

NATIONAL HEALTH INSURANCE IN INDONESIA: AN ISLAMIC PERSPECTIVE ON VALUE CREATION, ENGAGEMENT, AND SATISFACTION

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Abstract

This study examines the effect of BPJS Health service quality on customer engagement and customer loyalty in an Islamic hospital context, with patient satisfaction serving as a mediating variable. Using primary data collected from 296 BPJS inpatients at PKU Muhammadiyah Hospital, Indonesia, the model was analyzed employing Partial Least Squares-Structural Equation Modeling (PLS-SEM). Service quality was assessed using the CARTER framework, encompassing compliance, assurance, reliability, tangibles, empathy, and responsiveness. The results indicate that patient satisfaction has a positive and significant effect on both customer engagement and customer loyalty. Among the service quality dimensions, responsiveness emerges as the only significant determinant of patient satisfaction, which subsequently enhances engagement and loyalty through its mediating role. Other service quality dimensions do not exhibit significant direct effects, suggesting that satisfaction functions as a key mechanism translating service experiences into relational outcomes within BPJS-based healthcare services. This study contributes to the service quality and healthcare marketing literature by highlighting the dominant role of responsiveness in shaping satisfaction-driven engagement and loyalty in a mandatory public health insurance system. Practically, the findings underscore the importance of prioritizing responsive, fair, and ethically grounded service delivery to strengthen long-term patient relationships.

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1. Introduction

Since its launch in 2014, Indonesia's National Health Insurance Program (Jaminan Kesehatan Nasional/JKN), administered by the Social Security Administering Body (BPJS Health), has persistently experienced financial deficits, as health-care expenditures have consistently exceeded contribution revenues. Between 2016 and 2018, JKN recorded deficits of IDR 9.7 trillion, IDR 9.75 trillion, and IDR 10.98 trillion, respectively, reflecting a structural imbalance that is projected to continue (Nugraheni et al., 2020). Although JKN membership coverage and contribution revenues have increased annually following premium adjustments, these increases have not been sufficient to offset rapidly rising claim expenditures. For example, in 2016 BPJS Health collected IDR 67.4 trillion in contributions, while claim payments reached IDR 73.5 trillion (Ahsan, 2018). Existing studies attribute this imbalance to excessive utilization, supply-induced demand, and inefficiencies in provider payment mechanisms (Hidayat, 2016; Mboi et al., 2018).

Despite various policy alternatives proposed to address the JKN deficit, government subsidies remain the primary policy response. While such fiscal interventions provide short-term relief, empirical evidence suggests that subsidies alone do not offer a sustainable solution for improving JKN's long-term financial performance (Agustina et al., 2019; Nugraheni et al., 2020). Prior research identifies deeper structural and systemic challenges, including actuarial imbalance, adverse selection, and weak cost containment, indicating the need for reforms that go beyond budgetary support (Mboi et al., 2018).

As participation in BPJS Health is mandatory for all Indonesian citizens, the program is expected not only to deliver financial protection but also to align with societal values and public expectations. In a country where Muslims constitute the majority of the population, the compatibility of BPJS Health services with Islamic principles has become an important dimension of public acceptance and institutional legitimacy. Previous studies emphasize the role of sharia compliance, ethical governance, and contractual transparency in shaping satisfaction and trust in public services within Muslim-majority contexts (Salamah & Rahman, 2022). Concerns related to *riba*, *gharar*, and contractual arrangements within the BPJS system have also been highlighted in both scholarly and regulatory discussions (Majelis Ulama Indonesia, 2015; Suci et al., 2023).

Although prior studies have examined service quality and patient satisfaction within the BPJS Health system, most focus on general service performance without differentiating patients by religious background or hospital characteristics (Noor et al., 2018). Consequently, limited empirical evidence exists on how Islamic values embedded in hospital service delivery influence satisfaction, engagement, and loyalty among BPJS participants. This study addresses this gap by distinguishing between Islamic and non-Islamic hospital settings and examining how service quality grounded in sharia principles affects patient satisfaction and subsequent behavioral outcomes.



