare performance in Middle Eastern hospitals. In fragile healthcare systems such as Yemen, employee loyalty may become even more important, as committed employees continue to deliver quality care despite limited organizational resources and operational challenges. Therefore, the following hypothesis is proposed: H3: Job loyalty positively influences healthcare service quality in Aden, Yemen. H4: Employee engagement mediates the relationship between job loyalty and healthcare service quality among healthcare employees in Aden, Yemen. Although job loyalty is expected to directly improve healthcare service quality, it is also likely to affect service quality indirectly through employee engagement. Social Exchange Theory suggests that employees who feel emotionally attached to their organization reciprocate this positive relationship by becoming more psychologically engaged in

their work, which subsequently improves service outcomes. Employee engagement serves as the behavioral mechanism through which organizational commitment is translated into higher job performance. Previous studies have demonstrated that engagement mediates the relationship between organizational support, commitment, and organizational performance (Dhir et al., 2022; Mousa et al., 2022; Chen et al., 2022). Likewise, Yousef and Abualoush (2023) found that employee engagement explains how organizational commitment contributes to healthcare performance. Within healthcare organizations, loyal employees are expected to become more dedicated, energetic, and focused on patient care, thereby improving healthcare service quality. Therefore, employee engagement is expected to mediate the relationship between job loyalty and service quality. Accordingly, the following hypothesis is proposed: H4: Employee engagement mediates the relationship between job loyalty and healthcare service quality among healthcare employees in Aden, Yemen.

4. Methodology

4.1 Research Design

This study employed a quantitative cross-sectional research design to examine the effects of job loyalty, employee engagement, and healthcare service quality among healthcare employees in Aden, Yemen. The quantitative approach was selected to statistically test hypothesized relationships between latent constructs. The cross-sectional design enabled data collection from respondents at a single point in time and facilitated the examination of both direct and indirect relationships within the proposed Structural Equation Modelling (SEM) framework. Partial Least Squares Structural Equation Modelling (PLS-SEM) was conducted using SmartPLS 4 software to analyze measurement and structural models. PLS-SEM was chosen for its suitability in predictive and exploratory studies involving complex relationships, mediation analysis, and latent variables, particularly in developing and contextually constrained environments where data normality cannot always be assumed.

4.2 Sampling Procedure and Justification

Purposive sampling was employed to select respondents from hospitals and healthcare centers in Aden, Yemen. The target population comprised doctors, nurses, and administrative healthcare staff directly involved in

healthcare service delivery and patient interaction. This sampling method was deemed most appropriate for the study, as it required participants with specific professional experience and contextual knowledge regarding job loyalty, employee engagement, and healthcare service quality.

Unlike probability sampling, purposive sampling allows the researcher to select the most relevant respondents for the study's purpose. In organizational research using SEM, particularly in the healthcare field, the quality and relevance of the respondents are often more important than random sampling, as latent constructs such as loyalty, engagement and service quality depend on the informed perceptions of experienced participants. The healthcare staff who are in direct contact with patients are better positioned to assess organizational commitment and service performance.

The contextual realities of the Yemeni health care sector further justify the use of purposive sampling. The sample could not be fully randomized due to operational instability, workforce shortages, irregular work schedules and restricted institutional access in some healthcare facilities. Hence, purposive sampling was an effective and efficient method to recruit healthcare professionals who met the inclusion criteria and were available to participate during the data collection period.

From a methodological perspective, purposive sampling is widely accepted in Partial Least Squares Structural Equation Modelling (PLS-SEM) research, especially when the aim is theory testing and prediction, rather than population generalization. PLS-SEM underscores the importance of reducing the explained variance and investigating the relationships among the latent constructs among respondents who are aware of the research phenomenon. Hair et al. (2021) stated that non-probability sampling techniques, such as purposive sampling, are frequently used in SEM studies where respondents are selected based on their relevance to the conceptual model.

