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The Relationship Between Trust In Data Security And Low Use Of The JKN Mobile Application Among BPJS Kesehatan Patients At The Siriwini Community Health Center

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Abstract

Digital transformation of health services through the Mobile JKN application faces significant adoption challenges in primary healthcare facilities. This study analyzes the relationship between trust in data security and the use of the Mobile JKN application among BPJS Health patients at Siriwini Public Health Center, considering the role of digital literacy as a moderating variable. Using a quantitative approach with a cross-sectional design, this study involved 378 respondents selected through purposive sampling. Data collection used a validated structured questionnaire with a Likert scale, and data analysis employed multiple linear regression and Moderated Regression Analysis. Results show that trust in data security has a significant positive relationship with Mobile JKN application usage (β=0.648; R^2=0.360; p=0.000), contributing 36 percent to the variation in application usage. Digital literacy demonstrates a stronger influence with a regression coefficient of 0.723 (R^2=0.431; p=0.000), explaining 43.1 percent of the variation in application usage. Moderation analysis reveals that digital literacy strengthens the relationship between trust and application usage (interaction coefficient=0.284; p=0.000), with an additional contribution of 7.7 percent. Findings indicate that low adoption of the Mobile JKN application (62.4 percent never used) is influenced by limited trust in data security systems and digital literacy gaps. Recommendations include strengthening transparency of data security policies, segmented digital literacy improvement programs, and developing interactive tutorial features in the application to facilitate digital health technology adoption in primary healthcare facilities.

Keywords: Data Security Trust, Digital Literacy, Mobile JKN Application, Health Technology Adoption, Primary Healthcare Facilities.

INTRODUCTION

Digital transformation in Indonesia's healthcare sector has accelerated significantly in the post–COVID-19 pandemic period, with BPJS Kesehatan, as the administrator of the national health insurance system, launching the Mobile JKN application as a comprehensive digital service platform. This application is designed to provide ease of access for participants to various services, including online registration, access to medical history, monitoring of membership status, and virtual health consultations (Firdayanti & Hajad, 2025). The implementation of this mobile health application aligns with Indonesia's vision of developing a smart healthcare system that is more efficient, accountable, and oriented toward patient satisfaction as service users.

However, empirical conditions indicate that the level of Mobile JKN application usage among BPJS Kesehatan patients, particularly those seeking treatment at primary healthcare centers (*puskesmas*), remains relatively low compared to the potential number of registered participants. This low adoption of digital health technology cannot be separated from concerns regarding trust in personal data security, or data privacy trust, which has become a major public concern in the digital era (Widiani et al., 2022). Patient trust in data security systems within health applications is a crucial factor, as these applications store sensitive information such as health data, personal identity, and confidential medical records.

Public trust in the security of digital health applications is strongly influenced by numerous data breach incidents that have occurred in Indonesia in recent years. Data breaches affecting both public and private institutions have generated collective concern regarding the vulnerability of digital systems to cyber threats (Irmayani et al., 2024). In the context of the Mobile JKN application, these concerns are further intensified due to the integration of highly sensitive personal data, leading BPJS

participants to adopt a skeptical attitude and prefer conventional methods of accessing healthcare services, despite their lower efficiency.

Patients' digital literacy also plays a critical role in determining the level of Mobile JKN application usage within the community. Digital literacy encompasses not only technical skills in operating digital devices, but also an understanding of data privacy, cybersecurity, and the ability to evaluate the credibility of digital platforms (Efendy et al., 2022). The digital literacy gap among different segments of society, particularly older adults and populations in areas with limited technological access, constitutes a structural barrier to the digitalization of healthcare services. As primary healthcare facilities, *puskesmas* hold a strategic position within the national health insurance system as the main gateway for healthcare access for the majority of BPJS Kesehatan participants. Previous studies indicate that the adoption rate of digital health applications at *puskesmas* tends to be lower than in hospitals, suggesting the presence of specific challenges that require deeper investigation (Saputri & Balahmar, 2025). Puskesmas Siriwini, as one of the primary healthcare facilities, faces similar challenges, where the majority of patients still rely on manual registration systems despite the socialization of the Mobile JKN application.

