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User Insights: Understanding the Acceptance and Utilization of the National Health Insurance Mobile Application

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ABSTRACT

Purpose of the study: to analyze the factors that influence user acceptance of the National Health Insurance Mobile application using the Unification Theory Model of Technology Acceptance and Use.

Methodology: The population of this study was users of the National Health Insurance Mobile application residing in Jakarta, Bogor, Depok, Tangerang, and Bekasi. Questionnaires were distributed online and offline, and the sample collection technique used multi-stage purposive sampling. This study employed quantitative methods and CB-SEM analysis techniques. Data analysis was carried out using AMOS version 24.

Main Findings: The results showed the rejection of seven of the twelve hypotheses tested. The results of this study are expected to provide recommendations for the development of a National Health Insurance Mobile application for the Social Health Insurance Administration Agency.

Novelty/Originality of this study: This study offers new insights into how users accept and utilize the National Health Insurance mobile application by integrating behavioral, experiential, and system-related factors in a single analytical model. It advances current knowledge by identifying specific user-driven barriers and facilitators, providing evidence-based directions for improving digital health service adoption and optimizing user engagement.

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1. INTRODUCTION

Digital transformation in the healthcare sector has continued to accelerate in recent years [1], [2]. The Indonesian government, through various policies on digitalizing healthcare services, has encouraged the use of information technology to improve access, efficiency, and quality of services to the public [3], [4]. The development of mobile-based technology provides significant opportunities for the public to access healthcare services quickly and without geographical limitations. In this context, digital healthcare applications are becoming increasingly important to support more effective service delivery [5], [6].

The Social Security Administration for Health, as the administering body for the National Health Insurance Program, faces significant challenges in providing fast, accurate, and easily accessible services to all participants in Indonesia [7], [8]. To improve service quality, the Social Security Administration for Health developed the National Health Insurance Mobile application [9], [10], which allows participants to perform various online services, such as checking membership, registering for healthcare facilities, changing data, requesting service queues, and even conducting virtual health consultations. This application is projected to

reduce the burden of face-to-face services and increase participant convenience in accessing healthcare services [11], [12].

Although the National Health Insurance Mobile application offers various conveniences, its utilization rate is still suboptimal. Many participants still prefer to manage their National Health Insurance needs in person at service offices, even though these services are readily available within the application [13], [14]. Various factors are suspected to contribute to low user acceptance, such as perceived ease of use, perceived application benefits, technological literacy levels, network quality, and public trust in digital technology [15], [16]. This situation indicates the need for more in-depth research into the factors influencing user acceptance of these applications.

Previous research has discussed the implementation of the National Health Insurance digital service, but most have focused on user satisfaction, service effectiveness, or system quality [17], [18]. Studies specifically examining user acceptance of the National Health Insurance Mobile application through a comprehensive theoretical model approach are still limited [19], [20]. Furthermore, National Health Insurance participants have widely varying social, economic, educational, and age backgrounds, making technology adoption behavior for this service more complex and requiring analysis with an appropriate theoretical framework [21], [22].

The unified theory of technology acceptance and use model is one of the most comprehensive analytical models for examining technology acceptance and use behavior [23], [24]. This model combines several technology adoption theories and encompasses four main constructs: performance expectancy, effort expectancy, social influence, and enabling conditions [25], [26]. These four constructs are considered capable of providing a comprehensive explanation of the factors that drive individuals to accept or reject the use of technology, including digital healthcare technology [27], [28].

The application of the unified theory of technology acceptance and use model to the context of the national health insurance mobile application is relevant because health insurance service users come from different age groups, education levels, and technological experience [29], [30]. Furthermore, digital services in the health sector are sensitive and require a high level of user trust [31], [32]. Using this model, research can identify the constructs most influential in participant acceptance, resulting in more accurate and meaningful findings for application service development.

The novelty of this research lies in the comprehensive application of the Unified Theory of Acceptance and Use of Technology model to analyze user acceptance of the National Health Insurance Mobile application, which has not previously been studied in depth in the context of digital healthcare services in Indonesia. This research is important and urgent because the application's utilization remains low despite the government's continued push for the digitalization of healthcare services. By mapping the factors influencing satisfaction, intention, and usage behavior, this study provides a strong empirical basis for policymakers to formulate strategies to improve the quality of digital services and accelerate national healthcare transformation.