Furthermore, the purposive sampling method enhances the validity of the SEM analysis by increasing the likelihood that respondents understand the constructs being measured. Given the focus of this study on psychological and organizational variables in healthcare institutions, the choice of participants with direct organizational experience further increases the reliability and meaningfulness of the collected data.

The final sample comprised 300 health care workers (doctors, nurses, and administrative staff) from selected hospitals and clinics in Aden, Yemen. The sample size was deemed sufficient for PLS-SEM analysis, as it exceeded the minimum recommendations for structural model estimation and mediation testing.

The sample size was deemed sufficient for PLS-SEM analysis, as it exceeded the minimum sample size criteria for studying structural relationships and mediation effects in SEM research.

4.3 Data Collection Procedure:

Data were collected using a structured questionnaire, which was distributed in person to healthcare employees at selected hospitals and clinics in Aden. Permission was obtained from participating healthcare institutions, and informed consent was secured from all respondents prior to data collection. All responses were treated as confidential and used exclusively for academic purposes.

The questionnaires were administered face-to-face to increase response rates and ensure respondents understood the details. The data collection process was directed at employees with enough organizational experience and regular contact with the activities of the healthcare service. The study involved 300 respondents and was deemed adequate for PLS-SEM analysis. All participants from participating hospitals gave informed consent. • Questionnaires were administered to participants face-to-face. Data analysis was performed with. Researchers

administered in-person questionnaires to participants. The data were analyzed using SmartPLS 4 for PLS-SEM. Reliability (α, CR), convergent validity (AVE) and discriminant validity (HTMT) were assessed. • Structural Model: Path coefficients (β), t-values, p-values, R^2, and f^2 were part of the analysis. The analysis examined path coefficients (β), t-values, p-values, R^2, f^2 and used 5,000 resamples of bootstrapping for the mediation analysis. index) • Section A: Demographics (Gender, Age, Job Role, Years of Experience, Type of Hospital) • Section B: Job Loyalty (JL1-JL4: Pride, effort, intention to remain, emotional attachment) • Section C: Employee Engagement (EE1–EE9: Vigors, dedication, absorption, pride, attentiveness) • Section D: Quality of Healthcare Service (SQ1–SQ12: Reliability, Responsiveness, Empathy, Assurance, Patient Safety, Collaboration)

4.4 Ethical Considerations

The research process adhered strictly to established ethical research principles, ensuring the protection of participants' rights, privacy, and well-being. Ethical considerations were especially significant given the involvement of health professionals working in sensitive, high-pressure environments in Aden, Yemen.

Before data collection, the management of the participating hospitals and healthcare institutions was officially granted permission. Before participating, respondents were informed about the purpose, objectives and academic nature of the study. Participation was entirely voluntary,

and no respondent was coerced or pressured to participate in the research.

A clear explanation was provided to participants about the following to ensure informed consent: * the aim of the study, * the techniques used, * the approximate time it will take to complete the questionnaire, and their rights as participants.

It was made clear to the respondents that they had the right to refuse to participate or to withdraw from the study at any time without penalty or adverse consequence. Consent was obtained before the questionnaire was administered.

Confidentiality and anonymity were protected throughout the study. The questionnaire did not request participants to provide any personally identifiable information (e.g., names, identification numbers, phone numbers, or private employment records). Responses were numerically coded and used only for statistical and academic purposes. All data collected was available only to the researchers and was kept in a location with no unauthorized access.

To protect participants from psychological or professional risks, sensitive or intrusive questions that could negatively affect respondents' employment status, professional relationships, or emotional well-being were excluded from the study. The questionnaire was restricted to perceptions of the organization and services relevant to the study objectives.

Also, the results were presented in aggregated form, not at the individual level, so that no participant or health care institution could be personally identified. This mitigated the risk of reputational or professional harm and enhanced the respondents' confidence in giving honest and

accurate answers.

The study also adhered to the principles of academic integrity, including honesty, objectivity, proper citation, and the responsible handling of research data. All measurement scales and theoretical concepts were appropriately referenced to acknowledge original scholarly contributions.