The relationship between trust in data security and the low usage of the Mobile JKN application needs to be examined comprehensively by considering digital literacy as a moderating variable. Previous studies have shown that trust in digital health technology has a positive correlation with usage intensity; however, this relationship may be strengthened or weakened by users' level of digital literacy (Ramdanis & Priyambodo, 2025). A deeper understanding of the dynamics among these variables will provide both theoretical and practical contributions to efforts aimed at increasing the adoption of digital health technologies in Indonesia. The urgency of this research is further heightened by the substantial investments made by the government in developing digital healthcare infrastructure, which have not yet been matched by optimal adoption rates among the public. Identifying the factors that hinder the use of the Mobile JKN application—particularly those related to data security trust and digital literacy—will serve as a foundation for formulating targeted intervention strategies (Wulandari et al., 2023). This study is expected to fill the knowledge gap regarding digital health technology adoption behavior within the context of primary healthcare facilities in Indonesia.

Based on the phenomenon of low Mobile JKN application usage among BPJS Kesehatan patients at Puskesmas Siriwini, despite the application's provision of various service access conveniences, this study seeks to identify the underlying factors that hinder the adoption of digital health technology. The main research questions addressed in this study are: (1) What is the relationship between trust in data security and the use of the Mobile JKN application among BPJS Kesehatan patients at Puskesmas Siriwini? (2) How does patients' digital literacy affect the use of the Mobile JKN application at Puskesmas Siriwini? (3) What is the role of digital literacy in moderating the relationship between trust in data security and the use of the Mobile JKN application?

This study aims to comprehensively analyze the relationship between trust in data security and the low usage of the Mobile JKN application among BPJS Kesehatan patients at Puskesmas Siriwini, while considering the role of digital literacy as a variable influencing the dynamics of this relationship. Specifically, the objectives of this study are to: (1) identify and measure patients' levels of trust in data security within the Mobile JKN application and examine its relationship with application usage intensity; (2) analyze the level of digital literacy among BPJS Kesehatan patients at Puskesmas Siriwini and its effect on Mobile JKN application usage; and (3) test the moderating role of digital literacy in the relationship between trust in data security and Mobile JKN application usage.

The findings of this study are expected to contribute theoretically to the development of the body of knowledge on digital health technology adoption, particularly in the context of developing countries with diverse socio-demographic characteristics and heterogeneous levels of digital literacy. Practically, the results may serve as a reference for BPJS Kesehatan and related stakeholders in formulating strategies to enhance the adoption of the Mobile JKN application by strengthening public trust in data security systems and implementing structured digital literacy improvement programs. For

Puskesmas Siriwini in particular, and primary healthcare facilities in general, this study may provide guidance for optimizing the socialization and education of Mobile JKN application usage tailored to patients' characteristics and needs, thereby supporting the realization of inclusive and sustainable digital transformation in healthcare services.

RESEARCH METHODS

Research Design

This study employs a quantitative approach with a cross-sectional design to analyze the relationship between trust in data security and digital literacy and the use of the Mobile JKN application among BPJS Kesehatan patients at Puskesmas Siriwini. The quantitative approach was selected because it allows for objective measurement of research variables and statistical hypothesis testing with a higher level of generalizability. The cross-sectional design facilitates data collection at a single point in time, making it efficient for identifying patterns of relationships among variables without requiring a lengthy observation period (Sugiyono, 2022). This method has proven effective in previous studies examining the adoption of digital health technologies across various primary healthcare settings.

