Public Perception of Health Insurance Technology-Based Innovation in Indonesia

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Abstract

This study aims to obtain an overview and analyze public perceptions in implementing technology-based health insurance service innovations in the Mobile National Health Insurance (JKN) application conducted by the Indonesian Health Social Security Administration Agency (BPJS). This study used descriptive qualitative method. This research data is generated from the comments column of the JKN mobile application in the AppStore and Play Store. Data collection is done by data mining and data extraction. The data analysis used in this research is Qualitative Data Analytics (QDA). The analytical tool used in this study is Qualitative Data Software Analysis (QDSA) Nvivo 12 Plus. The results of the study show several things, namely the first is related to the features available in the Mobile JKN application. The second is related to the number of downloaders and the number of active users of the Mobile JKN application, and the third is related to the perception generated by users while using the Mobile JKN application. Where it was found that overall public perception of the application of technology-based health insurance service innovations through the JKN mobile application by the Indonesian BPJS Health obtained a perception that tended to be negative. This is shown by the five indicators that mostly get a bad perception from the public, and only two indicators that fully capture good or positive perceptions. Apart from that, other findings also show the dominant sentiment generated while this application is used by the public in obtaining health services.

Keywords: Public Perception, Innovation, Health Insurance, Mobile JKN

INTRODUCTION

Public service is an activity that must be present in a country and carried out by state apparatus where these activities are part of the government's important mandate (Indonesia, 2009). The purpose of the existence of public services is to serve well and optimally in order to be able to provide satisfaction to the community, and to be able to achieve state goals in accordance with the needs and desires of the community which has a direct or indirect impact on welfare. The process of implementing public services is also continuously carried out by authorized apparatus with a series of efforts in order to be able to provide excellent service in fulfilling services or goods (Rahmadana et al., 2020). According to Law no. 25 of 2009 public services are provided to the community with various kinds of services including services in the form of services and/or administrative services, one of which is services in the health sector (Indonesia, 2009).

The health services provided have the aim of increasing and realizing prosperity, equal distribution of quality of life, as well as increasing the degree of health and nutritional status of the Indonesian people (Suwandi, 2003). This is also in line with the main goal of implementing public services for the Indonesian state, namely to prosper its citizens in the physical and spiritual aspects. In health services in Indonesia, the implementation of health services is carried out by the Health Social Security Administration Agency (BPJS Kesehatan) as a government agency established to run and manage health services that will be received by the people of Indonesia (Law No. 24 of 2011, 2011). BPJS Health has the goal of achieving community welfare through the maintenance of all Indonesian citizens and the implementation of quality national health insurance without discrimination and equity (Law No. 40, 2004).

The mandate to achieve public welfare through quality health care organized by BPJS Kesehatan in Indonesia must of course be carried out with relevant and supportive efforts in realizing the achievement of this big goal. One of the efforts to renew and improve the delivery of services carried out by BPJS Health is to use advances in information technology that are developing rapidly in the world. At present, the government has led to the development of the times and technological advances that are growing over time, where the presence of progress aims to make people's lives better (Boyd, 2014). The implementation of information technology in the world, especially government organizations or agencies which can also be called e-Government, has been widely applied and its implementation is no exception in the Indonesian BPJS Health programs.

The purpose of BPJS Health using advances in information technology or e-Government is in an effort to improve services and achieve organizational goals. This is in line with the definition of e-Government according to (Nugraha, 2018) which says that the presence of e-Government can be interpreted as the use of advances in digital technology to change government activities that have the aim of increasing efficiency, effectiveness and service delivery. To realize the progress of e-Government information technology and the implementation of quality health insurance, BPJS Kesehatan Indonesia launched an innovation in the form of a service based on a smartphone-based application called mobile JKN, Mobile JKN was released in 2017.

The presence of the JKN mobile application is designed to make it easier for BPJS health participants or the public to complete or get services for their membership in the JKN Program and minimize or eliminate obstacles in providing services to the community (BPJS Health, 2019). This innovation allows the public to get services from BPJS Health through applications on smartphones and does not need to come directly to branch
offices in the hope that obstacles often faced by the community such as long and crowded queues at branch offices to get services can be avoided, especially during this pandemic (BPJS Health, 2022). However, based on a news article from Kompas.com, 2020 released data that the number of JKN-KIS or BPJS Health participants who have used the Mobile JKN application as their tool to get services is still relatively low, of the total number of active BPJS Health participants in Indonesia which reaches 222.46 million people as of September 2020 BPJS Kesehatan data shows that the download of the Mobile JKN application on the Play Store has only reached more than 10 million downloads and the number of active users of the Mobile JKN application has only reached around 432,000 participants.

