



FACTORS AFFECTING USER SATISFACTION OF MOBILE JKN APPLICATION: A LITERATUR REVIEW

Luqyana Salsabila Anaqamy¹ and Diansanto Prayoga²

^{1,2}Fakultas Kesehatan Masyarakat, Universitas Airlangga
Kampus C, Jl. Dr. Ir. H. Soekarno, Mulyorejo, Surabaya, 60115, Indonesia

E-mail: ¹luqyana.salsabila.anaqamy-2018@fkm.unair.ac.id, ²diansantoprayoga@fkm.unair.ac.id

ARTICLE INFO

Article history:

Received: Mar 25, 2022

Revised: April 17, 2022

Accepted: May 30, 2022

Keywords:

Mobile JKN, User Satisfaction, BPJS Kesehatan, Mobile Health

ABSTRACT

Mobile JKN is a form of digital transformation launched by BPJS Kesehatan which aims to facilitate the service of the Jaminan Kesehatan Nasional-Kartu Indonesia Sehat. Considering the mandatory rule of JKN participation, there is a possibility for a higher demand in using Mobile JKN application in the future. However, based on the feedbacks for the Mobile JKN application on Playstore and Appstore as of December 28, 2021, it is known that the average rating is 3.4 out of 5 and 2.7 out of 5. This condition illustrates that there are still many users who are not satisfied with the application. This study aimed to identify the factors that affect the satisfaction of Mobile JKN users. This study was a literatur review using three databases including SAGE, Pubmed and Google Scholar. The inclusion criteria were the articles published in 2019-2021 and in full text. The result of this review showed there are various factors that are categorized into five dimensions; the reliability, tangibility, responsiveness, privacy, and assurance. And these dimensions affect the satisfaction of Mobile JKN application users.

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1. Introduction

Currently, the development of information and telecommunications technology in Indonesia is moving more rapidly, including the use of smart phones, which are now owned by most people. Based on a survey conducted by APJII in 2019, internet users in Indonesia, which previously amounted to 64.8% in 2018, increased by 8.9% to reach 73.7% or 196.71 million people from the entire population of 266.91 million [1]. In addition, smartphone users in Indonesia are said to have a significant increase, where in 2015 was at 28,6%, then increased to 56,2% of the total population of Indonesia in 2018. It is further predicted to reach 89,2% by 2025 [2]. One of the digital technologies in smartphones that is developing very rapidly is mobile applications. According to Pressman and Bruce (2014), mobile applications are defined as applications designed specifically for mobile platforms such as Android, iOS, or Windows mobile that can be used anywhere and anytime [3–4].

JKN or Jaminan Kesehatan Nasional is Indonesia's National Health Insurance Program implemented and managed by the Social Insurance Administration Organization called Badan Penyelenggara Jaminan Sosial (BPJS) Kesehatan. JKN started to be implemented in 2014 in order to provide comprehensive health insurance for Indonesian citizen with the aim of living healthy, prosperous, and productive lives [5–7]. In order to achieve Universal Health Coverage, JKN uses the principle of cooperative social insurance (Kegotong royongan) which membership is mandatory and is managed on a non-profit basis [6]. The members are required to pay insurance premium. Since the implementation of the National Health Insurance (JKN) system in 2014, many modifications have occurred in the health care system in Indonesia. Patients who want to get health services must adjust to a tiered system. Patients cannot directly get services at Advanced Health Facilities (FKTL), but go through a tiered process with a referral system [8].



Observing the digitalization of technology and as well as wanting to improve the services of JKN participants, BPJS Kesehatan seized the opportunity to finally innovate the Mobile JKN application [9–11]. Mobile JKN application is a form of digital transformation launched by BPJS Kesehatan, the application aims to facilitate the National Health Insurance Jaminan Kesehatan Nasional-Kartu Indonesia Sehat, especially to handle long queues at BPJS Kesehatan Branch offices and health facilities [7,12]. Before COVID-19, the features in the Mobile JKN application include participant registration, changing participant data, paying insurance premium with e-wallet, making appointments, and screening and treatment services [13]. JKN participants also use Mobile JKN to carry out administrative activities that initially could only be done at BPJS Branch Offices such as administering membership administration, lowering treatment classes, and applying for transfers to health facilities anywhere and anytime without time limits [14].