Population and Sample

The population of this study consists of all BPJS Kesehatan patients registered and actively visiting Puskesmas Siriwini during the last three months, with an estimated population of 2,450 patients based on visit data from October to December 2024. The sampling technique used was purposive sampling, with inclusion criteria including patients aged at least 18 years, ownership of a smartphone, active registration as BPJS Kesehatan participants, and willingness to participate in the study. The sample size was determined using the Slovin formula with a 95% confidence level and a 5% margin of error, as expressed in the following formula (Sevilla et al., 2021):

$$n = \frac{N}{1 + N(e)^2}$$

Where:
n = sample size
N = population size (2,450)
e = margin of error (0.05)

Based on the calculation, $n = \frac{2{,}450}{1+2{,}450(0.05)^2} = \frac{2{,}450}{7.125} = 344$ respondents. To anticipate potential dropouts and incomplete responses, the sample size was increased by 10%, resulting in a total of 378 respondents as the study sample.

Variables and Research Instruments

This study involves three main variables, which were operationalized through a structured questionnaire using a 5-point Likert scale. The first independent variable is trust in data security, measured through the dimensions of perceived security, privacy concerns, and trust in technology, comprising 15 statement items adapted from previously validated instruments (Sjamsuddin N, 2023). The second independent variable is digital literacy, which includes aspects of technical competence, digital security awareness, and digital information evaluation ability, measured using 12 statement items. The dependent variable is the use of the Mobile JKN application, measured through indicators of usage frequency, intensity of feature utilization, and user satisfaction, consisting of 10 statement items (Saskirana et al., 2025). All instruments were tested for validity using the Pearson Product Moment correlation with an r value greater than 0.3, and for reliability using Cronbach's Alpha with a minimum value of 0.7 to ensure internal consistency.

Data Collection Techniques

Data collection was conducted through the distribution of questionnaires in digital form using the Google Forms platform, as well as printed questionnaires for respondents experiencing technological difficulties. The data collection process took place over four weeks in the waiting area of Puskesmas Siriwini and was supported by trained enumerators who provided explanations regarding the research objectives and ensured informed consent from each respondent. The questionnaire was designed using simple and easy-to-understand language to minimize interpretation bias and had undergone a readability test involving 30 respondents during the pilot study phase (Arikunto, 2021).

Table 1. Operationalization of Research Variables

Variable	Dimensions	Indicator	Number of Items	Scale
Level of Confidence in Data Security (X1)	*Perceived Security*	Perception of system security, data encryption, privacy protection	5	Likert 1-5
	Privacy Concerns	Concerns about data leaks, misuse of information	5	Likert 1-5
	Trust in Technology	Trust in the BPJS system, credibility of the application	5	Likert 1-5
Patient Digital Literacy (X2)	Technical Competence	Application operational capabilities, feature navigation	4	Likert 1-5
	Understanding Digital Security	Data privacy knowledge, cyber risk awareness	4	Likert 1-5
	Digital Information Evaluation	Ability to verify information, critical thinking	4	Likert 1-5
Use of the JKN Mobile Application (Y)	Frequency of Use	Application access intensity per week/month	3	Likert 1-5
	Feature Utilization	Variety of features used, menu exploration	4	Likert 1-5
	User Satisfaction	Benefits felt, ease of access	3	Likert 1-5

Data Analysis Technique

Data analysis was conducted using descriptive and inferential statistical approaches with the assistance of SPSS software version 26. The analysis process began with prerequisite testing, including the normality test using the Kolmogorov–Smirnov test, linearity test, and multicollinearity test to ensure that the basic assumptions of regression analysis were met. Descriptive analysis was employed to describe respondents' characteristics and the distribution of responses for each research variable by calculating the mean, median, mode, and standard deviation (Ghozali & Latan, 2014).

To test the research hypotheses, multiple linear regression analysis was applied using the following equation: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$, where Y represents the use of the Mobile JKN application, X_1 denotes the level of trust in data security, X_2 refers to digital literacy, α is the constant, β_1 and β_2 are regression coefficients, and e is the error term.

The moderating effect of digital literacy on the relationship between trust in data security and the use of the application was examined using Moderated Regression Analysis (MRA) by incorporating the interaction variable $X_1 * X_2$ into the regression model (Rahadi & Farid, 2021). All hypothesis testing was conducted at a significance level of $\alpha = 0.05$ as the criterion for accepting or rejecting the null hypothesis.

