

Outpatient Behaviour in Libyan Private Hospitals: Assessing Service Quality, Value Delivery, Satisfaction, and Switching Cost Effects within Patient Experience Models

Hamza Mohamed Makhoulf Issa^{1*}, Norzadiyahwati Binti Zaidin², Mohamad Ismail Ali³, Khaled Mohamed Abdallah Khalil⁴

¹ PhD Student, Faculty of Management, Universiti Teknologi Malaysia (UTM), Johor Bahru, Malaysia; issahamza2@gmail.com

² Senior Lecturer (DS52), Faculty of Management, Universiti Teknologi Malaysia (UTM), Johor Bahru, Malaysia, nzn@utm.my

³ Associate Professor, KPJ Healthcare University, Johor, Malaysia; mailali_jsb@yahoo.com

⁴ PhD Student, Faculty of Management, Universiti Teknologi Malaysia (UTM), Johor Bahru, Malaysia; khaledkhalil80@gmail.com

*Corresponding Author: issahamza2@gmail.com

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ABSTRACT

By evaluating how healthcare service quality affects patient satisfaction, actual value delivery, and loyalty key relationships frequently discussed in the healthcare quality literature, this study investigates the factors influencing outpatient behavioural intentions in Libyan private hospitals (Borhan et al., 2023; Mosadeghrad, 2021). In response to calls to re-examine the conventional satisfaction loyalty paradigm in transitional or fragmented healthcare systems, it also examines the moderating effect of switching costs and the mediating role of value delivery (Chahal & Kumari, 2020; El Garem et al., 2024; Ghorbanzadeh, 2021). A quantitative, positivist design was employed using survey data from 389 outpatients attending private hospitals in Tripoli, Benghazi, and Misurata (Alharahsheh & Pius, 2020). Measurement items were adapted from established service quality and behavioural intention scales (Parasuraman et al., 1988; Dagger et al., 2007). The proposed model was analysed using Partial Least Squares Structural Equation Modelling (PLS SEM) in line with best practice guidelines (Hair et al., 2021; Henseler et al., 2015). Mediation and moderation effects were assessed through bootstrapping and confirmatory factor techniques (Aguirre Urreta & Rönkkö, 2018). Consistent with prior healthcare research, service quality exerted a significant positive effect on patient satisfaction and loyalty (Hanaysha, 2021; Sultana et al., 2023). The mediating role of actual value delivery in linking service quality to satisfaction and loyalty was strongly supported (Fitriani et al., 2020; Luo et al., 2024). However, satisfaction did not significantly predict loyalty, and switching costs did not moderate the satisfaction loyalty relationship, indicating that patients remain highly mobile and value driven in competitive or uncertain contexts (Aziz et al., 2021; Kim & Lee, 2022). Causal inference is constrained by the cross-sectional design and reliance on self-reported data (Baruch & Holtom, 2008). Generalisability beyond Libya's main private healthcare markets is limited due to the focus on three major cities characterised by post-conflict fragmentation (Fitzgerald, 2023; Perroux, 2019). Future research should adopt longitudinal or multi-group designs to advance understanding of value-based loyalty mechanisms in transitional healthcare settings. Hospitals should prioritise interpersonal service quality, particularly physician and nursing interactions, which significantly influence patient outcomes and perceived value (Kwame & Petrucka, 2020; Shie et al., 2022). As switching barriers appear ineffective in retaining patients, strengthening value creation processes is essential (Burnham et al., 2003; Jones et al., 2000). Sustainable loyalty in Libya's private healthcare sector therefore depends on value-driven and relational service strategies rather than structural constraints. Enhancing value-oriented patient experiences may foster trust, improve continuity of care, and stabilise expectations in unstable or recovering health systems (Truppa et al., 2024; Kruk et

al., 2018), thereby supporting resilience in Libya's post conflict healthcare environment. This study integrates HEALTHQUAL, Expectation Confirmation Theory, and Satisfaction Loyalty Theory into a cohesive explanatory model, addressing gaps in service quality research within North African and postconflict contexts (Aloshaiby et al., 2024; Endeshaw, 2021). It challenges traditional satisfaction loyalty assumptions by demonstrating that actual value delivery, rather than satisfaction alone, is the dominant behavioural driver in healthcare (Oliver, 1999; Zeithaml et al., 1996).

Keywords: Hospital service quality, patient satisfaction, actual value delivery, switching costs, patient loyalty, private hospitals, Libya, PLS SEM, HEALTHQUAL.

INTRODUCTION

In modern health systems, patient behaviour, institutional performance, and competitive advantage are strongly influenced by the quality of healthcare services, particularly in contexts where patient centred outcomes and competitive positioning are prioritised (Al Assaf et al., 2024; Zhu, 2025). Understanding the factors shaping patient perceptions and loyalty is especially important in settings such as Libya's post conflict private healthcare sector, which is characterised by organisational fragmentation, resource limitations, and shifting patient expectations. Although private hospitals have expanded across Libya's major cities, they continue to face challenges including uneven service quality, inadequate infrastructure, and weak regulatory frameworks (Mohammad & Saleh, 2019; Daw, 2017). As private providers increasingly assume roles traditionally fulfilled by public institutions, patient loyalty has emerged as a key strategic indicator reflecting both service performance and system stability.

While prior research consistently identifies service quality as a determinant of satisfaction and loyalty, empirical findings remain diverse, particularly in complex or transitional healthcare environments (Hussein et al., 2023; Al Assaf et al., 2024). Healthcare service quality comprises multiple dimensions including cost, facilities, procedures, physician services, nursing care, and administrative support that jointly shape patient evaluations and behavioural outcomes (Bradács et al., 2025; Lee, 2017). Traditional satisfaction loyalty perspectives assume a largely linear relationship whereby higher satisfaction strengthens loyalty intentions (Fornell, 1992; Anderson & Sullivan, 1993; Oliver, 1999). However, empirical evidence suggests that this relationship is context dependent and influenced by relational factors such as trust and emotional attachment (Ghorbanzadeh, 2021).

In such contexts, behavioural intentions may be driven more strongly by perceived value, the extent to which patients perceive benefits relative to costs, than by satisfaction alone. Expectation Confirmation Theory (ECT) posits that behavioural responses are shaped when perceived performance meets or exceeds expectations (Oliver, 1999; Bhattacharjee, 2001). Nevertheless, recent healthcare research indicates that value delivery may function as a more powerful mediator linking service quality to satisfaction and loyalty, particularly when expectations are unstable or unmet (Alemu et al., 2024; Liu et al., 2024; Luo et al., 2024; Rao et al., 2025).

Similarly, switching costs have traditionally been theorised as constraints on patient mobility by making provider changes inconvenient or costly (Burnham et al., 2003; Jones et al., 2000). In highly competitive, low trust, and institutionally unstable healthcare markets such as Libya, however, patients may remain highly mobile regardless of satisfaction levels. Evidence from comparable settings suggests that switching barriers often fail to retain patients unless reinforced by strong relational or value driven experiences (Chahal & Kumari, 2020; Mallat et al., 2021).

The Libyan healthcare system therefore, represents a unique and underexplored context for examining these dynamics. Private hospitals in Tripoli, Misurata, and Benghazi function as central hubs of outpatient care, hosting more than 100 clinics within over 537 facilities nationwide (Mohammad & Saleh, 2019). Despite this growth, the sector continues to face challenges related to inconsistent service quality, institutional fragmentation, and fluctuating levels of public trust (Bermejo & Barbi, 2024; WHO, 2019). These conditions disrupt conventional service behaviour linkages and necessitate a more nuanced model of patient decision making.