Based on this description, this study aims to analyze the factors influencing user acceptance of the National Health Insurance Mobile application using the Unified Theory of Technology Acceptance and Use Model. The results are expected to provide a deeper understanding of participant behavior in adopting digital services developed by the Social Security Administering Agency and provide strategic recommendations for improving the quality and effectiveness of application services in the future.

2. RESEARCH METHOD

2.1. Research Approach

This research was conducted using a quantitative approach in accordance with its main objective, namely to determine the level of user acceptance of the National Health Insurance Mobile application based on the perceptions of Health Social Security Administering Body participants who use the application, as well as to identify factors that influence user acceptance of the National Health Insurance Mobile application [33], [34]. Based on the established approach, the stages in this research apply quantitative methods, techniques, and data processing tools as described in the research procedure. For example, the data collection technique was carried out through a survey using an instrument in the form of a questionnaire, then the data obtained were analyzed statistically using structural equation modeling software Amarco Graphics Analysis of Moment Structures version 24 [35], [36].

2.2. Research Procedures

The procedures in this research were carried out sequentially, including: problem formulation, literature review, model development, research design, instrument creation, data collection, data analysis, data interpretation, and report creation.

2.3. Research Population and Sample

The population in this study were participants in the National Health Insurance Program who had used the Mobile National Health Insurance application and were domiciled in the Jakarta, Bogor, Depok, Tangerang, and Bekasi areas. Based on data obtained from the public communications department, the number of National Health Insurance Program participants using the Mobile National Health Insurance application reached one million twenty-seven thousand two hundred and thirty-three people.

This study used a multistage sampling technique with a purposive sampling approach consisting of two stages: the first stage was purposive sampling and the second stage was accidental sampling [37], [38]. In the first stage, purposive sampling was conducted to select participants with experience using the Mobile National Health Insurance application. The second stage employed accidental sampling, selecting respondents who happened to be met in person without prior planning.

According to guidelines published by Hair and colleagues in 2011, the required sample size for structural equation modeling analysis ranges from one hundred to two hundred respondents [39], [40]. Considering population size, time constraints, and cost efficiency, this study selected three hundred and eighteen users of the Mobile National Health Insurance application as the research sample [41], [42]. This number was deemed sufficiently representative of the population. The minimum sample size is calculated using the formula: the number of indicators multiplied by five. Therefore, the 318 respondents used in this study far exceed the minimum required and can be considered sufficient for conducting structural equation modeling analysis.

2.4. Research Instruments

The instrument in this study was a questionnaire consisting of two parts. The first part contains a request letter from the researcher to respondents to fill out the questionnaire. The second part contains a list of questions consisting of seven respondent profile items, questions regarding Mobile National Health Insurance, and thirty-one test questions. The test questions are grouped according to the research variables and consist of eight groups, namely: four questions on Performance Expectancy, four questions on Effort Expectancy, three questions on Social Influence, four questions on Facilitating Condition, four questions on Trust, five questions on Satisfaction, four questions on Behavioral Intention, and three questions on Use Behavior. The following is a list of indicators and test questions:

Table 1. List of Indicators and Test Questions

Variables	Indicator
Performance Expectancy	Efficiency Convenience Benefits Productivity
Effort Expectancy	Easy to Understand Skilled Easy to Use Easy to Learn
Social Influence	Influence of Providers Support from Providers Influence of Social Media
Facilitating Condition	Availability of Resources Having Knowledge Availability of Technical Instructions Availability of Assistance
Trust	Trust Providing Services Service Authenticity User Security
Satisfaction	Meeting Needs User Satisfaction Provider Satisfaction Expectations Satisfaction in the System
Behavioral Intention	Intend to Use Attempt to Use Plan to Use Recommended Use

Use Behavior	Use Behavior Influence

This study conducted an initial pretest. The purpose of the pretest was to identify and address potential data processing issues, ensuring a better, error-free questionnaire. This evaluation process tested the questionnaire's validity and reliability. The results revealed that one indicator, Influence from Close People, was removed due to its unreliability. Consequently, 31 questionnaires will be distributed.

