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Driving Public Service Innovation: Factors Influencing the Implementation of Mobile JKN Application in Indonesia

Aulia Ramdanis[1*], Victoria Kusumaningtyas Priyambodo[2]
Universitas Mataram
Corresponding Author: Aulia Ramdanis auliaaaramdanis26@gmail.com

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A B S T R A C T

The digital revolution has encouraged BPJS Health to launch the Mobile JKN application to improve access and quality of health services for the Indonesian people. This application offers easy access, efficiency, and transparency of health services. However, the adoption of Mobile JKN is still constrained by the level of user acceptance. The research uses the Model of Technology Acceptance (TAM) framework to examine elements that affect application use, such as perceived usefulness, simplicity of use, and trust in the application. The data collection technique uses convenience sampling for Mobile JKN users. Testing was carried out using the structural equation model (SEM) method with the SmartPLS test tool which was carried out by measuring the outer model and inner model. The results from 324 respondents showed that trust, security, and intuitive design of the application significantly increased user satisfaction and adoption intentions, reinforcing the importance of digital innovation in the health sector.

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INTRODUCTION

The digital revolution has brought about major changes in the way governments operate. Since the early 1990s, terms such as "e-government" and "digital government" have been introduced into the literature, emphasizing innovative collaborations between Western governments and technology companies. Given how quickly technology for information and communication are developing, tools for e-government used by governments to communicate with the public have undergone rapid development. This study investigates how people's views of practicality and usability, two important elements of the model for technological acceptance, can close the gap (Taufiqurokhman et al. 2024). By leveraging open innovation, governments can shift from conventional public services to e-government. This can be achieved via a platform equipped has a standardized digital identity. In this way, the government can respond to user needs more quickly and accurately. E-government also contributes to increasing the competence, effectiveness, understanding, and accountability of public services (Tejedo-Romero & Araujo 2020).

The development of electronic government demonstrates that this program helps many people, including reducing the level of corruption, increasing the efficiency and quality of serving the public administration, and encouraging electronic democracy, transparency, and a more and individual centered method (Zahid et al. 2022; Zhang & Zhu 2021). Therefore, the Health Social Security Administering Agency (BPJS-K), a government agency accountable for implementing BPJS Health, has launched a mobile application for all Indonesian citizens to improve health services. In 2017, BPJS Health released Mobile JKN, mobile National Health Insurance is a mobile application that support Indonesian National Health System Healthy Card (NHS-IHC). Given that Indonesia is an archipelagic nation with around 13.000 islands and a scattered population, accessing health services for those outside urban areas is challenging. With Mobile JKN, NHS-IHC services can now be accessed from anywhere, allowing people in all regions and islands in Indonesia to obtain health services. When the JKN mobile app was released in Jakarta, the President of BPJS Health explained that this application is part of the BPJS digital transition business model, which was previously based on administrative tasks at medical facilities or branch offices (Handayani et al. 2018).

The public is expected to regularly access and use Mobile JKN to enhance health services. Users of this application can access a variety of information that facilitates the deployment of mobile health services. The public can access participant data through Mobile JKN, including billing details, medical history, and the availability of beds and other facilities. To enhance health services more broadly, BPJS Health released this application for all Indonesian nationals in 2017. The Mobile JKN Application is designed to facilitate the public to access BPJS Health services in a more practical way, while reducing the number of visits to BPJS Health service offices (Kurniawan et al. 2016). Ease of access to services is the main focus in creating the JKN mobile application. However, in reality, the number of users of this application is still very small (Febisatria and Liliyan 2024). Based on data from BPJS Teaching Materials (2023) in (Febisatria and Liliyan

2024), only 16.034 million people use Mobile JKN out of a total of 241.75 million BPJS Health service users in Indonesia in 2022. This shows that only 4.15% of all BPJS Health users use the application. In fact, with the benefits offered, the Mobile JKN application should have more users. However, in fact, the degree of use is still relatively low.

Previous studies on the elements that affect the uptake of mobile health services was conducted in South African hospitals reviewing the dimensions of readiness including motivational readiness, engagement, technology, resources, policies, community, and use (Ilorah et al. 2017). Meanwhile, Khatun et al. (2015)analyzed rural communities in Bangladesh using the dimensions of technological readiness, motivation, and resources. In addition, in a systematic review, Yusif et al. (2017) of 63 research projects in English covering m-health readiness during the period 1995-2016, it was found that core readiness, engagement, technology, additionally, knowledge of information technology (IT) was the main dimensions of m-health readiness. Furthermore, previous studies on the uptake of e-government largely concentrated on industrialized nations, with developing nations receiving less attention (Abdoh et al. 2020). Differences in countries' preparedness in e-government, politics, social, cultural, and economic aspects of the adoption of a "one-size-fits-all" strategy hard. In addition, acceptance of services provided by e-government is often driven by viewed benefits and perceived usability (Chen and Aklikokou 2020).