To address these gaps, this study integrates the HEALTHQUAL framework with Expectation Confirmation Theory (ECT) and Satisfaction Loyalty Theory (SLT) to develop a comprehensive explanatory model of how service quality shapes patient satisfaction, actual value delivery, and loyalty, while accounting for the moderating role of switching costs. Prior literature highlights the scarcity of integrated models examining these relationships in the Libyan context, underscoring the need for contextually grounded research.

Theoretically, this research challenges linear satisfaction loyalty assumptions by demonstrating the central role of value in shaping patient intentions. Practically, it provides insights for private hospital managers seeking to enhance retention, strengthen service experiences, and rebuild trust within Libya's fragile sociopolitical landscape.

LITERATURE REVIEW

Overview of Private Healthcare in Libya

Over the past two decades, Libya's private healthcare sector has expanded substantially, positioning itself as a key alternative to public healthcare services that have long been affected by underfunding, workforce shortages, and operational inefficiencies (Daw, 2017). This expansion is most visible in Tripoli, Misurata, and Benghazi, which together host more than 100 outpatient clinics out of 537 registered nationwide, reflecting their demographic weight, economic activity, and concentration of specialised services (Mohammad & Saleh, 2019).

Growth in the private sector has been driven by rising patient expectations, increased demand for specialised and technologically advanced care, and perceived advantages over public providers, including reduced waiting times, more personalised services, and superior physical environments (Bermejo & Barbi, 2024; Lakin & Kane, 2022). As a result, private hospitals have increasingly become the preferred option for patients seeking timely and reliable diagnostic and curative services.

Despite this expansion, the sector remains constrained by uneven quality standards, weak regulatory oversight, and disparities in administrative and clinical competence. The absence of a unified accreditation framework and clear performance benchmarks complicates patient decision making and undermines service predictability, particularly when quality signals are inconsistent or ambiguous (WHO, 2019; El Jardali & Fadlallah, 2017). These challenges are further intensified by political instability, fragmented governance, and recurring conflict, which have widened regional inequalities and disrupted continuity of care (Daw et al., 2020; Bermejo & Barbi, 2024).

Within this fragmented context, understanding how patients evaluate service quality and how such evaluations translate into satisfaction, value judgements, and loyalty becomes analytically critical. Prior research suggests that gaps in service consistency and institutional trust heighten the importance of experiential quality cues in shaping behavioural intentions (Nguyen et al., 2021; Mosadeghrad, 2014).

Healthcare service quality is widely conceptualised as a multidimensional construct encompassing both technical and functional components. While technical quality relates to clinical competence and treatment outcomes, functional quality captures interpersonal interactions, communication, empathy, and responsiveness (Mosadeghrad, 2014). As patient expectations evolve, functional dimensions increasingly dominate perceptions of overall service quality and patient experience (Nguyen et al., 2021).

Drawing on Donabedian's structure process outcome framework, the HEALTHQUAL model operationalises hospital service quality across six dimensions: cost; facilities and environment; service procedures; physician services; nursing services; and administrative personnel. This framework is particularly relevant in contexts where patients rely on observable and relational cues rather than purely clinical indicators when assessing quality (Akob et al., 2021; Asar & Abdullah, 2022; Barrios Ipenza et al., 2020; Jia et al., 2021; Lee, 2017). Although HEALTHQUAL has been criticised for limited cross cultural validation and potential underrepresentation of technical quality, it remains among the most context sensitive tools for capturing patient centred service interactions in diverse healthcare systems (Mosadeghrad, 2021; Endeshaw, 2021).

Empirical evidence from Libya indicates that patient satisfaction is most strongly influenced by interpersonal care, particularly interactions with physicians and nursing staff. Conversely, dissatisfaction is frequently attributed to administrative inefficiencies, overcrowded facilities, and infrastructural constraints (El Oakley et al., 2013; Mohammad & Saleh, 2019; Salam et al., 2010; WHO, 2019). These contextual conditions underscore the importance of conceptualising service quality as a lived, culturally embedded patient experience rather than a universal or purely technical construct.

Patient Satisfaction

Patient satisfaction represents a central evaluative judgement shaped by prior expectations, perceived performance, and post service reflections. According to Expectation Confirmation Theory (ECT), satisfaction arises when perceived performance meets or exceeds expectations, whereas negative disconfirmation leads to dissatisfaction and weakened behavioural intentions (Oliver, 1980; Bhattacharjee, 2001). In healthcare settings, expectations typically encompass treatment quality, staff attentiveness, empathy, communication clarity, and waiting times, with satisfaction contingent on how effectively these expectations are fulfilled during service encounters (Batbaatar et al., 2017; Fitzpatrick, 2022; Karume et al., 2025).

Satisfaction is commonly viewed as a key indicator of healthcare service quality and reflects a holistic appraisal of environmental, procedural, and interpersonal aspects of care (Alfatafta, 2025; Ferreira, 2023; Goodrich & Lazenby, 2023; Guzmán Leguel & Rodríguez Lara, 2025). It captures patients' overall evaluations of professional conduct and service delivery throughout diagnosis and treatment processes (Hannawa et al., 2022; Ismayyir, 2020).

However, growing empirical evidence challenges the assumption that satisfaction alone reliably predicts loyalty, particularly in competitive or resource constrained healthcare environments. While satisfaction can foster positive behavioural intentions, its influence varies considerably depending on contextual factors such as market competition, emotional attachment, and service frequency (Akanyako, 2024; AlOmari & Hamid, 2022; Aljumah et al., 2020; Anabila, 2021; Liu et al., 2021). In such settings, satisfaction may generate transactional rather than enduring loyalty, especially when alternative providers offer greater convenience or perceived value (Mittal & Kamakura, 2001).

In dynamic private healthcare markets, patients may report high satisfaction yet continue to switch providers in search of superior value or service attributes. Satisfaction Loyalty Theory (SLT) acknowledges this complexity by positing that satisfaction is a necessary but insufficient condition for loyalty, with its effect moderated by emotional, contextual, and experiential factors (Ghorbanzadeh, 2021; Yen et al., 2020). Accordingly, satisfaction should be viewed as one component within a broader behavioural process shaping patient loyalty, particularly in systems characterised by competition, inconsistent quality standards, and fluctuating trust (Bermejo & Barbi, 2024; Truppa et al., 2024).

Actual Value Delivery (AVD)

Actual value delivery (AVD) reflects patients' cognitive assessments of whether the benefits received from healthcare services outweigh the associated costs, time, effort, and expectations. Unlike satisfaction, which is primarily affective, value represents a comparative evaluation grounded in perceived trade offs between performance and resources expended (Oliver, 1980; Sanil & Eminer, 2021; Wong, 2004; Zeithaml, 1988). In healthcare contexts, value encompasses clinical outcomes, experiential quality, communication effectiveness, pricing fairness, and functional efficiency (Fernández Salido et al., 2024; Teisberg et al., 2020).

Recent research increasingly positions value delivery as a dominant driver of patient behaviour, exerting strong influence on retention, trust, and recommendation intentions. Empirical studies indicate that perceived value often has a stronger effect on satisfaction and loyalty than service quality alone (Liu et al., 2024; Luo et al., 2024; Rao et al., 2025). Value based evaluations are particularly salient when patients assess whether healthcare experiences yield benefits commensurate with financial and non financial costs (Fitriani et al., 2020; Park & Kwon, 2021).

