

## Analyze of User Satisfaction of JKN Mobile Application Service Using Servqual Method in the BPJS Health Area of Surakarta

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Uploaded: 2025-03-18, Revised:2025-09-15, Accepted: 2025-12-13

**Abstract** — Technological advances in the health sector, such as the Mobile JKN application which was officially launched by BPJS Kesehatan on December 18, 2017 to facilitate access to Health services. The Mobile JKN application is still experiencing technical problems such as login problems, server overload, and data integration. The satisfaction level of users in the BPJS Kesehatan Surakarta area reached 89.71%, there were 10.29% who were dissatisfied, especially regarding the reliability and responsiveness of the application. Negative reviews of online registration and feature incompleteness reflect gaps in services that need to be fixed. This study was a quantitative analytical study with a cross sectional design involving 392 respondents. The data were analyzed using a chi-square test with a significant value of  $>0.05$ . Bivariate analysis with the chi square test results in a significant value of less than 0.05, meaning that five dimensions of service quality (reliability (0.025), assurance (0.05), tangibles (0.000), empathy (0.013), and responsiveness (0.004) have a significant relationship with the satisfaction level of the users of the Mobile JKN application. The quality of servqual proved to have a significant relationship with the satisfaction level of JKN Mobile Application users.

**Keywords** – BPJS Health, Satisfaction, Mobile JKN

**Abstrak** — Kemajuan teknologi di bidang kesehatan, seperti aplikasi Mobile JKN yang resmi diluncurkan oleh BPJS Kesehatan pada 18 Desember 2017 untuk memudahkan akses layanan Kesehatan. Aplikasi Mobile JKN masih mengalami kendala teknis seperti masalah login, server overload, dan integrasi data. Tingkat kepuasan pengguna di Wilayah BPJS Kesehatan Surakarta mencapai 89,71%, ada 10,29% yang tidak puas, terutama terkait keandalan dan daya tanggap aplikasi. Ulasan negatif tentang pendaftaran online dan ketidaklengkapan fitur mencerminkan adanya celah dalam layanan yang perlu diperbaiki. Penelitian ini merupakan penelitian kuantitatif analitik dengan rancangan cross sectional yang melibatkan 392 responden. Data tersebut di analisis menggunakan uji chi-square dengan nilai signifikansi  $>0.05$ . Analisis bivariat dengan uji chi square menghasilkan nilai signifikansi kurang dari 0,05 yang berarti bahwa lima dimensi mutu service quality (reliability (0,025), assurance (0,05), tangibles (0,000), empathy (0,013), dan responsiveness (0,004)) memiliki hubungan yang signifikan dengan tingkat kepuasan pengguna layanan aplikasi Mobile JKN. Dimensi mutu servqual terbukti memiliki hubungan yang signifikan dengan tingkat kepuasan pengguna Aplikasi Mobile JKN.

**Kata kunci** – BPJS Kesehatan, Kepuasan, Mobile JKN

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### 1. INTRODUCTION

The rapid development of information and communication technology has influenced many aspects of life, including healthcare. Smartphones are the main tool in accessing digital information and services, encouraging healthcare companies and institutions to innovate in increasing service convenience and efficiency. In healthcare, the use of technologies such as telemedicine, electronic medical records (RMEs), and digital health applications allows patients to consult, access

health histories, and obtain services without having to go to health facilities. The government and the private sector are also trying to improve digital healthcare infrastructure to expand accessibility for the public [1] [2] [3].

BPJS Kesehatan as the organizer of the National Health Insurance (JKN) is also adapting to technology through the development of the Mobile JKN application, which since its launch on December 18, 2017 aims to make it easier for participants to access health services online. It

provides features such as membership registration, search for health facilities, and checking payment status. However, the level of user satisfaction is still a challenge, as found in several previous studies. Studies by Alfina (2023) show that although users are satisfied with the efficiency of online registration, many still feel dissatisfied in the aspects of reliability, fulfillment, privacy, and service responsiveness. Herlinawati (2021)'s findings also indicate that although users are quite satisfied during the pandemic, there are still aspects that need to be improved to improve the user experience [2] [4] [5].

