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Service Quality and Healthcare Costs as Predictors of Patient Satisfaction in Indonesia's National Health Insurance

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Abstract:

This study aims to investigate and analyze the influence of administrative services, medical services, and costs on the loyalty of JKN participants, with satisfaction acting as a mediating variable. A quantitative research design was employed to examine these relationships. The empirical findings reveal that satisfaction exerts a significant positive effect on loyalty. Moreover, medical service quality and cost perception demonstrate a significant impact on satisfaction, highlighting their critical role in enhancing customer experience. However, the direct effects of medical services and costs on loyalty were found to be statistically insignificant, suggesting that loyalty is predominantly mediated through satisfaction. In contrast, administrative services exhibited no significant influence on either satisfaction or loyalty, indicating their limited contribution to fostering long-term customer relationships. Overall, these results underscore the strategic importance of improving medical service quality and ensuring a transparent cost structure to enhance satisfaction, which ultimately strengthens participant loyalty within the JKN program.

Keywords: *Quality of Administrative Services, Medical Services, Costs, JKN Patient Satisfaction*

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1. Introduction

The JKN program represents a social security system in health sector, designed to enable the government to fulfill the basic healthcare needs of the Indonesian population as mandated by Law No. 40 of 2004 on the National Social Security System. Its implementation was further regulated through Law No. 24 of 2011 concerning the Social Security Administration Agency, which facilitated the transformation of PT Askes (Persero) formerly the health insurance provider for civil servants, retired government employees, retired military and police personnel, and veterans into BPJS Kesehatan on January 1, 2014.

As stated by Azwar in a study conducted by (Nur Fiqhi Utami & Mutiarin, 2017), the implementation of national health insurance is an important component in the

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government's efforts to improve the health of the community. In order for health insurance to meet its intended objectives, services must be available and sustainable, acceptable and reasonable, as well as easily accessible and of high quality.

Based on data from the audited Financial Report of BPJS Kesehatan, in the first five years of the JKN program, the program management report and the audited financial report showed that BPJS Kesehatan consistently experienced a deficit in the Health Insurance Fund (Kesehatan, 2020). The same thing is also described (Annisa et al., 2021) regarding the level of the Social Security Fund (DJS) deficit, which reached Rp11.69 trillion in 2018. This deficit, as explained by (Firdaus & Wondabio, 2019) in their study entitled "Analysis of Contributions and Health Costs in the Context of Evaluating the Health Insurance Program," was triggered by several causes, including: a mismatch between contribution income and health service benefit costs, participant contributions being underpriced, or in other words, the Cost Per Person Per Month (BPOPB) being greater than the Premium Per Person Per Month (PPOPB), the large amount of contributions in arrears by participants, especially in the Non-Salaried Worker/Independent Participant segment, and the high cost of health services due to the high cost of treating patients with chronic diseases. A similar opinion was also expressed by (Intiasari et al., 2016) regarding the existence of moral hazard by JKN participants, including the utilization of health insurance costs, especially for services with costs incurred at hospitals.

This deficit has certainly had an impact on delays in the payment of JKN patient claims at hospitals. One study (Anyaprita et al., 2020) shows that delays in hospital claim payments for services provided to JKN patients range from 7 to 45 days after the due date. This affects the hospital's cash flow, which means that hospitals must prioritize critical bills for payment first. Additionally, unstable cash flow conditions have prompted hospitals to reorganize their budget allocation and planning policies, which has negatively impacted the quality of services at RSIJ Sukapura in terms of competence, service effectiveness, safety, and service comfort.

Amidst various shortcomings found in the implementation of the JKN program in its first five years, research conducted by (Dartanto et al., 2017) shows that the JKN program has a positive impact in both the short and long term, where an increase in JKN membership will have an impact on increasing access to health facilities. Access to health facilities will have an impact on the life expectancy of JKN participants, which in turn will contribute to economic growth, whereby it is stated that "Every 1% increase in JKN participation will increase the Gross Regional Domestic Product (GRDP) per capita by around 1 million rupiah".

In implementing the JKN program, BPJS Kesehatan has achieved Universal Health Coverage (UHC) as mandated in Law Number 40 of 2004 concerning the National Social Security System (SJSN Law) that JKN membership is mandatory, thereby enabling the realization of membership covering the entire population of Indonesia. (Secretary of State of the Republic of Indonesia, 2004) The WHO defines UHC as "that all people have access to the full range of quality health services they need,

when and where they need them, without financial hardship. It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care," which means that everyone has access to the quality health services they need, whenever and wherever they need them, without financial hardship. This covers the entire spectrum of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care.