With the presence of various forms of services provided by BPJS Kesehatan through the Mobile JKN application, in reality the total number of users shows that the presence of the Mobile JKN application has not been able to provide a significant increase in public interest in using or adapting this innovative application. The form of service innovation that has been provided and carried out has elicited various responses from the community which then become the perception that is formed. The community as BPJS Health participants have diverse perceptions of the services provided and the performance of the application that are felt by the community while using the Mobile JKN application.

In recent research, perception can be understood as the brain's ability to translate incoming stimuli into the human senses. In human perception, there are different points of view in sensing, some perceive something as good or positive or negative perceptions that will affect visible or real human actions (Rahma, 2018). Different perceptions of individuals in seeing an object or problem can affect the actions that the individual would choose, namely whether positive or negative in responding to a product or innovation, this perception then arises based on the experience of each individual.

Several studies related to public perception have been carried out including research related to consumer perceptions of the Gojek brand (Hudaya et al., 2019), public perception of the privilege fund program in the cultural sector (Sahaludin & Rahman, 2020), visitor perceptions in the Aek Nauli Elephant Conversation area Camp (Hutapea et al., 2021), as well as knowledge and perceptions & management policies in the Aek Nauli area (Dan et al., 2019). There is also research related to perceptions that focuses on BPJS Health innovation, namely Mobile JKN which has a small scope with a research focus on patients at the Pratama Surya Medika Clinic in Semarang who use Mobile JKN (Harsono et al., 2021). All of the above studies are presented by method, location, as well as different results to the resulting findings.

As far as the results of the previous literature review have been conducted, no research has been found that focuses on assessing public perceptions of the Mobile JKN application as a whole, so it is important to conduct this research further in order to find out comprehensive public perceptions regarding the extent to which people in Indonesia respond to innovation based on Mobile JKN application technology that has been running so far. With the availability of a study that focuses on the perception of Mobile JKN users as a whole, it is hoped that it can contribute good knowledge so that in the future the presence of Mobile JKN can be optimized by minimizing the deficiencies and obstacles found in this research so that the quality services provided by Mobile JKN can be done well. It is for this reason that this research was conducted.

**RESEARCH METHOD**

The type of research used in this research is descriptive qualitative research. The data used in this study is secondary data in the form of public perceptions resulting from their experience using the JKN Mobile Application. The data collection
method in this study used the data mining method which was generated through the comments column of the JKN mobile application in the appstore and also the playstore from October 2021 to November 2021. We believe that the comments that emerged from the Mobile JKN application users were good at the appstore and also the playstore are honest and real comments given by users in assessing the Mobile JKN application they have used.

For data analysis used in this study, namely Qualitative Data Analytics (QDA). The analytical tool used in this study is Qualitative Data Software Analysis (QDSA) Nvivo 12 Plus. The main use of Nvivo 12 Plus is to carry out qualitative data processing through effective data coding so that it can facilitate data analysis and process large and varied data effectively and efficiently (Bengt M. Edhlund & Mc Dougall, 2019). Several stages are required in analyzing with Nvivo 12 Plus starting with: Data collection, Data import, Data coding, Data classification, and Data presentation (Loilatu et al., 2021). The presentation of the data in this study is in the form of a word cloud display of data obtained from the mined comments column.

RESULTS AND DISCUSSION

The following section will explain the results of the research findings along with discussions which are divided into several sub-sections, the first sub-section explains the history of initial attendance and the service menu features available on the JKN Mobile Application in Indonesia. In the second part, a calculation will be shown regarding the total number of downloaders as well as the number of active users of the JKN Mobile Application in Indonesia. The third sub-section will analyze the perceptions that arise as long as users use the JKN Mobile Application in Indonesia.