Based on a preliminary study conducted in October 2024, it was found that the Mobile JKN application still faces various technical difficulties such as failure to login due to non-emergent OTP code, delays in data processing, and servers that are frequently disrupted. Although the app had an important role in improving access to healthcare, the rating obtained on the download platform was only 3.7 on a 5.0 scale, while the user satisfaction level in Surakarta in 2023 reached 89.71%, with 10.29% of users still experiencing problems in the use of the app. Therefore, this study aims to analyze the satisfaction level of Mobile JKN application users with the ServQual method to identify aspects that need improvement so that the services provided can be more optimal.

## 2. RESEARCH METHODS

Quantitative analytics with cross sectional designs using quality instruments include 5 ServQual quality dimensions. Quantitative analytics is a statistical method of data analysis by utilizing numerical data to analyze the relationships between variables or test hypotheses, with the aim of explaining phenomena and determining the influence or causal relationship. This research is located in the BPJS Kesehatan Surakarta area from October 2024 to January 2025. The population in this study was all users of the JKN Mobile Application in the BPJS Kesehatan Surakarta area of 20,194 participants for 2024. The sampling technique used in this study is random sampling technique. Selection is done randomly to eliminate irregularities or tendencies in the sampling process [6]. Sampling using the slovine formula follows:

$$n = \frac{N}{1 + Ne^2}$$

Description:

n = number of samples

N = number of populations

e = Fault tolerance limit in sampling

e = 5% or 0.05

The calculation of the study sample was as follows:

$$n = \frac{20.194}{1 + (20.194 \times (0,05^2))}$$

$$n = \frac{20.194}{1 + (20.194 \times 0,0025)}$$

$$n = \frac{20.194}{51,48} = 392,26 \text{ or } 392 \text{ samples}$$

## 3. RESULTS

Table 1. Results of ServQual Quality Dimension Bivariate Analysis with Level of Satisfaction

Variabel	Tidak Puas	Ketegori		Jumlah Data	Nilai		
		%	Puas		%	P-Value	Signifika si
<i>Reability</i>							
Tidak baik	83	21,17	3	0,77	86	5.038 <sup>a</sup>	0.025
Baik	128	32,65	178	45,41	306		
Total	211	53,83	181	46,17	392		
<i>Assurance</i>							
Tidak baik	69	17,60	17	4,34	86	3.791 <sup>a</sup>	0.050
Baik	131	33,42	175	44,64	306		
Total	200	51,02	192	48,98	392		
<i>Tangibles</i>					12.983 <sup>a</sup>	0.000	

Variabel	Tidak Puas	Kategori			Jumlah Data	Nilai	
		%	Puas	%		P-Value	Signifika si
Tidak baik	51	13,01	35	8,93	86		
Baik	12	3,06	294	75,00	306		
Total	63	16,07	329	83,93	392		
<i>Empathy</i>							
Tidak baik	27	6,89	59	15,05	86	6.153 <sup>a</sup>	0.013
Baik	16	4,08	290	73,98	306		
Total	43	10,97	349	89,03	392		
<i>Responsiveness</i>							
Tidak baik	29	7,40	57	14,54	86	8.470 <sup>a</sup>	0.004
Baik	2	0,51	304	77,55	306		
Total	31	7,91	361	92,09	392		

By Table 1 The results of the ServQual Quality Dimension Bivariat Analysis with the Mobile JKN application Satisfaction Level above show that the reliability (reliability) is 46.17% satisfied and 53.83% dissatisfied with the significance value of 0.025 then H0 is rejected. In the insurance (guaranteed) dimension 48.98% were satisfied and 51.02% were dissatisfied with the significance value of 0.050 then H0 was rejected. The quality service dimension of tangibles (physical evidence) was 83.93% satisfied and 16.07% dissatisfied with the significance value of 0.000 then H0 was rejected. In the Empathy (empathy) dimension, 89.03% were satisfied and 10.97% were dissatisfied with the significance value of 0.013 then H0 was rejected. In the quality of responsiveness (responsiveness) service dimension, 92.09% were satisfied and 7.91% were dissatisfied with the significance value of 0.004 then H0 was rejected