In transitional and resource constrained health systems, such as Libya's, economic uncertainty and variable service standards amplify the importance of perceived value. Patients frequently weigh treatment outcomes against institutional credibility and financial burden, making value delivery a critical determinant of provider choice and retention (Bermejo & Barbi, 2024; El Jardali & Fadlallah, 2017; Truppa et al., 2024; WHO, 2019). Evidence from comparable competitive environments suggests that value may exert greater influence on loyalty than satisfaction, particularly when switching costs are low and alternatives readily available (Mallat et al., 2021). Consequently, value delivery is increasingly recognised as a central behavioural mechanism shaping contemporary patient decision making (Luo et al., 2024; Yen et al., 2020).

Switching Costs (SC)

Switching costs refer to the perceived financial, psychological, emotional, and procedural barriers that discourage patients from changing service providers. Traditional service marketing theory posits that high switching costs enhance loyalty by making provider changes inconvenient or burdensome (Burnham et al., 2003). Empirical research has similarly suggested that switching costs can moderate the satisfaction loyalty relationship by stabilising customer behaviour despite fluctuating satisfaction levels (Jones et al., 2000; Burnham et al., 2003).

However, recent studies emphasise that the influence of switching costs is highly context dependent. In dynamic, competitive, or weakly regulated markets, high mobility and readily accessible alternatives substantially diminish the effectiveness of switching barriers (Ghorbanzadeh, 2021). Under such conditions, patients are likely to switch providers when superior value or convenience is perceived elsewhere, regardless of procedural or relational constraints.

Libya's private healthcare sector operates in a largely unregulated environment where patients can change providers without formal referral systems or contractual obligations. Inconsistent service quality, decentralised governance, and weak accreditation enforcement contribute to high patient mobility (Daw, 2017; WHO, 2019). As a result, switching costs may exert limited influence on behavioural intentions relative to perceived value or interpersonal care quality. These conditions challenge the conventional assumption that switching costs function as stabilising mechanisms in patient provider relationships and highlight the need to empirically reassess their role in transitional healthcare systems.

Patient Loyalty

Patient loyalty reflects sustained behavioural intentions to revisit a provider and recommend services to others, encompassing cognitive commitment, emotional attachment, and behavioural consistency (Chahal & Kumari,

2020). Traditional satisfaction driven models assume that satisfied patients naturally become loyal (Yen et al., 2020). However, accumulating empirical and review based evidence indicates that loyalty is shaped by a broader set of contextual and cognitive factors beyond satisfaction alone.

Meta analytic and empirical studies demonstrate that the satisfaction loyalty relationship varies considerably across healthcare systems and is often attenuated in competitive or unstable environments (Borhan et al., 2023). In private healthcare settings, perceived value has been shown to exert a stronger direct effect on loyalty than satisfaction, underscoring the primacy of value based evaluations (Luo et al., 2024). Moreover, patients may remain highly mobile despite high satisfaction when switching barriers are low and service alternatives are abundant (Ha et al., 2023).

Recent research further highlights the mediating and moderating roles of trust, perceived value, switching barriers, and service consistency in shaping loyalty outcomes (Ghorbanzadeh, 2021). In competitive or transitional systems, patients may remain loyal despite moderate satisfaction if relational bonds or superior value are perceived, while highly satisfied patients may defect when more attractive alternatives emerge. Consequently, loyalty in private healthcare markets should be conceptualised as a context dependent, value driven behavioural outcome rather than a direct consequence of satisfaction.

Theoretical Framework: ECT and Satisfaction Loyalty Theory

Expectation Confirmation Theory (ECT) explains how expectations influence perceptions and subsequent satisfaction by positing that individuals compare anticipated and perceived performance during service encounters (Oliver, 1980; Bhattacharjee, 2001). In healthcare settings, this comparison process involves evaluations of communication clarity, empathy, punctuality, and professional competence, making ECT particularly relevant for understanding satisfaction formation (Karume et al., 2025). Accordingly, ECT provides theoretical justification for positioning satisfaction as a mediating mechanism between service quality and behavioural outcomes.

Satisfaction Loyalty Theory (SLT) further conceptualises the link between satisfaction and long term behavioural intentions, traditionally assuming a stable and positive relationship whereby satisfied consumers exhibit repeat patronage and positive word of mouth (Oliver, 1997, 1999). However, contemporary research highlights that this relationship is moderated by contextual variables such as perceived value, relational quality, and switching constraints (Ghorbanzadeh, 2021). These findings suggest that satisfaction, while important, may be insufficient to ensure loyalty in environments characterised by service variability and abundant alternatives.

Integrating ECT and SLT offers a comprehensive framework for examining how service quality, satisfaction, actual value delivery, and switching costs jointly shape patient loyalty. While ECT explains how satisfaction emerges from expectation performance comparisons, SLT clarifies why satisfaction has historically been viewed as a loyalty antecedent. Incorporating actual value delivery addresses key limitations of traditional models, particularly in contexts where economic pressures and competitive dynamics weaken the satisfaction loyalty linkage (Luo et al., 2024).

Hypotheses and Research Model

Based on the reviewed literature, this study proposes theoretically grounded relationships among healthcare service quality (HSQ), patient satisfaction (PS), actual value delivery (AVD), switching costs (SC), and patient loyalty (PL) within Libya's private healthcare sector. Prior research indicates that both structural and interpersonal aspects of service quality positively influence satisfaction and loyalty (Nguyen et al., 2021; Jia et al., 2021). Consistent with ECT, satisfaction is conceptualised as an evaluative response arising from comparisons between expected and perceived service performance (Oliver, 1980; Bhattacharjee, 2001).

More recent evidence suggests that actual value delivery plays an increasingly central role in shaping behavioural intentions, particularly in competitive and unstable healthcare environments where patients cognitively assess benefits relative to costs, time, and effort (Luo et al., 2024). Accordingly, AVD is positioned as a key explanatory mechanism linking service quality to satisfaction and loyalty.

While SLT traditionally assumes a positive satisfaction loyalty relationship, emerging research indicates that this linkage may weaken in settings characterised by high patient mobility, weak regulation, and limited resources (Ghorbanzadeh, 2021). To capture this contextual variability, switching costs are incorporated as a potential moderator. Although switching costs may constrain provider changes under certain conditions, their effectiveness is expected to vary across competitive markets with readily available alternatives (Burnham et al., 2003).

Based on this framework, the following hypotheses are proposed for empirical testing (see Figure 1):

H1: Hospital Service Quality (HSQ) has a significant and positive effect on Patient Satisfaction (PS).

H2: Hospital Service Quality (HSQ) has a significant and positive effect on Patient Loyalty (PL).

H3: Patient Satisfaction (PS) has a significant and positive effect on Patient Loyalty (PL), recognising potential contextual instability.

H4: Patient Satisfaction (PS) mediates the relationship between Hospital Service Quality (HSQ) and Patient Loyalty (PL).

H5: Actual Value Delivery (AVD) mediates the relationship between Hospital Service Quality (HSQ) and Patient Satisfaction (PS).

H6: Switching Costs (SC) moderate the relationship between Patient Satisfaction (PS) and Patient Loyalty (PL).