2.5. Data Collection

The data collection process in this study was conducted by distributing questionnaires directly and indirectly to respondents [43], [44]. The use of this combined technique aimed to obtain more in-depth and comprehensive information, increase the response rate, maintain data quality, and achieve efficiency and effectiveness in the data collection process. Direct questionnaire distribution took place at the South Jakarta Branch of the Social Security Administration for Health Office, the Depok Branch of the Social Security Administration for Health Office, and Harapan Kita Heart Hospital. Indirect distribution was conducted via a Google Form questionnaire link shared on social media.

Prior to analysis, the data obtained from the questionnaires were first classified using Microsoft Excel 2013 spreadsheet software. A total of 381 questionnaires were collected, consisting of 58 respondents from direct distribution and 260 respondents from indirect distribution. Based on initial examination, all questionnaire data was declared valid as no duplicate data was found.

2.6. Data Analysis

This study conducted several stages of analysis. The first stage was demographic data analysis using Microsoft Excel and SPSS version 24 spreadsheet software. Respondent data was grouped by gender, domicile of National Health Insurance participants, age, highest level of education, type of employment, role in system use, and user acceptance status.

The second stage was statistical analysis using AMOS version 24 software. In this stage, the researcher conducted a series of processes that included developing a theoretical model, determining research variables, constructing a path diagram, analyzing the measurement model, establishing a structural model, analyzing the structural model, and interpreting and discussing the research results.

In the interpretation section, the researcher linked the findings of the demographic analysis to field conditions encountered during the research process. Furthermore, the researcher interpreted the results of the model analysis quantitatively by comparing and considering them with relevant literature from previous research.

3. RESULTS AND DISCUSSION

The following is a table of research hypothesis testing using the AMOS 24 test tool in the form of regression weight in the table below.

Table 2. Standardization of Regression Weight Full Model

			Estimate	S.E.	C.R.	P
Satisfaction	<---	Performance_Expectancy	.249	.055	4.527	.004
Satisfaction	<---	Effort_Expectancy	.201	.082	2.451	.003
Satisfaction	<---	Social_Influence	.025	.043	0.581	.638
Satisfaction	<---	Facilitating_Condition	-.052	.082	-0.634	.441
Satisfaction	<---	Trust	.535	.076	7.039	.004
Behavioral_Intention	<---	Trust	.198	.124	1.597	.089
Behavioral_Intention	<---	Performance_Expectancy	-.001	.095	-0.011	.888
Behavioral_Intention	<---	Effort_Expectancy	-.022	.111	-0.198	.858
Behavioral_Intention	<---	Social_Influence	-.009	.059	-0.153	.837
Behavioral_Intention	<---	Satisfaction	.739	.173	4.272	.005
Use_Behavior	<---	Facilitating_Condition	.120	.105	1.143	.206
Use_Behavior	<---	Behavioral_Intention	.761	.096	7.927	.004

To obtain the Critical Ratio (CR) value based on bootstrap results, researchers can use the bootstrap Mean value and the Standard Error (SE) column. An exogenous variable is declared to have an effect on the endogenous variable if the CR value is > 1.96 with a significance level of < 0.05. Conversely, if the CR value is

< 1.96 with a significance level of > 0.05, then the exogenous variable is declared to have no effect on the endogenous variable.

3.1. Hypothesis Testing 1

The first hypothesis (H1) states that Performance Expectancy (PE) significantly influences Behavioral Intention (BI) [45], [46]. Based on the analysis results in the table, the Critical Ratio (CR) value is -0.011, which means the CR value is smaller than 1.96. In addition, the resulting probability value is 0.88, so it is above 0.05. Thus, H1 is rejected because the CR and probability values do not meet the significance criteria. These results indicate that Performance Expectancy has no effect on Behavioral Intention.

3.2. Hypothesis Testing 2

The second hypothesis (H2) states that Performance Expectancy (PE) significantly influences Satisfaction (SAT). Based on the analysis results in the table, the Critical Ratio (CR) value is 4.527, which indicates that the value is greater than 1.96. The resulting probability value is also smaller than 0.05, namely 0.004. Thus, H2 is accepted because the CR and probability values have met the testing criteria. These results prove that Performance Expectancy has a significant effect on Satisfaction.