#### 4. DISCUSSION

##### a. Reliability

ServQual Quality Dimension Results with Satisfaction Level, as many as 46.17% of users were satisfied with the reliability dimension, while 53.83% of users were dissatisfied. Average dissatisfied users are due to unoptimized functionality, ease of access and disruption to applications such as when application features cannot be opened. The research is in line with research conducted by Alfina Pramesti and Amggi Putri Aria Gita in 2023 that the online registration feature of the Mobile JKN application cannot be opened. This research is in line with a study conducted by Apriyani & Ardan in 2024, which resulted in the registration feature of the Mobile JKN application at the Al Munawwarah Samarinda Alert Hospital not being able to function optimally [2] [5] [7].

With a p-value of 80.766a and a significant value of 0.025, this result shows that the reliability (reliability) of the Mobile JKN application has a significant relationship with the level of user satisfaction. This result is not in line with the research conducted by Komala & Firdaus in 2020 with a research sample of 100 respondents resulting in a significant value of 0.079 meaning reliability has no effect on participants' satisfaction. The study corresponds to a study conducted by Saputri in 2020 with a study sample of 100 respondents resulting in a significant value of 0.005. This study is also in line with research conducted by Agung in 2022 resulting in a significant value of 0.037 meaning reliability has an effect on participants' satisfaction [8] [9].

##### b. Assurance

ServQual Quality Dimension results with Satisfaction Level, the insurance dimension shows that 48.98% of users are satisfied, while 51.02% of users are dissatisfied. Users are dissatisfied with the average due to the not yet secured data and health history information of the users, which is strengthened by 2 steps of authentication and there is a clear policy before users decide to use the JKN Mobile Application. This research is in line with research conducted by Chabibah & Agustin in 2021 resulting in 14.1% feeling less secure in the data on the Halodoc platform. This study is also in

line with a study conducted by Rohmah in 2024 stated that 49% of Mobile JKN application users do not feel guaranteed to participants' personal data and health [10] [8] [11].

The Chi-Square test results showed a p-value of 37.621a and a significant value of 0.050, confirming that there is a significant relationship between application guarantees and user satisfaction levels. This study in line with the 2020 Komala & Firdaus using research samples of 100 respondents resulted in a significant value of 0.026 meaning that insurance affects the satisfaction of participants. This study is also in line with research conducted by Chabibah & Agustin in 2021 significant value of 0.000 meaning that insurance affects the satisfaction of users of the Mobile JKN application [8] [12].

c. Tanggibles

The results of the ServQual Quality Dimension with Level of Satisfaction, dimension of tangibles (physical evidence) show that 83.93% of users feel satisfied, while 16.07% of users feel dissatisfied. Average dissatisfied users due to commands and prompts in the Mobile JKN application are not appropriate. This study is in line with a study conducted by The Chi-Square test results showed a p-value of 37.621a and a significant value of 0.050, confirming that there is a significant relationship between application guarantees and user satisfaction levels. This study in line with the 2020 Komala & Firdaus using research samples of 100 respondents resulted in a significant value of 0.026 meaning that insurance affects the Rohmah in 2024 that 51% of doctors' orders and schedules do not match. This research is not in line with the research conducted by Chabibah & Agustin in 2021 resulting in 84.5% of application users already feel that orders and views are in accordance [8] [10].

