

## **ASSESSING THE IMPACT OF MOBILE HEALTH SERVICE QUALITY BY THE SOCIAL SECURITY ADMINISTERING BODY ON THE SATISFACTION OF NATIONAL HEALTH INSURANCE PARTICIPANTS**

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### **ABSTRACT.**

In a digital era marked by burgeoning e-health initiatives, this study explores the pervasive influence of E-service Quality –encompassing Reliability, Efficiency, Fulfillment, Privacy, Responsiveness, and Contact–on the satisfaction of participants in the National Health Insurance (JKN) program. The objective is to quantitatively assess these dimensions' impacts on user satisfaction among Mobile JKN users in Pematangsiantar. Employing a questionnaire as the research instrument, this study scrutinizes the responses of 100 participants using multiple linear regression analysis via SPSS 25. The findings reveal that while Efficiency exerts a significant positive effect on participant satisfaction, Reliability, Fulfillment, and Responsiveness, although positive, are not statistically significant. In contrast, Privacy and Contact do not significantly influence satisfaction. The study underscores the necessity for BPJS Kesehatan to refine the Mobile JKN application's user interface and optimize the mobile app's utility for a seamless user experience, including secure data practices and biometric login features for phone number changes, aligning with national demographic databases. These insights contribute to the strategic enhancement of health insurance services, driving user satisfaction and security in Indonesia's healthcare system.

**Keywords:** E-service Quality; User Satisfaction; Participant Satisfaction; National Health Insurance (JKN)

### **INTRODUCTION**

In today's global economy, digitalization has become a cornerstone for business and organizational operations. The ubiquity of information systems is no longer a luxury but a necessity to remain competitive in a rapidly evolving digital landscape (**Davenport, 2013**). As smartphones become increasingly integral to business processes, their role in enhancing operational efficiency and cost-effectiveness cannot be overstated (Meuter et al., 2000). This shift towards mobile technology is reshaping how organizations interact with their stakeholders, necessitating an alignment with current technological trends. The progression from traditional to electronic service delivery systems is a response to the changing technological environment. Organizations, especially those in the healthcare domain like BPJS Kesehatan, are expected to elevate their service quality to meet these new standards (Porter & Heppelmann, 2014). BPJS Kesehatan's initiative, driven by a government mandate, exemplifies this shift as it seeks to administer the National Health Insurance (JKN) program effectively through digital means (Government Regulation on Healthcare, 2018).

With the implementation of the Mobile JKN application, BPJS Kesehatan has embraced a digital-first strategy to streamline its administrative processes and enhance user accessibility (Mobile Health Report, 2019). This app represents a significant step in digital business model transformation, moving administrative activities from physical offices to a virtual platform, enabling self-service for users at their convenience. The launch of the Mobile JKN app by BPJS Kesehatan's Director in the presence of the Minister of Communication and

Information Technology marked a new era in healthcare service delivery (Health Tech News, 2017). The app aims to simplify various user interactions, including payment procedures and data updates, thereby promising to improve overall user satisfaction.

User satisfaction, a pivotal element in customer loyalty and business reputation, has been extensively discussed in marketing literature (Oliver, 2010). Previous research has established the significance of service quality dimensions in influencing user satisfaction (Parasuraman, Zeithaml, & Berry, 1988). Studies in different regions have shown varying impacts of these dimensions on user satisfaction with mobile health services (Khusna et al., 2021; Khotimah, 2022). Despite the success and adoption of the Mobile JKN app, user challenges such as technical issues and digital literacy gaps persist, indicating room for improvement in service quality and user experience (Thompson et al., 2022). These challenges underscore the need for a comprehensive evaluation of the app's service quality to enhance user satisfaction. Against this backdrop, the study seeks to investigate the "Impact of Mobile JKN Service Quality on Participant Satisfaction" in the city of Pematangsiantar. By scrutinizing the efficacy of the Mobile JKN app's service quality dimensions, this research aims to contribute actionable insights towards improving BPJS Kesehatan's service delivery in the digital age.