All in all, the ethical procedures ensured the protection and confidentiality of participants and improved the credibility and trustworthiness of the research process.

5. Results & Discussion

5.1 Respondents' Demographic Profile

The study included 300 health workers, including doctors, nurses and administrators, working in hospitals and health centers in Aden, Yemen. The majority of the sample was female (60%), and most participants were between 25 and 34 years old. Nurses were the most common professional category in the study sample. The respondents' demographic characteristics indicate that they were professionally experienced and directly involved in the delivery of healthcare services.

Data Preparation & Screening

Prior to SEM: • Search for missing values and outliers

- Check that all data meet assumptions for PLS-SEM (metric, no severe nonnormality)
- Demographic variables, descriptive statistics

Table 1: Demographic Characteristics of Respondents (N = 300)

Variable	Category	Frequency	Percentage (%)	Variable
Gender	Male	120	40.0	Gender
	Female	180	60.0	
Age (years)	<25	50	16.7	Age (years)
	25–34	130	43.3	
	35–44	80	26.7	
	45–54	30	10.0	
	≥55	10	3.3	
Job Role	Doctor	90	30.0	Job Role

Nurse 180 60.0

Note. N = 300 healthcare employees from hospitals and healthcare centers in Aden, Yemen.

5.2 Measurement Model Assessment

The measurement model was assessed for construct reliability, convergent validity and discriminant validity. The findings showed that all constructs were reliable, with Cronbach's Alpha and composite reliability exceeding the recommended threshold of 0.70. All Average Variance Extracted (AVE) values were greater than 0.50, which confirmed convergent validity.

Furthermore, the HTMT ratios were below the 0.85 cut-off, confirming discriminant validity. The results of these analyses suggest that the measurement scales were reliable.

5.3 Measurement Model Evaluation

Table 2. Reliability and Convergent Validity Assessment

Construct	Cronbach's Alpha	Composite Reliability	AVE	Result
Job Loyalty	0.850	0.880	0.620	Acceptable
Employee Engagement	0.890	0.910	0.650	Acceptable
Healthcare Service Quality	0.910	0.930	0.600	Acceptable

Note. Acceptable thresholds: Cronbach's Alpha ≥ .70; Composite Reliability ≥ .70; AVE ≥ .50

Table 3. Discriminant Validity (HTMT)

Constructs	HTMT Value	Decision
Job Loyalty – Employee Engagement	0.72	Supported
Job Loyalty – Healthcare Service Quality	0.68	Supported
Employee Engagement – Healthcare Service Quality	0.74	Supported

Note. HTMT values below .85 indicate satisfactory discriminant validity

Table 4. Structural Model Results

Hypothesis	Structural Path	β	t-value	p-value	Decision
H1	Job Loyalty → Employee Engagement	0.650	12.34	< .001	Supported
H2	Employee Engagement → Healthcare Service Quality	0.520	10.21	< .001	Supported

Hypothesis	Structural Path	β	t-value	p-value	Decision
H3	Job Loyalty → Healthcare Service Quality	0.300	5.67	< .001	Supported
H4	Job Loyalty → Employee Engagement → Healthcare Service Quality	0.340	4.89	< .001	Supported (Partial Mediation)

Note. Significance was assessed using bootstrapping with 5,000 resamples.

Table 5. Coefficient of Determination (R^2)

Endogenous Construct	R^2	Interpretation
Employee Engagement	0.42	Moderate
Healthcare Service Quality	0.56	Moderate to Substantial

Note. Higher R^2 values indicate greater explanatory power of the structural model.

These results suggest that the model accounts for a substantial proportion of the variance in employee engagement and healthcare service quality.

Table 6. Effect Size (f^2)

Structural Path	f^2	Effect Size
Job Loyalty → Employee Engagement	0.28	Medium
Employee Engagement → Healthcare Service Quality	0.22	Medium
Job Loyalty → Healthcare Service Quality	0.10	Small

Note. According to Cohen (1988), f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively.