The chi-square test results, p-value of 152,647a and significant value of 0.000, prove there is a significant relationship between the dimension of tangibles and the satisfaction of Mobile JKN application service users. This study is in line with research conducted by Chabibah & Agustin in 2021 with a research sample of 165 respondents producing a significant value of 0.000 meaning that there is a relationship between display and satisfaction on Halodoc platform services. This study is also in line with research conducted by Mauliddiyah in 2021 resulting in a significant value of 0.362 which means that there

is a relationship between application appearance and participant satisfaction [12] [13].

d. Empathy

ServQual Quality Dimension Results with Satisfaction Level, as many as 89.03% of users were satisfied with Empathy dimension, while 10.97% of users were dissatisfied. On average, satisfied users are caused by easy-to-understand language, information, and news to assist users of JKN Mobile Application. This study is in line with a study conducted by Rohmah in 2024 stated that 78% of the needs of application participants or users have been met. This research is also in line with the research conducted by Mauliddiyah in 2021 resulting in participants' perception of the performance of the JKN mobile application is in line with the participants' expectations [8] [13].

With a p-value of 47,066a and a significant value of 0.013, these results show that the application's quadrathy has a significant relationship with user satisfaction levels. This study is in line with a study conducted by Rohmah in 2024, with a study sample of 100 respondents producing a significant value of 0.002 meaning that there is a positive and significant effect on user satisfaction. This study is also in line with a study conducted by Saputri in 2020 resulting in a significant value of 0.001 meaning that there is a significant relationship between four hy-user satisfactions and user satisfaction [8] [14].

e. Responsiveness

ServQual Quality Dimension Results with Level of Satisfaction, as many as 92.09% of users are satisfied with the dimension of responsiveness (responsiveness), while 7.91% of users are dissatisfied. The average dissatisfied user is due to an incomplete payment history and online consultation is not responded quickly by doctors. This study is in line with a study conducted by Alfina Pramesti and Amggi Putri Aria Gita in 2023 stated that patients were dissatisfied with the dimensions of responsiveness for online registration through the JKN mobile application and research conducted by Widjaja in 2021 resulted in a history of non-payment. Transparent can reduce participants' confidence with the products used and research by the Judge in 2024 that public services are unsatisfactory resulting in dissatisfaction with service users [2] [15] [16].

With a p-value of 100.794a and a significant value of 0.004, this result shows that the reliability (reliability) of the Mobile JKN application has a significant relationship with the level of user satisfaction. This study is in line with the study by Rohmah in 2024, with a study sample of 100 respondents producing a significant value of 0.002 meaning there is a positive and significant effect on user satisfaction. This study in line with the research conducted by Agung in 2022 resulted in a significant value of 0.003 meaning that there is a significant relationship between care-center responsiveness and participant satisfaction [8] [9].

## 5. CLOSING

### Conclusion

It contains things that state intervariable relations studied. It should be made in one paragraph and not in the form of points. The research results show that the entire Qual Services dimension of the Mobile JKN application has a significant relationship with user satisfaction. The disruption system is still low due (p-value = 0.025), while the associated assessment of data security is not optimal (p-value = 0.050). Tangibles showed the app's appearance quite well, but navigation still required rating (p-value = 0.000). Empathy is good enough, but information and notifications need to be more accurate (p-value = 0.013). High responsiveness, but there are still obstacles in online consultation and transaction history (p-value = 0.004). Overall, the Mobile JKN application still needs improvements in and, security, navigation, and service responsiveness to be more optimal.

### Suggestion

Quality of the Mobile JKN application can be improved by monitoring and evaluating periodically to ensure that feature functionality runs optimally without interruption. System security needs to be reinforced with state-of-the-art technologies, such as two-step verification. In addition, development on display, navigation, and accessibility needs to be done to make users more comfortable in accessing digital health services. Information and notifications should also be made clearer, structured, accurate, and real-time. Finally, online consulting services and customer services need to be improved by adding medical personnel and AI chatbots to support more responsive services.

## 6. THANK-YOU NOTE

Thanks to all parties who have contributed to the composition of this article, especially to the guidance lecturers, colleagues, and all reference sources that provide insight and support in this study. We also express our gratitude to the readers who have taken the time to read this article. Hopefully, writing can provide new benefits and insights, as well as be a useful reference for the development of science in related fields.

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