Achieving Universal Health Coverage (UHC) is one of the targets set by countries around the world when they adopted the SDGs in 2015 to achieve UHC by 2019. In line with this, the government has created a roadmap for the JKN program for the first five years of implementation by adopting the UHC achievement target. In the 2012-2019 National Health Insurance roadmap, DJSN.go.id has announced that program coverage is estimated to reach 257.5 million people in 2019. However, during the implementation of the JKN program, this coverage target was only exceeded in 2023. Research conducted by Muhlis (2022) also highlights factors that negatively affect public participation in the JKN program, one of which is the stigma of administrative services that are considered impractical. The growth in the number of people registered as participants in the National Health Insurance program has reached 267.311.566 people or 95,77% of the population. Along with the increase in participation as a result of the participant recruitment process carried out by BPJS Kesehatan, this has encouraged an improvement in the financial condition of the Health Social Security Fund (DJS) in a more positive direction. This is stated in the 2021 Program Implementation Report and the 2021 Financial Report (Audited), in which BPJS Kesehatan has shown a decrease in the deficit and a surplus in the Social Security Fund in 2021. The total net assets of the DJS at the end of 2021 showed a surplus of 38.76 trillion, whereas in the previous fiscal year, the net assets of the DSJ closed at a deficit of 5.60 trillion. (Health, 2022)

The most influential factor in improving DJS's financial condition is the various improvements and adjustments made by the government, particularly through adjustments to contributions with the signing of several presidential regulations. With the improvement in DJS's financial position in recent years, BPJS Kesehatan is committed to transforming the quality of services involving all relevant stakeholders, including hospitals as providers of health services to JKN participants. This commitment is outlined in a service pledge that sets out the minimum service standards provided to JKN participants in hospitals.

Comprehensive service improvements, both in membership administration services at the BPJS Kesehatan office and health services at health facilities that collaborate with BPJS Kesehatan, are also evident from the opinions of researchers, including those expressed by (Pujaswari et al., 2021), who stated that the inpatients who were the research sample were quite satisfied with the services provided by the Lembang Regional General Hospital. A similar finding was expressed by (Kurniawan et al., 2022) in their research, which stated that service quality significantly had a positive

effect on patient satisfaction levels. This illustrates an improvement in service quality compared to the study by Hastuti (2017), in which 59.6% of JKN patients gave a poor rating to the quality of service received, and 63.1% stated that they were dissatisfied with the services at the Yogyakarta Regional General Hospital.

A different picture is presented by (Romero et al., 2023), which shows that JKN patients still experience discrimination in hospitals, ranging from refusal of patients on the grounds of full rooms, directing patients to choose a treatment room above their JKN membership class, which results in additional costs being charged to patients, to delays in providing medical services, which can result in the loss of patients' lives. In this study, budget deficits were still cited as the main reason for discriminatory treatment of JKN patients. Another study by (Garnadi et al., 2024) highlighted BPJS Watch's records of 109 cases of discrimination against JKN patients that still occurred in 2022, including problems with the provision of medication and readmission of JKN patients.

The researchers presented a number of negative descriptions related to services, amid the intense socialization carried out by BPJS Kesehatan together with health facilities regarding the commitment to implementing service commitment. The service commitment is an effort to improve quality in order to provide easy, fast, and equal services for all JKN participants. This commitment has been agreed upon by BPJS Kesehatan and health facilities, particularly hospitals, and includes several important provisions, namely accepting NIK/KTP/KIS Digital for service registration; not requesting photocopies of documents as a registration requirement; providing services without additional fees beyond the provisions; not limiting the length of patient hospitalization according to medical indications; providing the necessary medication without burdening participants to find medication when there is a shortage; and serving BPJS participants in a friendly manner and without discrimination. Considering various findings from previous studies that show varying pictures, this study was conducted to obtain a more relevant and inclusive picture of JKN patient satisfaction levels, particularly regarding administrative services, medical services, and cost aspects in hospitals after the implementation of service commitment by health facilities.

2. Theoretical Background

Satisfaction

Satisfaction is a pleasant psychological state that arises when needs or expectations are met, as defined by KBBI and stated by Kotler & Keller in Indrasari (2019). Patient satisfaction is formed through a comparison between expectations and the performance of the services received, influenced by needs, desires, previous experiences, and the experiences of those around them. The three main indicators that shape satisfaction are expectations of service, actual performance received, and customer assessment (Sari, 2018). High satisfaction can encourage repeat purchases, word of mouth, and loyalty (Fornell in Wicaksono & Untoro, 2015). Other factors

that influence satisfaction include product and service quality, the emotional and social value of the brand, price, and additional costs (Indrasari, 2019). In healthcare services, patient satisfaction is key to hospital competition, with a minimum standard of inpatient satisfaction of ≥ 90% in accordance with Minister of Health Decree 129/2008. Inpatient services include patient admission, medical services, nursing, medical support, medication, food, and administration (Suryawati in Manajemen et al., 2006). Satisfaction is achieved when hospitals are able to provide quality, fair, and equitable services, but patient complaints about low service quality remain a challenge that requires continuous improvement.