## **LITERATURE REVIEW AND HYPOTHESIS**

### **A. Satisfaction**

Customer satisfaction, a concept central to modern marketing thought and practice, is the result of a consumer's sense of pleasure or disappointment that emerges from comparing a product's perceived performance to their expectations (Kotler & Keller, 2009). Fandy Tjiptono (2019) elaborates that satisfaction is fundamental to gaining and maintaining customers, hinging on a comprehensive understanding of consumer behavior and leveraging that knowledge to outperform competitors in marketing strategy and delivery. The theories of consumer satisfaction incorporate microeconomic theory and the Total Quality Management (TQM) perspective. From the microeconomic viewpoint, satisfaction is derived from the optimal allocation of resources where marginal utility matches the cost (Tjiptono). The TQM approach, however, encompasses overall quality and management practices that contribute to consumer satisfaction.

Satisfaction hinges on the fulfillment of expectations across five dimensions: product or service quality, price, service quality reliant on systems, technology, and human factors, emotional factors linked to a brand's emotional value, and the ease of access to products or services (Irawan). Tjiptono (2014) identifies six core aspects to measure customer satisfaction, including overall satisfaction, specific satisfaction dimensions, confirmation of expectations, repurchase intention, the willingness to recommend, and customer dissatisfaction, which encompasses complaints, returns, warranty costs, recalls, word of mouth, and defections to competitors. These dimensions and indicators serve as fundamental tools for assessing the degree to which a service meets, exceeds, or fails to meet customer expectations.

### **B. Service Quality**

Service quality, a pivotal concept in customer satisfaction, is defined by Parasuraman as the gap between customer expectations and the actual service received. In the digital context of Mobile Applications, this translates into Electronic Service Quality (E-S-QUAL), a construct designed to evaluate internet-based services. E-S-QUAL measures how effectively a site fulfills customer needs, such as efficient shopping, purchasing, and delivery services, comprehensive information availability, and transaction ease, which are critical in shaping customer interest and trust (Parasuraman et al., 2005). Parasuraman, Zeithaml, and

**Malhotra (2005)** further delineate seven dimensions of E-Service Quality that gauge online service attributes: Reliability, Efficiency, Fulfillment, Privacy, Responsiveness, Compensation, and Contact. These dimensions collectively assess the performance of a service in terms of website functionality, ease of access, fulfillment accuracy, data confidentiality, prompt customer support, effective problem resolution, and direct communication with service personnel. Understanding and measuring these dimensions are essential for businesses to ensure high levels of customer satisfaction in the digital space.

### **C. Jaminan Kesehatan Nasional**

The National Health Insurance (JKN) in Indonesia stands as a governmental commitment to universal healthcare coverage, embodied in the Social Security Administering Body's mandate. Envisioned through the Social Security Systems Law, JKN aims to ensure all residents receive essential health services, fulfilling basic medical needs. Membership in JKN, as stipulated by Presidential Regulation No. 82 of 2018, is mandatory for all Indonesian residents, including foreign nationals with a minimum of six months' employment in the country. The JKN categorizes participants based on their employment status and ability to pay premiums, distinguishing between those who receive government assistance for their contributions and those who do not. This stratification aims to encompass a broad range of individuals, from government officials to private-sector workers, and even includes non-wage earners like entrepreneurs and retirees, all under the umbrella of national healthcare protection.

### **D. Hypothesis**

As BPJS Kesehatan embarks on delivering its nonprofit social security program, it champions the principles of humanity, benefit, and equity, mirroring the intrinsic values of the organization itself. This commitment extends to assuring participants and their families can access quality healthcare, thus prioritizing participant interest and satisfaction over personal or organizational gains. Satisfaction among JKN participants is a primary focus for BPJS Kesehatan, driving the organization to deliver exemplary service. Best service practices are evaluated through transformations in service quality, seen across branch offices and service channels, including the pivotal Mobile JKN.