3.3. Hypothesis Testing 3

The third hypothesis (H3) states that Effort Expectancy (EE) significantly influences Behavioral Intention (BI). Based on the calculation results in the table, the Critical Ratio (CR) value is -0.198, which indicates that the value is smaller than 1.96. In addition, the resulting probability value is also greater than 0.05, namely 0.858. Thus, H3 is rejected because the CR and probability values do not meet the testing criteria. These results indicate that Effort Expectancy does not significantly influence Behavioral Intention.

3.4. Hypothesis Testing 4

The fourth hypothesis (H4) states that Effort Expectancy (EE) significantly influences Satisfaction (SAT). Based on the results in the table, the Critical Ratio (CR) value is 2.451, which means it is greater than 1.96. Furthermore, the probability value is also recorded as being less than 0.05, namely 0.003. Thus, H4 is accepted because the CR and probability values meet the hypothesis testing criteria. These results indicate that Effort Expectancy significantly influences Satisfaction.

3.5. Hypothesis Testing 5

The fifth hypothesis (H5) states that Social Influence (SI) significantly influences Behavioral Intention (BI). Based on the results in the table, the Critical Ratio (CR) value is -0.153, which indicates that the value is smaller than 1.96. In addition, the recorded probability value is greater than 0.05, namely 0.837. Thus, H5 is rejected because the CR and probability values do not meet the hypothesis testing criteria. These results indicate that Social Influence does not significantly influence Behavioral Intention.

3.6. Hypothesis Testing 6

The sixth hypothesis (H6) states that Social Influence (SI) significantly influences Satisfaction (SAT). Based on the results in the table, the Critical Ratio (CR) value obtained is 0.581, which means that the value is smaller than 1.96. In addition, the probability value is also greater than 0.05, namely 0.638. Thus, H6 is rejected because the CR and probability values do not meet the hypothesis testing criteria. These results indicate that Social Influence does not significantly influence Satisfaction.

3.7. Hypothesis Testing 7

The seventh hypothesis (H7) states that Facilitating Condition (FC) significantly influences Use Behavior (UB). Based on the results in the table, the Critical Ratio (CR) value obtained is 1.143, which means that the value is smaller than 1.96. In addition, the recorded probability value is greater than 0.05, namely 0.206. Thus, H7 is rejected because the CR and probability values do not meet the hypothesis testing criteria. These results indicate that Facilitating Condition does not significantly influence Use Behavior.

3.8. Hypothesis Testing 8

The eighth hypothesis (H8) states that Facilitating Condition (FC) significantly influences Satisfaction (SAT). Based on the results in the table, it is known that the Critical Ratio (CR) value is -0.634, which means that the value is smaller than 1.96. In addition, the recorded probability value is greater than 0.05, namely 0.441. Thus, H8 is rejected because the CR and probability values do not meet the hypothesis testing criteria. This finding indicates that Facilitating Condition does not significantly influence Satisfaction.

3.9. Hypothesis Testing 9

The ninth hypothesis (H9) states that Trust (TRU) significantly influences Behavioral Intention (BI). Based on the results in the table, the Critical Ratio (CR) value is 1.597, which means that the value is smaller than 1.96. In addition, the recorded probability value is greater than 0.05, namely 0.089. Thus, H9 is rejected because the CR and probability values do not meet the hypothesis testing criteria. These results indicate that Trust does not significantly influence Behavioral Intention.

3.10. Hypothesis Testing 10

The tenth hypothesis (H10) states that Trust (TRU) significantly influences Satisfaction (SAT). Based on the analysis results table, the Critical Ratio (CR) value is 7.039, which means the value is greater than 1.96. The probability value is also recorded as less than 0.05, namely 0.004. Thus, H10 is accepted because the CR and probability values meet the hypothesis testing criteria. These results indicate that Trust has a significant effect on Satisfaction.