Loyalty

Loyalty is a deep commitment to continue using a product or service based on awareness, perception of quality, satisfaction, and pride, even though there are many other options (Rio Sasongko & Authors, 2021). In hospital services, patient loyalty is formed when patients are not only satisfied with medical services but also with the completeness of facilities and staff services, where service quality has been proven to influence loyalty (Nidya Oktavia et al., 2023). In the National Health Insurance Program (JKN), PBPU participants have the flexibility to choose their class of care (I, II, III) according to their financial capabilities, but this segment is prone to non-compliance with premium payments. Patient satisfaction with health services influences JKN premium payment compliance behavior; service experiences that meet or exceed expectations encourage PBPU participants to remain loyal and compliant, while services that do not meet expectations reduce loyalty and compliance (Tsuroyya et al., 2023; Murniasih et al., 2022).

Administrative Services

Administrative services are part of services which, according to Kotler and Keller (Rio Sasongko & Authors, 2021), are actions received by one party without resulting in ownership, and their quality is determined by the alignment between customer expectations and perceptions. Administration, as explained by Sartono (2019), is a series of organizational activities in cooperation to achieve certain objectives. In Law No. 25 of 2009, administrative services include administrative actions by the government or non-governmental agencies that are required by the state in the context of protecting citizens. The Minister of State Apparatus Empowerment and Bureaucratic Reform Decree No. 63/2003 explains that administrative services produce official public documents such as certificates, citizenship status, or ownership documents . In hospitals, administrative services include registration, medical records, and housekeeping (Cahya Daksa Wiguna in Samsudin, 2021). Based on Minister of Health Decree No. 129/2008, hospitals are required to provide quality services that are accessible to the entire community, including timely administrative services. One of the standard indicators is the delivery of inpatient billing information, which must be provided within 2 hours after the doctor declares that the patient is allowed to go home.

Medical Services
Medical services are part of health services that include preventive, curative, and rehabilitative efforts to improve the health status of the community, where the ability of providers to meet user expectations will build a strong relationship with patients (Algifari in Indrawan, 2020). The quality of medical services depends on the competence of staff in providing accurate diagnoses, appropriate therapy, careful monitoring, and effective preventive measures (Merybella & Oktamianti, 2022). Medical services include anamnesis, diagnosis, informed consent, and therapy by doctors (Abdul Rokhim, 2020), and their effectiveness can be disrupted if patient data management is not computerized (Alit et al., 2020). Medical service indicators that affect patient satisfaction include fast and accurate admission and examination procedures, timely doctor visits, and straightforward procedures (Eka Masi Lumban Toruan in Rayhan Layli, 2022). Patient trust in medical personnel—through effective communication and confidence in the competence of doctors—also influences the assessment and success of treatment (Sediawan & Ramadhani, 2022; Nugroho & Riesnandar, 2023). With technological advancements and rising public expectations, hospitals are required to provide quality medical services and conduct continuous service evaluations to meet patient demands and perceptions (Rifai M in Rayhan Layli, 2022).

Cost
Costs in the business world are all sacrifices that can be measured in monetary terms, where costs are related to the acquisition of assets and determine the selling value and profit of a product or service (Irene Karly Massie et al., 2018; Meafrida et al., 2021). In healthcare services, costs are an integral part and can be viewed from three perspectives. First, from the perspective of healthcare providers, costs include all resources needed to carry out medical activities, including investment and operational costs, which are major issues for both the government and the private sector as service providers. Second, from the perspective of service users, healthcare costs are funds that must be prepared by individuals, families, or communities when utilizing services, generally in the form of direct payments (out-of-pocket) (Azwar, 1996; Setiawan et al. 2022). Third, from the perspective of healthcare consumers, costs are the amount of resources needed to obtain services, where out-of-pocket payments are the main burden on beneficiaries, while the government plays a role in helping to meet medical needs to a certain extent (Setyawan, 2015).

3. Methodology

This study was conducted in Bali Province from July to October 2025 with participants who were members of the JKN (National Health Insurance) program in the Non-Contribution Assistance segment who had been hospitalized in hospitals spread across 8 regencies and cities in Bali Province. The research approach used a quantitative method with a cross-sectional design, which allowed for the measurement of the relationship between independent and dependent variables at a single point in time. The type of data used was ordinal data, arranged based on the

respondents' level of perception. The data sources consisted of primary data in the form of questionnaire responses and secondary data such as the number of JKN participants and scientific references. The research population consisted of 486,639 JKN participants in the Non-Salaried Worker (PBPU) segment in Bali, with a sample of 260 respondents determined based on the requirements of Structural Equation Modeling (SEM) analysis (minimum 10× the number of indicators).

