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간호학석사학위논문

**Evaluating the Usability of Mobile JKN,
the Indonesian App for Universal
Healthcare Coverage, Using the
Technology Acceptance Model (TAM)**

2019년 2월

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Evaluating the Usability of Mobile JKN, the Indonesian App for Universal Healthcare Coverage, Using the Technology Acceptance Model (TAM)

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이 논문을 간호학 석사 학위논문으로 제출함

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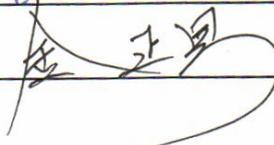
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Abstract

The main purpose of this research was to analyze Mobile JKN acceptance by the Indonesian community using the Technology Acceptance Model (TAM) questionnaire. Specifically, the study seeks to achieve the following aims: (a) Identify Indonesian users' acceptance of Mobile JKN—an app issued by BPJS Kesehatan, the government's health management agency, in support of JKN, the national insurance program that delivers universal healthcare coverage; (b) Identify users' perception of the Mobile JKN app; (c) Identify the demographic factors influencing the acceptance.

The research methodology applied in this study was descriptive, exploratory, and cross-sectional analysis. The criterion for participants in this research was a member of Universal Healthcare Coverage of Indonesia who had already downloaded and used the Mobile JKN app as the tools to connect to BPJS Kesehatan Institution. The questionnaires were distributed through social media platforms such as Facebook, WhatsApp, LINE, and KakaoTalk. There were 128 Mobile JKN app users participated in this study. The Pearson correlation coefficient was applied to test if a relationship existed between the variables of perceived usefulness (PU) and perceived ease-of-use (PEOU) and standard multiple regression was calculated to analyze the influence of demographic factors regarding the PU and PEOU of the Mobile JKN app.

The finding showed that the participants accepted the Mobile JKN app. Analysis of the data explained that the majority of the users perceived the app as useful, with the mean score of PU being 3.8, and that it was easy to use, with the mean score of PEOU being 3.7. It also showed that the PU variable and PEOU variables significantly correlated, with P -value <0.05 . The duration of app usage time became

the only influential predictor of PEOU score and it explained only 4% of variance of PEOU; however, it did not significantly affect the PU variable. Only the PEOU variable has an influence on PU and it explained 30% of the variance. This research enriches the knowledge related to technology acceptance in the field of health informatics, specifically on mobile health apps.

Keywords: Mobile Health (mHealth), Technology Acceptance Model, Mobile JKN, Mobile app, Acceptance, Indonesian.

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Table of Contents

CHAPTER I. INTRODUCTION	1
1. Background	1
2. Objectives	3
3. Definition of terms	4
CHAPTER II. LITERATURE REVIEW	6
1. Mobile Health Technology	6
2. Factors Influencing the Acceptance of the Technology	6
3. Technology Acceptance Model	8
CHAPTER III. THEORETICAL FRAMEWORK	9
CHAPTER IV. METHODS	10
1. Study Design	10
2. Setting and Sample	10
3. Data Collection Procedure	10
4. Measures	11
5. Data Analysis	12
6. Ethical Consideration	12
CHAPTER V. RESULT	13
1. Characteristics of the Participants	13
2. Score of Perceived Usefulness and Perceived Ease of Use	15
3. Correlation Between Perceived Usefulness and Perceived Ease-of-Use	19
4. Factor Influencing the Perceived Usefulness and Perceived Easy-of-Use of Participants	19
CHAPTER VI. DISCUSSION	24
CHAPTER VII. CONCLUSION	29
REFERENCES	32
APPENDICES	40

CHAPTER I. INTRODUCTION

1. Background

Indonesia began implementing the Sustainable Development Goals (SDGs) 2016–2030 program after completing the Millennium Development Goals (MDGs) in 2015. As a developing country, Indonesia is faced with many health issues, including inequality of healthcare coverage. The Indonesian government launched a universal healthcare coverage program on January 1, 2014, to tackle healthcare disparities. The government integrated various public insurance schemes under a single social security institution called the Social Security Management Agency for the Health Sector. In the Indonesian language, the agency is usually called Badan Penyelenggara Jaminan Sosial Kesehatan, hence the abbreviated name BPJS Kesehatan. The agency's purpose is to implement the National Health Insurance Program, or Jaminan Kesehatan Nasional (JKN).

The number of participants in JKN reached 187,982,949 as of December 31, 2017, which is almost 73% of the total population of Indonesia. The goal of JKN is to cover at least 95% by 2019 (BPJS, 2018). In November 2017, BPJS Kesehatan launched the Mobile JKN application to attract enrollees by offering more efficient and effective services. The app is a digital transformation of the agency's business model, a model that originally delivered administrative health services in branch offices or health facilities. The self-service app removes time and geographic constraints, allowing program participants to obtain administrative assistance anywhere and anytime (BPJS, 2017).

Offering citizens' efficient access to healthcare information is a key determinant in achieving SDGs; however, it is a challenge and one that is often neglected (Bhaumik, Pakenham-Walsh, Chatterjee, & Biswas, 2013). On the other hand, Indonesia has the largest number of

internet users in Southeast Asia, totaling approximately 78 million in 2015, and that number rapidly increased to 132.7 million people in 2016 from the total population of Indonesia of as many as 256.2 million people; this indicates that more than 50% of Indonesians are now connected to the internet (BPS-Statistics, 2016; Ministry of Communication and Informatics, 2017). The majority of internet penetration is still in Java Island, which is about 65% of total internet users and the penetration of Internet users by age is dominated by users between the ages of 25-34 years, which is 75.8%, while the devices most widely used to access the internet are mobile and computer, which is equal to 50.7%, and the main purpose of internet usage is work-related (Ministry of Communication and Informatics, 2017). This high usage rate creates a perfect opportunity for the government to use a mobile app to deliver more efficient and effective services to Indonesians.

Information technology (IT) has fundamentally transformed nearly every industry. Indeed, it has transformed the landscape of healthcare delivery and has great potential to continue redefining it. IT supports more seamless integration of patients' healthcare providers, hospitals, insurance companies, and other healthcare needs (Agarwal, Gao, DesRoches, & Jha, 2010; Christensen, Grossman, & Hwang, 2009). In developing countries, mobile technology is one of the best methods for tackling resource limitations (O'Connor, O'Donoghue, Gallagher, & Kawonga, 2014). Health IT can encourage people from any socioeconomic background to take affordable, preventative steps to protect and improve their health. For example, a mobile app can entice people to claim discounts on fitness facilities or health-related goods and services (Bhaumik et al., 2013).

Because this technology is still very new, many people have confronted common challenges when promoting and implementing it

(Bhattacharjee & Hikmet, 2017). It is essential for any insurance provider to improve its understanding of consumer response to rapid and broad technological developments in health services (Schuster, Tossan, & Drennan, 2017). Also, a user's experience is important. The impressions subscribers form when interacting with a mobile healthcare app contribute to their opinions about the app's quality and usefulness (Alpert, Krist, Aycock, & Kreps, 2017). User acceptance is a fundamental aspect of IT implementation (Velez, Okyere, Kanter, & Bakken, 2014). User acceptance refers to the relative ease of use a person experiences when interacting with hardware or software (Venkatesh, 2000).

2. Purpose of the Study

The main purpose of this research was to analyze Mobile JKN acceptance by the Indonesian community using the Technology Acceptance Model (TAM) questionnaire. Specifically, the study seeks to achieve the following aims:

- a) Identify Indonesian users' acceptance of Mobile JKN—an app issued by BPJS Kesehatan, the government's health management agency, in support of JKN, the national insurance program that delivers universal healthcare coverage,
- b) Identify users' perception of the Mobile JKN app,
- c) Identify the demographic factors influencing the acceptance.

When analyzing issues associated with user acceptance, the Technology Acceptance Model (TAM) is often applied (Adams, Nelson, & Todd, 1992). The TAM uses two key variables to explain users' acceptance behaviors: (a) perceived usefulness (PU) and (b) perceived ease of use (PEOU). This study will use the initial TAM as an essential basis of theory to explain the adoption decisions of subscribers to the Mobile JKN application.

This research will reveal ways that Mobile JKN can be improved to encourage user acceptance. The findings will be especially enlightening in Indonesia, where this kind of analysis is still rare. This mobile app has the potential to be used by more than 180 million people. Officials of the National Health Insurance Program must understand how the app is received and used by Indonesians in order to enhance healthcare services.