LITERATURE REVIEW

Technology Acceptance Model (TAM) Theory

The Technology Acceptance Model (TAM) provides a widely used theoretical framework to describe user acceptance of technological systems, introduced by Davis (1989), which explains how users decide to accept and use technology, with technology acceptance encompassing the extent to which individuals or organizations are willing to adopt an innovation. If a person is interested in a behavior, they are likely to do it. However, that interest can change at any time, and the chances of that change increase as the time interval between changes in interest increases (Andry & Susanto, 2023).

Throughout the e-government literature development, e-administration is often defined as using the Internet to provide public services (Montanes, 2008) and is considered an initial step towards the successful implementation of e-government, including further phases like online involvement (Carter & Bélanger, 2005). Therefore, research related to the acceptance of the Mobile JKN application can integrate the element of trust into TAM to create a more comprehensive model by focusing on the analysis of e-administration adoption by the community as an important element in adopting electronic governance. With the ability of TAM to explain about 40% of the variation in the intention and behavior of using information systems (Khan et al., 2021), this model can serve as a solid foundation for understanding and encouraging the use of JKN Mobile as a platform for services offered by e-government.

Based on TAM, the foundation of trust in e-government (TEG) is regarding technology, the safety of electronic data storage, and the awareness of the dangers of online transactions (Hooda et al., 2022); (Horst et al., 2007). As long as

they feel comfortable and secure, people who have greater faith in the government are inclined to utilize and recommend governmental services. Consequently, boosting trust might attract more consumers and lessen reluctance to use internet services. Several variables, including perceptions of the advantages of e-government, social influence, social media use, and trust, affect people's readiness to employ information technology to gain support or encourage public participation (Choi & Song, 2020). TEG has been incorporated in Using the TAM, or Model of Technology Acceptance, in several previous studies. Empirical studies have shown that trust has a significant impact on perceived ease of use (PEU) and perceived usefulness (PUF) within the framework among public services provided online, like those in Togo (Chen & Aklikokou, 2020) and online tax payments in Taiwan (Wu & Chen, 2005). Based on these conclusions, the following theories are put out by this study.

H1: Trust in E-Government Services has a positive and significant relationship with Perceived Usefulness.

H2: Trust in E-Government Services has a positive and significant relationship with Perceived Ease of Use.

According to the TAM framework, perceived ease of use (PEU) and perceived usefulness (PUF) are the main elements with a substantial influence on the adoption of a technology (Davis 1989). Regarding e-government services, perceived usability (PEU) alludes to the idea that social media platforms can be utilized to address complaints and provide feedback in an easy-to-use manner. Consequently, a positive correlation between PEU and perceived usefulness (PUF) is anticipated (Chawla & Joshi, 2019); (Singh & Srivastava, 2019). Several empirical studies also show that PEU significantly affects PUF (Abdullah & Ward, 2016); (Alalwan et al., 2018); (Chen & Aklikokou, 2020).

Perceived usefulness (PUF) has been shown to increase citizen satisfaction with services provided by e-government. This relationship's efficacy suggests that the advantages provided by e-government services raise citizen satisfaction (CS). When the e-government system is simple to utilize, citizens are more likely to be satisfied. This is an important indicator of the system's health (Wang & Teo, 2020). User happiness tends to rise when people perceive the new product or technology they employ as straightforward to use, understand and comprehend. Another study conducted in Romania demonstrated a direct correlation between perceived ease of use (PEU) and citizen satisfaction (CS) (Aljazzaf et al., 2020). The better a system helps individuals complete their tasks, the more likely they will use it online. Therefore, this study examines the effect of perceived usefulness (PUF) and perceived ease of use (PEU) on user satisfaction (CS) of the Mobile JKN BPJS Health e-government service in Indonesia. Based on this, we put out the following theory:

H3: Perceived Ease of Use has a positive and significant relationship with Perceived Usefulness.

H4: Perceived Ease of Use has a positive and significant relationship with Citizen Satisfaction.

H5: Perceived Usefulness has a positive and significant relationship with Citizen Satisfaction.

Instead of visiting government offices in person to acquire public services, citizens can use e-government services. In this way, individuals can accomplish e-government service objectives faster and at reduced prices (Alzahrani et al., 2018). In addition, citizens' intention to adopt new technologies tends to increase if they believe the technology will provide benefits, consequently cultivating a more optimistic outlook. Numerous research on the acceptance of mobile payments and technologies have addressed the importance of perceived utility (PUF), demonstrating that the more helpful technology is, the more strongly people want to use it (Singh & Sinha, 2020). Therefore, this research explores the connection between PEU, PUF and the adoption of e-government in the form of the Mobile JKN-BPJS Health application in Indonesia. Based on this, we propose the following hypothesis:

H6: Perceived Ease of Use has a positive and significant relationship with JKN Mobile Adoption.