3.11. Hypothesis Testing 11

The eleventh hypothesis (H11) states that Satisfaction (SAT) has a significant effect on Behavioral Intention (BI). Based on the analysis results table, the Critical Ratio (CR) value is 4.272, which indicates that the value is greater than 1.96. In addition, the recorded probability value is less than 0.05, thus meeting the significance criteria. Thus, H11 is accepted because the CR and probability values meet the test requirements. These results indicate that Satisfaction has a significant effect on Behavioral Intention.

3.12. Hypothesis Testing 12

The twelfth hypothesis (H12) states that Behavioral Intention (BI) significantly influences Use Behavior (UB). Based on the analysis results table, the Critical Ratio (CR) value is 7.927, which means the value is greater than 1.96. In addition, the recorded probability value is less than 0.05, which is 0.004. This condition indicates that both hypothesis testing criteria have been met. Thus, H12 is accepted. These results indicate that Behavioral Intention significantly influences Use Behavior.

Table 3. Hypothesis Testing

No	Hypothesis	Results
H1	Performance Expectancy → Behavioral Intention	Rejected
H2	Performance Expectancy → Satisfaction	Accepted
H3	Effort Expectancy → Behavioral Intention	Rejected
H4	Effort Expectancy → Satisfaction	Accepted
H5	Social Influence → Behavioral Intention	Rejected
H6	Social Influence → Satisfaction	Rejected
H7	Facilitating Condition → Use Behavior	Rejected
H8	Facilitating Condition → Satisfaction	Rejected
H9	Trust → Behavioral Intention	Rejected
H10	Trust → Satisfaction	Rejected
H11	Satisfaction →Behavioral Intention	Accepted
H12	Behavioral Intention → Use Behavior	Accepted

Based on the results of testing Hypothesis 1, it was found that Performance Expectancy did not have a significant effect on Behavioral Intention. This finding indicates that the perception of benefits or advantages felt by users when using the National Health Insurance Mobile application does not affect their intention to use the application. The results of this study are not in accordance with the Unified Theory of Acceptance and Use of Technology model developed by Venkatesh and colleagues in 2003, and are also inconsistent with several previous studies which stated that performance expectations are an important factor in forming the intention to use a technology. In the context of this study, although users of the National Health Insurance Mobile application perceived benefits—such as ease of accessing health services, obtaining participant information, and assisting with administrative processes—these benefits were not strong enough to encourage the emergence of usage intentions. This may be due to the presence of other, more dominant factors, such as user habits, immediate needs, or perceptions of the application's reliability and service quality. Therefore, perceived usefulness is not a primary factor in determining intention to use the National Health Insurance Mobile application.

Based on the research results that tested Hypothesis 2, it was found that Performance Expectancy significantly influenced Satisfaction. This finding indicates that user perceptions of the benefits or advantages gained from using the National Health Insurance Mobile application can increase user satisfaction levels. This finding aligns with previous research findings, which stated that performance expectations are a crucial factor determining user satisfaction levels when interacting with a system [47], [48]. The greater the perceived

usefulness, the higher the resulting satisfaction. In this study, users of the National Health Insurance Mobile application expressed satisfaction because the system provided benefits in the form of easy access to services, health information, and efficiency in administrative processes. However, these benefits do not directly influence users' intention to continue using the application, but they still contribute positively to user satisfaction.

Based on the research results that tested Hypothesis 3, it was found that Effort Expectancy did not significantly influence Behavioral Intention. This finding indicates that the level of ease of use perceived by users in operating the National Health Insurance Mobile application does not influence their intention to use the application. Expectations regarding ease of use do not always determine a person's intention to utilize a system. However, ease of use is actually a significant factor driving user intention to use the system. In this study, although users of the National Health Insurance Mobile application perceived the application as easy to use, this perception of ease was not strong enough to influence their intention to continue using the application.

Based on the research results tested in Hypothesis 4, it was found that Effort Expectancy significantly influences Satisfaction. This finding indicates that user perceptions of the ease of using the National Health Insurance Mobile application can increase user satisfaction levels. Expectations regarding ease of use are a critical factor determining user satisfaction with a system. The easier a system is to use, the greater the level of comfort and satisfaction experienced by users. In the context of this study, users of the National Health Insurance Mobile application perceived the application as easy to understand and operate, resulting in a positive user experience and higher levels of satisfaction. However, this perceived ease of use did not necessarily influence user intention to continue using the application, but it still made a significant contribution to increasing user satisfaction.