Drawing on service quality and relationship marketing literature, this study conceptualizes satisfaction as a key mechanism linking service quality to customer engagement and patient loyalty. Prior evidence suggests that satisfied patients are more likely to maintain service usage, exhibit stronger engagement, and demonstrate higher loyalty, thereby contributing to organizational sustainability (Wee et al., 2020). By integrating Islamic service quality dimensions into this framework, the study extends existing models to better reflect the socio-religious context of Indonesia's healthcare system.

This study contributes theoretically by extending service quality and customer behavior literature through the incorporation of sharia-based service indicators within BPJS-based healthcare services. Practically, the findings provide insights for hospital managers and health insurance administrators in designing service strategies that enhance satisfaction, engagement, and loyalty, which are critical for sustaining participation in Indonesia's national health insurance program (Eid & El-Gohary, 2015; Meesala & Paul, 2018; Prentice et al., 2019).

2. Literature Review

Social Identity Theory

Social Identity Theory (SIT) explains individual and intergroup behavior through the formation of social identities derived from group membership (Tajfel & Turner, 2004). From this perspective, religiosity represents not only a personal belief system but also a salient social identity that shapes attitudes, expectations, and behavioral responses toward organizations that share similar values. In organizational and service contexts, shared religious identity influences trust formation, perceived congruence, and patterns of engagement between service providers and users. Building on this theoretical foundation, Ratnawati et al. (2023) introduce the concept of Engagement Religious Compliance (ERC), which refers to the extent to which service organizations integrate religious principles into their engagement practices and inter-organizational relationships. ERC emphasizes that organizational cooperation and service delivery are guided by value-based commitments derived from religious norms, thereby influencing stakeholders' perceptions of service legitimacy, satisfaction, and relational outcomes. In the context of Islamic hospitals and BPJS-based healthcare services, ERC provides a relevant framework for explaining how religiosity-driven service practices shape patient satisfaction and subsequent engagement and loyalty behaviors.

Services in Islamic Hospitals

Service quality plays a critical role in shaping customer trust and sustaining long-term loyalty, as it directly influences perceptions of reliability, credibility, and organizational commitment. Prior studies consistently demonstrate that high service quality is a key determinant of customer retention, particularly in service-intensive sectors such as healthcare. In Muslim-majority contexts, the integration of Islamic values into service delivery further strengthens organizational image and public trust by aligning operational practices with ethical standards and religious expectations (Binti Ali et al., 2018).



The measurement of service quality has been extensively developed through the SERVQUAL framework introduced by Parasuraman et al. (1988), which conceptualizes service quality through dimensions such as reliability, responsiveness, assurance, empathy, and tangibles. Subsequent studies have extended this framework to accommodate cultural and institutional contexts where religious values play a significant role in shaping service expectations. Within Islamic service environments, scholars argue that conventional service quality models are insufficient to capture value-based dimensions related to sharia compliance (Raajpoot, 2004; Ratnawati & Kholis, 2019). Addressing this limitation, Shafie et al. (2004) proposed the CARTER model, which incorporates compliance as a core dimension alongside assurance, reliability, tangibles, empathy, and responsiveness, thereby providing a more contextually appropriate framework for evaluating service quality in sharia-based organizations.

In the context of Islamic hospitals in Indonesia, service operations are institutionally guided by sharia principles, including halal–haram considerations, muamalat ethics, and Islamic quality management values, which are formalized into standard operating procedures governing both managerial and clinical activities (Ismail et al., 2018). These principles are operationalized through observable service practices such as fairness in treatment, ethical communication, respect for patient dignity, and non-discriminatory access to care. Consequently, the distinguishing feature of Islamic hospitals lies not in theological assertions, but in the institutionalization of Islamic values into service quality mechanisms that shape patient perceptions, satisfaction, and behavioral outcomes. This value-based service orientation provides a relevant foundation for examining how Islamic service quality dimensions influence patient satisfaction, engagement, and loyalty within BPJS-based healthcare services. The main characteristics of Islamic hospitals are presented in Table 1.