3. Definition of Terms

1) Perceived Usefulness (PU)

Perceived usefulness refers to the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). The measurement tool of PU has 14 statements with the response options of: 1: strongly disagree; 2: disagree; 3: unsure (neither disagree nor agree); 4: agree; and 5: strongly agree; the scores were reversed for negative statements.

TAM Statements

Perceived Usefulness (PU) Items

My job would be difficult to perform without Mobile JKN app.

Using Mobile JKN app gives me greater control over my work.

Using Mobile JKN app improves my job performance.

The Mobile JKN app system addresses my job-related needs.

Using Mobile JKN app saves me time.

Mobile JKN app enables me to accomplish tasks more quickly.

Mobile JKN app supports critical aspects of my job.

Using Mobile JKN app allows me to accomplish more work than would otherwise be possible.

Using Mobile JKN app reduces the time I spend on unproductive activities.

Using Mobile JKN app enhances my effectiveness on the job.

Using Mobile JKN app improves the quality of work I do.

Using Mobile JKN app increases my productivity

Using Mobile JKN app makes it easier to do my job.

Overall, I find the Mobile JKN app system useful in my job.

2) Perceived ease of use (PEOU)

- *Perceived ease of use is defined as* the degree to which a person believes that using a particular system would be free of effort; an app which is easy to use is more likely to be accepted by the users (Davis, 1989). The measurement tool of PEOU has 14 statements with the response options of 1: strongly disagree; 2: disagree; 3: unsure (neither disagree nor agree); 4: agree; and 5: strongly agree; the scores were reversed for negative statements.

TAM Statements

Perceived Ease-of-use (PEOU) Items

I often become confused when I use the Mobile JKN app system.

I frequently make errors when I use the Mobile JKN app.

Interacting with the Mobile JKN app system is often frustrating.

I often need to consult the user manual when using Mobile JKN app.

Interacting with the Mobile JKN app system requires a lot of my mental effort.

I find it easy to recover from errors encountered while using Mobile JKN app.

The Mobile JKN app system is rigid and inflexible to interact with.

I find it easy to get the Mobile JKN app system to do what I want it to do.

The Mobile JKN app system often behaves in unexpected ways

I find it cumbersome to use the Mobile JKN app system.

My interaction with the Mobile JKN app system is easy for me to understand.

It is easy for me to remember how to perform tasks using the Mobile JKN app system.

The Mobile JKN app system provides helpful guidance in performing tasks.

Overall, I find the Mobile JKN app system easy to use.

CHAPTER II. LITERATURE REVIEW

1. Mobile Health Technology

The integration of mHealth into current healthcare system technologies empowers patients, increasing patient choice, improving outcomes, and diversifying how services are provided (Conway, Campbell, Forbes, Cunningham, & Wake, 2016). In addition, mHealth can be a solution for delivering healthcare without the limitations of time and place, thus overcoming geographical, temporal, and organizational challenges (Silva, Rodrigues, de la Torre Diez, Lopez-Coronado, & Saleem, 2015).

A previous study conducted in New Mexico found that mHealth is cost effective and aids in identifying health risks and supporting healthy behaviors (Brown-Connolly, Concha, & English, 2014). The technology is also proven to be effective in increasing the accessibility of healthcare due to its mobility and flexibility (Akter, D'Ambra, & Ray, 2013; Zhang, 2014). Accordingly, it can be concluded that mHealth is an innovative strategy in healthcare services (Krishnan et al., 2015). In addition, the contribution of mHealth devices is improving the eHealth and eHealthcare (Guo, Han, Zhang, Dang, & Chen, 2015). As mobile information technology enables many challenges to be tackled, the healthcare system can, thus, be successful and sustainable (O'Connor et al., 2014). Importantly, mobile service system should reflect a country's cultural characteristics (Dwivedi, Shareef, Simintiras, Lal, & Weerakkody, 2016).

2. Factors Influencing the Acceptance of the Technology

IT utilization is influenced by various factors, such as an individual's experiences, intention to use the system, and trust that organizations support to use the IT (Kijisanayotin, Pannarunothai, &

Speedie, 2009). Consumers' perceived usefulness and the perceived ease of use positively affects customer satisfaction (Lee, Tsao, & Chang, 2015). Meanwhile, perceived usefulness and perceived ease of use are influenced positively by compatibility and mHealth self-efficacy (Wu, Wang, & Lin, 2007). Perceived usefulness and trust are important for consumers' acceptance (Bhattacharjee, 2001). However, the trust might differ individually among the users (Baumgartner & Hartmann, 2011).

A study by Akter, Ray, and D'Ambra (2012) confirmed that the continuance of an information system is determined by the quality of the service, trust, and situational factors. Similarly, Beldad, de Jong, and Steehouder (2010) found that the trust level, subjective benefits, type of the technology and the organization behind it are determinants of the online service's success. In addition, the intention to use the technology is influenced positively by the quality of the information, perceived value, and trust (Deng, Liu, & Hinz, 2015).

Furthermore, a study conducted by Hernández-Ortega (2011) clarifies the correlation between trust and technology acceptance and that it affects trust-building structures; thus, it potentially improves the implementation of the technology during the early stage. However, for some people, regardless of their experiences, they still find some difficulties (Keselman, Browne, & Kaufman, 2008).

Moreover, satisfaction and trust have significant effects on a client firm's Continuance Intention (Kim, Hong, Min, & Lee, 2011). The most important factor that influences perceived ease of use is the individual's general belief regarding computers (Venkatesh, 2000). The user's acceptance is related to their perceived ability (Kim, Han, Yoo, & Yun, 2012). In the TAM3, there are four different kinds of factors influencing perceived usefulness and perceived ease of use, which are individual differences, system characteristics, social influence, and

facilitating conditions (Venkatesh & Bala, 2008). Generally, there are five influencing factors fundamental to be considered, such as attitude regarding technology, perceived usefulness, ease of learning and availability, social support, and perceived pressure (Sun & Rau, 2015).

3. Technology Acceptance Model

The theory of reasoned action (TRA) formed the basis for the development of TAM which is used to predict a person's use and adoption of new information technologies (IT). According to this theory, perceived usefulness and perceived ease of use are fundamental factors of individuals' behavioral intention to utilize an information technology. Perceived usefulness is interpreted as the stage of an individual's trust that using an IT will improve their job performance and perceived ease of use is interpreted as the extent to which an individual believes that using an IT will be effort free (Venkatesh & Davis, 2000).

Moreover, the development of this theory into TAM2 explained how some social influence factors, such as subjective norms, image, voluntariness, and experience, and , cognitive factors, such as job relevance, output quality, results demonstrability, and PEOU, will influence the PU; thereafter, it could affect the acceptance of technology and, eventually, the system usage (Venkatesh & Davis, 2000). However, due to some limitations, such as lacking actionable guidance to practitioners in the previous model, TAM3 was then developed (Venkatesh & Bala, 2008). The most important aspect of TAM3 is its *comprehensiveness* and potential for *actionable guidance*; it also provides a comprehensive nomological network of the determinants of a person's IT use and adoption (Venkatesh & Bala, 2008).

CHAPTER III. THEORETICAL FRAMEWORK

This research framework is based on the initial theory of TAM developed by . Davis (1989). There are five constructs in this theory, which are External Variable, Perceived Usefulness, Perceived Ease of Use, Intention to Use and Actual System Use. Considering the participants of this study are already Mobile JKN app users, only External, PU and PEOU variables were measured. The framework of TAM can be seen as below:

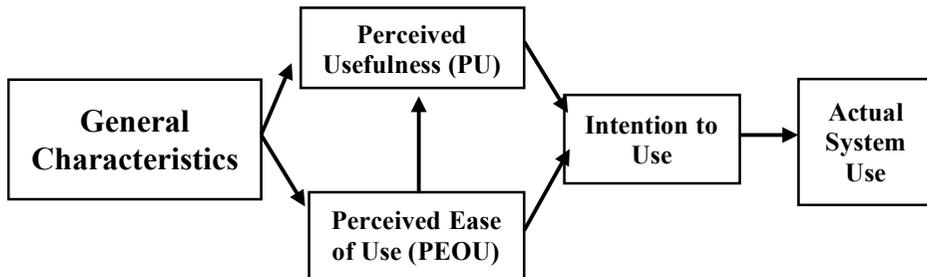


Figure 1. Technology Acceptance Model.

CHAPTER IV. METHODS

1. Study Design

The research methodology applied in this study was descriptive, exploratory, and cross-sectional analysis.