In the context of COVID-19 pandemic, the government has issued regulations to reduce the transmission and control over the spread of the virus. Starting from "Social Distancing", "Physical Distancing", to Large-scale Social Restrictions (Pembatasan Sosial Berskala Besar or PSBB), which was written in regulation No. 21 of 2020 concerning large-scale social restrictions (PSBB) [15]. This regulation includes closing public spaces such as schools, workplaces, public transportations, religious, socio-cultural, and community activities [16]. With many offline public services being limited and even temporarily closed, the initiation of online services is now starting to become normalized and obligatory [17]. Moreover, all Indonesian citizens are expected to actively join JKN for healthier country. Regarding this, Mobile JKN has adapted and updated its features by adding 6 additional features since 2020. The 6 new features include information of the insured medicines, the relaxation program for arrears (Indonesian: Program Relaksasi Tunggal), information of surgery schedule and bed availability, doctor consultation, and COVID-19 self-screening. Mobile JKN can be an option for use today, especially in order to lessen the cases of Covid-19 transmissions in the BPJS Kesehatan Office Work environment and in the public community [18]. Mobile JKN aims to enable people to enjoy their services quickly, thus Mobile JKN can be used anywhere at any time with no time limit (*self service*) [7–9]. Service innovations carried out by BPJS Kesehatan are expected to meet BPJS Kesehatan participants' satisfaction as their customers. Satisfaction is defined as a person's feeling of pleasure or disappointment that comes from a comparison between the impression of the product's performance and their expectations [19]. Considering the mandatory rule of JKN participation in Indonesia, there is a possibility for a higher demand in using Mobile JKN application in the future. Therefore, ensuring its application user satisfaction is a must.

However, based on review data or feedback on the Mobile JKN application on Playstore as of February 10, 2022, it is known that there are 323,094 total reviews with an average rating of 3.3 out of 5. While in the App Store there are 4,614 reviews with a rating of 2.7 out of 5. Rating and feedbacks by Mobile JKN users on Google Playstore can be a representation of satisfaction from users who have downloaded the Mobile JKN application [20]. According to Khusna et al., (2021) Even though Mobile JKN has provided features including participant registration and participant data update, there are still many BPJS Kesehatan participants who come to the BPJS Branch Office to take care of the needs of participant registration or data updates [20]. There are also still many BPJS participants who prefer to come directly to the Branch Office instead of using the Mobile JKN application and caused queue extension at the office. This condition illustrates that there are still many users who are not satisfied with the application. Satisfaction itself is a feeling of either pleasure or disappointment that comes from comparing the expected performance of a product to expectations [19,21]. Therefore, there has to be a study to analyse which factors of Mobile JKN applications are responsible for the satisfaction of its users.

2. Method

This study was conducted from November 2021 to February 2022. In this review study, literatures or articles related to Mobile JKN that discuss factors that affect the satisfaction of Mobile JKN users was searched in Google Scholar, Pubmed, and SAGE. The keywords used to select the articles were "Mobile JKN" OR "Mobile Jaminan Kesehatan Nasional" AND "Satisfaction" OR "Kepuasan". Articles were selected based on the inclusion and exclusion criteria. Inclusion criteria include articles in the form of full text, open access articles, published in the last three years (2019-2021), discussing factors that affect the satisfaction of Mobile JKN users and using Indonesian and English language. Articles are not limited by the area of origin and type of research. Exclusion criteria are articles that do not meet the inclusion criteria. PRISMA model was used in the process of reviewing the articles, as shown in the figure below:

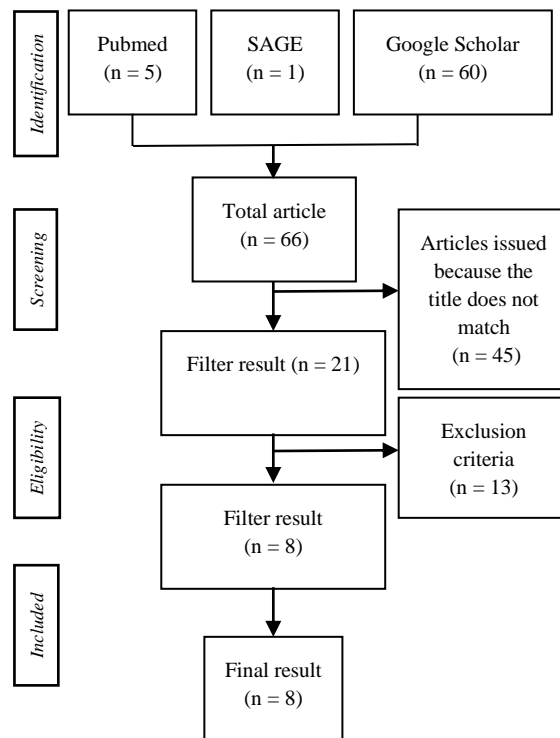


Figure. 1. PRISMA Model.