Table 1. Islamic Hospital Characteristic

Islamic hospital characteristic
<ul style="list-style-type: none"> • The presence of a sharia supervisory board to ensure compliance with Islamic principles in hospital operations. • Hospital governance that integrates national regulations with sharia provisions. • Vision and mission that explicitly reflect Islamic values and objectives. • The application of sharia-based contracts (aqad) with all stakeholders. • Sharia-compliant human resource, financial, and accounting management practices. • Provision of worship facilities for patients, staff, and visitors. • Availability of spiritual care and guidance, particularly for critically ill patients. • Assurance that food and medical nutrition are halal, hygienic, and safe. • Gender-appropriate services that protect patients' aurat and prevent ikhtilath.



- Infection control practices based on taharah and mandatory religious training for staff.
- Sharia-based mechanisms for handling complaints and conflicts.
- Provision of reproductive health services in accordance with Islamic guidelines.
- Institutional zakat payment as part of the hospital's social responsibility.

Source: Research Data, 2025

Service Quality and User Satisfaction

Customer satisfaction is a central construct in service management, as it reflects customers' cognitive and affective evaluations of service performance relative to prior expectations (Cheshin et al., 2018; Meesala & Paul, 2018). Satisfaction arises when perceived service performance meets or exceeds expected standards and is further reinforced by positive emotional experiences during service consumption (Hyun, 2018). Accordingly, customer satisfaction represents a favorable evaluative state resulting from the comparison between expected service quality and actual service delivery.

Empirical studies consistently demonstrate that service quality is a primary antecedent of customer satisfaction across various service contexts, including healthcare (Meesala & Paul, 2018; Murali et al., 2016; Vera & Trujillo, 2013). Service quality reflects the value perceived by users through their assessment of service reliability, responsiveness, assurance, empathy, and tangibility (Parasuraman et al., 1988). In the BPJS Health context, Ratnawati & Kholis (2019) report significant gaps between user expectations and perceived service performance, indicating that variations in service quality dimensions substantially shape satisfaction levels. These findings underscore the importance of improving service quality attributes to enhance patient satisfaction within public health insurance systems.

In addition to service quality, religiosity has been shown to influence how consumers evaluate services and form satisfaction judgments, particularly in Muslim-majority contexts (Eid & El-Gohary, 2015; Gayatri et al., 2011). For Muslim consumers, compliance with Islamic principles constitutes an important evaluative criterion that complements conventional service quality dimensions (Yaacob, 2014). Prior studies suggest that service quality aligned with religious values strengthens satisfaction by enhancing perceived congruence between consumer expectations and service practices (Miranda et al., 2018). Within Islamic healthcare institutions, this alignment is captured through the CARTER model, which extends SERVQUAL by incorporating compliance as a core dimension of service quality (Shafie et al., 2004). Based on this theoretical and empirical foundation, this study proposes that each dimension of CARTER service quality positively influences user satisfaction, leading to the following hypotheses:

H1a: Compliance has a positive effect on satisfaction.

H1b: Assurance has a positive effect on satisfaction.

H1c: Reliability has a positive effect on satisfaction.

H1d: Tangibility has a positive effect on satisfaction.

H1e: Empathy has a positive effect on satisfaction.

H1f: Responsiveness has a positive effect on satisfaction.



Service Quality and User Engagement

Prior empirical studies consistently demonstrate a strong relationship between service quality and customer engagement across various service contexts (Lee et al., 2018; Roy, Shekhar, et al., 2018; Verleye et al., 2013). Customer engagement refers to customers' emotional and psychological attachment to a service or brand that motivates sustained interaction, participation, and involvement (Thakur, 2018). High-quality service experiences enhance customers' perceptions of value and trust, which in turn foster stronger engagement behaviors, including continued usage and positive involvement (Ahn & Back, 2018; Roy, Balaji, et al., 2018; Roy, Shekhar, et al., 2018).