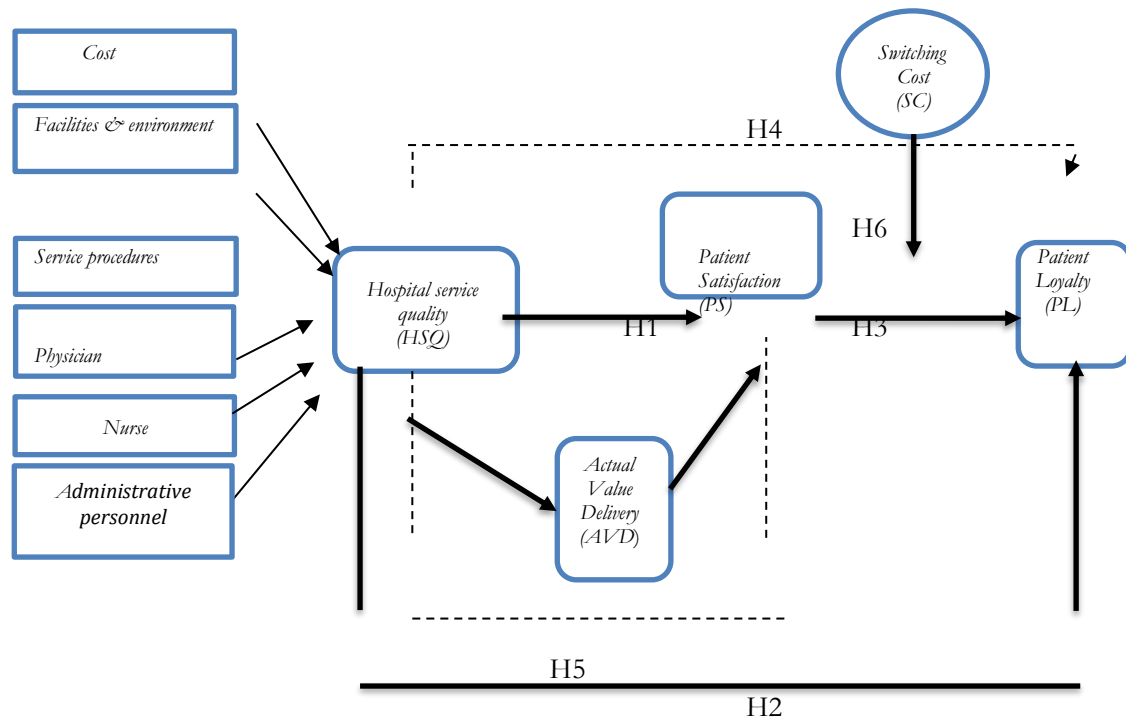


Figure 1: Conceptual Research Framework

METHODOLOGY

Research Design

This study examined the relationships among healthcare service quality, patient satisfaction, actual value delivery, switching costs, and patient loyalty in Libyan private hospitals using a quantitative, positivist approach. Positivist designs are widely applied when the objective is to test theoretically derived hypotheses and estimate associations among latent constructs within structured behavioural models (Alharahsheh & Pius, 2020). Consistent with this purpose, a cross sectional survey was administered to outpatients in several private hospitals.

Cross sectional surveys are frequently used in healthcare service research because they permit efficient collection of standardised perceptual data from large samples at a single point in time (Baruch & Holtom, 2008). This design also enables comparisons across demographic categories and institutional settings, while acknowledging that temporal ordering and causal inference remain inherently limited in cross sectional data.

The survey method supported multivariate modelling of direct, mediating, and moderating relationships among latent variables. Accordingly, Partial Least Squares Structural Equation Modelling (PLS SEM) was employed because it is recommended for prediction oriented analysis, complex models, and datasets that may deviate from multivariate normality (Hair et al., 2021; Henseler et al., 2015). In line with methodological guidance, model estimation and inference relied on established PLS SEM procedures and reporting practices (Lakens, 2022).

Population, Sampling, and Study Setting

The study population comprised outpatients attending private hospitals in Libya's three largest cities: Tripoli, Misurata, and Benghazi. These cities were selected due to their concentration of private healthcare providers, demographic relevance, and higher outpatient flow relative to other regions. National health assessments report more than 537 private healthcare facilities, with over 100 outpatient clinics concentrated within these three cities (Mohammad & Saleh, 2019). Their economic importance and density of specialist services also support their suitability for examining behavioural intentions under competitive service conditions.

Large city private hospitals typically offer broader service portfolios and experience higher patient turnover than facilities in less populous regions, producing greater heterogeneity in perceived service quality and patient experiences (Nguyen et al., 2021). This context is analytically relevant for examining satisfaction formation, value evaluations, and loyalty related intentions.

A non probability purposive sampling approach targeted adult outpatients who had just completed a service encounter. Purposive sampling is frequently applied in health services research when the study requires respondents with direct and recent experience of the phenomenon under investigation, thereby improving the relevance of subjective assessments of procedures, interpersonal interactions, and value perceptions (Palinkas et al., 2015; Hair et al., 2019). The final dataset included 389 valid responses, exceeding commonly cited minimum requirements for PLS SEM in models with multiple constructs and structural paths, where larger samples enhance statistical power and estimation precision (Hair et al., 2021; Henseler et al., 2015).

Instrument Development

The questionnaire consisted of seven sections and adapted validated measurement scales to the Libyan private healthcare context. All items were measured using a five point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). This scaling approach is widely used in structured surveys because it supports respondent comprehension, reduces response ambiguity, and generates data suitable for multivariate analysis.

The instrument measured the following constructs:

Healthcare Service Quality (HSQ): Operationalised using the HEALTHQUAL approach across six dimensions (cost; facilities and environment; service procedures; physician services; nursing services; administrative personnel). Each dimension was represented by three items adapted from established measures (e.g., Abdullah et al., 2023; Jia et al., 2021; Mittal & Kamakura, 2001; Shie et al., 2022).

Patient Satisfaction: Measured using items aligned with expectation confirmation logic and overall evaluative judgement (Aiken et al., 2021; Bleich et al., 2021; Hekkert et al., 2023; Manzoor et al., 2019), consistent with research conceptualising satisfaction as an affective evaluative response grounded in perceived performance.

Actual Value Delivery (AVD): Assessed through items capturing perceived benefits relative to time, money, and effort, reflecting its role as a cognitive evaluation relevant to behavioural intentions.

Switching Costs (SC): Measured using items representing procedural, relational, and financial barriers to changing providers, reflecting established conceptualisations of switching constraints.

Patient Loyalty (PL): Assessed via behavioural intention indicators, including intention to return and willingness to recommend.

Prior to full data collection, the instrument underwent expert review to strengthen conceptual alignment and contextual relevance. Expert validation supported item clarity and refinement and reinforced the appropriateness of the adapted measures for the Libyan setting. Anonymity and confidentiality procedures were also applied to reduce response bias and support candid reporting.

Data Collection Procedures

Data were collected using self administered questionnaires distributed in outpatient reception and waiting areas. Self administered surveys are commonly used in healthcare service studies because they enable privacy, improve convenience, and reduce interviewer related influence on responses (Hair et al., 2019). Participants were informed of the study purpose and assured that participation was voluntary and anonymous, consistent with ethical standards for survey based research.

Inclusion criteria required respondents to be at least 18 years old and to have completed their outpatient consultation on the same day to ensure evaluations were based on an immediate and recent encounter (Karume et al., 2025). To minimise missingness and improve dataset reliability, completed questionnaires were reviewed for completeness and consistency prior to inclusion in the final analysis (Baruch & Holtom, 2008).