RESULTS AND DISCUSSION

Results

Respondent Characteristics

This study involved 378 BPJS Kesehatan (Social Security Agency) patients at Siriwini Community Health Center who met the inclusion criteria. Based on demographic data, the majority of respondents were aged 31-40 years (36.5%), followed by those aged 41-50 years (28.3%), and those aged 18-30 years (22.8%). Gender composition was fairly balanced, with 54.2% female and 45.8% male. Respondents' educational level was dominated by high school graduates (42.1%), college graduates (31.2%), junior high school graduates (18.5%), and elementary school graduates (8.2%). Respondents' employment status varied, with the majority being private employees (38.6%), housewives (24.3%), self-employed (19.8%), civil servants (12.4%), and students (4.9%). Length of BPJS Kesehatan membership shows that 48.7% of respondents have been registered for more than 5 years, 32.5% for 3-5 years, and 18.8% for less than 3 years. Smartphone ownership profiles indicate that all respondents own Android (87.6%) and iOS (12.4%) smartphones. However, experience with digital health applications remains limited: 62.4% of respondents have never actively used the Mobile JKN application, 28.3% have downloaded it but rarely use it, and only 9.3% use it regularly.

Table 2. Demographic Characteristics of Respondents (N=378)

Characteristic	Category	Frequency	Percentage (%)
Age	18–30 years	86	22.8
	31–40 years	138	36.5
	41–50 years	107	28.3
	>50 years	47	12.4
Gender	Male	173	45.8
	Female	205	54.2
Education Level	Elementary School	31	8.2
	Junior High School	70	18.5
	Senior High School	159	42.1
	Bachelor's Degree	118	31.2
Mobile JKN Application Usage	Regular	35	9.3
	Rare	107	28.3
	Never	236	62.4

Descriptive Analysis of Research Variables

Descriptive analysis of the three research variables yields an interesting picture. The trust in data security variable had a mean value of 2.84 (SD=0.92) on a maximum scale of 5, indicating a level of trust in the medium to low category. The distribution of categories showed that 18.5% of respondents had high trust, 35.2% had medium trust, and 46.3% had low trust. Patients' digital literacy level showed a mean value of 3.12 (SD=0.87), falling into the medium category, with 28.6% high, 44.7% medium trust, and 26.7% low trust. Meanwhile, the use of the JKN Mobile application variable had the lowest mean value of 2.45 (SD=1.04), falling into the low category, with only 12.4% of respondents in the high category, 29.9% in the medium trust, and 57.7% in the low trust category.

Table 3. Descriptive Statistics of Research Variables

Variable	Mean	Median	Std. Dev.	Min	Max	Dominant Category
Data Security Trust	2.84	2.80	0.92	1.00	5.00	Low (46.3%)
Digital Literacy	3.12	3.13	0.87	1.17	5.00	Moderate (44.7%)
Mobile JKN Application Usage	2.45	2.30	1.04	1.00	5.00	Low (57.7%)

Prerequisite Analysis Test

A normality test using the Kolmogorov-Smirnov test showed significant values for data security confidence (p=0.089), digital literacy (p=0.112), and Mobile JKN usage (p=0.076), all of which were >0.05, indicating a normally distributed data distribution. A linearity test demonstrated a linear relationship between data security confidence and app usage (F=142.35; p=0.000) and digital literacy and app usage (F=168.72; p=0.000). A multicollinearity test revealed a Variance Inflation Factor (VIF) value for data security confidence of 1.342 and digital literacy of 1.342, both <10, indicating no multicollinearity. 4. Relationship between Trust in Data Security and Use of the JKN Mobile Application

The results of a simple linear regression analysis showed a positive regression coefficient of 0.648 (β=0.648; t=14.532; p=0.000<0.05), indicating a significant positive relationship. The R^2 value of 0.360 indicates that trust in data security contributed 36.0% to the variation in use of the JKN Mobile application. The resulting regression equation is: $Y = 0.812 + 0.648X_1$, meaning that every one-unit increase in trust will increase application use by 0.648 units.