Service quality contributes to user engagement by shaping favorable service experiences and strengthening relational bonds between service providers and users. Prior studies indicate that service convenience, reliability, and overall service performance play a critical role in encouraging customers to actively engage with a service by enhancing perceived service quality and brand-related experiences (Roy, Shekhar, et al., 2018; Verleye et al., 2013). When users perceive service delivery as consistent, responsive, and trustworthy, they are more likely to develop a sense of commitment and willingness to maintain long-term engagement.

From an Islamic perspective, engagement is closely linked to the principle of commitment (*iltizam*), which emphasizes responsibility, trust, and accountability in cooperative relationships (Q.S. Al-Fath: 10). This principle suggests that service interactions are not merely transactional but are guided by moral obligations and adherence to religious values. In Islamic service institutions, compliance with religious principles strengthens users' psychological attachment and reinforces their motivation to engage, as service relationships are perceived as aligned with both functional expectations and spiritual accountability.

Based on this theoretical and empirical foundation, service quality dimensions within the CARTER framework are expected to positively influence user engagement. Accordingly, the following hypotheses are proposed:

H2a: Compliance has a positive effect on user engagement.

H2b: Assurance has a positive effect on user engagement.

H2c: Reliability has a positive effect on user engagement.

H2d: Tangibility has a positive effect on user engagement.

H2e: Empathy has a positive effect on user engagement.

H2f: Responsiveness has a positive effect on user engagement.

Customer Satisfaction and User Engagement

Previous empirical studies consistently demonstrate that customer satisfaction plays an important role in fostering customer engagement (Carlson et al., 2019; Gopalakrishna et al., 2017; Simon & Tossan, 2018; Thakur, 2018). Satisfied customers tend to exhibit higher levels of interaction and involvement with brands across various platforms. In particular, Simon & Tossan (2018) highlight that customer satisfaction functions as an antecedent of engagement with brand-related social media, indicating that positive consumption experiences strengthen customers' willingness to interact with brands. Similarly, Thakur (2018) reports a positive and significant relationship between customer satisfaction and engagement in digital retail environments, showing that higher satisfaction with products and services enhances customer engagement through mobile applications. From a relational



perspective, commitment has also been shown to encourage cooperative behavior, as stronger commitment leads to greater engagement and interaction (Chalofsky & Krishna, 2009; Morgan & Hunt, 1994). Based on these findings, this study proposes customer satisfaction as a key antecedent of engagement among BPJS Health service users.

H3: Customer satisfaction has a positive effect on user engagement.

Customer Satisfaction and Customer Loyalty

A substantial body of literature consistently demonstrates that customer satisfaction plays a central role in shaping customer loyalty across various service contexts (Hyun, 2018; Meesala & Paul, 2018; Murali et al., 2016; Vera & Trujillo, 2013). Empirical evidence suggests that satisfied customers are more likely to maintain long-term relationships with service providers, as satisfaction functions as a key antecedent of both attitudinal and behavioral loyalty (Meesala & Paul, 2018; Murali et al., 2016). In addition, studies focusing on Muslim consumers emphasize that service attributes aligned with Islamic and halal principles significantly enhance perceived value and satisfaction, thereby reinforcing loyalty formation. This indicates that, beyond functional service performance, the incorporation of Islamic values represents an important source of value creation in fostering satisfaction and loyalty among Muslim customers (Eid & El-Gohary, 2015).

H4: User satisfaction has a positive effect on user loyalty.

Customer Engagement and Customer Loyalty

Previous empirical studies consistently indicate that customer engagement plays a crucial role in shaping customer loyalty (Chen & Rahman, 2017; Lee et al., 2018; Prentice et al., 2019; Roy, Shekhar, et al., 2018). Research conducted by Prentice et al. (2019) demonstrates that engagement significantly influences customers' behavioral intentions by strengthening their sense of identification and attachment, which ultimately encourages repeated usage and loyalty-related outcomes. Similarly, Lee et al. (2018) provide evidence that customer engagement functions as a mediating mechanism linking service system quality to repurchase intention, a key indicator of loyalty (Kingshott et al., 2018).