H7: Perceived Usefulness has a positive and significant relationship with JKN Mobile Adoption

Digitalization of Public Services

Digital transformation fundamentally changes the traditional ways of implementing public administration in describing major changes related to how governments utilize digital technologies to improve productivity, transparency, and quality of service to the public. This change involves the application of digital technologies and system integration to improve decision-making, administrative efficiency, and public engagement (Sukomardojo et al. 2023). Both internal and external factors significantly influence the digital transformation process, so continuous adjustments are needed to processes, services, and products to satisfy the community's demands (Pangandaheng et al. 2022). Digital transformation is not only focused on increasing efficiency in administration, but also serves as the foundation for enhancing the community's overall quality of life and services (Mahmud 2024; Ningtyas and Angin 2024).

Therefore, higher happiness levels will lead to more frequent use of e-government platforms and a tendency to continue using them (Rouibah et al., 2021). Therefore, individuals who utilize Mobile JKN can actively participate in discussions, share experiences, and ask and answer questions about health services tend to feel satisfied with the public services provided through the Mobile JKN BPJS Health application system in Indonesia. Thus, the following hypotheses can be proposed:

H8: Citizen Satisfaction has a positive and significant relationship with Mobile JKN Adoption

Based on the formulation of the hypothesis, the structure of the conceptual framework of the research is as follows:

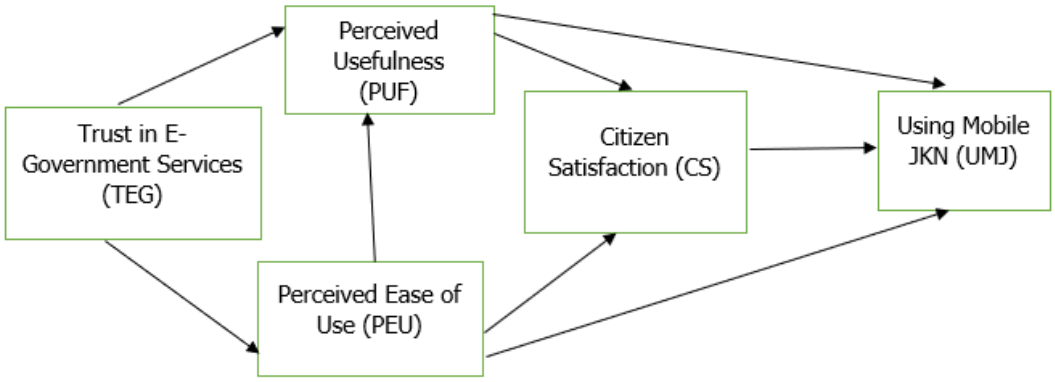

Figure 1. Conceptual Framework

METHODOLOGY

This study employs a quantitative methodology using surveys distributed online and offline to Indonesian citizens. The sample was selected using the Convenience sampling method for users of the Mobile JKN application in Indonesia. This method was chosen to measure and analyze the elements that impact the deployment of mobile applications in the context of public services. By using a questionnaire, researchers can collect data from a large number of respondents, which allows for a broader picture of users' views and experiences of the JKN application. The questionnaire was designed in accordance with the proposed hypothesis, aimed at users of the JKN Mobile application from BPJS Health in Indonesia. Before distribution, the survey was examined on thirty responders to ensure its reliability and clarity. The results of the trial showed that the questionnaire was adequate.

The data analysis procedure uses using structural equation modeling with partial least squares (PLS-SEM), evaluate the relationship between constructs and put the suggested theories to the test, as well as identify significant factors that contribute to the implementation of the Mobile JKN application. The PLS method was chosen because of its capacity to examine the causal links between construct variables while handling the construct model and its measurement items (Petter et al. 2007). The testing stages with Partial Least Square (PLS) include both the structural model (inner model) and the measuring model (outer model).

Table 1. Definition Operations of Variables

Variable	Definition	Indicator	Source
Perceived Usefulness (PUF)	Perceived usefulness is the degree to which users evaluate technology as useful. (Aswar et al., 2022)	1. Higher quality 2. Efficiency of interaction with the government 3. Efficiency of information exchange with the government	(Khan et al., 2021)

		4. Contacting the government more easily 5. Strengthening government relations with the community 6. Improving public services	
Perceived Ease of Use (PEU)	Ease of use refers to the extent to which technology can be used comfortably and easily understood. Based on the TAM model, this factor also has a positive influence on the level of technology acceptance (Aswar et al., 2022).	1. Easy to use 2. Quick to understand 3. Save time and energy 4. More flexible 5. Direct and simple 6. Comfortable to use	(Khan et al., 2021)
Trust in E-Government Services (TEG)	Trust in systems and service providers is a major factor in the acceptance of E-Government (Ziemba, 2020).	1. Serving the public interest 2. More effective service 3. Public Health Services 4. Be sincere in meeting the needs of participants 5. Be honest in providing information	(Khan et al., 2021)
Citizen Satisfaction (CS)	When users believe that the new technology or product they are using is simple, easy to learn, and easy to understand, their satisfaction levels tend to increase (Nguyen et al., 2020)	1. Depending on emotions, I'll keep using OTP. 2. Depending on service quality, OTP will be used going forward. 3. Considering the advantages, I'll keep using OTP.	(Alkraji., 2021)
Adoption of Mobile JKN (UMJ)	Use of the Mobile JKN application by BPJS Health participants to obtain health	1. Health service communication tools with the government 2. Provide information	(Nguyen et al., 2020)

services, register, check membership status, and submit claims digitally.	3. Discussing Health issues 4. Contribute to using Mobile JKN 5. Willing to interact with the government through Mobile JKN