Data Analysis Strategy

PLS SEM analysis was conducted using SmartPLS to evaluate both the measurement and structural components of the model. PLS SEM is suitable for prediction oriented research involving latent variables, complex path structures, and mediation and moderation testing, and is recommended when assumptions of normality may not be met (Hair et al., 2021; Henseler et al., 2015).

A two step modelling procedure was used:

Measurement Model Assessment

Construct reliability and validity were evaluated using established criteria:

- Indicator reliability (item loadings)

- Composite reliability (CR)
- Convergent validity (AVE)
- Discriminant validity (HTMT ratios and Fornell Larcker criterion)
- Collinearity diagnostics (VIF)

These procedures follow standard PLS SEM best practice guidance (Hair et al., 2021; Henseler et al., 2015).

Structural Model Assessment

Structural relationships were assessed using:

- Bootstrapping for path coefficients and significance testing
- Explanatory power (R^2)
- Predictive relevance (Q^2) via blindfolding
- Effect sizes (f^2)

Mediation and moderation tests using recommended SEM procedures (Aguirre Urreta & Rönkkö, 2018)

Results were reported using standardised estimates, confidence intervals, and p values in line with contemporary reporting expectations for behavioural modelling in healthcare service research.

Ethical Considerations

This study involved human participants. Ethical clearance was granted by the Faculty of Management, Universiti Teknologi Malaysia (UTM), as part of an approved Doctor of Philosophy research project. An official permission letter was issued authorising data collection. Participation was voluntary, informed consent was obtained, and anonymity and confidentiality were assured. No personal identifiers were collected, and the study complied with standard ethical principles for social science research involving human participants

RESULTS

Demographic Characteristics of Respondents

The research included 389 outpatients in total. The typical outpatient population serviced by private hospitals in Tripoli, Misurata, and Benghazi was reflected in the respondents' varied age groups, gender categories, educational levels, and occupational backgrounds. In order to contextualise behavioural differences across patient groups, demographic profiling is in line with suggested methods in healthcare service research (Hair et al., 2019).

Table 1: Demographic Profile of Respondents

No.	Demographic Information	Items	Scale
1.	<i>Gender</i>	Male	Nominal
		Female	
2.	<i>Age</i>	Less than 25	Ordinal
		25 to 35	
		36-45	
		46-55	
		56-65	
		Greater than 65	
3.	<i>Marital status</i>	Single	Nominal
		Married	
		Other	
4.	<i>Educational Background</i>	Bachelor's Degree	Ordinal
		Master's Degree	
		Doctorate Degree	
		Other	
5.	<i>Occupation</i>	Employee	Nominal
		Self employed	
		Military / policeman	
		A homemaker	
		a student	
		Retired	
		Other	
6.	<i>Monthly Income</i>	Less than 1000	Ordinal

No.	Demographic Information	Items	Scale
		1000 2000	
		2000 3000	
		More than 3000	

Measurement Model Assessment

Before interpreting the structural model, the measurement model was evaluated in accordance with accepted PLS SEM principles to guarantee construct validity and reliability. For SEM incorporating latent variables and multidimensional constructs, these methods are in line with best practice guidelines (Hair et al., 2021; Henseler et al., 2015).

Indicator Reliability

The preservation of items with significant contributions to their respective constructs was supported by the fact that all outer loadings were higher than the suggested threshold of 0.60, suggesting good indicator reliability. By ensuring that questions accurately measure the specified latent dimensions, indicator reliability enhances construct validity (Hair et al., 2021).

Table 2: Indicator Reliability (Outer Loadings)

Assessment	Attribute	Evaluation Criteria	Description	Reference
Reliability	Internal Consistency	Composite Reliability (CR) $\geq$ 0.70	Confirms if the indicators for each concept are closely connected.	Hair et al. (2011, 2012)
Construct Validity	Indicator Reliability	Indicator Loading $\geq$ 0.70	Ensures that each item adequately measures its respective construct.	Hair et al. (2011, 2012)

Convergent Validity

Composite Reliability (CR) and Average Variance Extracted (AVE) were used to verify convergent validity. According to Henseler et al. (2015), all constructs showed CR values over 0.70 and AVE values above 0.50, surpassing suggested standards and demonstrating enough shared variance across items.

Table 3: Convergent Validity (CR and AVE)

Assessment	Attribute	Evaluation Criteria	Description	Reference
Content Validity	Face validity	Expert review; empirical & theoretical basis	Experts and literature support the instrument's construction and usefulness.	Churchill (1979)
Construct Validity	Convergent validity	Average Variance Extracted (AVE) $\geq$ 0.50	To ensure that the indicators for each construct are closely connected and measure the same notion.	Hair et al. (2011, 2014)
	Discriminant validity	Fornell Larcker Criterion; Cross Loadings	Each construct's AVE should surpass its squared correlations with other constructs, and indicator loadings should be higher on each related construct than on any other.	Hair et al. (2011); Henseler et al. (2015)

Discriminant Validity

The HTMT ratio and the Fornell Larcker criteria were used to assess discriminant validity. The constructs were empirically different when the square roots of AVE for each construct exceeded interconstruct correlations and HTMT values stayed below the suggested maximum of 0.85 (Henseler et al., 2015).

Table 4: Summary Results Discriminant validity Fornell Larcker Criterion

Variables	Actual Value Delivery (AVD)	Administrative Personnel	Cost	Facilities and Environment	Hospital Service Quality (HSQ)	Nursing Staff	Patient Loyalty (PL)	Patient Satisfaction (PS)	Physicians	Service Provision	Switching Cost (SC)
Actual Value Delivery (AVD)	0.888										
Administrative Personnel	0.462	0.893									

Cost	0.630	0.323	0.915								
Facilities and Environment	0.607	0.368	0.914	0.896							
Hospital Service Quality (HSQ)	0.720	0.547	0.894	0.891	0.711						
Nursing Staff	0.589	0.457	0.491	0.442	0.721	0.897					
Patient Loyalty (PL)	0.426	0.137	0.367	0.330	0.429	0.406	0.719				
Patient Satisfaction (PS)	0.694	0.754	0.461	0.456	0.640	0.516	0.318	0.842			
Physicians	0.502	0.279	0.638	0.629	0.799	0.557	0.375	0.451	0.821		
Service Provision	0.620	0.285	0.799	0.807	0.885	0.518	0.409	0.470	0.738	0.905	
Switching Cost (SC)	0.546	0.081	0.469	0.409	0.505	0.423	0.765	0.290	0.461	0.523	0.830

Collinearity Assessment

All indicators had Variance Inflation Factors (VIF) less than 3.3, indicating that there was no serious multicollinearity. According to Aguirre Urreta and Rönkkö (2018), low VIF values guarantee that predictor variables do not skew the structural model's parameter estimations.

Table 5: VIF Values

Variables	VIF
Actual Value Delivery (AVD) -> Patient Satisfaction (PS)	2.075
Hospital Service Quality (HSQ) -> Actual Value Delivery (AVD)	1,000
Hospital Service Quality (HSQ) -> Patient Loyalty (PL)	2.132
Hospital Service Quality (HSQ) -> Patient Satisfaction (PS)	2.075
Patient Satisfaction (PS) -> Patient Loyalty (PL)	1.712
Switching Cost (SC) -> Patient Loyalty (PL)	1.437
Switching Cost (SC) x Patient Satisfaction (PS) -> Patient Loyalty (PL)	1.097

Source: SmartPLS4 output (2024).