In the healthcare context, customer loyalty is associated with improved continuity of care, greater adherence to medical recommendations, and more effective utilization of preventive health services. Beyond its behavioral implications, loyalty also offers a strategic pathway for embedding Islamic values within healthcare services. Islamic teachings emphasize the importance of promoting goodness, advising one another in truth, and practicing patience, as reflected in Qur'anic principles (Q.S. Al-Baqarah: 104; Q.S. Al-'Asr: 3). Accordingly, stronger patient loyalty may reinforce the spirit of da'wah among Muslim communities by encouraging hospitals to consistently implement service practices and operational standards that align with sharia principles.

H5: Customer engagement has a positive effect on user loyalty.

3. Research Methods

The population of this study comprises inpatients at Islamic hospitals in Indonesia that collaborate with BPJS Health. The sample was obtained using purposive sampling with



the following criteria: (1) registered as active BPJS Health participants, (2) having received inpatient services at RS PKU Muhammadiyah during the observation period, and (3) self-identifying as Muslim. RS PKU Muhammadiyah was selected as the research setting because it operates as an Islamic hospital under Muhammadiyah affiliation, where healthcare services are delivered based on sharia principles and Islamic values embedded in organizational policies and standard operating procedures. This institutional orientation makes RS PKU Muhammadiyah an appropriate context for examining Islamic service quality dimensions, particularly those grounded in the CARTER model proposed by Shafie et al. (2004) and further developed in the Islamic hospital context by Noor et al. (2018).

A total of 321 questionnaires were collected, of which 296 met the eligibility and data quality criteria and were retained for analysis. Responses were excluded if they were incomplete, involved non-active BPJS participants, or did not meet the inpatient service criteria. The final sample size of 296 respondents exceeds the minimum requirement for partial least squares structural equation modeling (PLS-SEM) based on the complexity of the proposed model and the number of latent constructs examined. Although the findings are not intended to represent all BPJS users nationally, this sample size provides sufficient external validity for Islamic hospitals with similar BPJS-based service characteristics, as commonly adopted in service quality and patient behavior studies (Noor et al., 2018; Ratnawati & Kholis, 2019).

This study measures six dimensions of Islamic service quality-compliance, assurance, reliability, tangibility, empathy, and responsiveness-adapted from the CARTER framework (Shafie et al., 2004). These dimensions were examined in relation to satisfaction, user engagement, and loyalty among BPJS Health participants. Compliance was measured using four items, assurance five items, reliability four items, tangibility six items, empathy six items, responsiveness five items, satisfaction four items, user engagement three items, and loyalty four items. The measurement of user engagement was adapted from prior conceptualizations emphasizing cognitive, emotional, and behavioral involvement in service interactions (Verhagen et al., 2015).

Data analysis was conducted using partial least squares structural equation modeling (PLS-SEM) with SmartPLS software. PLS-SEM was selected due to its suitability for predictive research models, complex structural relationships, and moderate sample sizes, particularly in service quality and behavioral intention research. The analysis followed a two-stage approach: evaluation of the measurement model and assessment of the structural model. Measurement model evaluation included internal consistency reliability, convergent validity, and discriminant validity, while structural model assessment focused on path coefficients, coefficients of determination (R^2), and predictive relevance (Q^2). Statistical significance was assessed using bootstrapping procedures with 5,000 resamples, consistent with prior BPJS and Islamic service quality studies (Noor et al., 2018; Verhagen et al., 2015).



4. Results

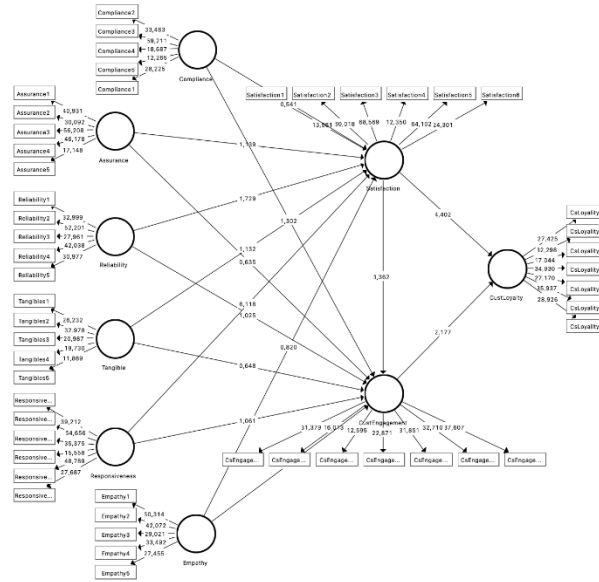


Figure 1. Measurement of Relationship
Source: Author Study (2025)