Table 7. Model Fit Assessment

Model Fit Index	Value	Recommended Threshold	Interpretation
SRMR	0.060	< 0.08	Good Fit
Q^2	0.350	> 0	Predictive Relevance Confirmed

Note. SRMR values below .08 indicate acceptable model fit, while Q^2 values greater than zero indicate predictive relevance.

Structural Model:

Ho, H1, H2, H3 supported (β positive, $p < 0.001$)

oH4 mediation confirmed (partial mediation) oR^2: Engagement = 0.42, Service Quality = 0.56 model fit: SRMR = 0.06, $Q^2 = 0.35$. These findings indicate that job loyalty enhances both employee engagement and service quality, with engagement serving as a key intermediary. In practice, increasing loyalty and engagement may contribute to improved patient care.

Structural Model Analysis and Practical Implications

The structural model results revealed the significant direct and indirect relationships between job loyalty, employee engagement, and healthcare service quality. The findings have significant theoretical and practical implications for the effects of organizational behavior factors on healthcare performance in Aden, Yemen.

Direct Effect of Job Loyalty on Employee Engagement

The path coefficient between job loyalty and employee engagement was strong and positive ($\beta = 0.65$, $p < 0.001$), indicating that higher levels of employee loyalty substantially increase healthcare workers' psychological engagement in their work.

Practical Interpretation

The SEM analysis revealed a path coefficient of 0.65, indicating a strong relationship and establishing job loyalty as a primary driver of employee engagement in the healthcare sector. Employees exhibiting higher levels of emotional attachment, institutional pride, and intention to remain tend to be more energetic, dedicated, and focused in their roles. This finding holds significant managerial implications for the healthcare system in Aden. Organizations experiencing workforce stress and resource shortages cannot rely exclusively on financial or technical resources to improve performance. Instead, enhancing employee loyalty through targeted strategies may prove more effective. These strategies include: a fair deal,

- supportive leadership,
- recognition systems,
- professional growth,
- And job security could result in substantially higher levels of workforce engagement. In addition, the medium-sized effect ($f^2 = 0.28$) indicates that job loyalty is a meaningful predictor of employee engagement. This means that organizational interventions designed to foster loyalty are likely to lead to significant improvements in employees' work attitudes and commitment to patient care.

Direct Effect of Employee Engagement on Healthcare Service Quality

The relationship between employee engagement and healthcare service quality was also strong and statistically significant ($\beta = 0.52$, $p < 0.001$).

Practical Interpretation

This coefficient demonstrates that engaged healthcare employees are more likely to deliver reliable, responsive, empathetic, and patient-centered services. A coefficient exceeding 0.50 underscores the significant operational role of employee engagement in improving healthcare service delivery. In practice, engaged employees: • engage more effectively with patients,

- respond more quickly to health needs
- be more sympathetic,
- keep higher professional standards,
- improve teamwork and patient safety. In health care settings such as Aden, where operational pressures and emotional strain are great, employee engagement is a strategic organizational asset. The findings indicate that healthcare administrators should view engagement not only as a human resource concept but also as a direct contributor to healthcare quality outcomes and patient satisfaction. The average effect size ($f2 = 0.22$) confirms that employee engagement has a significant impact on healthcare service quality. Therefore, hospitals and health care centers should invest in • supportive work settings,
- participation of employees in decision-making,
- Stress management programmers,
- recognition and appreciation systems.
- initiatives to improve healthcare service performance and staff well-being.

Direct Effect of Job Loyalty on Healthcare Service Quality

The direct relationship between job loyalty and healthcare service quality was positive and statistically significant ($\beta = 0.30$, $p < 0.001$).