Source: Research Data, 2024

RESEARCH RESULT

Respondents' Overview

Information related to the general description of respondents can be seen in Table 2. A total of 324 respondents participated in this study, with a gender distribution dominated by men (65.1%), while women only comprised 34.9% of the total respondents. Based on age range, most of the people that responded were in the 18–25 age range, which was 45.7%. The 26–40 age group comprised 41.4% of respondents, 12.3% were in the 41–60 age group, and only 0.6% were over 60. In terms of education level, most respondents had a high school/equivalent education background (40.7%), S1/D4 graduates were 42.6%. Meanwhile, 10.5% of respondents were diploma graduates, and 6.2% had a master's degree (S2). No respondents had elementary, junior high, or doctoral (S3) education. Based on employment sector, most of those surveyed are employed in the private sector (50.0%), followed by the public sector (20.7%), and the health and education sector at 15.1%. As many as 14.2% of respondents come from other employment sectors. These data show the diversity of demographic characteristics and backgrounds of respondents in this study.

Table 2. Respondents' Overview

	Characteristics	Frequency	Percentage (%)
Gender	Man	211	65.1
	Woman	113	34.9
	Total	**324**	**100%**
Age	18-25	148	45.7
	26-40	134	41.4
	41-60	40	12.3
	>60 Years	2	0.6
	Total	**324**	**100%**
Education	Elementary School/Equivalent Islamic Elementary School	0	0
	Junior High School/Islamic Junior High School or Equivalent	0	0
	High School/Equivalent	132	40.7
	Diploma	34	10.5
	S1/D4	138	42.6

	Master (S2)	20	6.2
	Doctor (S3)	0	0
	Total	**324**	**100%**
Work	Public Sector	67	20.7
	Private Sector	162	0.5
	Health and Education Sector	49	15.1%
	Another	46	14.2%
	Total	**324**	**100%**

Source: Research Data, 2024

Outer Model Analysis (Measurement Model)

Convergent Validity

Based on Jogiyanto (2004), convergent validity can be tested through the outer loading value > 0.7 and the average value of the extracted variance Average Variance Extracted (AVE) > 0.5.

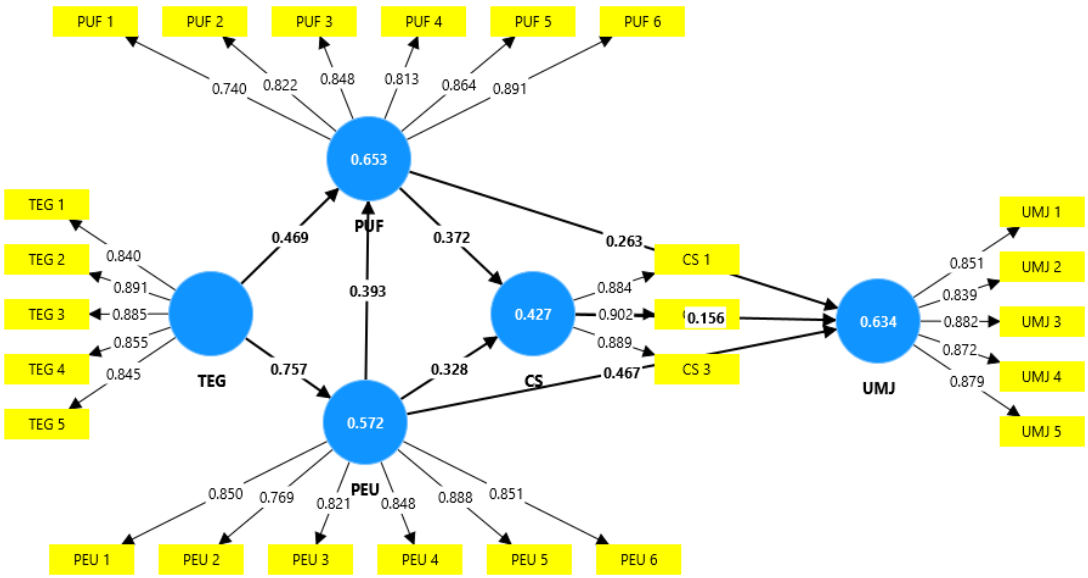

Figure 2. Structural Model of Research

Source: Processed Researcher from SmartPLS 4.0, 2024

The outer model comes from the results of the regression of one indicator variable in its construct. The results of data processing are shown in the following figure, which is the result of testing the outer model that can be accessed.