2. Setting and Sample

The population having already downloaded the app totals 3,037,937, consisting of 1,781,460 (58.64%) males and 1,256,477 (41.36%) females, with 1,388,073 (45.7%) of them living in Java Island (BPJS, 2018). The criterion of participants in this research is a member of National Healthcare Insurance of Indonesia who had already downloaded and used the Mobile JKN app as their tool in connecting to BPJS Kesehatan Institution. The sample size of this study was 82 users calculated by G*Power analysis with a significance level of 0.05 and a power level of 0.80. The questionnaires were distributed through social media platforms, such as Facebook, WhatsApp, LINE, and KakaoTalk. There were 150 participants filled out the questionnaire; however, only 128 qualified for this study and 22 were excluded from this study because they did not fill out the questionnaire completely and had never used a Mobile JKN app. There were no incentives for participants in this study.

3. Data Collection Procedure

The data were collected through Google Form survey questionnaire and the research period was from 8th until 29th September, 2018. The questionnaires were distributed through social media platforms, such as Facebook, WhatsApp, LINE, and KakaoTalk.

The researcher obtained informed consent from the Mobile JKN users who were willing to participate in this study. Participants completed the questionnaire privately using their mobile phone. It took

about 20 minutes for participants to complete the questionnaire. The whole data are kept in the researcher's computer and will be kept for at least five years after research completion, thus it will be deleted in 2024, and only the researcher has access to participants' personal information and data. Participants could stop their participation anytime. In the research questionnaires, the researcher's name and contact information were provided. If any of the participants had any questions or concerns, they could ask the researcher directly. Moreover, the data were deleted for the participants who were withdrawn or who discontinued to participate. Thus, this ensures the participants' privacy.

4. Measures

There were two constructs measured in this research, which were PU and PEOU. Items for the questionnaire were developed by Davis (1989). The original instrument was already valid and reliable; the reliability of the PU subscale was shown to be 0.97 and the PEOU was 0.91 (Davis, 1989). Each statement of the English questionnaire was translated into Bahasa Indonesia by the researcher and proofreading has been done to ensure the validity of the translation, as suggested by Brislin (1970), the process of which includes careful translation and back translation. In the present research, the PU and PEOU items were reliable with Cronbach's alpha score of 0.93 and 0.88, respectively. All of the items in PU and PEOU were valid with *P*-value being <0.01 ; this depicted that this questionnaire sufficiently measured the acceptance of Mobile JKN app, including PU and PEOU. In the questionnaire, there were two parts - part 1 and part 2 - wherein part 1 included the demographic data of the participants, such as gender, age, profession, province address, educational background, and mobile utilization experiences, and part 2 contains the TAM questionnaire using a 5-point Likert scale ranging from 1 (strongly

disagree) to 5 (strongly agree); all of the contents were included in 28 question items.

5. Data Analysis

Descriptive statistics were carried out to examine the mean and standard deviation, maximum and minimum of the scores of the variables. Pearson correlation coefficient was applied to examine if a correlation existed between the variables of PU and PEOU and standard multiple regression was computerized to analyze the influence of demographic factors on the PU and PEOU of the Mobile JKN app. The internal consistency of the instrument in each variable was calculated by Cronbach's alpha. The analyses were performed using IBM SPSS 23 (IBM, 2013).

6. Ethical Consideration

There are some important ethical issues that were considered. Firstly, approval from the University Institutional Review Board to which the researcher is affiliated for this study was obtained prior to participant recruitment (IRB No. 1809/001-010). Secondly, the private information about participants is protected and only to be used for this study. Lastly, the participants were treated equally by the researcher.

Prior to filling the questionnaire form, participants could choose between agreeing or disagreeing to continue the survey by filling out the informed consent form. In the research questionnaire, the researcher's name and contact information were provided, so that, if any of the participants had any questions or concerns, they could ask the researcher directly. Moreover, the data were deleted for withdrawn participants or those who discontinued the research and the only researcher can access the whole data. Thus, it ensures the participants' data privacy.

CHAPTER V. RESULTS

1. Characteristics of the Participants

The demographic characteristics of the sample for this current work are shown in Table 1, including age, gender, province address, the duration of using a smartphone and Mobile JKN app.

A total of 128 Mobile JKN app users participated in this survey. Their mean age was 27.64 years old, ranging from 19 to 41 years old. More than half (63.3%, n=81) of the participants were female, while male participants were 47 (36.7%). The majority of them, 98 (76.6%), were from Java Island, which is a considerably more developed area than non-Java Island, which accounted for 30 (23.4%). Nearly all of the respondents 125 (89%) held a bachelor degree. Their duration of smartphone usage range from 1-15 years and was dominated by participants who had been using a smartphone for 5-10 years. When the survey took place, the participants who had already been using a Mobile JKN app for 1-3 months totaled 47 (36.7%), this figure was similar to the participants who had been using the app for more than 6 months, which was 46 (35.9%); the remainder had been using the app for about 4-6 months.

Table 1. Demographic Characteristics of the Participants

Characteristics	Category	N (%)	Mean (SD^a)	Min- Max
Age	<30 years old	91 (71.1%)	27.63	19-41
	30-39 years old	35 (27.3%)	Years	Years
	>39 years old	2 (1.6%)	old (0.5)	Old
Gender	Male	47 (36.7%)		
	Female	81 (63.3%)		
Education	Bachelor Degree	122 (94.6%)		
	Non-Bachelor Degree	6 (4.7%)		
Profession	Employee	52 (40.3%)		
	Student	21 (16.3%)		
	Medical Practitioner	21 (16.3%)		
	Etc.	20 (15.5%)		
	Lecturer	14 (10.9%)		
Province	Java Island	98 (76.6%)		
Address	Non Java Island	30 (23.4%)		
Smartphone Usage	1-5 Years	17 (13.3%)		1-15
	6-10 Years	86 (67.2%)		Years
	11-15 Years	25 (19.5%)		
Mobile JKN app Usage	1-3 Months	47 (36.7%)		1-9
	4-6 Months	35 (27.3%)		Months
	>6 months	46 (35.9%)		

^a standard deviation

2. Score of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)

In this study, the PU and PEOU scores were quite high with the mean score for PU being 3.8 (± 0.82) and for PEOU being 3.7 (± 0.9). It can be interpreted that the Mobile JKN app users positively perceived it useful and that it was easy to use. In detail, more than two-thirds of the participants (102, 79.7%) believed that the app was useful to help their activity regarding BPJS Kesehatan insurance matters, meanwhile, 99 (77.3%) participants thought that the app was easy to use. The number of positive answers ('Strongly Agree and Agree') and negative answers ('Strongly Disagree and Disagree') were combined to make the explanation more obvious.

There were some positive responses that need to be highlighted, such as 117 (83.6%) participants perceived that the app could help them to address their need regarding BPJS Kesehatan. Moreover, 101 (86.7%) of the participants believed that using the app could save their time regarding their business with BPJS Kesehatan. One hundred and four (81.3%) participants believed that using the app made their affairs easier to handle. Regarding PEOU items, 91 (71.1%) participants perceived that they did not make an error while using the app and 103 (60.5%) were not frustrated, while 99 (77.4%) perceived it was easy for them to remember how to perform tasks on the Mobile JKN app system (Table 2).