Practical Interpretation

Although this coefficient is lower than that of the engagement pathway, it suggests that job loyalty independently contributes to improvements in healthcare service quality. Employees exhibiting high loyalty demonstrate greater consistency in service delivery, adherence to organizational standards, and ownership of patient care, even under challenging conditions. Consequently, healthcare organizations benefit directly from retaining committed employees, as organizational loyalty results in: • continuity in care, • reduced employee turnover,

- more teamwork,
- improved patient-provider relationships;
- improved compliance with health care procedures. This smaller effect size ($f2 = 0.10$) suggests that job loyalty has a modest direct effect on service quality. However, its greater indirect effect via engagement emphasizes that loyalty is more impactful when it translates into active employee involvement and commitment.

Mediation Effect of Employee Engagement

The mediation analysis confirmed that employee engagement partially mediated the relationship between job loyalty and healthcare service quality ($\beta = 0.34$, $p < 0.001$).

Job Loyalty→Employee Engagement→Healthcare Service Quality

Practical Interpretation of the Mediation Effect

The mediation finding is particularly significant because it elucidates the mechanism through which job loyalty enhances healthcare service quality. The results indicate that loyalty alone is insufficient unless it is converted into active psychological engagement at work. Healthcare employees who are loyal to their organization are more likely to: • Participate emotionally in the care of patients,

- show greater commitment to work,
- Provide higher-quality healthcare services. The partial mediation result also implies that employee engagement is an important behavioral mechanism through which organizational attitudes influence service outcomes. This finding has deeper strategic implications from the management point of view: • healthcare institutions should pay more attention to employee retention,
- Hiring and retaining employees without fostering engagement may lead to only limited improvements in service quality; organizations must translate loyalty into productive work engagement. Thus, health care administrators must devise integrated workforce strategies that simultaneously strengthen: • organizational commitment;
- motivating employees,
- workplace support,
- and mental health. In fragile health-care settings such as Yemen, where financial resources may be limited, non-financial organizational practices that increase employee engagement can be highly effective mechanisms for improving health-care quality and patient care outcomes.

6. Discussion of Findings

The findings of this study make a significant contribution to the literature on healthcare management by demonstrating that job loyalty and employee engagement significantly influence healthcare service quality in the Yemeni healthcare sector. Overall, the findings are consistent with previous international studies, but some contextual differences are evident in the fragile and resource-constrained health care setting of Aden, Yemen.

6.1 Job Loyalty and Employee Engagement

The study found a significant positive association between job loyalty and employee engagement among health workers in Aden, Yemen. This result is in line with previous international research in developed and stable healthcare systems, which demonstrated that organizational commitment.

improves employees' psychological engagement, motivation and dedication at work. For instance, Alshaabani et al. (2021) discovered that organizational support and commitment positively influence employee participation and job performance in healthcare organizations. Similarly, Schaufeli et al. (2006) indicated that employees with greater organizational attachment are more likely to show greater Vigor dedication, and absorption in their work. However, the present study builds on these findings by showing that the association between job loyalty and engagement persists, even in a healthcare setting affected by conflict, including economic challenges, staff shortages, and operational strain. In many international studies, favorable organizational conditions, financial incentives, and institutional stability are usually associated with higher employee engagement. In contrast, healthcare workers in Aden have continued to show organizational attachment despite difficult working conditions and limited resources. This suggests that psychological commitment and professional responsibility may be particularly important drivers of employee engagement in fragile healthcare contexts. Thus, the present study provides a context-specific lens that is often under-represented in international healthcare management literature.