Table 3. Outer Model Test

	Outer Loading				
	Citizen Satisfaction (CS)	Perceived Ease of Use (PEU)	Perceived Usefulness (PUF)	Trust in E-Government Services (TEG)	Adoption of Mobile JKN (UMJ)
CS 1	0.884				
CS 2	0.902				
CS 3	0.889				
PEU 1		0,85			

PEU 2	0,769			
PEU 3	0.821			
PEU 4	0.848			
PEU 5	0,888			
PEU 6	0.851			
PUF 1		0,74		
PUF 2		0.822		
PUF 3		0.848		
PUF 4		0.813		
PUF 5		0.864		
PUF 6		0.891		
TEG 1			0.84	
TEG-2			0.891	
TEG-3			0,885	
TEG4			0.855	
TEG-5			0.845	
UMJ 1				0.851
UMJ 2				0.839
UMJ 3				0.882
UMJ 4				0.872
UMJ 5				0,879

Source: Research Data, 2024

Convergent validity is evaluated through factor rank analysis, composite reliability, and Average Variance Extracted (AVE) for each construct. A construct is considered to have good convergent validity if its AVE value is more than 0.5 (Fornell & Larcker, (1981); (Hulland, 1999). The results of the convergent validity test in table 4 shows that the loading factor value is above 0.70.

Table 4. Average Variance Extracted (AVE)

	Average variance extracted (AVE)
Citizen Satisfaction (CS)	0,795
Perceived Ease of Use (PEU)	0.703
Perceived Usefulness (PUF)	0.691
Trust in E-Government Services (TEG)	0,745
Adoption of Mobile JKN (UMJ)	0,748 t

Source: Research Data, 2024

Convergent validity testing revealed that the AVE root value was greater than the correlation between latent constructs. According to (Hair et al., 2019), the minimum required AVE value is 0.50 or more, indicating that the construct can explain at least 50% of the variance of its indicators. Based on the test results in Table 4, the AVE value obtained exceeds 0.5, indicating that the AVE in this test has a good value and can be considered valid.

Discriminant Validity

The degree to which a variable deviates from discriminant validity measures the degree of separation from other constructs. In this study, the heterotrait-monotrait correlation ratio (HTMT) was used to assess discriminant validity. An HTMT value of less than 0.90 indicates no significant validity problems (Henseler et al., 2015). Based on Table 5, all HTMT values between constructs are below the threshold of 0.90, so discriminant validity can be ensured.

Table 5. Discriminant Validity (HTMT)

	CS	PEU	PUF	TEG	UMJ
Citizen Satisfaction (CS)					
Perceived Ease of Use (PEU)	0,676				
Perceived Usefulness (PUF)	0.691	0.818			
Trust in E-Government Services (TEG)	0.854	0.822	0.838		
Adoption of Mobile JKN (UMJ)	0.67	0.823	0,77	0.818	

Source: Research Data, 2024

Composite Reability

According to Hair et al. (2019), the results of the reliability test show that the Composite Reliability, Rho_A, and Cronbach's Alpha values are more than the standard values set. Based on the reliability test parameters, the Cronbach's Alpha and Composite Reliability values in this study have met the criteria determined by Fitriana & Baridwan (2012). Consequently, it can be said that the measures employed in this research are trustworthy and have passed the reliability test.

Table 6. Cronbach's Alpha, Rho_A, and Composite Reliability

	Alfa Cronbach	Composite Reability (rho_a)	Composite Reability (rho_c)
Citizen Satisfaction (CS)	0.871	0.871	0.921
Perceived Ease of Use (PEU)	0,915	0.919	0,934
Perceived Usefulness (PUF)	0,91	0.913	0,93
Trust in E-Government Services (TEG)	0,915	0.916	0,936
Adoption of Mobile JKN (UMJ)	0.916	0.917	0,937

Source: Research Data, 2024

Inner Model Analysis (Structural Model)

Coefficient of Determinance (R2)

The total capacity of the independent variables is determined by R-squared, which also helps explain the variation in the values of the dependent variables. Based on the data presented in Table 7, the results of the determinant coefficient test show the R-Square value of the JKN Mobile Adoption variable, which is 0.634, so the JKN Mobile Adoption variable can be explained by 63.4% by the variable Perceived Utility (PUF), Perceived Usability (PEU), Have faith in

E-Government Services (TEG), as well as Citizen Satisfaction (CS) and other variables influence the remaining 36.6%. Therefore, it can be said that the considerable influence of the independent variable on the dependent variable is included in the strong category.