Data collection was conducted using a 1–10 semantic differential scale questionnaire, which described respondents' perceptions from strongly disagree to strongly agree. Data validity checks included validity and reliability tests using Measurement Evaluation (Outer Model) in PLS-SEM, covering convergent validity (AVE > 0.5; outer loading > 0.7), discriminant validity (cross loading and AVE root higher than variable correlation), and reliability (Cronbach's Alpha, Composite Reliability, and rho-A > 0.7). Data analysis included descriptive analysis to describe the characteristics of respondents and research variables, as well as inferential analysis using Partial Least Squares–Structural Equation Modeling (PLS-SEM) to assess the relationship between variables. Structural model evaluation includes collinearity testing (tolerance > 0.2; VIF < 5), path coefficient significance through bootstrapping (t-value and p-value), and assessment of R-square (model explanatory power), F-square (magnitude of independent variable effects), and Q-square (model predictive relevance).

4. Empirical Findings/Result

Model Testing

Measurement Model Testing (*Outer Model*) Variables

The measurement model (*outer model*) is intended to determine the relationship between *latent* variables and the indicators that form the *latent* construct. Measurement model testing is carried out through validity and reliability testing.

a. Convergent Validity Test

Table 1. Convergent Validity Test Results

Variable Name	Item/Indicator Code	*Factor Loading*	AVE
Administrative Services (X1)	X1.1	0.861	0.828
	X1.2	0.886	
	X1.3	0.956	
	X1.4	0.949	
	X1.5	0.941	
	X1.6	0.859	
Medical Services (X2)	X2.1	0.933	0.840
	X2.2	0.919	
	X2.3	0.897	
	X2.4	0.907	

	X2.5	0.932	
	X2.6	0.948	
	X2.7	0.846	
	X2.8	0.944	
Cost (X3)	X3.1	0.753	0.766
	X3.2	0.942	
	X3.3	0.914	
	X3.4	0.880	
Satisfaction (Y1)	Y1.1	0.936	0.858
	Y1.2	0.892	
	Y1.3	0.931	
	Y1.4	0.945	
Loyalty (Y2)	Y2.1	0.953	0.923
	Y2.2	0.965	
	Y2.3	0.963	
	Y2.4	0.962	

Table 1 shows that the *loading factor* value of each indicator is greater than 0.7, so it can be said that the reliability of each indicator has been fulfilled and the *Average Variance Extracted* (AVE) value of each construct is greater than 0.5. Thus, it can be concluded that the indicators used are able to measure the construct accurately.

b. Discriminant Validity Test

Table 2. Discriminant Validity Test Results

Indicators	Cost (X3)	Satisfaction (Y1)	Administrative Services (X1)	Medical Services (X2)	Loyalty (Y2)
X1.1	0.425	0.479	0.861	0.550	0.478
X1.2	0.562	0.575	0.886	0.626	0.541
X1.3	0.552	0.628	0.956	0.653	0.605
X1.4	0.527	0.578	0.949	0.623	0.550
X1.5	0.547	0.599	0.941	0.596	0.554
X1.6	0.562	0.651	0.859	0.655	0.604
X2.1	0.664	0.690	0.605	0.933	0.665
X2.2	0.633	0.718	0.590	0.919	0.703
X2.3	0.711	0.708	0.597	0.897	0.623
X2.4	0.689	0.744	0.593	0.907	0.672
X2.5	0.687	0.815	0.685	0.932	0.804
X2.6	0.749	0.825	0.674	0.948	0.795
X2.7	0.596	0.679	0.577	0.846	0.723
X2.8	0.691	0.807	0.657	0.944	0.784
X3.1	0.753	0.567	0.375	0.526	0.520

X3.2	0.942	0.811	0.527	0.710	0.744
X3.3	0.914	0.774	0.517	0.675	0.681
X3.4	0.880	0.806	0.604	0.663	0.703
Y1.1	0.806	0.936	0.604	0.773	0.850
Y1.2	0.762	0.892	0.528	0.731	0.788
Y1.3	0.791	0.931	0.636	0.766	0.889
Y1.4	0.806	0.945	0.629	0.769	0.901
Y2.1	0.712	0.866	0.573	0.748	0.953
Y2.2	0.704	0.844	0.558	0.730	0.965
Y2.3	0.764	0.930	0.610	0.782	0.963
Y2.4	0.751	0.916	0.616	0.778	0.962

Table 2 shows that the *cross-loading* values of the indicators on the construct/variable itself are greater than the *cross-loading* values of other indicators, as seen in Table 4.2, which shows that all indicator items have met the discriminant validity criteria of greater than 0.7.