The article review process was carried out using the PRISMA model. The initial research in SAGE identified 1 result, Pubmed identified 5 results, and Google Scholar identified 112 results of relevant studies. Google Scholar results are specifically limited to the first 6 pages so that only 60 articles are reviewed. The total number of articles obtained is 66 articles. Based on the PRISMA model that has been carried out, of the 66 articles obtained that were identified and reviewed based on the title, 45 of them were excluded due to lack of relevance. The results of 21 articles that had been filtered by title were then reviewed based on the inclusion and exclusion criteria so that 13 articles did not meet the criteria. So that only 8 journal articles were used in this literature research. The contents of selected articles were reviewed, analyzed, and interpreted.

3. Result and Discussion

Based on the results shown in the table 1, it is known that 2 articles were published in 2021, 3 articles were published in 2020 and 3 articles in 2019. Of the 8 articles, there are 6 articles that discuss the satisfaction factors of using mobile JKN and the remaining 2 also discuss barriers to use mobile JKN. The selected articles have been published in the Google Scholar database. The research was carried out in various locations in Indonesia, including 1 study conducted in Cirebon Regency (Kabupaten Cirebon), 1 in Pekanbaru, 1 in Sidoarjo Regency (Kabupaten Sidoarjo), 1 in Malang, 1 in West Aceh Regency (Kabupaten Aceh Barat), 1 in Jambi, and the remaining 2 in the entirety of Indonesia. The results of the research review show that the majority of users of the Mobile JKN application are satisfied and there are various factors affecting the said satisfaction. In addition, there are still some obstacles in its use.

TABLE 1
ARTICLES REVIEWED IN THE STUDY

No	Authors,Year	LOCATION	SAMPLE	RESEARCH DESIGN	Result
1.	Herlinawati, et al., 2021 [17].	Cirebon Regency	100 respondents who came to the BPJS office and who were in the Cirebon Regency Hospital	Descriptive	Usability, features, and service quality affects the users' satisfaction.
2.	Ichsani & Hartono, 2020 [22].	Pekanbaru	140 JKN and BPJS Kesehatan Pekanbaru participants who have used mobile JKN services	Descriptive with quantitative approach	Service quality and Trust have both positive and significant impact on the participant satisfaction
3.	Khusna et al.,	Sidoarjo Regency	100 JKN-KIS participant who have	Quantitative using	Interaction Quality and Information Quality

	2021 [20].		used the Mobile JKN application	questionnaire	have a positive effect on User Satisfaction of Mobile JKN services. Information Quality has a positive effect on Continual Usage of Mobile JKN services.
4.	Annisa et al., 2020 [23].	Malang	71 JKN participants	Quantitative	the usability level of Mobile JKN application is still low and does not meet Mobile JKN users' satisfaction
5.	Komala & Firdaus, 2020 [24].	Indonesia	100 Mobile JKN users	Quantitative	System Quality, Information Quality, Service Quality have a positive and significant effect on participant satisfaction.
6.	Saryoko et al, 2019 [25].	Indonesia	100 BPJS participants	Qualitative	Service Quality affects the users' satisfaction.
7.	Wulandari et al., 2019 [5].	West Aceh Regency	Head of BPJS Kesehatan in Meulaboh Branch Office, Technology and Information Staff, Membership Unit and Customer Service Staff, and Community users of the Mobile JKN application	Quantitative	Information provided in Mobile JKN application increased the users' satisfaction.
8.	Hapsara & Yandi, 2019 [26].	Jambi	100 BPJS Kesehatan in Jambi City Branch Participants	Quantitative using path analysis	Services provided by Mobile JKN have an effect on JKN participants' satisfaction

Source: Data Processed.