Table 7. R-Square

	R-Square	R-Square Adjust
Adoption of Mobile JKN (UMJ)	0.634	0.63

Source: Research Data, 2024

Hypothesis Test

Table 8. Hypothesis Test Result

	Original sample (O)	T statistics (|O/STDEV|)	P values	Results
TEG -> PUF	0.469	8.703	0.000	Accepted
TEG -> PEU	0.757	15.854	0.000	Accepted
PEU -> PUF	0.393	6.577	0.000	Accepted
PEU -> CS	0.328	3.122	0,002	Accepted
PUF -> CS	0.372	4.364	0.000	Accepted
PEU -> UMJ	0.467	6.366	0.000	Accepted
PUF -> UMJ	0.263	3.888	0.000	Accepted
CS -> UMJ	0.156	2.582	0,010	Accepted

Source: Research Data, 2024

Internal model testing with bootstrapping is used for the study. The significance value is determined through the provisions. If the significance value is less than 0.05, the research hypothesis is accepted, and vice versa. The first hypothesis, Trust in E-Government Services (TEG), is proven to have a positive and significant effect on perceived usefulness (PUF), having a coefficient of 0.469, a t value of 8.703, as well as an importance of p = 0.000. The second hypothesis, Trust in E-Government Services (TEG), has a positive and significant effect on perceived ease of use (PEU) with a coefficient of 0.757, a t value of 15.854, and the importance of p = 0.000. Furthermore, the third hypothesis, perceived ease of use (PEU), has a positive contribution to perceived usefulness (PUF), possessing a coefficient of 0.393, a t value of 6.577, and the importance of p = 0.000. In addition, the fourth hypothesis, ease of use (PEU), significantly affects citizen satisfaction (CS) use, a coefficient of 0.328, a t value of 3.122, and p = 0.002. The fifth hypothesis, Perceived usefulness (PUF), is also proven to be significant in influencing citizen satisfaction (CS), having a coefficient that is 0.372, a t value of 4.364, and p = 0.000, and the sixth hypothesis, ease of use (PEU) on the use of Mobile JKN (UMJ) has a positive relationship possessing a coefficient that is 0.467, a t value of 6.366, as well as the importance of p = 0.000, while the seventh hypothesis, perceived usefulness (PUF) is proven to have a positive and significant effect on the use of Mobile JKN (UMJ) use a coefficient that is 0.263, a t value of 3.888, and p = 0.000. These results indicate that faith in online government services, perceived utility, and simplicity of use directly contribute to increasing citizen satisfaction and the use of the BPJS Health Mobile JKN application. In addition, the eighth hypothesis, Citizen Satisfaction (CS) has a

positive and significant relationship with the Use of Mobile JKN (UMJ) is approved with a coefficient of 0.156 and a t-value of 2.582, indicating a p value = 0.010.

DISCUSSION

Trust in E-Government Services has a positive and significant relationship with Perceived Usefulness

The study results indicate that trust in the BPJS Kesehatan JKN Mobile Application service provides a fairly strong direct contribution to increasing user perceptions regarding the usefulness of the JKN Mobile Application. This means that the greater the degree of user trust in the security, integrity, and capability of the BPJS Kesehatan JKN Mobile Application service, the more users tend to believe that the service is useful in meeting their needs. This finding is in line with research by Chen and Aklikokou (2020) which shows that trust has a statistically significant effect on perceived ease of use (PEU) and perceived usefulness (PUF) with relation to Togo's online public services. This finding highlights that the level of trust users have in e-government services directly affects how they assess the ease and usefulness of the service

Trust in E-Government Services has a positive and significant relationship with Perceived Ease of Use

The results of the study show that, the higher the level of trust in the BPJS Kesehatan JKN Mobile Application service, the higher the user's perception that the BPJS Kesehatan JKN Mobile Application is easy to use. This means that trust is an important factor in shaping user perceptions regarding the ease of use of the BPJS Kesehatan JKN Mobile Application service. Users who feel that the service is safe, reliable, and efficient will increasingly feel that the service is easy to access and use. Therefore, the higher the trust in the BPJS Kesehatan JKN Mobile Application service, the stronger the positive perception of ease of use, which can ultimately increase the level of adoption and use of services by the community. This finding is in line with research by Almaiah and Nasereddin (2020), trust is proven to influence the perception of usefulness and ease of use of e-government services. This study emphasizes that the level of trust users have in digital government services plays a vital role in assessing the ease and benefits of using the services. High trust can increase positive perceptions of usefulness and ease of use, encouraging further adoption of e-government services.