Table 4. Regression Results of Trust in Data Security on Use of the JKN Mobile Application

Model	Coefficient (β)	t-value	Sig.	R	R^2
Constant	0.812	3.247	0.001	0.600	0.360
Data Security Trust	0.648	14.532	0.000		

The Influence of Patient Digital Literacy on Use of the JKN Mobile Application

Regression analysis showed a significant positive effect of digital literacy on application use, with a coefficient of 0.723 (β=0.723; t=16.892; p=0.000). The R^2 value of 0.431 indicates that digital literacy explains 43.1% of the variation in JKN Mobile application use, higher than trust in data security. The regression equation is: $Y = 0.524 + 0.723X_2$.

Table 5. Regression Results of Digital Literacy on JKN Mobile Application Use

Model	Coefficient (β)	t-value	Sig.	R	R^2
Constant	0.524	2.186	0.029	0.657	0.431
Digital Literacy	0.723	16.892	0.000		

The Role of Digital Literacy in Moderating the Relationship

Moderated Regression Analysis yielded an X_1*X_2 interaction coefficient of 0.284 (t=4.762; p=0.000), which is statistically significant. The R^2 value increased from 0.512 (Model 1) to 0.589 (Model 2), representing an increase of ΔR^2=0.077, or 7.7%. These results indicate that digital literacy strengthens the positive relationship between trust in data security and application usage. Among respondents with high digital literacy, the relationship between trust and usage was stronger than among respondents with low digital literacy.

Discussion

The Relationship between Trust in Data Security and the Use of the Mobile JKN Application

The findings indicate a significant positive relationship between trust in data security and the use of the Mobile JKN application (β = 0.648; R^2 = 0.360; p = 0.000), suggesting that 36% of the variance in application usage can be explained by patients' level of trust in the data security system. This result is consistent with the Technology Acceptance Model (TAM), which emphasizes that perceived security and trust are critical predictors in the adoption of digital health technologies. Within the framework of Privacy Calculus Theory, patients rationally evaluate the cost–benefit trade-off between the advantages of digital services and the privacy risks involved; therefore, trust in data protection becomes a determining factor in application usage decisions.

These findings support previous studies showing that users of health applications hold diverse perspectives regarding data privacy and security, with primary concerns including potential leakage of sensitive medical information and misuse of personal data by unauthorized third parties (Alhammad et al., 2024). The nature of health applications, which integrate sensitive information such as medical history, disease diagnoses, and personal identity, creates vulnerabilities that heighten user caution. Other studies further reinforce that transparent and clearly articulated privacy policies can enhance user trust, although paradoxically they may also increase awareness of potential risks, leading users to adopt a more cautious stance toward technology adoption (Shojaei et al., 2025).

In the context of Siriwini Community Health Center (Puskesmas Siriwini), the relatively low level of patient trust (mean = 2.84; moderate-to-low category) reflects collective public concerns regarding data breach incidents affecting various institutions in Indonesia. The results indicate that perceived security and privacy concerns are the most influential dimensions shaping overall trust. Research on the Halodoc application confirms that data security and data privacy have a significant effect on intentions to use health applications (t = 2.160; p = 0.031 for data security; t = 2.313; p = 0.021 for data privacy), highlighting that data protection is a key factor that cannot be overlooked in the development of mHealth services (Putri et al., 2025).

The practical implications of these findings underscore the need for BPJS Kesehatan to implement comprehensive strategies to strengthen public trust through transparency in data encryption mechanisms, system security certification, and proactive communication regarding privacy protection policies. Given that most community health center patients have limited digital literacy, educational approaches should not only explain application features but also foster understanding of the security systems that protect their data. Research on privacy policy requirements in mHealth applications identifies three primary needs: consistency and transparency of processes, robust data management and processing, and clear data interconnection governance (Hakiem et al., 2024). Implementing security standards that meet these requirements can serve as a foundation for building trust and increasing the adoption of the Mobile JKN application in primary healthcare facilities.