Table 2. Path Coefficient

Path	Std. Dev	T Statistic	P Values	Hypothesis
Assurance → CustEngagement	0,195	0,589	0,556	Not supported
Assurance → Satisfaction	0,169	1,079	0,281	Not supported
Compliance → CustEngagement	0,135	1,35	0,178	Not supported
Compliance → Satisfaction	0,095	0,576	0,565	Not supported
CustEngagement → CustLoyalty	0,137	2,342	0,02	Supported
Empathy → CustEngagement	0,145	1,842	0,066	Not supported
Empathy → Satisfaction	0,216	0,791	0,429	Not supported
Reliability → CustEngagement	0,16	1,066	0,287	Not supported
Reliability → Satisfaction	0,167	1,727	0,085	Not supported
Responsiveness → CustEngagement	0,261	1,139	0,255	Not supported
Responsiveness → Satisfaction	0,138	6,747	0,000	Supported
Satisfaction → CustEngagement	0,272	3,53	0,000	Supported
Satisfaction → CustLoyalty	0,127	4,723	0,000	Supported
Tangible → CustEngagement	0,167	0,712	0,477	Not supported
Tangible → Satisfaction	0,262	1,095	0,274	Not supported

Source: Primary Data Processed (2025)

Results in Table 2 indicate that the strongest structural relationships occur along the paths from Satisfaction to Customer Engagement and from Satisfaction to Customer Loyalty,



demonstrating that increases in customer satisfaction directly enhance both engagement intensity and loyalty intentions. These findings reinforce established service literature, which consistently positions satisfaction as a central mediating mechanism through which service quality influences higher-order customer behaviors, including engagement and loyalty (Ayu Imbayani et al., 2021; Caruana et al., 2015; Mulyati & Rahmat Jaya, 2025). Furthermore, the analysis reveals a significant positive effect of Responsiveness on Satisfaction, confirming responsiveness-defined as the speed and readiness of service delivery-as a critical determinant of perceived satisfaction (Kim et al., 2020). From an operational perspective, this result highlights the strategic importance of prompt, accurate, and courteous service responses, as improvements in responsiveness not only elevate customer satisfaction but also indirectly foster stronger engagement and loyalty through the satisfaction pathway.

Table 3. Specific Indirect Effect

				O			T	P
				Sample	Mean	Std.		
				(O)	(M)	Dev	Statistics	Values
Assurance	→	Satisfaction	→	-0,175	-0,139	0,168	1,041	0,299
CustEngagement								
Compliance	→	Satisfaction	→	-0,052	-0,048	0,087	0,598	0,550
CustEngagement								
Empathy	→	Satisfaction	→	0,164	0,128	0,21	0,781	0,435
CustEngagement								
Reliability	→	Satisfaction	→	0,277	0,272	0,18	1,54	0,124
CustEngagement								
Responsiveness	→	Satisfaction	→	0,897	0,764	0,302	2,967	0,003
CustEngagement								
Tangible	→	Satisfaction	→	-0,276	-0,269	0,279	0,99	0,323
CustEngagement								
Responsiveness	→	Satisfaction	→	0,561	0,54	0,146	3,837	0,000
CustLoyalty								
Satisfaction	→	CustEngagement	→	0,307	0,258	0,13	2,358	0,019
CustLoyalty								

Source: Primary Data Processed (2025)