Perceived Ease of Use has a positive and significant relationship with Perceived Usefulness

Considering the outcomes of the tests that have been conducted, the third hypothesis is accepted. These results indicate that the easier users use a service or application, the more likely they are to find the service useful. In other words, the ease of using the JKN BPJS Health Mobile Application not only makes the user experience smoother but also strengthens the perception that the JKN BPJS Health Mobile Application is useful and can meet user needs. Theoretically, this aligns with the Technology Acceptance Model (TAM) theory by Davis (1989) which states that ease of use and perceived usefulness are two major factors that

influence an individual's decision to adopt technology. In addition, research by Chawla & Joshi (2019); Singh & Srivastava (2019) stated that PEU has a favorable correlation with PUF. In e-government applications such as Mobile JKN, the easier it is for users to access and use the application, the more they feel it is effective in meeting their goals or needs, ultimately increasing the perception of its usefulness. This study also provides practical insights for BPJS Health as the developer of the Mobile JKN application to ensure that ease of use is key to increasing the perception of usefulness, which in turn can encourage more people to adopt and continue using the service.

Perceived Ease of Use has a positive and significant relationship with Citizen Satisfaction

In light of the findings of the tests conducted, the fourth hypothesis is accepted. This positive relationship reflects that convenience in using digital services, such as clear navigation and a user-friendly interface, directly contributes to user satisfaction. Thus, the BPJS Health Mobile JKN application is designed to make it easier for users and will be more effective in increasing citizen satisfaction and encouraging them to continue using the service. These results support the significance of focusing on the perceived simplicity of use aspect in developing digital services. Suppose digital applications or systems can be designed to be more intuitive and easier to use. In that case, this will not only increase user satisfaction but also contribute to the success of overall service adoption. When consumers think that the new product or technology they're utilizing is straightforward, easy to apply, and simple to comprehend, this tends to increase their level of satisfaction. This aligns with research findings conducted by Alqaralleh et al., (2020) that mobile-based government services are marketed in Jordan as being user-friendly and efficient. In line with these findings, a study in Romania showed that high directly Perceived Ease of Use (PEU) contributed to increased Citizen Satisfaction (CS) (Aljazzaf et al., 2020).

Perceived Usefulness has a positive and significant relationship with Citizen Satisfaction

Considering the outcomes of the tests that have been carried out, the fifth hypothesis is accepted. This reflects that if citizens feel that the service helps meet their needs or makes activities easier, they will feel more satisfied. Perceived benefits, such as time efficiency, ease of access, or increased productivity, are important factors in shaping positive experiences with digital services. This finding emphasizes the importance of ensuring that the BPJS Health Mobile JKN application service provides real value to its users, because the benefits perceived not only increase satisfaction but also strengthen citizens' acceptance and trust in the service. This is consistent with research Wang & Teo (2020) which claims that citizens feel more satisfied when systems for e-government are designed to be easy to use, which is an important indicator of the caliber of the system.

Perceived Ease of Use has a positive and significant relationship with JKN Mobile Adoption

Based on the results of the tests that have been conducted, the sixth hypothesis is accepted. This shows that a simple, intuitive, and barrier-free user experience drives application adoption. If citizens feel that the Mobile JKN application is not complicated and can be used easily, they are more likely to use it to actively access the medical services provided. This finding underscores the importance of ensuring that applications are designed to be easy to use to increase widespread acceptance and use. This finding is supported by research by Singh & Srivastava (2019), that people tend to be more active in utilizing e-government services and have greater confidence in the quality of these services when they understand how to use them properly to access them.

Perceived Usefulness has a positive and significant relationship with JKN Mobile Adoption

Considering the findings of the examinations that have been carried out, the seventh hypothesis is accepted. This shows that citizens will be more motivated to use it actively if the Mobile JKN application is considered to provide added value, such as efficiency, ease of access to health services, and other benefits. This finding emphasizes the importance of ensuring that the Mobile JKN application provides real benefits to its users to increase the level of adoption and use. This finding is supported by Singh & Sinha (2020), which states the significance of perceived utility (PUF) as mobile payment adoption and technology acceptance, showing that the more useful the technology, the stronger the desire to take advantage of it, further research shows that taxpayers are greater likelihood of using the system if they think they will gain from it. The PUF of public services significantly impacts electronic government uptake platforms (Wirtz et al., 2020).

Citizen Satisfaction has a positive and significant relationship with Mobile JKN Adoption

In light of the findings of the tests that have been carried out, the eighth hypothesis is accepted. This indicates that the level of user satisfaction plays a crucial role in driving adoption and continued use. If citizens are satisfied with the ease, benefits, and quality of the services offered, they are more likely to use the application for their healthcare needs. This finding highlights the importance of preserving by enhancing the user's experience to ensure wider and more sustainable use of the JKN Mobile application. This aligns with Rouibah et al. (2021) that higher satisfaction will encourage more intensive utilization of social media sites and increase the tendency to continue using them.

This study reveals several important findings, especially in confirming the relevance of Davis's (1989) Model of Technology Acceptance (TAM) in e-government services such as Mobile JKN BPJS Health. The finding that trust in e-government services (TEG) has a significant correlation with perceived utility (PUF) and perceived ease of use (PEU) strengthens the role of trust as a major antecedent in influencing the use of Mobile JKN. This supports the findings Davis (1989) that PEU and PUF are two major factors in choices on the adoption of

technology. Furthermore, this research expands on the understanding of the TAM model by showing that trust can significantly affect user experience, which is consistent with the research by Chen & Aklikokou (2020) as well as Almaiah & Nasereddin (2020), who found that the level of trust plays an important role in shaping perceptions of the usefulness and ease of e-government services.