In the digital sphere, the significance of Electronic Service Quality (E-S-QUAL) is paramount. It gauges how effectively a site delivers optimal facilities to meet customer needs. The dimensions of E-Service Quality—Efficiency, Reliability, Fulfillment, Privacy, Responsiveness, and Contact—measure online service quality, influencing customer trust and continued service usage. This research conceptualizes a framework to describe and illustrate the influence of Mobile JKN's service quality on JKN participant satisfaction in Pematangsiantar. This theoretical model will be depicted as outlined in the subsequent figure. The hypotheses of this study, informed by background research examining the relationship between service quality and participant satisfaction, propose that:

*H1. Reliability positively and significantly influences JKN participant satisfaction, as corroborated by findings in existing literature.*

*H2. Efficiency is hypothesized to have a positive and significant impact on satisfaction.*

*H3. Fulfillment is also presumed to positively and significantly affect satisfaction.*

*H4. Privacy is anticipated to have a significant positive effect on satisfaction, with existing studies suggesting a high expectation value from respondents.*

*H5. Responsiveness is expected to positively and significantly impact satisfaction, supported by prior research findings.*

*H6. Contact, the ease of engaging with customer service, is hypothesized to be positively and significantly related to satisfaction.*

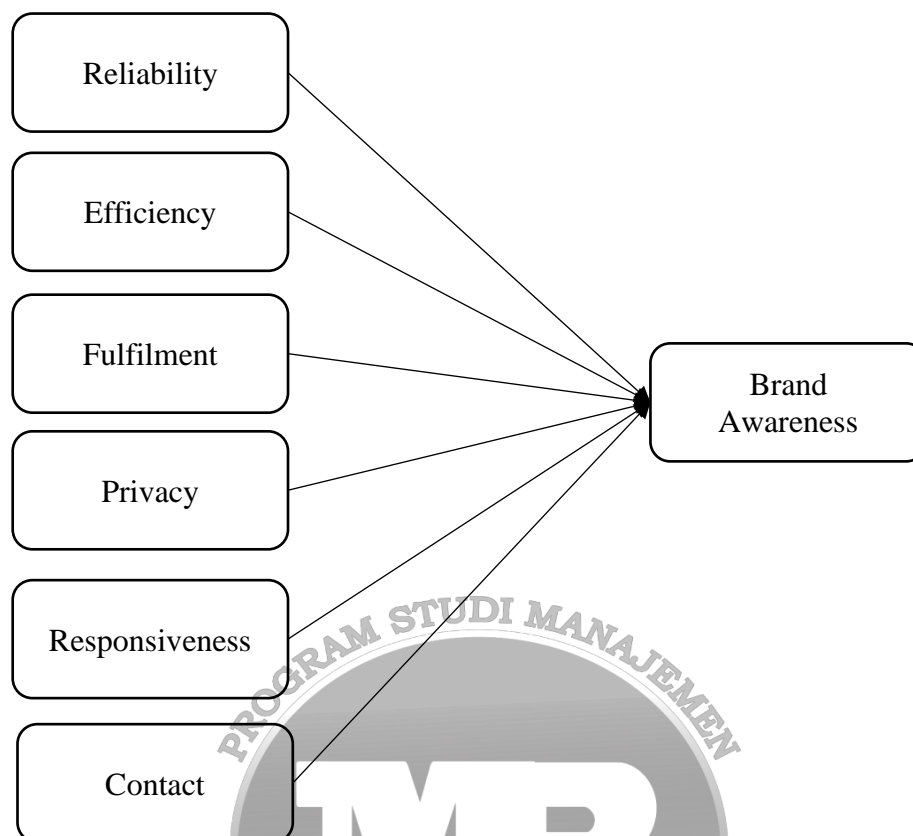


Figure 1. Conceptual Framework

### RESEARCH METHOD

The methodology of the research is crafted on a quantitative descriptive framework, emphasizing the analysis of causal relationships among variables. With an explanatory design, the study dissects the impact of various independent service quality variables, like Reliability and Efficiency, on the dependent variable – participant satisfaction in the JKN program. Fieldwork is conducted at BPJS Kesehatan in Pematangsiantar between July and September 2023, focusing on a population of 29,720 JKN mobile app users. The sample, representative of this population, is determined through non-probability purposive sampling using Slovin's formula, rounding up to 100 participants who have been registered with the Mobile JKN app for over a year.