Based on the research results tested in Hypothesis 5, it was found that Social Influence did not significantly influence Behavioral Intention. This indicates that the influence of others, whether family, friends, or the social environment, does not influence users' intention to use the National Health Insurance Mobile application. Social influence is not a primary determinant in shaping user intention towards a system. Social influence is actually an important factor driving a person's intention to use a system. This difference in results can be understood through field observations conducted by the researchers, namely that most users of the National Health Insurance Mobile application only use the application because of recommendations from social security providers for easier service access. However, the tendency of users to trust direct face-to-face services more than digital services means that this social influence is not strong enough to shape their intention to use the application. In other words, recommendations or encouragement from other parties are not the dominant factors that can influence users' decisions to use the National Health Insurance Mobile application on an ongoing basis.

Based on the research results testing Hypothesis 6, it was found that social influence did not significantly influence user satisfaction. This finding suggests that encouragement from others to use the National Health Insurance Mobile application does not affect user satisfaction levels. This finding is inconsistent with research conducted by Kaewkitipong and colleagues (2016), which stated that social influence plays a role in determining user satisfaction with a system. In the context of this research, National Health Insurance Mobile users were encouraged by the Social Security Administration for Health to use the application to obtain more effective and efficient services. However, this recommendation did not increase user satisfaction or impact their intention to continue using the National Health Insurance Mobile application.

Based on the research results testing Hypothesis 7, it was found that the condition of facilities did not significantly influence usage behavior. This finding indicates that the availability of facilities owned by users or the support provided to support the use of the National Health Insurance Mobile application does not influence user behavior in using the application. Facility conditions do not determine user behavior in using a system. However, that facility conditions actually play a role in influencing system user behavior. In this study, facility conditions, both from the user's perspective and from the Social Security Administration Agency, were not shown to influence user intention or tendency to use the National Health Insurance Mobile application.

Based on the research results that tested Hypothesis 8, it was found that facility conditions had no significant effect on user satisfaction. This finding indicates that the availability of facilities owned by users and the supporting facilities provided for the use of the National Health Insurance Mobile application did not influence user satisfaction levels. Facility conditions play a role in determining user satisfaction with a system. In the context of this study, facility conditions, both from the user's perspective and from the Social Security Administration Agency, were not shown to influence user satisfaction in using the National Health Insurance Mobile application.

Based on the research results that tested Hypothesis 9, it was found that user trust did not significantly influence user behavioral intentions. This finding indicates that users' level of trust in the system does not influence their intention to use the application. User trust is a determining factor in user intention to utilize a system. In this study, users' level of trust in the National Health Insurance Mobile application was not proven to influence their intention to continue using the application.

Based on the research results tested in Hypothesis 10, it was found that user trust significantly influences user satisfaction. This finding indicates that the higher a user's level of trust in the system, the higher

their level of satisfaction in using the application. User trust is a crucial factor determining satisfaction in using a system. In this study, users expressed trust in the services provided through the National Health Insurance Mobile application, resulting in higher levels of satisfaction. However, this trust was not proven to influence users' intention to continue using the application.

Based on the research results tested in Hypothesis 11, it was found that user satisfaction significantly influences users' behavioral intentions. This finding indicates that users' perceived level of satisfaction can influence their intention to continue using the system. User satisfaction is a crucial factor in determining intention to use a system. In this study, users who were satisfied with the service and convenience provided by the National Health Insurance Mobile application demonstrated a greater intention to continue using the application. Therefore, it can be concluded that the higher the user satisfaction, the stronger their intention to use the application in the future.

Based on the results of the study, which tested Hypothesis 12, it was found that users' behavioral intentions significantly influenced usage behavior. This finding indicates that users' intention to use the system plays a significant role in shaping their actual behavior when using the system. Behavioral intentions are a determining factor in driving system usage behavior. In this study, user behavior was influenced by their intention or interest in using the application. Given the strong relationship between intention and usage behavior, it can be concluded that the stronger the user's intention, the more likely they are to continue using the National Health Insurance Mobile application in the future.