Table 2. Score of PU Items and PEOU

TAM Statements	Rating Scale					
	Perceived usefulness (PU) items	Strongly Disagree	Agree	Unsure	Agree	Strongly Agree
My job would be difficult to perform without Mobile JKN app.	6 (4.7%)	21 (16.4%)	39 (30.5%)	48 (37.5%)	14 (10.9%)	3.33 (1.02)
Using Mobile JKN app gives me greater control over my work.	1 (0.8%)	12 (9.4%)	25 (19.5%)	68 (53.1%)	22 (17.2%)	3.76 (0.87)
Using Mobile JKN app improves my job performance.	1 (0.8%)	12 (9.4%)	17 (13.3%)	78 (60.9%)	20 (15.6%)	3.81 (0.83)
The Mobile JKN app system addresses my job-related needs.	0 (0%)	5 (3.9%)	16 (12.5%)	88 (68.8%)	19 (14.8%)	3.94 (0.65)
Using Mobile JKN app saves me time.	0 (0%)	4 (3.1%)	13 (10.2%)	68 (53.1%)	43 (33.6%)	4.17 (0.73)
Mobile JKN app enable me to accomplish tasks more quickly.	0 (0%)	13 (10.2%)	15 (11.7%)	72 (56.3%)	28 (21.9%)	3.90 (0.86)
Mobile JKN app support critical aspects of my job.	0 (0%)	8 (6.3%)	25 (19.5%)	79 (61.7%)	16 (12.5%)	3.80 (0.73)
Using Mobile JKN app allow me to accomplish more work than would otherwise be possible.	0 (0%)	9 (7.0%)	34 (26.6%)	70 (54.7%)	15 (11.7%)	3.71 (0.76)
Using Mobile JKN app reduces the time I spend on unproductive activities.	4 (3.1%)	18 (14.1%)	23 (18.0%)	58 (45.3%)	25 (19.5%)	3.64 (1.05)
Using Mobile JKN app enhances my effectiveness on the job.	0 (0%)	9 (7.0%)	22 (17.2%)	75 (58.6%)	22 (17.2%)	3.86 (0.78)

Using Mobile JKN app improves the quality of work I do.	0 (0%)	13 (10.2%)	30 (23.4%)	69 (53.9%)	16 (12.5%)	3.69 (0.82)
Using Mobile JKN app increases my productivity	3 (2.3%)	14 (10.9%)	44 (34.4%)	56 (43.8%)	11 (8.6%)	3.45 (0.89)
Using Mobile JKN app makes it easier to do my job.	0 (0%)	7 (5.5%)	17 (13.3%)	82 (64.1%)	22 (17.2%)	3.92 (0.72)
Overall, I find the Mobile JKN app system useful in my job.	1 (0.8%)	6 (4.7%)	19 (14.8%)	68 (53.1%)	34 (26.6%)	4.0 (0.82)
Overall PU Mean Score (SD)	3.8 (0.82)					
Perceived Ease-of-use (PEOU) Items						
I often become confused when I use the Mobile JKN app system.	15 (11.7%)	66 (51.6%)	24 (18.8%)	18 (14.1%)	5 (3.9%)	3.53 (1.00)
I make errors frequently when I use the Mobile JKN app.	15 (11.7%)	76 (59.4%)	20 (15.6%)	16 (12.5%)	1 (0.8%)	3.69 (0.89)
Interacting with the Mobile JKN app system is often frustrating.	33 (25.8%)	70 (54.7%)	15 (11.7%)	5 (3.9%)	5 (3.9%)	3.94 (0.94)
I need to consult the user manual often when using Mobile JKN app.	22 (17.2%)	70 (54.7%)	15 (11.7%)	19 (14.8%)	2 (1.6%)	3.71 (0.97)
Interacting with the Mobile JKN app system requires a lot of my mental effort.	23 (18.0%)	78 (60.9%)	17 (13.3%)	10 (7.8%)	0 (0%)	3.89 (0.79)
I find it easy to recover from errors encountered while using Mobile JKN app.	4 (3.1%)	15 (11.7%)	43 (33.6%)	57 (44.5%)	9 (7.0%)	3.41 (0.90)

The Mobile JKN app system is rigid and inflexible to interact with.	11 (8.6%)	58 (45.3%)	32 (25.0%)	22 (17.2%)	5 (3.9%)	3.37 (1.00)
I find it easy to get the Mobile JKN app system to do what I want it to do.	3 (2.3%)	14 (10.9%)	36 (28.1%)	64 (50.0%)	11 (8.6%)	3.51 (0.89)
The Mobile JKN app system often behaves in unexpected ways	6 (4.7%)	50 (39.1%)	48 (37.5%)	17 (13.3%)	7 (5.5%)	3.24 (0.93)
I find it cumbersome to use the Mobile JKN app system.	19 (14.8%)	74 (57.8%)	22 (17.2%)	9 (7.0%)	4 (3.1%)	3.74 (0.91)
My interaction with the Mobile JKN app system is easy for me to understand.	0 (0%)	10 (7.8%)	20 (15.6%)	80 (62.5%)	18 (14.1%)	3.83 (0.76)
It is easy for me to remember how to perform tasks Mobile JKN app system.	1 (0.8%)	6 (4.7%)	22 (17.2%)	82 (64.1%)	17 (13.3%)	3.84 (0.74)
The Mobile JKN app system provides helpful guidance in performing tasks.	1 (0.8%)	4 (3.1%)	33 (25.8%)	74 (57.8%)	16 (12.5%)	3.78 (0.73)
Overall, I find the Mobile JKN app system easy to use.	1 (0.8%)	7 (5.5%)	21 (16.4%)	68 (53.1%)	31 (24.2%)	3.94 (0.83)
Overall PU Mean Score (SD)	3.7 (0.9)					

3. Correlation Between PU and PEOU

To analyze a correlation between PU and PEOU variable, a Pearson Coefficient was calculated. The result showed that there was a significant correlation between both variables ($r= 0.551$, $p < 0.001$). Specifically, it can be explained that the stronger PU of the app users is, the stronger their PEOU.

4. Factors influencing the PU and PEOU

Linear multiple regression was computerized to analyze the effect of characteristics of the participants towards a variable of PU and PEOU. The findings showed that only PEOU variable has an influence on the variable of PU. The characteristics of the participants, such as age, gender, education, profession, province address, duration of using a smartphone and duration of using the Mobile JKN app have no effect on their PU, as can be seen in Table 3.

Table 3. Regression Analysis for the Predictors of PU of Mobile JKN App.

Independent Variables	Usefulness Subscale					
	B	SE	St.B	<i>t</i>	<i>Sr</i> ²	<i>P</i>
Age	-.121	0.116	-.100	-1.043	-.095	0.299
sex	0.022	0.115	0.018	0.193	0.018	0.848
Education	0.155	0.262	0.055	0.594	0.054	0.554
Profession	-.006	0.038	-.016	-.161	-.015	0.873
Province	0.224	0.129	0.158	1.741	0.157	0.084
Duration of using smartphone	0.037	0.096	0.035	0.383	0.035	0.702
Duration of using Mobile JKN app	0.073	0.067	0.104	1.101	0.100	0.273
PEOU	0.610	0.086	0.558	7.076	0.543	0.000
Adjusted <i>R</i> ²			0.293			
F			8.507			

**p* < 0.05, ** *p* < 0.001

B: beta coefficient (non-standardized); SE: Standardized Error; St. B: beta coefficient (Standardized); *t*: *t*-test value; *Sr*²: semi-partial correlation squared.

Excluding the non-significant variable, a stepwise multiple regression was computerized, which showed the only PEOU included in this step. It predicted 30% of the variance of PU (Table 4).

Table 4. Stepwise Regression Analysis for the Predictors of PU of Mobile JKN App.

Independent Variables	Usefulness Subscale				
	B	SE	St.B	<i>t</i>	<i>P</i>
PEOU	0.603	0.81	0.551	7.414	0.000
Adjusted R^2	0.298				
R square	0.304				
F	54.962				

* $p < 0.05$, ** $p < 0.001$

B: beta coefficient (non-standardized); SE: Standardized Error; St. B: beta coefficient (Standardized); t : t -test value; Sr^2 : semi-partial correlation squared.

For the PEOU subscale, the participants' characteristics explained only 5.6% of the variances, and only the duration of using Mobile JKN app had significant influence towards PEOU subscale score, with P-value < 0.05 (Table 5).

Table 5. Regression Analysis for the Predictors of PEOU of Mobile JKN App.

Independent Variables	Ease of Use Subscale					
	B	SE	St.B	<i>t</i>	<i>Sr</i> ²	<i>P</i>
Age	-.077	0.103	-.069	-.745	-.068	0.458
sex	0.172	0.102	0.151	1.688	0.152	0.094
Education	0.370	0.232	0.143	1.595	0.144	0.113
Profession	0.024	0.034	0.066	0.694	0.063	0.489
Province	0.134	0.114	0.104	1.176	0.107	0.242
Duration of using a smartphone	-.118	0.085	-.123	-1.387	-.126	0.168
Duration of using Mobile JKN app	0.131	0.059	0.203	2.213	0.198	0.029*
Adjusted <i>R</i> ²	0.056					
F	2.072					

**p* < 0.05, ** *p* < 0.001

B: beta coefficient (non-standardized); SE: Standardized Error; St. B: beta coefficient (Standardized); *t*: *t*-test value; *Sr*²: semi-partial correlation squared.

A stepwise multiple regression was performed to exclude the non-significant variable; the result showed that only the predictor of duration of using Mobile JKN app was included in this step. It explained only 4% of the variance PEOU of the app (Table 6).