Structural Model Assessment

Following known PLS SEM methodologies described by Hair et al. (2021) and Henseler et al. (2015), the model was evaluated by looking at path coefficients, effect sizes (f^2), predictive relevance (Q^2), and the hypothesised mediation and moderation effects.

Coefficient of Determination (R^2)

The explanatory power of the model was evaluated using the coefficient of determination (R^2). The findings showed that a significant amount of the variation in the endogenous constructs was explained by the model:

- **Satisfaction: R^2 (0.523)**
- **Actual Value Delivery: R^2 (0.518)**
- **Loyalty: R^2 (0.600)**

According to Hair et al. (2021), R^2 values in the moderate to high range indicate robust predictive capability within behavioural models employing latent constructs.

Table 6: R^2 Values

Variables	R Square
Actual Value Delivery (AVD)	0.518
Patient Loyalty (PL)	0.600
Patient Satisfaction (PS)	0.523

Source: SmartPLS4 output (2024).

Predictive Relevance (Q^2)

The blindfolding approach, which evaluates the model's capacity to anticipate missing data points, was used to assess predictive relevance. For every endogenous construct, all Q^2 values were more than zero, indicating significant predictive importance (Henseler et al., 2015).

The model's prediction accuracy for loyalty, value delivery, and satisfaction is confirmed by positive Q^2 results.

Table 7: Q² Predict Values

Variables	RMSE	MAE	Q ² _predict
Actual Value Delivery (AVD)	0.704	0.515	0.510
Patient Loyalty (PL)	0.666	0.481	0.559
Patient Satisfaction (PS)	0.783	0.558	0.398

Source: SmartPLS4 output (2024).

Effect Sizes (f²)

To ascertain the extent to which each external variable affected the endogenous constructs, effect sizes (f²) were computed. The findings revealed:

- HSQ → Satisfaction: moderate effect
- HSQ → AVD: moderate effect
- AVD → Loyalty: strong effect
- Satisfaction → Loyalty: negligible effect

According to Hair et al.'s (2021) effect size guidelines, the interpretation shows that although service quality has a significant impact on both satisfaction and value delivery, value delivery has the greatest behavioural influence. This is consistent with growing evidence that value frequently outweighs satisfaction in predicting loyalty.

Table 8: f² Effect Sizes

Relationship	F2	Level
Actual Value Delivery (AVD) -> Patient Satisfaction (PS)	0.238	Strong
Hospital Service Quality (HSQ) -> Actual Value Delivery (AVD)	1.075	Strong
Hospital Service Quality (HSQ) -> Patient Loyalty (PL)	0.000	Small
Hospital Service Quality (HSQ) -> Patient Satisfaction (PS)	0.085	Moderate
Patient Satisfaction (PS) -> Patient Loyalty (PL)	0.022	Moderate
Switching Cost (SC) -> Patient Loyalty (PL)	0.908	Strong
Switching Cost (SC) x Patient Satisfaction (PS) -> Patient Loyalty (PL)	0.010	Small

Hypothesis Testing (Path Coefficients)

By showing that actual value delivery rather than satisfaction is the primary motivator of loyalty in this situation, a dynamic often seen in transitional healthcare systems, these findings contradict presumptions in the traditional Satisfaction Loyalty Theory (Oliver, 1997, 1999).

Table 9: Bootstrapped Path Coefficients

Hypothesis	Testing	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T_Statistics	P-Values	Remarks
H1	Hospital Service Quality (HSQ) -> Patient Loyalty (PL)	0.396	0.204	0.155	2.552	0.011	Supported
H2	Hospital Service Quality (HSQ) -> Patient Satisfaction (PS)	0.291	0.292	0.063	4.584	0.000	Supported
H3	Patient Satisfaction (PS) -> Patient Loyalty (PL)	0.122	0.119	0.069	1.762	0.078	Not Supported
H4	Hospital Service Quality (HSQ) -> Patient Satisfaction (PS) -> Patient Loyalty (PL)	0.035	0.034	0.022	1.616	0.106	Not Supported

H5	Hospital Service Quality (HSQ) -> Actual Value Delivery (AVD) -> Patient Satisfaction (PS)	0.349	0.348	0.039	9.059	0.000	Supported
H6	Switching Cost (SC) × Patient Satisfaction (PS) -> Patient Loyalty (PL)	-0.054	-0.055	0.028	1,890	0.059	Not Supported

Note: Level of Significance (5%, i.e., 0.050). Source: SmartPLS4 output (2024).

Measurement and Structural Models

SmartPLS graphical outputs were produced for both the measurement model and the structural model in order to graphically depict the links between the latent constructs and confirm model adequacy. According to Hair et al. (2021) and Henseler et al. (2015), visualising these models is a routine procedure in PLS SEM reporting to improve understanding about indicator loadings, route directions, and significance levels.

Reliability and convergent validity are visibly confirmed by the measurement model (PLS Algorithm Output), which shows all latent variables, their related loading values, and indications.

In order to facilitate the understanding of direct, indirect, and moderating effects, the structural model (Bootstrapped Output) displays the proposed routes, bootstrapped t values, significance levels, and R² values for each endogenous construct.