c. Reliability Test of the

Table 3. Reliability Test Results

Variable	Composite reliability (rho_c)	Cronbach's alpha
Cost (X3)	0.929	0.896
Satisfaction (Y1)	0.960	0.945
Administrative Services (X1)	0.966	0.958
Medical Services (X2)	0.977	0.973
Loyalty (Y2)	0.980	0.972

Table 3 shows that all variables have *Cronbach's alpha* and *composite reliability* values above 0.7, so it can be concluded that all constructs are reliable.

a. R-Square

Table 4. R-Square Values

Variable	R-square	Adjusted R-square
Satisfaction (Y1)	0.812	0.809
Loyalty (Y2)	0.865	0.863

Based on Table 4, it can be seen that the R-Square value for Satisfaction (Y1) is 0.812, which means that this value indicates a good model. Meanwhile, the R-Square value for the Loyalty variable (Y2) is 0.865, which is classified as a good model.

b. F-Square

Table 5. F-Square Value

Relationship Between Variables	F-Square	Description
Cost (X3) -> Satisfaction (Y1)	0.659	Strong
Cost (X3) → Loyalty (Y2)	0.028	Medium
Satisfaction (Y1) → Loyalty (Y2)	1.23	Strong
Administrative Services (X1) → Satisfaction (Y1)	0.659	Strong
Administrative Services (X1) → Loyalty (Y2)	0.000	Weak
Medical Services (X2) → Satisfaction (Y1)	0.258	Medium
Medical Services (X2) → Loyalty (Y2)	0.025	Medium

Hypothesis Testing

Hypothesis Testing (Direct Effect)

To determine whether a hypothesis is accepted or rejected, the significance values between constructs, t-statistics, and p-values can be considered. In this way, measurement estimates and standard errors are no longer calculated based on statistical assumptions but are based on empirical observations. In the bootstrapping resampling method used in this study, the hypothesis is accepted if the significance value of the t-statistic is greater than 1.96 and/or the p-value is less than 0.05, then Ha is accepted and Ho is rejected, and vice versa.

Table 6. Coefficient Values, T-Statistics, and P-Values

Path	*Coefficient* Values	T-Statistics	P-Value
Cost (X3) -> Satisfaction (Y1)	0.531	3.765	0.000
Cost (X3) → Loyalty (Y2)	-0.120	1.366	0.172
Satisfaction (Y1) -> Loyalty (Y2)	0.938	10.642	0.000
Administrative Services (X1) → Satisfaction (Y1)	0.086	1.476	0.140
Administrative Services (X1) → Loyalty (Y2)	0.002	0.070	0.944
Medical Services (X2) → Satisfaction (Y1)	0.368	2.394	0.017
Medical Services (X2) → Loyalty (Y2)	0.110	1.455	0.146

Table 6 shows the following relationship paths:

1. The effect of Satisfaction (Y1) on Loyalty (Y2) has a t-statistic value of 10.642, which is greater than 1.96, with a p-value of 0.000, which is less than 0.05. These results indicate that satisfaction has a significant effect on loyalty at a 5% significance level.
2. The effect of Medical Services (X2) on Satisfaction (Y1) has a t-statistic value of 2.394, which is greater than 1.96, with a p-value of 0.017, which is less than 0.05. This result indicates that medical services have a significant effect on satisfaction at a 5% significance level.

3. The effect of Medical Services (X2) on Loyalty (Y2) has a t-statistic value of 1.455, which is less than 1.96, with a p-value of 0.146, which is greater than 0.05. This result indicates that medical services have no significant effect on loyalty at the 5% significance level.
4. The effect of Cost (X3) on Satisfaction (Y1) has a t-statistic value of 3.765, which is greater than 1.96, with a p-value of 0.000, which is less than 0.05. This result indicates that cost has a significant effect on satisfaction at a 5% significance level.
5. The effect of Cost (X3) on Loyalty (Y2) has a t-statistic value of 1.366, which is less than 1.96, with a p-value of 0.172, which is greater than 0.05. This result indicates that cost has no significant effect on loyalty at the 5% significance level.
6. The effect of Administrative Services (X1) on Satisfaction (Y1) has a t-statistic value of 1.476, which is less than 1.96, with a p-value of 0.140, which is greater than 0.05. This result shows that administrative services have no significant effect on satisfaction at a 5% significance level.
7. The effect of Administrative Services (X1) on Loyalty (Y2) has a t-statistic value of 0.070, which is less than 1.96, with a p-value of 0.944, which is greater than 0.05. This result shows that administrative services have no significant effect on loyalty at a 5% significance level.