Table 6. Stepwise Regression Analysis for the Predictors of PEOU of Mobile JKN App.

Independent Variables	Ease of Use Subscale				
	B	SE	St.B	<i>t</i>	<i>P</i>
Duration of using Mobile JKN app	0.129	0.56	0.201	2.304	0.023
Adjusted R^2	0.033				
R square	0.040				
F	5.310				

* $p < 0.05$, ** $p < 0.001$

B: beta coefficient (non-standardized); SE: Standardized Error; St. B: beta coefficient (Standardized); t : t -test value; Sr^2 : semi-partial correlation squared.

CHAPTER VI. DISCUSSION

The findings of this research provide a description of the acceptance of Indonesians towards the Mobile JKN app, a relationship between the variable of perceived usefulness and perceived ease-of-use, and the demographic characteristics influencing the acceptance of the app. The data analysis showed that the majority of the users perceived the app useful and that it was easy to use; moreover, as has been proven by previous studies, the PU and PEOU variable has a significant relationship, and the duration of app usage time is the only influential predictor towards PEOU score. However, the characteristics of the participants did not affect the PU score; only the PEOU variable has an influence towards PU and it explained 30% of the variance.

In terms of demographic factors, such as age, sex, province of residence, the duration of using smartphones and the Mobile JKN app, the findings indicated that all these predictors did not significantly influence the PU variable and only PEOU has strong influence towards it, with *P*-value score being <0.05 . This result proved the framework of the technology acceptance model (TAM) where PEOU directly affects the PU. Regarding the PEOU variable, the predictors of age, sex, province of residence and the length of time using a smartphone also have no significant influence; only the duration of the use of the Mobile JKN app has a significant effect on the PEOU variable, with *P*-value <0.05 .

These results were expected due to several reasons; firstly, the mean age of the respondents was 27.63 years old with most of the participants in their 20s and 30s. This is in accordance with the data penetration of internet users in Indonesia by age, which is dominated by users between the ages of 25-34 years (BPS-Statistics, 2016; Ministry of Communication and Informatics, 2017). Because their ages

were not greatly different, this might, therefore, affect the insignificant result on both variables in this study.

Similarly, gender factor also has no significant impact on the variable of PU and PEOU in this research; however, another study conducted by Padilla-Meléndez, del Aguila-Obra, and Garrido-Moreno (2013) explained that the gender difference had an effect regarding the technology playfulness, whereby it will directly influence the actual use of the system. Moreover, a study conducted by Yuan et al. (2017) indicated that playfulness and self-efficacy directly influence the ease-of-use of mobile devices.

In the present study, education also did not significantly affect either the PU and PEOU variables; this might be because the majority of the participants already have a bachelor degree. The profession of the respondents was quite varied, namely employee, lecturer, medical practitioner, etc.; however, the variance of the profession also does not significantly affect either of the main variables of TAM.

In Indonesia, Java Island region is considered as a developed region compared to provinces in other islands, with the majority of internet penetration accounting for about 65% of total internet users; however, the analysis indicated that the province address does not significantly influence the score of PU and PEOU, probably because the majority of the participants (76.6%) lived in provinces located in Java Island. The length of time using a smartphone also did not significantly affect the PU and PEOU variables, probably because all the respondents had already been using the smartphone for more than one year, which was sufficient time for people to accustom themselves to its mobile apps; however, Kijsanayotin et al. (2009) reported that an individual's experience is one of the IT utilization influencing factors. In studies conducted by Kwee-Meier, Bützler, and Schlick (2016) and Hsiao and Chen (2016), it was mentioned that social influence is the

strongest predictor towards the intention to use technology variable. Furthermore, the satisfaction of the user is also one of the prominent factors of the users' acceptance (Ma, Chan, & Chen, 2016).

PU and PEOU were shown to be important determinants of technology usage (Burton-Jones & Hubona, 2006). In the present study, the mean score of PU was 3.8 and the mean score of PEOU was 3.7. These scores are similar to the study conducted by Tubaishat (2017), where the mean score for PU was 3.9 and for PEOU 3.7 out of 5 as the highest score. As these data could be interpreted as indicating that the application is quite useful and easy to use, it can be said that the Mobile JKN app was received quite well by the respondents. In another study, Dawson, Mackrill, and Cain (2017) explained that user acceptance of is a critical factor of technology adoption; people might want to use the app for a long time if it can be accepted.

Furthermore, Boonsiritomachai and Pitchayadejanant (2017) mentioned that users will enjoy the system of the mobile application if it is working sufficiently and there are no troubles while using it. It also should be continuously updated, and the system should be easy to utilize and, more importantly, people should be able to register on it easily. This was in line with a study conducted by Jokar, Noorhosseini, Allahyari, and Damalas (2017) in which the finding was that the PU and PEOU variables affect the user's acceptance directly. In detail, based on their research, Holden, Asan, Wozniak, Flynn, and Scanlon (2016) proved that PU and PEOU are strongly related to satisfaction of the system and intention to use the system, and that both of them are strongly correlated to actual system use. In addition, according to Regan, Stevens, and Horberry (2014), in order to be accepted, a new technology must be useful and satisfying to use; even though they already have the technology, the user would not use it if it is not acceptable, and maybe even deactivate it. Prominently, the long-term

benefits of the technology should be considered to enhance the perceived usefulness and perceived ease-of-use (Sunny, Patrick, & Rob, 2018).

The current work showed that there was a significant relationship between the two variables, PU and PEOU, with P -value <0.05 , it was similar to the finding of research by Tubaishat (2018), who measured nurse acceptance towards electronic health records, proving that there was a significant correlation between the two constructs; the stronger the PU were, the stronger was the PEOU. This study also proved that PEOU has direct influence and it predicted 30% of the variance of PU. This finding was also similar to a research conducted by Yuan et al. (2017) which was that the PEOU variable influenced directly the PU variable. Another research conducted by Lin and Kim (2016) validated that there was a relationship between PU, PEOU, attitudes and purchase intentions. According to Jun et al. (2018), PU was the most noteworthy factor impacting technology acceptance; moreover, a study by Al-Jumaili et al. (2017) proved that the three TAM variables (intention to use, attitude towards use and PU) significantly associated with actual use of both Facebook messaging and university email.

Intention to use and actual system use are the main purposes of creating a new technology (Davis, 1989). PU and PEOU are strongly related to satisfaction of the system and intention to use the system, and both of them are strongly correlated to actual system use (Holden, Asan, Wozniak, Flynn, & Scanlon, 2016). The theory acceptance model explained that PU and PEOU are indeed the determinants of intention to use a system. It should be noted that, if a system is useful and easy to use, then the people might both have the intention to use the system and actually use it. In the current study, the intention to use the system could not be measured because the participants were already using the

app; however, the usefulness and ease-of-use of this app might affect the decision of the users to actually use it.

The above finding indicated that the Mobile JKN app was a useful tool for the BPJS Kesehatan subscribers. Yuan et al. (2017) suggested that this kind of mobile information device should be used to afford greater contact with their subscribers, and, as such, it could be utilized to enhance their networking services. More importantly, the number of people who have already downloaded this app is only around three million, a very small number compared to the subscribers of the Universal Healthcare Coverage insurance, which is nearly two hundred million. This indicates that a far more extensive socialization of the existence of this app is needed. Another thing that should be considered is the need for a more interesting feature in the app to attract the members of Universal Healthcare Coverage to download this app so that it can be widely used.

Features such as the information of the availability of beds and rooms for patients in hospitals, nearest healthcare facility from the user's location and information about referral hospitals would be very beneficial features for the users and might then gain the interest of other Universal Healthcare Coverage members to download this app.

CHAPTER VII. CONCLUSION

The research methodology applied in this study was descriptive, exploratory, and cross-sectional analysis. The online survey questionnaires were distributed through social media platforms and there were 128 Mobile JKN app users participated in this study. This research proved that the participants accept the Mobile JKN app. Analysis of the data explained that the majority of the users perceived the app as useful, with the mean score of PU being 3.8, and that it was easy to use, with the mean score of PEOU being 3.7. It proved that the PU and PEOU were significantly correlated, with P -value <0.05 . The length of app usage time became the only influential predictor towards PEOU score and it explained 4% of the variance of PEOU, meanwhile only the PEOU variable has an influence towards PU and it explained 30% of the variance.