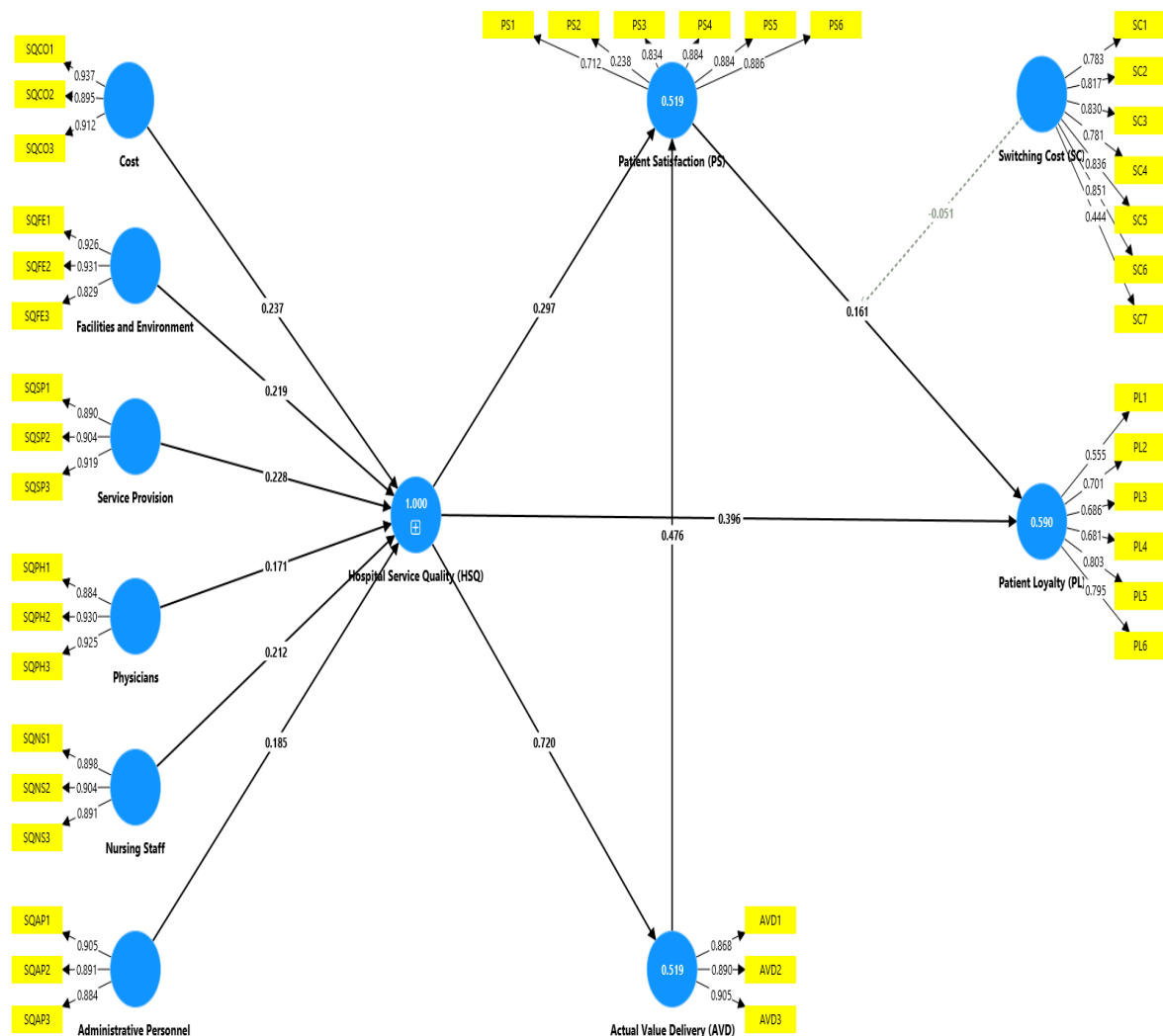


Figure 2: Measurement Model (PLS Algorithm Output)

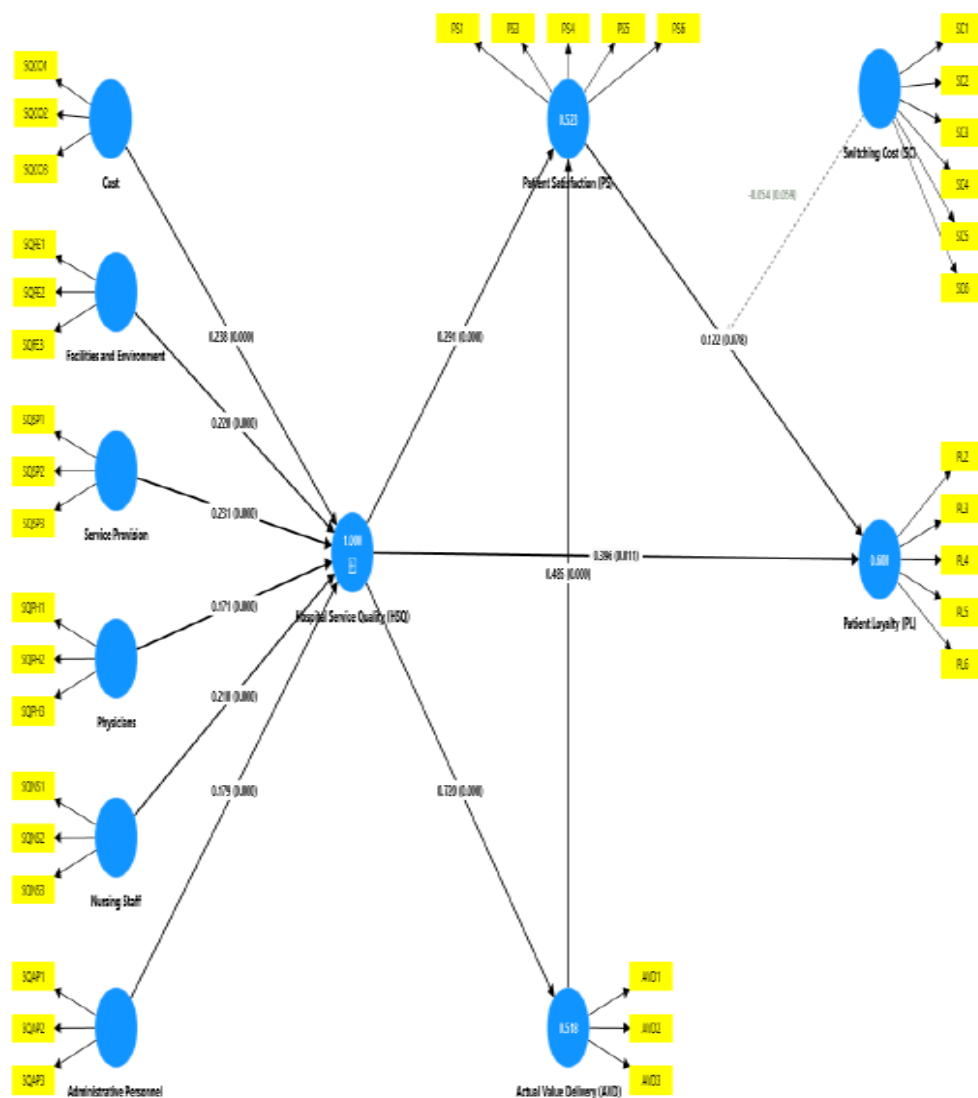


Figure 3: Structural Model (Bootstrapped Output)

These figures (2&3) together deliver a transparent indication of model performance and the strength of empirical support for each hypothesised connection.

SUMMARY OF KEY FINDINGS

Several important insights into the behavioural dynamics influencing outpatient choices in Libya's private healthcare sector are revealed by empirical studies.

First, satisfaction and loyalty are substantially predicted by service quality, which is in line with other research showing that patients' assessments of environmental factors, responsiveness, and interpersonal care greatly influence their overall experiences (Nguyen et al., 2021; Jia et al., 2021).

Second, the most important mediator that greatly influenced loyalty and satisfaction was actual value delivery. This is consistent with recent research showing that perceived value, which is defined as the cognitive evaluation of advantages in relation to cost, effort, and time, is often a more powerful behavioural motivator than service quality on its own (Luo et al., 2024).

Third, the findings defy the presumptions of the traditional Expectation Confirmation Theory and Satisfaction Loyalty Theory by demonstrating that loyalty is not only motivated by satisfaction. When patients believe they have better alternatives elsewhere, contentment may not ensure loyalty in transitional or competitive healthcare marketplaces. This impact has been shown in other empirical research (Ghorbanzadeh, 2021).

Fourth, the satisfaction loyalty connection was not moderated by switching costs, suggesting that patients continue to be mobile and have a significant degree of provider choice. Evidence that switching barriers significantly diminish in highly competitive or loosely regulated healthcare marketplaces is consistent with the absence of moderating impact (Burnham et al., 2003).

When taken as a whole, these results demonstrate that the primary mechanism by which service quality affects behavioural intentions is actual value delivery rather than satisfaction. This supports the claim that long term patient loyalty in transitional healthcare systems like Libya's is determined more by value judgements than by emotional assessments.

DISCUSSION

This study examined how healthcare service quality influences patient satisfaction, actual value delivery, and loyalty within Libya's private healthcare sector. The findings extend both theoretical and empirical understanding of patient behaviour in transitional healthcare systems and challenge several assumptions embedded in conventional satisfaction loyalty models.

First, the significant effects of service quality on both satisfaction and loyalty reaffirm the importance of experiential and interpersonal dimensions of care. HEALTHQUAL related elements such as physician communication, nursing responsiveness, service procedures, and administrative interactions emerged as critical touchpoints shaping patient evaluations. This aligns with prior research emphasising interpersonal care and responsiveness as dominant drivers of perceived quality, particularly in contexts where institutional trust is fragile or uneven (Nguyen et al., 2021; Jia et al., 2021). In post conflict health systems such as Libya's, these interpersonal factors may partially compensate for infrastructural or systemic shortcomings, thereby exerting disproportionate influence on satisfaction formation.

