The Satisfaction Level Analysis of the SIKOJA Application's Users in Jambi City during the COVID-19 Pandemic

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Abstract

The purpose of this study was to prove the researcher's hypothesis, which was related to the satisfaction level analysis of the SIKOJA application's users in Jambi City during the COVID-19 pandemic. Discussing the use of applications in the era of the COVID-19 pandemic. Optimal use of Information and Communication Technology resources allows the government to implement new ways of running information services to the fullest. This study used quantitative methods with data sources from questionnaires via google form with 93 respondents. Data management was carried out using SEM-pls. This study used the PICIES Framework theory to determine the factors that influenced people in using SIKOJA sensitive applications. The measured variables were performance, efficiency, information, service, and control. The results of this study indicated that the value of R square was .738, the satisfaction level of using the application was 73.8%, which the R-square identified was in the medium category. Variables that influenced users of the Jambi City SIKOJA application were performance, efficiency, information, service, and control.

Keywords: Satisfaction; Application Usage; SIKOJA, COVID-19 Pandemic.

Introduction

At the beginning of 2020, the world was shocked by the COVID-19 pandemic, causing a lot of changes in many countries, especially regarding policy arrangements and services to the community[1] The COVID-19 pandemic has been worrying for its rapid spread, so the government must find right strategies in dealing with it[2]. The development of technology can also change the paradigm of government and public services to become transparent and flexible, which was previously rigid. This impacted organizational cultures and accelerated government bureaucratic transformation, especially in the COVID-19 pandemic time[3]. In addition, the COVID-19 pandemic also impacted the increasing number of requests for integrated and fast public services, one of which was a surge in demand for essential goods, especially the need for health equipment. The closed industries were demanded to be reopened with the strategy taken by the government and the availability of optimal public services to the community in the COVID-19 pandemic crisis. Also at the pandemic time, the government was challenged to find out an effective strategy in Smart City in order to make it easier for people to carry out safe activities [4].

At this time, there are still many services provided by institutions in Indonesia that have not offered maximum benefit during the pandemic. Quoted from mediaindonesia.com, OMBUDSMAN of the Republic of Indonesia (ORI) revealed that the Quality of government public services was currently getting lower. In addition, during the COVID-19 pandemic many problems and obstacles still occurred in public services [5]. Therefore, the public service system in the government must be improved. Local governments are required to strive to be able to provide high quality public services continuously[6]. However, according to a quote from ombudsman.com in TEMPO.CO, Jakarta, Tuesday, July 30, 2020-Ombudsman member Ninik Rahayu said that local governments are the most complained organizations by the public regarding their poor public services[7]. The Jambi City Government is no exception, and the mass media report many public service complaints. Both conventionally and electronically (EService Quality)[8].

The Jambi city government was struggling to provide services to the community in the COVID-19 pandemic time and changed the public service system from conventional to technology-based or electronic services.[9]. Therefore, the services provided by the government integrated with information technology, such as delivering application services that were able to provide information to the public quickly and easily during the COVID-19 pandemic[10]. As for the current conditions, several countries in the world have already used ICT to facilitate the needs of information services to the public[11]. For example, New Zealand developed the NZZ COVID Tracer application, which functions as a tracker of places that New Zealanders have visited and is designed to make it easier for users to record places they have visited and protect their privacy and maintain the security of their citizens' data[12].

In Indonesia, the implementation of smart government has begun to be applied to develop urban technology through artificial intelligence so that it is in line with the solution offered by Jambi city government in providing information services to its citizens so that they were able to access public services and the application provided information that was in accordance with the needs of the community in the COVID-19 era. 19[13]. One of the innovations in the form of an application designed by the Jambi City Communication and Informatics Service was the Jambi City Information System (SIKOJA) application. This app can encourage the realization of a smart city in Jambi City, which was launched on July 30, 2019[14]. The SIKOJA application was a solution for the government to deal with people's new habits in the era of the COVID-19 pandemic so called working from home (WFH) distance learning[15]. The SIKOJA application was aimed to facilitate public services to the community and made it easier to convey the socialization of government programs and provided the latest information in Jambi City[16]. There were several services available in the SIKOJA application, namely a collection of important website pages for the Jambi city government, such as weather forecasts, food prices, licensing services, health information, public complaints, live CCTV, tourist sites, schools, places of worship, and many more[17].