6.2 Employee Engagement and Healthcare Service Quality

The findings also show that employee engagement has a significant positive impact on the quality of healthcare services. This finding aligns with international studies that emphasize the importance of engaged healthcare workers in enhancing patient satisfaction, safety, responsiveness, and overall healthcare performance. Previous studies in Europe, North America and Asia have always reported that engaged employees are beneficial for patient-centered care and service effectiveness. For example, Boamah et al. (2022) found that engaged healthcare employees improve patient safety outcomes and organizational performance. These results are similar to those of the present study, but differ in the operational setting. Most international studies were carried out in health systems with relatively stable infrastructure, more workforce capacity and more developed institutional support mechanisms. In contrast, healthcare institutions in Aden are under pressure from extreme resource constraints and post-conflict pressures. Despite these challenges, the present study showed that employee engagement was a strong predictor of healthcare service quality. This finding suggests that workforce-related psychological factors may partially offset the institutional limitations in fragile health care systems. The result, therefore, adds to the international healthcare literature by showing that employee engagement remains critical even in the face of structural and economic instability for healthcare organizations. Additionally, the current study included the broader SERVQUAL dimensions such as reliability, responsiveness, empathy, assurance, collaboration, and patient safety, while some previous international studies concentrated mainly on patient satisfaction outcomes. This gives a more complete understanding of healthcare service quality in developing countries.

6.3 Job Loyalty and Healthcare Service Quality

The study also revealed that job loyalty directly affects the quality of health care services. This finding is consistent with previous international studies that have found organizational commitment to be an important determinant of healthcare performance and patient satisfaction. For example, Al-Hussami et al. (2021) stated that nurses' organizational commitment has positive effects on patient satisfaction and healthcare quality outcomes. Similar findings were reported in studies conducted in Saudi Arabia, Jordan, Malaysia, and the United Kingdom, where committed health care employees demonstrated stronger professionalism, service consistency, and patient-oriented behavior. However, unlike many previous international studies, this study was conducted in a healthcare environment affected by political instability and resource scarcity. In such situations, the work stress, limited financial rewards, and uncertain organizational conditions make it substantially more difficult to retain employee loyalty. Thus, the significant direct effect found in this study suggests that job loyalty may play an even more important role in fragile healthcare systems than in stable healthcare environments. In Aden, loyal healthcare workers appear to be a stabilizing factor, facilitating the continuity of healthcare services despite institutional and operational challenges. This finding provides a theoretical contribution, suggesting that the practical significance of organizational commitment may be higher in crisis conditions, when healthcare systems are highly reliant on employees' psychological resilience and commitment.

7. Mediating Role of Employee Engagement

One of the significant contributions of this study is to confirm the mediating role of employee engagement between job loyalty and healthcare service quality. Previous international research has examined direct relationships among organizational commitment,

engagement, and performance, but few healthcare studies have examined engagement as a mediating mechanism within an integrated Structural Equation Modelling (SEM) framework, particularly in developing or conflict-affected countries. The mediation result supports Social Exchange Theory by showing that loyal employees reciprocate their attachment to the organization with higher engagement, which, in turn, increases the quality of healthcare services. This finding is consistent with the general organizational behavior literature, which holds that employee attitudes affect performance outcomes indirectly through psychological and behavioral processes. However, compared with previous international studies, the current study provides richer contextual evidence from Yemen, where healthcare workers work under protracted institutional stress. The mediation effect shows that loyalty is not enough to increase service quality unless it is converted into active employee engagement. This finding has important practical implications because it suggests that healthcare organizations should not focus solely on employee retention but also create supportive conditions that convert loyalty into productive workplace behavior. The mediation result, therefore, strengthens the international literature by demonstrating that employee engagement serves as a critical behavioral pathway connecting organizational commitment to healthcare performance outcomes in fragile

8. Conclusion

This study investigated the relationships among job loyalty, employee engagement, and healthcare service quality among healthcare employees in Aden, Yemen, utilizing a Partial Least Squares Structural Equation Modelling (PLS-SEM) approach. Organizational factors influencing healthcare service outcomes were examined through the lenses of Organizational Commitment Theory, Social Exchange Theory, and SERVQUAL. The results demonstrated that job loyalty has a significant positive effect on both employee engagement and healthcare service quality. Healthcare employees with greater emotional attachment and organizational commitment exhibited higher levels of dedication, enthusiasm, and engagement. In turn, employee engagement significantly improved the quality of healthcare services, including responsiveness, empathy, reliability, and patient-centered care. The study also confirmed the mediating role of employee engagement in the relationship between job loyalty and healthcare service quality, indicating that organizational attachment must be transformed into active psychological engagement to enhance service outcomes. The structural model exhibited satisfactory explanatory and predictive power, supporting the validity of the integrated SEM model for the Yemeni healthcare context. Overall, the findings suggest that increasing workforce loyalty and engagement is a key strategy for improving healthcare service quality in fragile, resource-limited settings such as Aden, Yemen.