The number of Indonesians registered in the Universal Healthcare Coverage Program is targeted at more than 200,000,000 (95%) of the population in 2019, thus the app has the potential to be used by more than one hundred million people; however, it has been downloaded by only around three million of the population, thus, it is also necessary to add more useful and interesting features so that this application can be more widely used. The BPJS institution should undertake a more extensive socialization by providing a video tutorial on how to download and use the app on their website. Furthermore, the Indonesian government should give more concern regarding the development of mhealth technology. This could become an Indonesian government policy to improve the nation's health status.

Currently, technology has been massively developed and most of the people have already felt the convenience and the speed of using the Mobile JKN app; as such, there will be more people who will

utilize this app. As a step to contribute to advancing nursing services, the results of this study provide a broad information related to the app. Finally, this study depicted useful implications to develop an effective strategy in order to expand the enrollees of the Indonesian UHC. Even though the finding of this research does not contribute directly to nursing knowledge, it enriches nursing and informatics science.

Limitations and Directions for Future Research

There were several limitations to the current study. Firstly, the sample of this study does not represent the users in all 35 provinces of Indonesia. The majority of them were from provinces located in Java Island, with 76.6% of the participants; this representation was not balanced compared to the total population of users living in Java Island being 1,388,073 (45.7%). Moreover, in the current work, the female participants were 63.3% and male participants were 36.7%; this was not comparable to the total populations of the app users, with males being 58.64% and females being 41.36%. Furthermore, the majority of participants of this study came from highly educated population, thus, this might affect the sample heterogeneity. As a result, the sample of this study might not reflect the users of Mobile JKN app throughout Indonesia and the likelihood of sampling bias likely skews the score of the PU and PEOU subscale. Accordingly, the finding cannot be generalized beyond the research participants.

Furthermore, although the sample of this study is sufficient to gain power, the recruitment of participants was not by random sampling, all participants of this study were recruited on social media platforms; therefore, it might affect the representation of the total population and constrain the research findings' generalizability. With regard to research methodology, the research method applied in the current work is quantitative analysis using questionnaire, thus there is

no detailed information regarding the users' opinions of this app's features. Because there will be updated features in the future, a mix method study is therefore recommended to gain more detailed information.

More research in this field is needed, not only about technology in general, but specifically about mHealth technology. As of today, there are many apps that have been developed to enhance the healthcare services in Indonesia, and this massive growth of technology should be followed by substantial scientific evaluations and recommendations. In the future, it is necessary to conduct similar research after adding several features in the Mobile JKN application. Finally, using qualitative and quantitative methods to conduct similar research is needed, hence, complaints and suggestions from users of the app can be known in more detail.

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APPENDIX A: Informed Consent

Research Title: Evaluating the Acceptance of Mobile JKN, an Indonesian App for Universal Healthcare Coverage, Using the Technology Acceptance Model.

Name of Researcher: Firma Andriani (Master Student/Seoul National University)

This is a study about Evaluating the Acceptance of Mobile JKN, an Indonesian App for Universal Healthcare Coverage, Using the Technology Acceptance Model. You are being asked to take part in this research study. A researcher (Firma Andriani) from Seoul National University who will conduct this research wrote the explanation about the purposes and procedure of the study below, so you might read it carefully. This study will be conducted only for those who have voluntarily participated, and it is important for you to understand why this study is performed and what the research is related to before deciding to participate. Please read the following carefully and press the agree button if you are willing to participate in this survey. If you have any questions, the researcher will explain in detail.

1. Why is this study conducted?

The purpose of this study is to evaluate Mobile JKN acceptance by the Indonesian community.

2. How many people participate?

384 subscriber's of Mobile JKN app will participate in this study.

3. What happens if I participate in the study?

This survey/questionnaire will ask about your experience while using Mobile JKN apps and

You will complete the questionnaire privately.

4. How long is the study?

You will be asked to complete the questionnaire once and it will take 20 minutes of your time.

5. Can I quit while I am participating?

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study.

6. Are there any side effects or risks?

There is a small chance that you might be a little uncomfortable with some of the questions. If you feel uncomfortable during the survey, you may stop and leave at any time.

All collected data will be saved in a computer file which is accessed only with a password. No one will have access to the data other than the research team who understand the issue of confidentiality. No name will be elicited on the demographic questionnaire and no names will be on the questionnaire.

7. Do participants benefit from participating in this study?

You may not directly benefit from this research; however, we hope that your participation in the study may contribute to better healthcare service.

8. Do I have any disadvantages if I do not participate in this study?

You are free to refuse to participate in this study. Also, there is no disadvantage to you if you do not participate in this study.

9. Is the confidentiality of all personal information obtained from the research guaranteed?

The researcher (Firma Andriani) is in charge of the personal information management. We will do our best to ensure the confidentiality of all personal information obtained through this study. When research findings are presented for academic purposes, your name and other personal information will not be used. However, if the law requires it, your personal information may be provided. In addition, the monitoring staff, the inspectors, and the SNU Institutional Review Board (SNUIRB) committee, without violating the confidentiality of the personal information of the research participants, directly read the research results in order to verify the reliability of the procedures and data can. By clicking agree in this form, you are aware of this and will be deemed to have consented to it.

10. Will I be paid for participating in this study?

I am sorry, but there are no financial rewards for participating in this study.

11. What should I do about the research?

If you have any questions about this study or if you have problems in the middle of your study, please contact the next researcher.

Name: Firma Andriani

Phone: +8210-3972-3716 (Korean phone number)

+62 853-3130-2057 (Indonesian phone number)

If you have any questions about your rights as a research participant at any time, please contact the following Seoul National University Institutional Review Board (SNUIRB) SNUIRB Committee, Phone: 02-880-5153

AGREEMENT

1. I have read this manual and discussed it with my researcher.
2. I have heard about the risks and benefits and have received satisfactory answers to my questions.
3. I voluntarily agree to participate in this study.
4. I consent to the collection and processing of information obtained from this study by researchers to the extent permitted by current legislation and the SNU Institutional Review Board Regulations.
5. I will not disclose my personally identifiable information that is kept confidential if the researcher or authorized representative conducts research or results management and when the health authorities, the school authorities and the SNU Institutional Review Board (SNUIRB) conduct surveys I agree to read.
6. I can withdraw my participation in this study at any time and I know that this decision will not affect me in any way.
7. By clicking agree means that I have received a copy of this consent form and I will keep a copy until the end of the study.

I Agree

I Do Not Agree

**INFORMED CONSENT
(INDONESIAN VERSION)**

Judul Penelitian: Mengevaluasi Penerimaan Aplikasi Mobile JKN, Aplikasi Telepon Pintar untuk Layanan Kesehatan Universal, Menggunakan Model Penerimaan Teknologi
Nama Peneliti: Firma Andriani (Program Master/ Seoul National University).

Penelitian ini adalah penelitian mengenai evaluasi penerimaan aplikasi Mobile JKN oleh masyarakat Indonesia. Anda diminta untuk berpartisipasi dalam penelitian ini. Seorang peneliti (Firma Andriani) dari Seoul National University yang akan melakukan penelitian ini penjelasan terkait tujuan dan prosedur penelitian dibawah ini, harap dibaca dengan seksama. Penelitian ini akan dilakukan hanya kepada anda yang bersedia untuk berpartisipasi dan penting bagi anda untuk memahami alasan penelitian ini dilakukan dan segala sesuatu mengenai penelitian ini sebelum memutuskan untuk berpartisipasi. Anda diminta untuk membaca keterangan di bawah secara teliti dan tekan tombol setuju jika anda bersedia untuk berpartisipasi dalam survei ini.

Jika anda memiliki pertanyaan, peneliti akan menjelaskan kepada anda secara terperinci.

1. Mengapa penelitian ini dilakukan?
Untuk mengevaluasi penerimaan aplikasi Mobile JKN oleh masyarakat Indonesia.
2. Berapa orang yang berpartisipasi?
384 orang pengguna aplikasi Mobile JKN.
3. Apa yang harus saya lakukan di penelitian ini?
Anda akan diminta untuk mengisi kuesioner yang berhubungan dengan penelitian ini. Kuesioner terdiri dari 28 pertanyaan.

Pengisian kuesioner ini akan membutuhkan waktu sekitar 20 menit. Anda akan mengisi kuesioner secara pribadi.

4. Berapa lama waktu yang dibutuhkan dalam penelitian ini?
Anda akan diminta untuk mengisi kuesioner satu kali dan proses ini membutuhkan waktu sekitar 20 menit.
5. Dapatkah saya mengundurkan diri selama saya berpartisipasi?