Parasuraman et al., (1988) defined service quality as a comparison between the services expected by consumers and the services they receive. The main factors influencing service quality are the expected service and the service received (perceived service). Service quality can be seen from the dimensions of reliability (ability to fulfill promises), responsiveness (responsiveness in providing services), assurance (ability to provide service guarantees), assurance (competence in providing services), and tangibles (physical appearance of services). These five dimensions are called SERVQUAL (Service Quality) which can be used to measure the quality of a service in order to meet consumers' satisfaction [27]:

a. Reliability

One of the factors affecting satisfaction is reliability. Parasuraman defines reliability as a service's ability to provide services accurately and reliably, for example, such as the suitability of services provided as promised, reliability in helping to solve consumer problems, as well as the accuracy of these services in providing information [25]. According to the article reviewed, one article which analyzed the quality of Mobile JKN services on the satisfaction of BPJS participants stated that reliability has no effect on Mobile JKN user satisfaction [24]. The reliability variable categorized in very high index, meaning Mobile JKN has functioned well and accurately, but due to frequent application updates which result in participants not being able to access the application for a long time, therefore it has not met the expectations of participants and needs to be improved [24]. Two other studies stated that the quality of information and the quality of interaction affect the satisfaction of using Mobile JKN [5,20]. Three articles shown that Mobile JKN in providing services and information displayed is good and accurate [5,20,28]. For example, mobile JKN are able to help administrative activities online as claimed. Wijaya also stated that good administrative services have a significant effect on satisfaction levels [29]. Even though Mobile JKN has easy procedures when used, but because many users are technology savvy, instead of using the online administrative features, most users prefer to go directly to the nearest BPJS Kesehatan office to be served directly [17,30]. This was also the cause of why Mobile JKN has not been able to minimize the queue level at BPJS Kesehatan Branch Offices [23].

b. Tangibility

Parasuraman defined tangibility as physical evidence of a service that can be perceived by the five human senses, including the physical facilities, equipment, personnel and material. In a mobile application, tangibility is interpreted as service features and easy-to-understand physical appearance (interface) and facilities or features of the application [17]. Unfortunately, even though a study conducted by Sirajuddin & Atrianingsi (2020) stated that Mobile JKN users have high trust over Mobile JKN's interface application, [28] there are still many user's with low or lack of interest in the appearance of the Mobile JKN interface [31]. One article stated trust has direct positive and significant effect on decision to choose Mobile JKN, the same effect applies between decision to choose and satisfaction [22]. Based a study about mobile applications' impact on student performance and satisfaction, there is a relationship between good interface design, layout design, ease of use for mobile-learning application and satisfaction [32]. Han et al. (2004) [33], also stated a product's design features such are the color and the arrangement of display and buttons are affecting user's satisfaction. A study about the predictors of Halodoc's satisfaction also stated that the most



important predictors tied to satisfaction are the design of colors, buttons, and drug information in the application [34]. Moreover, according to Hermansyah et al., (2019), the better the facilities, in mobile context are called features, the higher the customer satisfaction [35]. The Mobile JKN application itself has features that function well, and the design is attractive and informative [17]. But there are still some features that do not meet needs, such as the doctor consultation feature which is very limited because it is based on the health facilities listed. This causes users whose First Level Health Facility (FKTP) is Public Health Center have difficulty to get a doctor for consultation, because doctors are sometimes limited in Public Health Center.

The service registration feature is also limited to services according to health facilities, and sometimes online registration cannot be done because the schedule option does not appear, therefore the usability level is still low [17,23]. Usability is defined by a qualitative attribute that represents how easy it is for users to use and operate an application [36]. According to Annisa et al., (2020) of the five aspects of usability, there are three aspects that are low in Mobile JKN, those are efficiency, learnability, and control. Efficiency has the lowest value followed by learnability and control [23]. Contrary to Annisa and Helinawati, [17,23] two articles stated that Mobile JKN's usability is considered in the good range of value [9,31]. A study conducted by Lubis et al., (2020) stated that the Mobile JKN Application's usability was categorized as very good in the system aspect (4.18), good in the user aspect (3.80), and very good from the interaction aspect (4.17) so that the overall usability value of Mobile JKN is considered good. However, usability on the user's part is the attribute with the smallest value (3.80) so it must be improved by BPJS Kesehatan [9]. To improve the quality of services, BPJS Kesehatan must pay attention to obstacles like these [22].