This study also provides a significant addition to the body of knowledge about trust in security, integrity, and service capability that has been proven to not only increase perceived usefulness but also affect user satisfaction (CS) and use of the Mobile JKN BPJS Health application (UMJ). This finding supports the study of Wirtz et al. (2020), which shows that the alleged value of public services directly influences the level of satisfaction and continued use. In addition, the significant connection between usability and (PEU) and user satisfaction (CS) emphasizes the importance of intuitive and barrier-free design, as supported by Alqaralleh et al. (2020) **a**nd Rouibah et al. (2021)**,** which emphasizes that a simple user experience contributes significantly to satisfaction and intensity of use. In addition, this finding significantly impacts the management and development of BPJS Health Mobile JKN services in Indonesia. Increasing public trust in the application must be a top priority. This can be accomplished by strengthening security features such as two-factor authentication, personal data management transparency, and active privacy protection policy communication. This step is relevant to the research Singh & Srivastava (2019)**,** which confirms that trust is key in driving e-government service adoption. Additionally, intuitive, easy-to-use, and user-friendly application design is important to increase the perception of ease of use. Emphasis on simple navigation and clear tutorials will make it simpler for novice users to comprehend and utilize the service.

BPJS Health can also convey the real benefits of this application to the public. Educational campaigns highlighting service efficiencies, such as reduced waiting times or easy access to health services, can increase the perception of the application's usefulness. The finding that PUF has a substantial impact on contentment and application use is in accordance with research Wang & Teo (2020)**,** which shows that strong perceptions of benefits will drive user satisfaction and sustainable adoption of digital services. In addition, to maintain levels of satisfaction and usage, BPJS Health needs to routinely monitor user experience through surveys and feedback that can be used to improve services. Implementing gamification or incentive strategies, such as providing loyalty points, can also increase user adoption and retention, as supported by (Aljazzaf et al., 2020).

Thus, this mainly aligns with research findings regarding trust, perceived utility, usability, and user satisfaction regarding the BPJS Health Mobile JKN application in Indonesia. Putting your trust in the service is important because users who feel the application is safe and reliable tend to be more receptive and use it. This also affects their understanding of the utility and convenience of use of the application. Ease of use is another key factor driving adoption. If users feel the application is simple and intuitive, they are more comfortable using it, ultimately increasing the perception that it is useful. This perceived usefulness is very important because users will be more motivated to use the application if

they feel they get real benefits, such as easy access to health services and time efficiency. User satisfaction also plays an important role. When users are satisfied with the experience, both in terms of ease, benefits, and quality of service, they tend to continue using the application. In other words, the combination of trust, ease, and perceived benefits creates a positive experience that drives continued application use. In general, this research provides theoretical insights investigating the elements influencing the adoption of e-government services and relevant practical guidelines for BPJS Health to raise the caliber of Mobile JKN services. By increasing trust, ease of use, and perceived benefits, these services have great potential for broader adoption and provide real benefits to society.

CONCLUSIONS AND RECOMMENDATIONS

This study confirms that trust, ease of use, and perception of benefits are the main factors influencing the adoption of the Mobile JKN BPJS Health application. Trust in the security, integrity, and capability of the application is proven to increase the perception of usefulness and ease of use, which ultimately positively impacts user satisfaction. This finding strengthens the relevance of the Technology Acceptance Model (TAM) by showing how perceived usefulness and ease of use contribute to technology adoption. In addition, intuitive and easy-to-use application design is an important factor that creates a positive user experience, strengthening the intensity of continuous application use. Thus, this study provides practical insights to increase the adoption of digital services in the health sector by improving the quality of user experience.

However, this study focused on internal factors without considering external factors such as digital infrastructure support and local cultural influences, which can also affect technology adoption. Therefore, further research is recommended to include these elements to gain a more holistic understanding. In addition, future studies can utilize additional theoretical frameworks, such as UTAUT, to enrich the analysis by focusing on specific regions with different geographical characteristics, such as areas with limited access to digital infrastructure or communities in remote areas. This can help reveal the influence of geographical factors on technology adoption and provide a deeper understanding of the specific challenges and opportunities in these areas. In addition, including local cultural elements and digital literacy levels as additional variables can provide a more comprehensive picture.

ADVANCE RESEARCH

Future research should explore the interplay between external and internal factors in the adoption of the Mobile JKN BPJS Health application by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) alongside TAM to capture a more comprehensive perspective. A mixed-methods approach could be employed to analyze how digital infrastructure disparities, socio-economic conditions, and regional cultural norms influence user behavior and technology acceptance across diverse populations.

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