The findings of this study demonstrate that the behavior of users of the National Health Insurance Mobile application is influenced not only by the application's technical aspects, but also by psychological perceptions and user experiences in accessing digital health services. This suggests that the adoption of technology-based health services cannot be simplified to simply evaluating features or interface design, but rather requires a more comprehensive understanding of how users assess the benefits, convenience, and reliability of the digital health service system as a whole. In the context of Indonesia's public service ecosystem, factors such as community habits, digital literacy levels, and trust in government agencies are important dimensions to consider in increasing technology acceptance.

Furthermore, the research findings reinforce the importance of developing digital health applications that are not only functional but also capable of providing a consistent, secure, and responsive experience. When users experience stable and reliable services, they will form positive perceptions that contribute to satisfaction and ultimately increase their intention to use digital services continuously [49], [50]. Therefore, application development should not only focus on adding features, but also on improving service quality, access speed, and the clarity of information received by National Health Insurance participants.

From a managerial perspective, this research has important implications for Health Social Security Agency Kesehatan as a service provider. Digitalization efforts need to be balanced with effective communication strategies to bridge the perception gap between digital service utilization and preference for face-to-face services. A more personalized approach, such as education through official communication channels, increased digital literacy, and explanations of the practical benefits of using the National Health Insurance Mobile app, can increase public acceptance of digital services. Strengthening support systems such as technical assistance centers, online consultations, and easy-to-understand information are also strategic factors in improving the user experience.

Furthermore, the results of this study also provide theoretical contributions to the development of studies on technology acceptance in the healthcare sector. The integration of the concepts of user psychology, trust in institutions, and public service behavior into the Unified Theory of Acceptance and Use of Technology model broadens understanding of the complexities of health technology adoption in developing countries. Thus, this study not only enriches the literature on digital health adoption but also provides an empirical basis for future researchers to formulate a more contextual model tailored to the diverse social conditions of Indonesian society. Overall, this discussion confirms that the acceptance of the National Health Insurance Mobile app is inextricably linked to the quality of the service experience, the level of trust in service providers, and the maturity of the national digital ecosystem. Continuous improvements in both technical and non-technical aspects will significantly impact application usage and support the acceleration of digital transformation in the healthcare sector.

This research has significant implications for the development of digital policies within the National Health Insurance system. The findings can serve as a basis for the Health Social Security Agency to improve the quality of digital-based healthcare services by enhancing user experience, improving application reliability, and optimizing communication with participants. This research also enriches the literature on technology utilization in public healthcare by demonstrating that perceived benefits, ease of use, and public trust are crucial factors in the successful adoption of digital healthcare services. Furthermore, the findings of this study can be used by other healthcare technology developers as a reference in designing digital services that are more responsive to user needs.

This study has several limitations that should be considered. First, the research location focused on Jakarta, Bogor, Depok, Tangerang, and Bekasi, making the findings unable to be generalized to communities in other regions with different social, cultural, and digital literacy conditions. Second, this study used a cross-sectional design, thus not being able to describe changes in user behavior over time. Third, all data were obtained through questionnaires completed directly by respondents, which could potentially lead to perception bias or a tendency to provide answers deemed most appropriate. Fourth, this study only examined factors contained in the theory of technology acceptance and use, and therefore did not include other variables such as internet network quality, previous service experience, or the urgency of health needs that may influence application usage behavior.

4. CONCLUSION

Based on the analysis of all hypotheses, this study concluded that performance expectations and business expectations were proven to increase user satisfaction, but did not influence their intention to use the National Health Insurance Mobile application. Social influence and facility conditions also did not affect either user intention or satisfaction, indicating that these external factors were not yet a primary consideration in application use. User trust only influenced satisfaction, but did not impact usage intention. Furthermore, user satisfaction significantly influenced the intention to use the application, and behavioral intention was proven to be the main predictor of usage behavior. Overall, this study confirms that satisfaction and behavioral intention are key factors in driving application use, while benefits, convenience, social influence, and facilities were not able to directly shape usage intention. Future research is recommended to explore additional factors such as user experience and intrinsic motivation that may influence intention to use national health insurance apps. Future studies should use a longitudinal approach to assess changes in user behavior over time and their impact on app satisfaction and intention to use.

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