Hypothesis Testing (*Indirect Effect*)

At this stage, we will discuss the PLS-SEM analysis of mediating variables, namely the relationship between independent and dependent variable constructs through intervening variables. In other words, the effect of independent variables on dependent variables can be direct but can also be through mediating variables. The criterion for accepting the hypothesis is that if the P-value is less than 0.05, it is significant (the effect is indirect), meaning that the intervening variable "plays a role" in mediating the relationship between an independent variable and a dependent variable. If the P-values are greater than 0.05, then it is not significant (the effect is direct), meaning that the intervening variable does not play a role in mediating the relationship between an independent variable and a dependent variable.

Table 7. Specific Indirect Effects

Path	*Coefficient* Values	T-Statistics	P-Value
Cost (X3) -> Satisfaction (Y1) -> Loyalty (Y2)	0.498	3.547	0.000
Administrative Services (X1) -> Satisfaction (Y1) -> Loyalty (Y2)	0.081	1,428	0.153
Medical Services (X2) -> Satisfaction (Y1) -> Loyalty (Y2)	0.345	2.728	0.006

Table 7 shows the following relationship paths:

1. The effect of Administrative Services (X1) on Loyalty (Y2) through Satisfaction (Y1) has a t-statistic value of 1.428, which is less than 1.96, with a p-value of 0.153, which is greater than 0.05. This result indicates that

satisfaction does not significantly mediate the effect of administrative services on loyalty.

2. The effect of Medical Services (X2) on Loyalty (Y2) through Satisfaction (Y1) has a t-statistic value of 2.728, which is greater than 1.96, with a p-value of 0.006, which is less than 0.05. This result shows that satisfaction significantly mediates the effect of medical services on loyalty.
3. The effect of cost (X3) on loyalty (Y2) through satisfaction (Y1) has a t-statistic value of 3.547, which is greater than 1.96, with a p-value of 0.000, which is less than 0.05. This result shows that satisfaction significantly mediates the effect of cost on loyalty.

5. Discussion

The results indicate that patient satisfaction is the most consistent and influential factor in shaping loyalty, making it a central component of healthcare service quality. The finding that satisfaction directly increases loyalty aligns with previous studies, which emphasize that satisfied patients are more likely to return and recommend the service to others (Indrasari, 2019; Wicaksono & Untoro, 2015; Rio Sasongko & Penulis, 2021).

Regarding medical services, the positive relationship between service quality and satisfaction supports earlier research showing that the quality of clinical care significantly shapes the overall patient experience (Hastuti et al., 2017; Merybella & Oktamianti, 2022; Rayhan Layli, 2022). Medical service quality also enhances loyalty through satisfaction as a mediating factor, consistent with studies noting that patient satisfaction serves as a key pathway connecting perceptions of service quality to repeat behavior (Kurniawan et al., 2022; Pujaswari et al., 2021).

In contrast, administrative services do not directly influence satisfaction or loyalty. This suggests potential issues such as lengthy procedures, bureaucracy, or poor responsiveness, which are also documented in studies reporting common problems in BPJS administrative services (Samsudin, 2021; Sari, 2018; Romero et al., 2023). Nevertheless, administrative quality remains essential because it affects fairness, transparency, and convenience for patients (Sartono, 2019; Sediawan & Ramadhani, 2022).

The variable cost contributes significantly to satisfaction but not directly to loyalty. This indicates that patients appreciate affordable healthcare, but cost alone does not guarantee loyalty. The finding is in line with research showing that reasonable healthcare costs improve comfort and security for BPJS participants (Firdaus & Wondabio, 2019; Setyawan, 2015; Setiawan et al., 2022), although it does not necessarily ensure repeat visits when other service aspects are lacking (Meafrida et al., 2021; Anyaprita et al., 2020). Mediation analysis also shows that cost affects

loyalty through satisfaction, meaning the perceived value of cost influences loyalty only when patients are satisfied with the overall service.

On a broader level, previous studies and policy reports show that service quality, administrative effectiveness, and contribution compliance strongly influence patient experiences in the BPJS system (Murniasih et al., 2022; Muhlis, 2022; Tsuroyya et al., 2023). Issues related to claim payment delays and financial sustainability also affect service delivery in healthcare facilities (Annisa et al., 2021; Dartanto et al., 2017; Anyaprita et al., 2020). These conditions may impact administrative coordination, waiting times, and the smoothness of medical services received by patients.

Overall, the findings emphasize that satisfaction is the key determinant of loyalty, suggesting that service improvement strategies should prioritize medical service quality and perceived cost value while addressing administrative inefficiencies. Enhancing healthcare service quality requires attention not only to technical aspects of medical care but also to service management, service ethics, and the fulfillment of patient rights to accessible and nondiscriminatory care (Garnadi et al., 2024; Abdul Rokhim, 2020). Therefore, service improvement strategies must be developed holistically to ensure a fair, high-quality, and sustainable healthcare system.