Anda dapat memilih untuk berpartisipasi atau tidak. Jika anda dengan suka rela berpartisipasi dalam penelitian ini, anda dapat mengundurkan diri kapan pun tanpa konsekuensi apa pun. Anda juga diperbolehkan untuk menolak menjawab beberapa pertanyaan yang tidak ingin anda jawab dan tetap berpartisipasi dalam penelitian ini. Apabila anda ingin berhenti berpartisipasi dalam penelitian ini, harap segera memberitahukan kepada peneliti.

6. Apakah ada efek samping atau resiko?
Ada sedikit kemungkinan bahwa anda akan merasa sedikit tidak nyaman saat menjawab beberapa pertanyaan. Jika anda merasa tidak nyaman selama penelitian, anda dapat berhenti dan meninggalkan penelitian.

Semua data yang telah terkumpul akan disimpan dalam komputer yang hanya bisa diakses menggunakan *password*. Tidak ada yang dapat mengakses data kecuali peneliti yang telah memahami isu kerahasiaan. Nama anda tidak akan ditulis di kuesioner.

7. Apakah partisipan akan mendapat keuntungan dalam penelitian ini?

Anda mungkin tidak secara langsung mendapat manfaat dari penelitian ini; namun, kami berharap partisipasi Anda dalam

penelitian dapat berkontribusi pada layanan kesehatan yang lebih baik.

8. Apakah ada kerugian apabila saya tidak berpartisipasi dalam penelitian ini?

Anda bebas untuk menolak berpartisipasi dalam penelitian ini. Tidak ada kerugian apabila anda tidak berpartisipasi dalam penelitian ini.

9. Apakah semua data pribadi di dalam penelitian ini dapat dijamin kerahasiaannya?

Peneliti (Firma Andriani) adalah penanggung jawab pengelolaan data pribadi partisipan. Kami akan melakukan yang terbaik untuk menjamin kerahasiaan semua informasi pribadi di dalam penelitian ini. Ketika hasil penelitian dipresentasikan untuk tujuan akademis, nama dan semua informasi pribadi anda tidak akan digunakan. Namun, apabila dibutuhkan oleh hukum, informasi pribadi anda dapat ditunjukkan. Sebagai tambahan, petugas pemantau, pengawas, dan komite SNU Institutional Review Board (SNUIRB), tanpa melanggar kerahasiaan informasi pribadi milik partisipan, membaca secara langsung hasil penelitian untuk memeriksa keandalan proses dan penyimpanan data. Dengan menandatangani persetujuan, anda dianggap telah memahami dan menyetujui tentang ini.

10. Apakah saya akan dibayar untuk berpartisipasi dalam penelitian ini?

Mohon maaf, namun tidak ada hadiah uang untuk berpartisipasi dalam penelitian ini.

11. Apa yang harus saya lakukan dalam penelitian ini?

Apabila anda memiliki pertanyaan mengenai penelitian ini atau apabila anda memiliki masalah selama mengikuti penelitian, harap menghubungi peneliti melalui kontak di bawah ini:

Nama: Firma Andriani

No. Telp: +8210-3972-3716 (Nomor telepon Korea)

+62 853-3130-2057 (Nomor telepon Indonesia)

Apabila anda memiliki pertanyaan mengenai hak anda sebagai partisipan penelitian, anda dapat menghubungi Seoul National University Institutional Review Board (SNUIRB) kapan pun melalui kontak di bawah ini:

SNUIRB Committee, Phone: 02-880-5153

LEMBAR PERSETUJUAN

1. Saya telah membaca petunjuk ini dan membicarakannya dengan peneliti.
2. Saya telah mendengar tentang resiko dan keuntungan dan telah mendapat jawaban yang memuaskan dari pertanyaan saya.
3. Saya setuju untuk berpartisipasi secara sukarela dalam penelitian ini.
4. Saya menyetujui pengumpulan dan pengolahan informasi yang didapatkan dari penelitian ini oleh peneliti sampai ke batas yang diizinkan oleh undang-undang yang berlaku saat ini dan peraturan SNU Institutional Review Board.
5. Saya tidak akan memberitahukan informasi personal saya yang dirahasiakan apabila peneliti atau utusan resmi melakukan penelitian atau pengelolaan hasil dan saat wewenang kesehatan, wewenang akademis, dan SNU Institutional Review Board (SNUIRB) mengadakan penelitian yang saya setuju untuk dibaca.
6. Saya dapat mengundurkan diri dari penelitian ini and saya memahami bahwa keputusan ini tidak akan mempengaruhi saya dalam bentuk apa pun.
7. Dengan mengklik setuju menunjukkan bahwa saya telah menerima salinan lembar persetujuan ini dan saya akan menyimpan salinan ini hingga akhir penelitian.

Setuju

Tidak setuju

APPENDIX B: Demographical Information

Age	:
Gender	:
Educational background	:
Profession	:
Province of origin	:
How long smartphone usage	:
Long use Mobile JKN app	:
Android /IOS applications are often used	:

APPENDIX C: Technology Acceptance Model
Questionnaire Developed by F. D. Davis (1989)

Please fill the most appropriate number by (√) of each statement which correspond most closely to your desired respond. 1: strongly disagree; 2: disagree, 3: unsure (neither disagree nor agree), 4: agree, and 5: strongly agree.

No	TAM Statement Perceived Usefulness (PU) Items	Rating Scale				
		Strongly disagree	Disagree	Unsure	Agree	Strongly agree
1.	My job would be difficult to perform without Mobile JKN app.	1	2	3	4	5
2.	Using Mobile JKN app gives me greater control over my work.	1	2	3	4	5
3.	Using Mobile JKN app improves my job performance.	1	2	3	4	5
4.	The Mobile JKN app system addresses my job-related needs.	1	2	3	4	5
5.	Using Mobile JKN app saves me time.	1	2	3	4	5
6.	Mobile JKN app enable me to accomplish tasks more quickly.	1	2	3	4	5
7.	Mobile JKN app support critical aspects of my job.	1	2	3	4	5
8.	Using Mobile JKN app allow me to accomplish	1	2	3	4	5

	more work than would otherwise be possible.					
9.	Using Mobile JKN app reduces the time I spend on unproductive activities.	1	2	3	4	5
10.	Using Mobile JKN app enhances my effectiveness on the job.	1	2	3	4	5
11.	Using Mobile JKN app improves the quality of work I do.	1	2	3	4	5
12.	Using Mobile JKN app increases my productivity	1	2	3	4	5
13.	Using Mobile JKN app makes it easier to do my job.	1	2	3	4	5
14.	Overall, I find the Mobile JKN app system useful in my job.	1	2	3	4	5
No	Perceived Ease-of-use (PEOU) Items					
1.	I often become confused when I use the Mobile JKN app system.	5	4	3	2	1
2.	I make errors frequently when I use the Mobile JKN app.	5	4	4	2	1
3.	Interacting with the Mobile JKN app system is often frustrating.	5	4	3	2	1

4.	I need to consult the user manual often when using Mobile JKN app.	5	4	3	2	1
5.	Interacting with the Mobile JKN app system requires a lot of my mental effort.	5	4	3	2	1
6.	I find it easy to recover from errors encountered while using Mobile JKN app.	1	2	3	4	5
7.	The Mobile JKN app system is rigid and inflexible to interact with.	5	4	3	2	1
8.	I find it easy to get the Mobile JKN app system to do what I want it to do.	1	2	3	4	5
9.	The Mobile JKN app system often behaves in unexpected ways	5	4	3	2	1
10.	I find it cumbersome to use the Mobile JKN app system.	5	4	3	2	1
11.	My interaction with the Mobile JKN app system is easy for me to understand.	1	2	3	4	5
12.	It is easy for me to remember how to perform tasks Mobile JKN app system.	1	2	3	4	5

13.	The Mobile JKN app system provides helpful guidance in performing tasks.	1	2	3	4	5
14.	Overall, I find the Mobile JKN app system easy to use.	1	2	3	4	5

Pertanyaan Identitas Diri

Umur :

Jenis Kelamin :

Pendidikan Terakhir :

Pekerjaan :

Alamat Kota dan Provinsi :

Berapa lama menggunakan telpon pintar :

Lama menggunakan aplikasi Mobile JKN :

Android /IOS aplikasi yang sering digunakan :

Technology Acceptance Model Kuisisioner

Harap isi nomor yang paling sesuai dengan (√) setiap pernyataan yang paling sesuai dengan respons yang Anda inginkan. 1: sangat tidak setuju; 2: tidak setuju, 3: tidak yakin (tidak setuju atau setuju), 4: setuju, dan 5: sangat setuju.