JKN Mobile Application in Indonesia

Mobile JKN is an application released by BPJS Health on November 15 2017. The Mobile JKN application can be downloaded for free via the app store and play store. This free download service is expected to improve the services provided to JKN-KIS or BPJS Health participants. With the presence of this application, BPJS Health has a big goal, namely to provide convenience related to administrative services to the community. The community only needs to access the application to get BPJS Health services. BPJS participants or the public can easily access various information related to the JKN program by BPJS Kesehatan, anywhere and anytime without the need to come directly to the BPJS Kesehatan office. By downloading and registering and successfully logging in to the Mobile JKN application, participants can take advantage of the features available in it. The following image is a display of the JKN Mobile Application menu features.
The Home menu in the JKN Mobile application consists of: Participant Feature, Participant Data Change Feature, Bed Availability Feature, Service Registration Feature, Premium Feature, Doctor Consultation Feature, Operation Schedule Feature, Unpaid Relaxation Program Feature, Covered Medicines Feature, Notes Feature Payment, Participant Registration Features, Payment Features, Service History Features, Information and Complaint Features, JKN Information Features, Location Features, Covid-19 Self-Screening Features, and Screening Features.

Meanwhile, the articles menu contains news or articles related to BPJS Health, JKN-KIS, and others. Next is the Participant Card Menu, which is a feature that shows the complete digital participant card. The FAQ menu, or Frequently Asked Questions, is a menu that contains questions that JKN-KIS participants often ask or want to know, and in this menu participants can search for the right questions as well as answers that have been explained by BPJS Kesehatan. And finally the Profile menu, this menu displays membership data such as name, membership number, email used, password change feature, privacy policy, notifications, and so on.

**Number of Downloaders and Mobile JKN Users**

Based on research observations, it can be seen that the number of BPJS Health participants who downloaded the Mobile JKN application through the Play Store has reached more than 10 million downloaders where the number of active users reached around 432,000 users as of September 2020. These findings show that the level of active use is still too low when compared to the Downloader level that has been generated. In percentage, it was recorded that only 4% of the downloaders were actively carrying out usage activities. This can be seen in Figure 2.
Figure 2. Data on the number of downloaders and mobile JKN users in the Play Store
Source: Author Processed Based on data (Kompas.com, 2020)

In offering or implementing a technology-based service innovation, providers or agencies need to pay attention to the quality provided to users or the public so that they can provide a good user experience and can continue to be adapted in the future as mandatory features that can be used for people who need services. In this case, BPJS Kesehatan has realized an innovation and offered the JKN mobile application, which in fact was found to be still unable to realize optimal innovation, this is shown by the low intensity of active users on the Mobile JKN application, which so far has only reached 432,000 participants. If you look at the number of downloaders, the number is inversely proportional, namely 10 million more downloaders. Conditions like this can indicate that there are things that are not in accordance with user expectations, so that it becomes a reason for application users or BPJS Kesehatan participants not to become active users of the services provided by Mobile JKN.

Public Perceptions of the JKN Mobile Application
Perception is a process of gaining understanding from sensory information. In other words, perception is a process of interpreting or interpreting information that is obtained or felt through the senses (Qiong, 2017). Each individual has their own understanding or perception resulting from the experience they have gained, including the public or the public who have used public service innovations from BPJS Health, namely in this case the JKN Mobile Application.

Through data processing using Nvivo 12 Plus public perception in the implementation of mobile JKN innovations can be visualized through a Word Frequency analysis which can be seen in Figure 3 below. Figure 3 shows that each comment column has generated various public reactions to their experience using the Mobile application JKN. In the App Store the frequency of words that appear is dominated by keywords such as "login", "me", "register", and "captcha". As for the frequency of dominant words generated in the Play Store service, public responses were dominated by the keywords "update", "me", "continue", "error". Some of these keywords are words that represent sentences from users' writings about their experiences while using the application. These keywords provide information related to how the public perceives and evaluates the implementation and experience of using the mobile JKN.
To further explore the data that has been collected, this study also uses the theory of innovation characteristics by Rogers (1983) which include relative advantage, suitability, complexity, trialability, and observability. The five characteristics of these innovations are then used as a measuring tool to see how far public perception has progressed and formed during the implementation of the Mobile JKN application innovation by the Indonesian Health BPJS. The characteristics of innovation given by Rogers (1983) are felt to have relevance to be used to categorize the characteristics of innovation through public perceptions generated in the comments column on each download service. Some examples of sentences expressed by the public regarding their experiences with mobile JKN can be seen in table 1 below.