Data collection hinges on questionnaires as per Sugiyono (2021), employing Likert scale measurements across various service quality indicators. Supplementary data is garnered through documentation study, assessing non-human data sources like records and regulations relevant to the study's aims. The research instruments are dual-faceted: human (the researcher) and test instruments (questionnaires). They measure natural and social phenomena, with the researcher actively involved in data collection and clarification. The operational definitions of variables are clarified using a structured table, specifying indicators and measurement scales.

Instrument testing ensures validity and reliability, with questionnaires being validated for their ability to measure research variables accurately. Cronbach's Alpha statistical test gauges the reliability, ensuring consistency in responses across multiple instances. Data analysis employs SPSS for multiple linear regression, with assumptions checked for



normality and multicollinearity. The hypothesis testing utilizes t-tests and F-tests to confirm the effects of independent variables on participant satisfaction, informed by the conceptual framework and research literature.

## **RESULT AND DISCUSSION**

### **A. Sample Profile**

The participant profile for this study on Mobile JKN users in Pematangsiantar encompasses a diverse group of 100 respondents. The breakdown of the sample includes varying types of membership, gender, age range, education levels, and occupations, offering a comprehensive view of the user base. The majority of participants are private employees, followed by civil servants, with a notable portion enrolled as independent members and beneficiaries of the PBI/KIS scheme. Gender distribution skews heavily towards male participants. Age-wise, the study captures a youthful demographic, primarily between 18-34 years old, suggesting that the younger population is actively engaging with the Mobile JKN app. The educational background of respondents is predominantly at the undergraduate level, which aligns with the usage patterns of tech-savvy individuals who are likely to utilize mobile health services. This varied demographic offers a rich field for examining user satisfaction with the Mobile JKN service and provides a solid base for meaningful insights into service quality.

### **B. Validity and Reliability Assessment**

The section discusses the verification of the measurement tools used in the research, ensuring they accurately capture the concepts they're intended to measure (validity) and that they do so consistently (reliability). Validity is assessed through a statistical correlation technique, considering a predefined threshold for acceptance. Reliability is evaluated using Cronbach's Alpha, with a specified cutoff point indicating consistent internal consistency of the questionnaire items. Data from the initial sample group is analyzed to establish these metrics, ensuring the research instruments meet the required standards for the study.

### **C. Classical Assumption Test**

In research, the Classical Assumption Test is a critical procedure conducted prior to multiple regression analysis. This process, employing SPSS 25 software, includes tests for normality and multicollinearity. The normality test checks whether the regression model's variables are normally distributed, with the criterion being that data is considered normally distributed if the Monte Carlo Significance is greater than 0.05. The multicollinearity test, on the other hand, determines the presence of strong intercorrelations among independent variables. A well-fitted regression model is indicated by the absence of multicollinearity, generally inferred when the tolerance value is greater than 0.10 and the Variance Inflation Factor (VIF) is less than 10. These tests ensure that the data meet the necessary assumptions for a valid regression analysis, thereby affirming the reliability of the study's findings.

### **D. Regression Analysis and Hypothesis Testing**

In the study evaluating the effects of various service quality dimensions on participant satisfaction within the Jaminan Kesehatan Nasional (JKN) program, a series of hypotheses were rigorously tested using linear regression analysis. The findings indicated a clear demarcation between influential and non-influential service aspects. The hypothesis positing that reliability would significantly affect participant satisfaction was rejected. Despite a calculated t-value of 1.219, it fell short of the critical threshold of 1.985, coupled with a significance level of 0.226, which surpassed the alpha criterion of 0.05. This outcome

suggests that the consistency of service, while important, did not significantly sway participant satisfaction within the parameters of this study. In contrast, the efficiency of services provided by the JKN mobile application showed a significant positive impact on participant satisfaction, as demonstrated by a t-value of 2.181, exceeding the critical value, and a significance level of 0.032, below the 0.05 threshold. This supports the hypothesis that efficient services are a crucial determinant of user satisfaction. However, the attributes of fulfillment, privacy, responsiveness, and contact did not exhibit a statistically significant influence on satisfaction. The t-values for fulfillment (0.551), privacy (-0.416), responsiveness (0.273), and contact (-0.684) all fell below the critical value of 1.985. Moreover, their respective significance levels (0.583 for fulfillment, 0.679 for privacy, 0.785 for responsiveness, and 0.496 for contact) were all above the alpha level of 0.05, leading to the rejection of hypotheses three to six. These results suggest that while these factors may play a role in shaping user experience, they did not singularly affect participant satisfaction to a measurable degree in this context.