c. Responsiveness

The responsiveness factor is the ability of a service to help consumers and provide services quickly. The speed of service experienced can help increase users' satisfaction in getting effective services [5]. Responsive behavior including fast in responding to customer complaints will give satisfaction [37]. The implementation of responsive services can be in the form of speed of service provided to consumers, ease of complaint and critics to employees, and speed of the providers in handling complaints. Based on the articles reviewed, one article showed that responsiveness has positive impact to the satisfaction of Mobile JKN users [24]. Mobile JKN has a fairly good responsiveness because complaints are processed quickly and application access does not take long, [17,24] the speed provided has also been implemented well. Mobile JKN makes it easier for users to get the services and information they need, for instance the information on the location of the nearest health facility or the drug list covered by BPJS, not only quickly but also accurately [5]. Contact such as the availability of call center is needed to give complaints or ask questions related to the application. According to Komala & Firdaus (2020), contact also has a positive impact on Mobile JKN user's satisfaction, but not considered as significant. That result is caused by Mobile JKN's long complaint flow; even though the complaints are processed quickly, the complaint flow is still considered long, thus lowering the significancy of contact as a factor affecting Mobile JKN users' satisfaction [24]. The problem that often arises related to the responsiveness of the application is due to external factors such as poor network conditions in the area. This causes the application to be unresponsive at times [5].

d. Privacy

Privacy is the ability of a system to prevent inappropriate or illegal use of its data and to block hacker and cyber criminals [38–39]. Based on the articles reviewed, one article which analyzed the quality of Mobile JKN services on the satisfaction of BPJS participants stated that privacy has no effect on Mobile JKN user satisfaction [24]. Contrary to Komala & Firdaus (2020), a study by Handoko & Ronny (2020), [38] which analyzed the effect of security, reliability, and satisfaction on consumer loyalty in using mobile banking, stated if a mobile application can guarantee data security, customer satisfaction will increase and make the customer loyal. Even though privacy has no effect on Mobile JKN user satisfaction, based on research conducted by Sirajuddin & Atrianingsi (2020), [28] the majority of respondents using Mobile JKN (50.91%) believe that the user's personal data contained in the Mobile JKN application has been kept confidential. This is because Mobile JKN has a password feature at login and tokens confirmation sent via email when participants change personal data, therefore users feel safe [24].

e. Assurance

The assurance dimension is related to the knowledge, manners, and ability of the application to convey the truth to the users and convince them [40]. A study was conducted by Astuti et al., (2009), [40] regarding services at Islamic banks, it was known that assurance affects customer satisfaction but the effect is still lower than the responsiveness factor. Based on the articles reviewed, one article by Wulandari (2019) stated that an interview conducted for the research with BPJS Kesehatan Staffs and said that Mobile JKN's friendliness and good manners are practiced in providing services and information provided to Mobile users

[5]. The services and information provided through the Mobile JKN application are accurate, therefore giving assurance to its users.

Another factor affecting Mobile JKN user satisfaction is trust. One article stated that trust has direct positive and significant effect on decision to choose and satisfaction [22]. Same result was found in studies [41–43] which stated that users' trust determines their satisfaction. The higher the trust a user has on a service, the higher the satisfaction. If BPJS Kesehatan continues to improve participants' trust, especially in terms of privacy, confidentiality of information, ease in getting participants' needs, and quality of information in Mobile JKN, satisfaction will be affected as well [22].

4. Conclusion

This literature study concluded that the factor mainly affecting the satisfaction of Mobile JKN users is related to the quality of the service received, which can be divided into five dimensions, such as reliability, tangibility, responsiveness, privacy, and assurance. Reliability is related to how Mobile JKN is able to provide services reliably and as promised, able to help resolve consumer problems, and able to provide accurate information. Tangibility is where Mobile JKN has an easy-to-understand physical appearance (interface) and facilities or features. Responsiveness is the dimension where Mobile JKN is able to serve complaints and provide services quickly. Privacy is related to the ability of Mobile JKN to prevent illegal use of its data and to prevent hackers and cyber criminals, and assurance, where Mobile JKN is able to give service using accurate information or knowledge with good mannerism, in order to give assurance to the users in using Mobile JKN. Trust also plays a role in increasing satisfaction. Therefore, it is necessary to further evaluate the quality of Mobile JKN services, especially within these five dimensions and trust, in order to increase user satisfaction in using the Mobile JKN application.

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