The Effect of Patients' Digital Literacy on the Use of the Mobile JKN Application

The results reveal that digital literacy has a significant positive effect on the use of the Mobile JKN application, with a regression coefficient of 0.723 (R^2 = 0.431; p = 0.000), indicating a contribution of 43.1% to the variance in application usage. This finding suggests that digital literacy exerts a stronger influence than trust in data security in determining digital health technology adoption behavior. These results are consistent with the Digital Literacy Framework, which emphasizes that technical skills in operating devices, understanding cybersecurity, and competence in evaluating digital information are fundamental prerequisites for effective participation in the digital health ecosystem.

From the perspective of Digital Divide theory, disparities in digital literacy create stratified access to digital health services, whereby individuals with lower digital competence face structural barriers to utilizing technological innovations despite the availability of infrastructure. The study data show that 62.4% of respondents have never actively used the Mobile JKN application, reflecting a significant gap between technological availability and users' capacity to adopt it. Research on the utilization of the Mobile JKN application confirms that although the application offers satisfactory service quality, many individuals remain unaware of its existence, indicating fundamental issues related to awareness and digital literacy (Nurhidayah et al., 2024).

An analysis of the three dimensions of digital literacy in this study provides deeper insight into the mechanisms through which it influences application adoption. The technical competence dimension, encompassing operational skills and feature navigation, serves as the basic foundation enabling users to access services. The digital security understanding dimension, which includes knowledge of data privacy and awareness of cyber risks, influences user trust and comfort in sharing sensitive information. The digital information evaluation dimension, reflecting critical thinking skills, allows users to assess platform credibility and make informed decisions regarding application usage.

The digital literacy gap among patients at Puskesmas Siriwini is evident from the categorical distribution, showing that only 28.6% of respondents possess high digital literacy, while 26.7% remain in the low category. This pattern reflects heterogeneous demographic characteristics, with most respondents having a senior high school or equivalent educational background (42.1%) and working as private employees or homemakers with limited exposure to digital technology. Research on Mobile JKN user satisfaction indicates that ease of use is a significant factor influencing satisfaction and usage decisions, emphasizing the importance of user-friendly and intuitive interface design to accommodate users with varying levels of digital literacy (Dwijulianti & Anggrainie, 2023).

The practical implications of these findings point to the urgency of developing structured digital literacy enhancement programs tailored to patients' demographic characteristics. Educational strategies should adopt a tiered approach, beginning with basic smartphone operational skills, followed by tutorials on using the Mobile JKN application, and concluding with an understanding of data security and privacy. Studies on mobile service quality and trust demonstrate that both factors have a significant positive effect on decisions to use Mobile JKN services, indicating the need for holistic interventions that integrate technical competence enhancement with strengthened system trust (Abidin et al., 2022). As the primary gateway to healthcare services, community health centers play a

strategic role in delivering digital literacy programs through regular educational sessions, individual assistance for vulnerable groups such as the elderly, and the provision of technical assistance services in waiting areas to facilitate contextual learning processes.

The Role of Digital Literacy in Moderating the Relationship between Trust in Data Security and the Use of the Mobile JKN Application

The Moderated Regression Analysis reveals that digital literacy plays a significant moderating role in strengthening the relationship between trust in data security and the use of the Mobile JKN application (interaction coefficient = 0.284; t = 4.762; p = 0.000). The increase in R^2 from 0.512 to 0.589 following the inclusion of the interaction variable ($\Delta R^2 = 0.077$) indicates that digital literacy provides an additional contribution of 7.7% in explaining variation in application usage. This finding confirms the hypothesis that the effectiveness of trust in driving technology adoption depends on users' digital literacy capacity, creating a complex interaction mechanism in digital health behavior.