Table 3 demonstrates that patient satisfaction serves as a pivotal mediating construct linking BPJS service quality to both customer engagement and patient loyalty. The positive and significant paths from Satisfaction to Customer Engagement and Customer Loyalty indicate that higher satisfaction levels translate into more intensive service interactions and stronger retention intentions. This result is consistent with prior evidence suggesting that



service quality exerts its influence on loyalty predominantly through satisfaction rather than through direct effects (Abdallah et al., 2021; Aliman & Mohamad, 2016). Among the service quality dimensions, responsiveness emerges as the strongest predictor of satisfaction, confirming that timely, clear, and accurate responses to patients' needs are critical determinants of perceived service performance in healthcare settings (Jamaludin et al., 2018). Accordingly, the indirect pathway from responsiveness to engagement and loyalty through satisfaction underscores the central role of operational efficiency in BPJS-based hospital services.

In the context of Islamic hospitals, responsiveness also reflects normative service values aligned with sharia principles, including fairness, empathy, and respect for patient dignity, which further reinforce satisfaction and loyalty outcomes (Eny Wahyuningsih et al., 2023; Ratnawati et al., 2020). Responsiveness in this framework extends beyond technical speed to encompass non-discriminatory treatment of BPJS patients, transparent communication, and the protection of patient privacy. Conversely, other service quality dimensions—assurance, compliance, empathy, reliability, and tangibles—do not exhibit significant indirect effects in the model, suggesting that BPJS patients place greater emphasis on procedural responsiveness than on physical attributes or abstract assurances. This finding supports earlier studies indicating that these dimensions may influence behavioral outcomes through more complex mechanisms, such as trust or perceived sharia compliance, rather than through satisfaction alone (Aliman & Mohamad, 2016; Eny Wahyuningsih et al., 2023).

Service quality and user satisfaction

The empirical results demonstrate that responsiveness is the only service quality dimension that has a significant positive effect on patient satisfaction, thereby supporting H1f, while H1a-H1e are not supported. This finding suggests that, within the BPJS Health context, patient satisfaction is primarily shaped by functional and procedural service aspects rather than symbolic or value-based attributes. Responsiveness, reflected in prompt service delivery, clear information, and efficient administrative handling, directly addresses the operational complexities commonly associated with BPJS services, such as referral procedures and claim processing. Consistent with prior healthcare service studies, responsiveness reduces perceived inconvenience and negative disconfirmation, thereby enhancing satisfaction (Jamaludin et al., 2018; Meesala & Paul, 2018).

Although the CARTER model emphasizes compliance, empathy, and assurance as essential dimensions of Islamic service quality (Shafie et al., 2004), their non-significant direct effects indicate that these dimensions may function as baseline expectations rather than differentiating factors in satisfaction formation. In Islamic hospitals operating under a national insurance scheme, sharia compliance and ethical conduct are institutionally embedded and thus taken for granted by patients. This finding is consistent with Noor et al. (2018) and Ratnawati & Kholis (2019), who argue that BPJS patients tend to prioritize service efficiency over symbolic religious attributes when evaluating satisfaction.

Service quality and user engagement

The results further indicate that none of the CARTER service quality dimensions exert a significant direct effect on user engagement, leading to the rejection of H2a-H2f. This outcome aligns with engagement theory, which conceptualizes engagement as a higher-order construct that develops through accumulated positive experiences rather than immediate service evaluations (Thakur, 2018; Verleye et al., 2013). In the BPJS system, where provider



choice is relatively constrained, high service quality alone may be insufficient to directly stimulate active engagement.

From an Islamic hospital perspective, service quality attributes-particularly compliance and ethical conduct-enhance institutional legitimacy but do not automatically translate into active patient involvement. Similar findings by Roy, Shekhar, et al. (2018) suggest that service quality influences engagement primarily through mediating mechanisms, such as satisfaction or trust, rather than through direct pathways. These results underscore the importance of considering satisfaction as a necessary condition for engagement development in public healthcare settings.