6. Conclusions

Based on the results of data analysis and hypothesis testing using the bootstrapping method, this study shows that satisfaction has a significant effect on loyalty, as evidenced by the t-statistic value that far exceeds the critical limit and the p-value that is below the 5% significance level. This finding confirms that satisfaction is a major determinant in the formation of loyalty. In addition, the variables of medical services and costs were found to have a significant effect on satisfaction, so that the quality of medical services and the perception of reasonable costs are crucial factors in increasing customer satisfaction. However, the direct effect of these two variables on loyalty was not significant, indicating that loyalty is more mediated by satisfaction. Conversely, the administrative service variable did not have a significant effect on either satisfaction or loyalty, indicating that its contribution to the formation of long-term relationships with customers is relatively low. Overall, the results of this study emphasize the importance of managing medical service quality and transparent cost structures as strategies to increase satisfaction, which will ultimately strengthen the loyalty of JKN participants.

References:

Abdul Rokhim. (2020). Rekam medis sebagai alat bukti dalam penyelesaian sengketa layanan medis. *Yurispruden: Jurnal Fakultas Hukum Universitas Islam*, 3, 61–77.

Annisa, R., Winda, S., Dwisaputro, E., Isnaini, K. N., & Korupsi, K. P. (2021). Mengatasi defisit dana jaminan sosial kesehatan melalui perbaikan tata kelola. *Integritas: Jurnal Antikorupsi*, 6(2), 209–224. https://doi.org/10.32697/integritas.v6i2.664

Anyaprita, D., Siregar, K. N., Hartono, B., Fachri, M., & Ariyanti, F. (2020). Dampak keterlambatan pembayaran klaim BPJS Kesehatan terhadap mutu pelayanan Rumah Sakit Islam Jakarta Sukapura. *Muhammadiyah Public Health Journal*, 1–77.

Dartanto, T., Hanum, C., Usman, Bintara, H., Bella, A., & Putro, P. (2017). Dampak program JKN-KIS pada perekonomian Indonesia. *Ringkasan Riset JKN-KIS*, 01, 1–8.

Firdaus, K. K., & Wondabio, L. S. (2019). Analisis iuran dan beban kesehatan dalam rangka evaluasi program jaminan kesehatan. *Jurnal ASET (Akuntansi Riset)*, 11(1), 147–158. https://doi.org/10.17509/jaset.v11i1.16898

Garnadi, R. A., Edgar, M., Rachman, Z., & Febriyanto, R. (2024). Penerapan kode etik kesehatan dalam praktik diskriminatif terhadap pasien BPJS. *Jurnal Pendidikan, Seni, Sains dan Sosial Humaniora*, 1–25.

Hastuti, S., et al. (2017). Hubungan mutu pelayanan dengan kepuasan pasien peserta BPJS di Rumah Sakit Umum Daerah Yogyakarta. *Jurnal Fakultas Kesehatan Masyarakat*, 11(2), 161–168.

Indrasari, M. D. (2019). *Pemasaran dan kepuasan pelanggan* (Pertama). Unitomo Press.

Indrawan, I. B. M. D. (2020). Pengaruh kualitas pelayanan JKN-KIS terhadap kepuasan peserta pada pemanfaatan pelayanan kesehatan di RSUD Dr. Murjani Sampit. *Kindai*, 16(2), 201–219.

Intiasari, A. D., Hendrartini, J., & Trisnantoro, L. (2016). Analisis pola pemanfaatan jaminan pembiayaan kesehatan pada peserta non-PBI mandiri di wilayah perdesaan Kabupaten Banyumas. *Jurnal Kebijakan Kesehatan Indonesia*, 5(3), 101–109.

Massie, I. K., Saerang, D. P., & Tirayoh, V. Z. (2018). Analisis pengendalian biaya produksi untuk menilai efisiensi dan efektivitas biaya produksi. *Going Concern: Jurnal Riset Akuntansi*, 13(3).

Kurniawan, Y., Winoto, H., & Fushen, F. (2022). Pengaruh kualitas layanan dan penanganan keluhan terhadap loyalitas pasien BPJS dimediasi oleh kepuasan pelanggan. *Jurnal Manajemen dan Administrasi Rumah Sakit Indonesia (MARSI)*, 6(1), 74–85. https://doi.org/10.52643/marsi.v6i1.1939

Meafrida, E., Pasaribu, W., Hasanuh, N., & Karawang, U. S. (2021). Pengaruh biaya produksi dan biaya operasional terhadap laba bersih. *Business and Accounting*, 4.