Second, the strong mediating role of actual value delivery (AVD) highlights the predominance of cognitive evaluations over affective satisfaction in shaping behavioural intentions. In environments characterised by economic instability and variable service standards, patients place greater emphasis on whether perceived benefits justify financial, emotional, and time related costs. This finding is consistent with emerging evidence from transitional and competitive healthcare markets indicating that behavioural intentions are driven more by value assessments than by satisfaction alone (Luo et al., 2024). From an Expectation Confirmation Theory (ECT) perspective, the results suggest that performance evaluations are filtered through value judgements before translating into loyalty, even when expectations are met.

Third, the finding that satisfaction does not significantly predict loyalty challenges the traditional Satisfaction Loyalty Theory assumption of a stable and linear satisfaction → loyalty relationship (Oliver, 1997, 1999). In Libya's private healthcare sector marked by intense competition, weak regulation, and readily available alternatives patients may report satisfaction yet still switch providers in search of superior value or convenience. Consistent with recent studies, satisfaction appears to function as a short term evaluative outcome rather than a reliable indicator of behavioural commitment in unstable or competitive healthcare environments (Ghorbanzadeh, 2021).

Finally, the absence of a moderating effect of switching costs further underscores high patient mobility in Libya's private healthcare market. While financial, procedural, or relational switching costs stabilise patient behaviour in highly regulated or insurance based systems (Burnham et al., 2003), Libya's largely unregulated private sector allows patients to change providers with minimal constraint. Administrative barriers are easily bypassed, rendering switching costs contextually weak and behaviourally insignificant. This finding reinforces the view that switching costs are not universally predictive and that their effectiveness depends heavily on market structure, governance stability, and patient autonomy.

Overall, the findings demonstrate that patient loyalty in transitional healthcare systems is primarily value driven rather than satisfaction dependent. They further indicate that structural or psychological switching barriers exert limited influence where service alternatives are abundant and institutional trust is inconsistent. For Libya's private healthcare sector, value creation and consistency of experience emerge as the most viable foundations for sustaining patient loyalty.

PRACTICAL IMPLICATIONS

The findings offer actionable insights for policymakers, healthcare managers, and private hospital administrators in Libya. Given the competitive and fragmented nature of the private healthcare sector, these implications are directly relevant to improving patient experience, retention, and organisational sustainability.

Prioritise Interpersonal Service Quality

Interpersonal elements particularly physician communication, nursing responsiveness, and staff courtesy emerged as the most influential components of perceived service quality. This is consistent with evidence indicating that interpersonal care dominates patient evaluations in settings characterised by weak institutional trust (Nguyen et al., 2021; Jia et al., 2021). Investments in communication skills, empathy training, and consistency across clinical and non clinical interactions are therefore likely to yield immediate improvements in patient assessments.

Enhance Value Delivery Processes

Because actual value delivery was the most influential behavioural mechanism, hospitals should prioritise operational processes that enhance perceived value. These include transparent pricing, reduced waiting times, clear communication regarding procedures and outcomes, and efficient administrative systems. Prior research confirms that in competitive and uncertain healthcare environments, value not satisfaction alone drives loyalty (Luo et al., 2024).

Rethink Loyalty Strategies Beyond Satisfaction

The weak satisfaction loyalty relationship suggests that reliance on satisfaction scores as a primary performance metric may be misleading. In markets where patients can switch providers easily, satisfaction becomes an unreliable proxy for retention (Ghorbanzadeh, 2021). Managers should instead monitor value drivers across the patient journey, assess consistency of service delivery, and align performance metrics with value based outcomes.

Switching Costs Are Ineffective as a Retention Strategy

Switching costs did not moderate the satisfaction loyalty relationship, indicating that patients face few barriers to changing providers in Libya's largely unregulated private healthcare market. This finding supports earlier evidence showing that switching barriers in free or competitive healthcare systems are context specific and often negligible (Burnham et al., 2003; Ha et al., 2023; Jen et al., 2011). Retention strategies should therefore focus on relational commitment and continuous value creation rather than administrative or dependency based constraints.

Staff Development and Consistency of Care

Variability in service delivery often reflects inconsistent staff performance and procedural gaps. Evidence from healthcare quality research highlights the importance of staff competence and interaction quality in shaping patient perceptions (Nguyen et al., 2021). Regular training, clear standard operating procedures, continuous performance monitoring, and structured feedback systems are essential for enhancing reliability, trust, and perceived value.

SOCIAL IMPLICATIONS

Strengthening value driven healthcare delivery carries broader societal implications in transitional contexts such as Libya. Post conflict healthcare systems often face governance gaps, institutional instability, and diminished public trust (WHO, 2019; Bermejo & Bermejo, 2024). Improving service quality and value perception can rebuild confidence in healthcare institutions, promote earlier and more consistent health seeking behaviour, enhance treatment adherence and continuity of care, and reduce pressure on overstretched public hospitals. In such environments, improved patient experiences contribute not only to individual wellbeing but also to wider social stability and health system recovery (El Jardali & Fadlallah, 2017).

RESEARCH LIMITATIONS AND FUTURE RESEARCH

Several limitations should be acknowledged. First, the cross sectional design captures patient perceptions at a single point in time, limiting causal inference and preventing analysis of how loyalty evolves longitudinally (Baruch & Holtom, 2008). Second, the focus on Tripoli, Benghazi, and Misurata may constrain generalisability to rural or underserved regions where service access and expectations differ. Third, reliance on self reported measures may introduce response bias related to social desirability or transient emotions. Future research could incorporate behavioural data, multi source measures, or objective service indicators. Finally, additional constructs such as trust, perceived risk, service recovery, and hospital reputation may further enrich understanding of loyalty formation in healthcare contexts (Nguyen et al., 2021). Comparative studies across North Africa or the Middle East would also help assess the broader applicability of the value driven loyalty model.

CONCLUSION

This study advances understanding of patient behaviour in private healthcare systems by demonstrating that service quality influences behavioural intentions primarily through actual value delivery rather than satisfaction alone. This finding challenges long standing satisfaction loyalty assumptions embedded in traditional frameworks such as Satisfaction Loyalty Theory (Oliver, 1999; Jen et al., 2011; Borhan et al., 2023), particularly within competitive and institutionally fragmented healthcare environments.

By integrating HEALTHQUAL, Expectation Confirmation Theory, and Satisfaction Loyalty Theory, the study proposes a refined conceptual model that better reflects behavioural mechanisms in transitional contexts. The findings indicate that while satisfaction and switching costs play limited roles in predicting loyalty, value delivery constitutes the dominant behavioural driver. For private hospitals in Libya, sustainable loyalty depends on consistently delivering value driven, relational, and high quality care rather than relying on satisfaction metrics or switching deterrents.

Author Contributions

All authors contributed to the conceptualisation and design of the study. The corresponding author led data collection, analysis, and manuscript drafting.

All authors critically reviewed, revised, and approved the final manuscript.

Conflict of Interest Statement

The authors declare that they have no conflict of interest.

Ethics Approval Statement

Ethical approval for this study was granted by the Faculty of Management, Universiti Teknologi Malaysia (UTM). Participation was voluntary, informed consent was obtained from all participants, and anonymity and confidentiality were strictly maintained.

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