Customer satisfaction and user engagement

The analysis confirms that customer satisfaction has a significant positive effect on user engagement, supporting H3. This finding is consistent with relationship marketing theory, which posits that satisfaction strengthens emotional attachment and motivates cooperative behaviors (Morgan & Hunt, 1994). Satisfied patients are more willing to interact with healthcare providers, comply with procedures, and maintain ongoing relationships. Prior studies across service contexts similarly identify satisfaction as a key antecedent of engagement (Carlson et al., 2019; Thakur, 2018).

Within the BPJS Health context, satisfaction signals that patients' expectations regarding fairness, access, and service delivery have been fulfilled, thereby encouraging more intensive engagement with hospital services. From an Islamic service perspective, satisfaction also reflects congruence between service delivery and moral expectations, reinforcing relational bonds between patients and providers.

Customer satisfaction and customer loyalty

The findings reveal a significant positive relationship between customer satisfaction and patient loyalty, supporting H4. This result corroborates extensive service marketing literature that positions satisfaction as a primary determinant of loyalty (Aliman & Mohamad, 2016; Caruana et al., 2015). In healthcare settings, satisfaction-based loyalty is particularly important because switching behavior is often constrained by administrative requirements and referral systems. Consistent with prior studies in both Islamic and conventional hospitals, satisfied patients demonstrate stronger intentions to continue using the same hospital and to recommend it to others (Meesala & Paul, 2018; Wee et al., 2020).

In Islamic hospitals, loyalty is further reinforced by perceived ethical consistency and fairness in service delivery. Thus, the acceptance of H4 highlights satisfaction as a critical foundation for sustaining patient loyalty within BPJS-based healthcare services.

Customer engagement and customer loyalty

Finally, the results indicate that customer engagement has a significant positive effect on patient loyalty, supporting H5. This finding aligns with engagement theory, which suggests that engaged customers develop stronger emotional bonds and exhibit higher levels of behavioral loyalty (Kumar et al., 2019; Prentice et al., 2019). Engagement facilitates repeated interactions, trust formation, and long-term commitment, all of which contribute to loyalty outcomes.

In the BPJS Health context, engaged patients are more likely to remain with the same hospital, adhere to treatment procedures, and perceive the hospital as a reliable long-term healthcare partner. For Islamic hospitals, engagement may also be shaped by shared values and institutional identity, reinforcing loyalty beyond functional considerations. Overall, these



findings confirm that loyalty is not solely a direct outcome of satisfaction but is strengthened through continuous patient engagement, emphasizing the strategic importance of fostering both satisfaction and engagement to ensure long-term loyalty under national health insurance schemes.

5. Conclusion and Suggestion

This study concludes that patient satisfaction plays a pivotal mediating role in linking BPJS Health service quality to user engagement and patient loyalty in Islamic hospitals. The findings demonstrate that higher levels of satisfaction significantly encourage patients to engage more actively with hospital services and strengthen their intention to remain loyal to the same institution. Consequently, improvements in BPJS-based service quality contribute not only to immediate patient satisfaction but also to more sustainable engagement and loyalty outcomes.

Among the service quality dimensions examined, responsiveness emerges as the most influential driver of patient satisfaction. Timely responses, accurate information, and efficient administrative procedures-particularly in BPJS registration, claims processing, and appointment scheduling-significantly enhance patients' service experiences. These results highlight that operational efficiency must be complemented by humanistic service delivery. In the context of Islamic hospitals, responsiveness should be enacted in a manner consistent with Islamic values, emphasizing empathy, fairness, clarity of communication, and respect for patient dignity.

From a practical perspective, Islamic hospitals are encouraged to institutionalize responsiveness as a core service standard by strengthening staff training programs that integrate professional competence with Islamic service ethics. Embedding moral responsibility, honesty, and compassion into daily BPJS service interactions is essential for sustaining patient satisfaction and loyalty over time. From a theoretical standpoint, this study reinforces the centrality of satisfaction as a behavioral mechanism while extending service quality research by incorporating sharia-based values into BPJS healthcare settings. Future studies may expand this model by including trust, perceived justice, or religiosity as moderating or mediating variables and by examining different types of hospitals to enhance generalizability.



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