	Pernyataan TAM	Skala Rating				
No	Kebermanfaatan dalam penggunaan aplikasi	Sangat tidak setuju	Tidak setuju	Tidak yakin	Setuju	Sangat setuju
1.	Urusan saya dengan BPJS Kesehatan akan sulit dilakukan tanpa aplikasi Mobile JKN.	1	2	3	4	5
2.	Menggunakan aplikasi Mobile JKN memberi saya kendali lebih besar atas urusan saya dengan BPJS Kesehatan.	1	2	3	4	5
3.	Menggunakan aplikasi Mobile JKN meningkatkan kinerja urusan saya dengan BPJS Kesehatan.	1	2	3	4	5
4.	Sistem aplikasi Mobile JKN membantu kebutuhan yang terkait dengan urusan saya dengan BPJS Kesehatan.	1	2	3	4	5
5.	Menggunakan aplikasi Mobile JKN menghemat waktu saya.	1	2	3	4	5
6.	Aplikasi Mobile JKN memungkinkan saya menyelesaikan	1	2	3	4	5

	urusan saya dengan BPJS Kesehatan lebih cepat.					
7.	Aplikasi Mobile JKN mendukung aspek penting dari urusan saya dengan BPJS Kesehatan.	1	2	3	4	5
8.	Menggunakan aplikasi Mobile JKN memungkinkan saya menyelesaikan lebih banyak urusan saya dengan BPJS Kesehatan daripada yang mungkin dilakukan.	1	2	3	4	5
9.	Menggunakan aplikasi Mobile JKN mengurangi waktu yang saya habiskan untuk aktivitas yang tidak produktif.	1	2	3	4	5
10.	Menggunakan aplikasi Mobile JKN meningkatkan efektivitas dalam urusan saya dengan BPJS Kesehatan.	1	2	3	4	5
11.	Menggunakan aplikasi Mobile JKN meningkatkan kualitas urusan saya dengan BPJS Kesehatan.	1	2	3	4	5
12.	Menggunakan aplikasi Mobile JKN meningkatkan produktivitas saya.	1	2	3	4	5
13.	Menggunakan aplikasi Mobile JKN mempermudah urusan saya dengan BPJS Kesehatan.	1	2	3	4	5

14.	Secara keseluruhan, saya menyimpulkan sistem aplikasi Mobile JKN berguna dalam urusan saya dengan BPJS Kesehatan.	1	2	3	4	5
No	Kemudahan dalam penggunaan aplikasi					
1.	Saya sering merasa bingung ketika saya menggunakan sistem aplikasi Mobile JKN.	5	4	3	2	1
2.	Saya sering melakukan kesalahan saat menggunakan aplikasi Mobile JKN.	5	4	4	2	1
3.	Berinteraksi dengan sistem aplikasi Mobile JKN sering membuat saya frustrasi.	5	4	3	2	1
4.	Saya perlu sering berkonsultasi dengan panduan pengguna saat menggunakan aplikasi Mobile JKN.	5	4	3	2	1
5.	Berinteraksi dengan sistem aplikasi Mobile JKN membutuhkan banyak upaya secara psikologis.	5	4	3	2	1
6.	Saya merasa mudah untuk menjalankan kembali aplikasi dari kesalahan yang ditemui saat menggunakan aplikasi Mobile JKN.	1	2	3	4	5
7.	Sistem aplikasi Mobile JKN kaku dan tidak fleksibel untuk berinteraksi.	5	4	3	2	1
8.	Saya merasa mudah untuk mendapatkan sistem aplikasi Mobile JKN untuk melakukan	1	2	3	4	5

	apa yang ingin saya lakukan.					
9.	Sistem aplikasi Mobile JKN sering berperilaku (contoh: error dengan sendirinya) dengan cara yang tidak terduga	5	4	3	2	1
10.	Saya merasa tidak praktis saat menggunakan sistem aplikasi Mobile JKN.	5	4	3	2	1
11.	Interaksi saya dengan sistem aplikasi Mobile JKN mudah untuk saya pahami.	1	2	3	4	5
12.	Sangat mudah bagi saya untuk mengingat bagaimana menggunakan sistem aplikasi Mobile JKN.	1	2	3	4	5
13.	Sistem aplikasi Mobile JKN memberikan panduan yang berguna dalam menjalankan aplikasi.	1	2	3	4	5
14.	Secara keseluruhan, saya merasa sistem aplikasi Mobile JKN mudah digunakan.	1	2	3	4	5

초록

본 논문의 목적은 정보기술수용모형 설문지를 통해 인도네시아 사람들이 이용한 Mobile JKN 사용현황을 분석한다. 특히, 본 연구는 다음의 목표를 달성하기 위해 노력한다: (1) 보편적 의료 보험을 제공하는 국가 보험 프로그램인 JKN 을 지원하기 위해, Mobile JKN (정부 보건 관리 기관에서 발급한 모바일 앱)을 이용하는 인도네시아 사용자의 사용현황을 확인하는 것; (2) Mobile JKN 앱에 대한 사용자의 인식 파악하는 것; (3) 사용현황에 영향을 미치는 인구통계학적 요인을 파악하는 것이다. 본 연구의 방법론은 기술, 탐구 및 단면 분석이었다.

본 논문의 설문자에 대한 선택 기준은 정부 보건 관리 기관으로 연결된 JKN 모바일을 다운 받아 사용하는 인도네시아 보편적의료보험의 회원이다. 설문자는 페이스북, WhatsApp, 라인, 카카오톡과 같은 소셜 미디어 플랫폼을 통해 배포되었다. 본 연구의 참여한 JKN 모바일 앱 사용자는 총 128 명이었다. 지각된 유연성(PU)와 지각된 사용 요이성(PEOU) 사이에 관련이 있는지 테스트하기 위해 피어슨 상관계수를 적용했고, JKN 모바일 앱의 지각된 유연성(PU)와 지각된 사용 요이성(PEOU)에 대한 인구통계학적 요인의 영향을 분석하기 위해 표준중다회귀분석을 했다.

본 논문의 연구 결과는 설문자들은 JKN 모바일 앱을 받아들였다. 데이터 분석 결과에 따르면, PU 의 평균점수는 3.8 점과 PEOU 의 평균점수는 3.7 점으로 대다수의 사용자들이 모바일 앱은 유용한 것으로 인식한다. 또한, PU 변수와 PEOU 변수가 P-value <0.05 와 유의하게 상관관계가 있음을 보여주었다. 모바일 앱 사용시간은 PEOU 점수의 유일한 영향력 있는 예측 변수가 되었고, PEOU 의 변화율 4%만 설명하였는데, 그러나 PU 변수에 큰 영향을 미치지 않았고, PEOU 변수만 PU 에 영향을 미치며, 30%의 차이를 설명하였다. 본 연구는 보건 정보학 분야, 특히 모바일헬스 앱 분야의 기술 수용과 관련된 지식을 강화한다.

키워드: 모바일헬스(mHealth), 정보기술수용모형, JKN 모바일, 모바일 앱, 사용현황, 인도네시아인.

학생 번호: 2016-29060

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I also express my deepest appreciation to the person who made the most merit on the completion of my study, my supervisor during study, professor Jong Eun Kim, who humbly guided me and gave various unforgettable experiences and lessons. Moreover, my deepest gratitude goes to my career inspirations, professor Hyeon Ae Park, Professor Jin Hyun Kim, professor Sunghee Tak, professor Heesung Choi and all the lecturers at the Seoul National University College of Nursing. Thanks to my colleagues in CHIC laboratory, thank you very much for your guidance and I would like to convey a very deep apology because causing a lot of troubles. To the people I bothered the most in Korea, Byun Ah Jung and Jung Yong Joo, thank you very much for your help so far, your help means a lot to me.

For my comrades while in Korea, Ka' Fava who has always been a friend through the tight line 2 towards Hyewa station, thank you very much for being the best sister as long as we are together here. Thanks to Ka' maes, Desica, Ka' lina, Fina, Ka' Etis, Syifa, Mbak Dilla, Ka' jojo, Mbak lailil, Ade, Stella, Mas Yudi, Mbak dwi, and all Indonesian students at SNU, thank you very much for your support so far and all of you are the source of the spirit of my life in Korea.