### **E. Discussion**

The examination of service quality and its impact on participant satisfaction within the JKN (Jaminan Kesehatan Nasional) ecosystem in 2023 has yielded insightful revelations, particularly in the context of BPJS Kesehatan's continuous efforts to refine the features of the Mobile JKN application. The organization's commitment to innovation and digitalization has been a consistent strategy to enhance the quality of service provided to its users. This dedication to improvement is mirrored in the current development and enhancement initiatives specifically targeted at elevating the user experience of the Mobile JKN application.

The empirical analysis conducted in this study has led to detailed discussions on each hypothesis. The first discussion point revolves around the influence of reliability on participant satisfaction in JKN. Despite the positive coefficient value for reliability, the significance level did not support a substantial impact on participant satisfaction, leading to the rejection of the first hypothesis. This finding aligns with Rita Komala's (2020) analysis, which similarly reported a non-significant influence of reliability on participant satisfaction. Interestingly, this result stands in contrast to Febrianta and Indrawati's (2016) study, which found a positive and significant effect of reliability on customer satisfaction in the mobile banking sector.

The second focal point of the discussion is the effect of efficiency on JKN satisfaction. Efficiency emerged as a significant positive influence, validating the corresponding hypothesis. This supports Rita Komala's (2020) findings, which underscored the importance of efficient service delivery for participant satisfaction. The convenience and ease of access provided by the Mobile JKN application – allowing participants to manage their healthcare needs effectively – are evidently crucial factors that enhance user satisfaction.

Lastly, the discussion extends to the role of fulfillment in JKN satisfaction. Despite the positive coefficient, the significance level indicated that fulfillment did not have a substantial positive impact on participant satisfaction, leading to the rejection of this hypothesis. This suggests that certain expectations, such as the desire for immediate and straightforward transitions in participant status or the ability to register new members through the Mobile JKN app, are not yet fully met, necessitating physical visits to BPJS Kesehatan offices for certain transactions.

### **CONCLUSION**

In concluding this research on the impact of Mobile JKN service quality on participant satisfaction within BPJS Kesehatan of Pematangsiantar City, several significant findings have been discerned. It was discovered that the reliability variable does not significantly influence the satisfaction of JKN participants, indicating that aspects such as system response times and user interface experience may not be pivotal satisfaction determinants within the current scope of the study. Conversely, efficiency within the mobile application was found to have a positive and significant effect, suggesting that the ease of use, speed, and functionality of the Mobile JKN app are crucial to user satisfaction.

Fulfillment, privacy, responsiveness, and contact did not show significant positive influences on participant satisfaction. This could imply that despite the presence of these service features within the Mobile JKN application, they might not meet the participants' expectations or require further improvements to positively affect user satisfaction. The simultaneous test (Uji F) further revealed that when considered together, reliability, efficiency, fulfillment, privacy, responsiveness, and contact significantly affect participant satisfaction. This suggests that the combined effect of these service quality variables is important, even if their individual impacts are not significant.

Given these insights, several recommendations can be posited for BPJS Kesehatan and other stakeholders. It is advised that BPJS Kesehatan escalates efforts to raise public awareness of the Mobile JKN app's benefits and enhance the system to minimize errors. Specific suggestions include streamlining the user interface for easier login processes, maintaining the optimized performance of the app, and improving the virtual account reactivation process for self-segment participants. Additionally, responsiveness could be enhanced by reducing the service level agreement (SLA) times, even on holidays, to provide timely information to participants. In terms of privacy, implementing biometric login for phone number changes and notifying all family members of changes to primary healthcare facilities can further secure and streamline user experiences.

For future researchers, this study serves as a foundational reference, encouraging broader sample sizes to validate these findings and incorporate additional variables that may strengthen the satisfaction levels of Mobile JKN users. This work underscores the necessity for ongoing research to continually refine the services provided by BPJS Kesehatan, ensuring that the healthcare needs of participants are met with the quality and efficiency they deserve.

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