Merybella, C., & Oktamianti, P. (2022). Analisis hubungan kualitas pelayanan rumah sakit dengan tingkat kepuasan pasien. *Jurnal Ilmiah Indonesia*, 7(7), 11.

Muhlis, A. N. A. (2022). Determinants of the National Health Insurance uptake in Indonesia. *Indonesian Journal of Health Administration*, 10(1), 111–121. https://doi.org/10.20473/jaki.v10i1.2022.111-121

Murniasih, M., Suparman, R., Mamlukah, M., & Febriani, E. (2022). Faktor-faktor yang berhubungan dengan kepatuhan pembayaran iuran BPJS Kesehatan pada peserta mandiri. *Journal of Public Health Innovation*, 3(1), 41–51. https://doi.org/10.34305/jphi.v3i01.604

Oktavia, N., Prayoga, D., & colleagues. (2023). Kualitas pelayanan terhadap loyalitas pasien pada Rumah Sakit Ibu dan Anak: Literature review. *Jurnal Kesehatan Masyarakat*, 4(3).

Nugroho, A., & Riesnandar, E. (2023). Analisis pengaruh kemampuan pengawak terhadap kualitas layanan medis pada kapal TNI AL. *Jurnal Ilmiah*, 2(2).

Nur Fiqhi Utami, A., & Mutiarin, D. (2017). Evaluasi Program Jaminan Kesehatan Nasional pada fasilitas kesehatan tingkat I Kabupaten Sleman tahun 2016. *Journal of Governance and Public Policy*, 4(1), 39–70. https://doi.org/10.18196/jgpp.4171

Pujaswari, A. P., Fadila, N., & Febiana, C. (2021). Analisis kepuasan pasien rawat inap peserta BPJS Kesehatan di RSUD Lemban. *Jurnal Menara Medika*, 4(1), 43–52.

Rayhan Layli. (2022). Pengaruh mutu pelayanan kesehatan dengan kepuasan pasien rawat inap: Literature review. *Jurnal Pendidikan Tambusai*, 6(2), 12746–12752.

Rio Sasongko, S., & Penulis, K. (2021). Faktor-faktor kepuasan pelanggan dan loyalitas pelanggan: Literature review manajemen pemasaran. *Jurnal Ilmu Manajemen Terapan*, 3(1). https://doi.org/10.31933/jimt.v3i1

Romero, A. N., Suminar, S. R., & Zakiran, A. H. (2023). Pemenuhan hak pasien BPJS dalam mendapatkan pelayanan antidiskriminasi. *Jurnal Riset Ilmu Hukum*, 31–36. https://doi.org/10.29313/jrih.v3i1.2121

Samsudin. (2021). Pengaruh pelayanan administrasi terhadap kepuasan pasien di RSUD Pasar Rebo. *EMBISS: Jurnal Ekonomi, Manajemen, Bisnis dan Sosial*, 1(4), 397–402.

Sari, R. P. (2018). Pengaruh kualitas pelayanan administrasi terhadap kepuasan pasien pengguna BPJS Kesehatan di RSUD Lubuk Basung. *EcoGen*, 1, 260–266.

Sartono. (2019). Pengantar ilmu administrasi. *Journal of Chemical Information and Modeling*, 53(9), 1–9.

Sediawan, M. L., & Ramadhani, R. (2022). Kepercayaan pasien terhadap layanan kesehatan: Suatu studi tinjauan sistematis. *Jurnal Ilmiah Kesehatan Media Husada*, 11(1), 71–83. https://doi.org/10.33475/jikmh.v11i1.283

Setiawan, E., Sihaloho, E. D., Yuliawati, F., Empel, G. V., Idris, H., & Siregar, A. Y. (2022). *Pembiayaan kesehatan: Konsep dan best practices di Indonesia*. PPJK Kementerian Kesehatan Republik Indonesia.

Setyawan, F. E. B. (2015). Sistem pembiayaan kesehatan. *Sainmed*, 11, 119–126.

Suryawati, C., Dharminto, & Shaluhiyah, Z. (2006). Penyusunan indikator kepuasan pasien rawat inap rumah sakit di Provinsi Jawa Tengah. *Jurnal Manajemen Pelayanan Kesehatan*, 9(4).

Tsuroyya, S. L., Maharani, C., & colleagues. (2023). Systematic literature review: Faktor yang berhubungan dengan kepatuhan peserta PBPU dalam membayar iuran JKN. *Jurnal Kebijakan Kesehatan Indonesia*, 12(4).

Wicaksono, Z., & Untoro, W. (2015). Pengaruh kualitas layanan dan kewajaran harga yang dirasakan terhadap loyalitas pelanggan dimediasi kepuasan pelanggan. *Jurnal Manajemen dan Kewirausahaan*, 13(2), 121–132.