This moderating mechanism can be explained through two complementary causal pathways. First, patients with high digital literacy possess superior abilities to understand and evaluate technical security features such as data encryption, two-factor authentication, and privacy policies, thereby grounding their trust in substantive understanding that encourages active usage. Second, adequate digital literacy enables users to proactively identify and respond to security risks through privacy settings and personal data management, creating a sense of control that strengthens trust and comfort in using the application. Research on factors influencing privacy-related behavior in mHealth applications indicates that user autonomy in controlling personal data is a critical factor in building trust, as empowered users are more likely to engage positively with digital health platforms (Shojaei et al., 2025).

The practical implications of this moderating effect highlight the need for differentiated intervention strategies based on digital literacy segmentation. For groups with low digital literacy, interventions should focus on building basic competencies through hands-on training using participatory learning methods and direct demonstrations of application security features. Groups with moderate digital literacy require more advanced educational programs covering privacy management, cyber threat identification, and responsible data security practices. Meanwhile, individuals with high digital literacy can be empowered as digital champions to facilitate peer-to-peer learning and provide technical support to other users. Studies on Mobile JKN user satisfaction employing the Expectancy Disconfirmation Model indicate that positive application usage experiences enhance satisfaction and promote sustained usage, underscoring the importance of ensuring a smooth user experience from the initial interaction (Ridiarsih et al., 2024).

Recommendations for a holistic approach that integrates trust enhancement and digital literacy improvement include several concrete strategies. First, BPJS Kesehatan should develop multi-channel communication campaigns explaining system security architecture in language accessible to varying literacy levels. Second, the implementation of independent security certification programs and transparent system audit disclosures can strengthen institutional credibility. Third, the development of segmented digital literacy training modules based on age, education, and digital competence levels ensures program relevance and effectiveness. Fourth, integrating interactive tutorials and contextual guidance features within the Mobile JKN application can facilitate in-app learning and reduce entry barriers.

This study has several limitations that should be acknowledged. The cross-sectional design limits the ability to draw definitive causal conclusions and does not capture behavioral changes over time. The use of self-reported measures may be subject to social desirability bias, whereby respondents provide answers perceived as more socially acceptable. The focus on a single community health center limits the generalizability of findings to broader geographic and demographic contexts. Future research may adopt longitudinal designs to observe the evolution of trust and digital literacy alongside increased exposure to technology. Multi-site comparative studies involving community health centers with diverse characteristics could identify contextual factors influencing application adoption. The

exploration of mixed-methods approaches integrating qualitative data could provide deeper insights into user perceptions, experiences, and specific barriers encountered within Indonesia's socio-cultural context.

CONCLUSION

This study yields important findings regarding the dynamic relationship between trust in data security and digital literacy, with the use of the Mobile JKN application among BPJS Kesehatan patients at Siriwini Community Health Center. Patient trust in data security was shown to have a significant positive relationship with the intensity of Mobile JKN application use, with each increase in trust contributing to a 36 percent increase in application use. These findings confirm that patient concerns about potential medical information leaks and misuse of personal data constitute substantial psychological barriers to digital health technology adoption. Digital literacy demonstrated a more dominant influence on application use, contributing 43.1 percent, indicating that technical proficiency in operating digital devices and an understanding of cybersecurity are fundamental prerequisites for effective participation in the digital healthcare ecosystem. Moderation analysis revealed a complex interaction mechanism where digital literacy strengthens the relationship between trust and application use, with patients with high digital competence demonstrating a stronger adoption response to increased trust in the security system. The reality at Siriwini Community Health Center reflects the multi-layered challenges in the digital transformation of primary healthcare services, where 62.4 percent of patients have never actively used the application despite having smartphone access and being registered as BPJS Kesehatan participants. The gap between the availability of technological infrastructure and users' capacity to adopt it demonstrates that a technology-centric approach alone is insufficient without systematic interventions to build trust and improve the public's digital competence. The demographic characteristics of respondents, predominantly of the productive age group with secondary education, indicate significant potential for increased adoption through structured educational strategies tailored to the specific needs of each user segment.

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