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics of Innovation</th>
<th>App Store</th>
<th>Play Store</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Relative Advantage</td>
<td>Already good. You can change health facilities from online via the mobile JKN login.</td>
<td>This application is good, very helpful with BPJS matters, saves time and is fast. No need to bother coming to the BPJS office anymore. Too bad just too many updates.</td>
</tr>
<tr>
<td>2.</td>
<td>Suitability</td>
<td>This application really helps me use it without having to queue at the BPJS office.</td>
<td>The application is very helpful in reminding and monitoring my premium payments.</td>
</tr>
<tr>
<td>3.</td>
<td>Hassle</td>
<td>The application is difficult to use, always asking to be updated. If this is not done, the application cannot even be used at all and hinders the user.</td>
<td>It's hard to register for the captcha and you can't see it all the time, it's hard to register even though I'm already a member of KIS.</td>
</tr>
<tr>
<td>4.</td>
<td>Trial Ability</td>
<td>Keep failing to log in with wrong captcha info</td>
<td>The application often has bugs, once opened there is an error.</td>
</tr>
<tr>
<td>5.</td>
<td>Observable Ability</td>
<td>I want to check whether the BPJS card is active or not, it's very complicated. Must enter BPJS number, KTP, and cellphone number but information cannot. It's already complicated, the end can't.</td>
<td>I am very disappointed with this application, I can not register</td>
</tr>
</tbody>
</table>
The results of the classification of innovation characteristics in the table above outline show that the majority of the public express opinions based on their experiences in using the JKN mobile application with perceptions that tend to be negative. This can be seen from a total of 5 indicators used, 3 of which are dominated by public response sentences that show messages of disappointment or discrepancies between expectations and reality obtained during the implementation of the services provided in the Mobile JKN application. Even though the aim of this Mobile JKN application innovation should be to provide new and better services than the previous services, so it is believed that the public has high hopes for the innovations provided.

In the next stage, this research also performs data processing and further analysis using the Nvivo 12 Plus software to find out the overall sentiment that has been generated from user comments available on the App Store and Play Store. Based on the results of data processing using the Nvivo 12 Plus Sentiment Auto Coding feature, two categories of sentiment are generated, namely positive sentiment and negative sentiment, these two sentiments have different values. Negative sentiment is the highest sentiment that appears in the results of data processing, this shows and reinforces that users of the Mobile JKN application still have unfavorable sentiments about the use of the application in the process of obtaining the health services they need.

The overall picture of the results of the data that has been presented shows that there are dominant obstacles experienced or obtained by the application user public, which are encountered not only in the AppStore but also in users through the Play Store. The complications and other obstacles felt by the public in the use of mobile JKN are dominated by problems that are described in the dominant words that appear in wordcloud such as captchas that don’t appear more and more, errors when using the service are running, then this is exacerbated by other obstacles encountered namely the difficulty in the user process when they have to log in to the application. These findings then hinder the public from using or obtaining BPJS Health service needs through the available Mobile JKN service application, so that public perception tends to be negative. However, positive perceptions or positive comments were also found, although with not high intensity. This positive perception can be seen in two other assessment indicators in the implementation of the Mobile JKN application. Of course, these findings can also provide an overview of the reasons

![Figure 4. Sentiment Analysis of Comments on the Play Store & App Store](image)
why the level of active users when compared to the number of application downloaders is still very minimal. In addition, these findings will also serve as a benchmark for future Mobile JKN developers to be able to provide maximum service by taking into account the findings of the five indicators of innovation characteristics, which was presented before.

CONCLUSION

This study concludes that public perception of the use of the JKN mobile application tends to be negative. This can be seen in the characteristics of the innovation in the aspects of complexity, trial capability, and observability which are dominated by public responses that show messages of disappointment or mismatch of expectations regarding the implementation of the services presented in the JKN mobile innovation. In addition, sentiment generated through data processing also produces the same data, where negative sentiment is the highest sentiment generated. Even though the aim of this Mobile JKN application innovation should have been to provide new and better services than previous services, so it is believed that the public has high hopes for this innovation.

In other words, the implementation of this innovation has not been carried out properly and there are still various notes that need to be addressed by the Mobile JKN application developers. The improvements that will be presented later will bring about an increase in positive public perceptions, so that in the future the public will feel optimal benefits or functions in getting services. from technological advances presented through this Mobile JKN application

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REFERENCES