9. Practical Implications

The findings of this study have crucial practical implications for healthcare administrators, policymakers and healthcare institutions in Yemen. First, healthcare organizations should focus on strategies to increase employees' loyalty and organizational commitment. Policies focusing on fair treatment, recognition, supportive leadership, career development, and job stability can help healthcare organizations build a stronger emotional bond with their employees. Second, healthcare institutions should focus on enhancing employee engagement by fostering supportive, motivating work environments. Employee involvement in decision-making, professional support systems, stress management programs, and workforce wellbeing initiatives may enhance employee engagement and service delivery. Third, the study shows that healthcare service quality improvement should not focus solely on infrastructure and medical technology, but also on human resources and organizational behavior factors. Workforce engagement and commitment may be critical organizational resources that sustain healthcare service delivery despite operational constraints, especially in fragile healthcare settings. Finally, health policymakers should be made aware of the contribution of organizational factors associated with employees to patient-centered healthcare outcomes. Therefore, healthcare reforms should include provisions to improve healthcare infrastructure and strategies to develop human resources.

10. Theoretical Implications

This study contributes to the literature of healthcare management and organizational behavior in many ways. The study contributes to the body of knowledge on organizational Commitment Theory by showing the impact of job loyalty on employee engagement and healthcare service quality in a healthcare setting affected by conflict. Secondly, the results provide evidence for Social Exchange Theory, demonstrating that employees reciprocate organizational attachment with higher engagement and better healthcare performance. Third, this study contributes to the SERVQUAL literature by demonstrating that the quality of healthcare services is significantly affected by the attitudes and psychological engagement of the internal workforce. Fourth, integrating the Organizational Commitment Theory, Social Exchange Theory, and SERVQUAL into a single SEM model provides a richer explanation of healthcare service quality than previous research that considers these constructs separately. Finally, the study provides empirical evidence from Yemen, an

under-represented context in healthcare organizational research, thereby contributing to the international literature on healthcare workforce behavior in fragile and developing healthcare systems.

11. Limitations of the Study

The study has both contributions and limitations. First, the study used a cross-sectional research design, and thus the ability to establish causal relationships among the study variables is limited. Future research can use longitudinal designs to examine changes in employee loyalty, engagement, and service quality over time. Secondly, the study was conducted only among health institutions in Aden, Yemen. Thus, the findings may not be fully generalizable to other regions or health care systems with different organizational and socioeconomic contexts. Third, the self-reported questionnaire data used in this study may be subject to response bias or social desirability bias. Future studies may include patient ratings, supervisor ratings, or objective measures of healthcare performance to enhance data validity. Fourth, the study focused on job loyalty and employee engagement as predictors of quality in the healthcare services. Other organizational and psychological variables, such as leadership style, organizational culture, job satisfaction, burnout, and work stress, may also affect health care service outcomes and should be investigated in future research.

12. Recommendations for Future Research

Future research should extend the proposed SEM framework by including other organizational and behavioral characteristics that may influence the quality of healthcare services in developing healthcare systems.

The researchers are asked to:

• investigate moderating variables including leadership style, organizational support and work stress;

• perform comparative research in different locations or countries;

• Use longitudinal research designs to explore causal linkages throughout time;

• and integrate staff perspectives and patient-centered performance measures.

Future research may also examine the impact of health care staff's resilience and psychological well-being on the quality of health care services in post-conflict and crisis-affected settings.

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