Based on the explanation of the problems regarding institutions in Indonesia, many still have not provided full service during the pandemic[18]. To deal with the issues, application was made, such as the SIKOJA application[19]. Seeing the application's success, the researcher aimed to do further research regarding the level of community satisfaction with the SIKOJA application in the COVID-19 pandemic time to reveal whether the application can provide satisfaction to the community in using the application [20]. Based on the regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform of the Republic of Indonesia, Number 14 defines the community satisfaction survey as a comprehensive measurement activity of the level of community satisfaction with the quality of services provided by public service providers[21]. Satisfaction referred to satisfaction with information services consumed by the public at large. In that case, the application can be developed and be used effectively for the information needed by the people of Jambi City[22]. Several variables were used to measure satisfaction: performance, information, control and security, efficiency, and service.

Variable used to measure a system's performance was generated from the community satisfaction with the quality of services provided by the Jambi City government through the SIKOJA application and how quick the data proceeded was also assessed in accordance with the assessment of whether it was running well or not [23]. Performance was also assessed whether the process or procedure for the Jambi City SIKOJA application used was in accordance with the expectations and goals desired by the community as users of the SIKOJA application[24].

This information variable was used to determine how clear and how much information can be obtained in a Jambi City SIKOJA application. In a data finding, information about community satisfaction with the quality of services provided by the Jambi City government through the Jambi City SIKOJA application would be displayed[25]. Information was also assessed whether the quality of the information produced was more relevant, accurate, reliable, complete, and displayed on time so that the satisfaction level of using the Jambi City SIKOJA application can be adequately achieved. The control and security variable sections were the system that should be monitored or controlled to run well without any obstacle. And this Analysis was used to determine the extent to which the system was running well[26]. The effectiveness and efficiency of a system must be examined in terms of performance and the reasons why the system was created. A plan was required to be able to efficiently deal with the issues, especially in terms of providing services and information to the public. This Analysis was needed to determine whether a system was efficient by entering data that was slightly biased to produce a satisfactory output[27].

Service to the community is essential. In this study, public services were defined as users of government information systems. This variable also determined the success of the government in providing information services and whether the users were interested and satisfied with the services offered by the government[28]. Therefore, several things were required in maintaining public satisfaction with applications owned by the government, namely: a. The system must be able to produce the information required by the user accurately. b. The results obtained from a system must be consistent. c. The plan that was implemented or used must be easy to learn, understand and use by users so that users could feel comfortable using the information system. d. The system must be flexible and compatible.
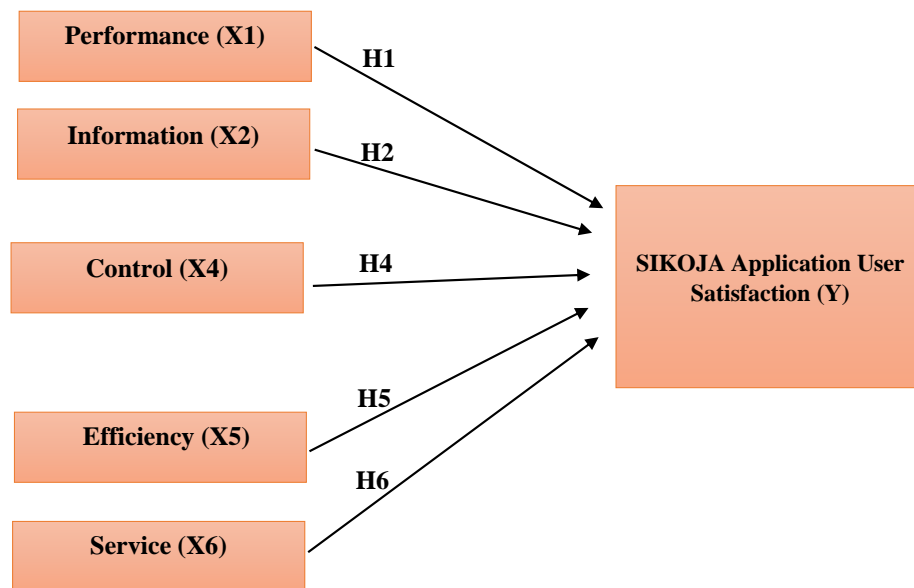
Kerangka Toeri

Figure 1. Theoretical Framework

H1: Performance (X1) has a positive and significant effect on user satisfaction with the SIKOJA application (Y)

H2: Information (X2) has a positive and significant effect on user satisfaction with the SIKOJA application (Y)

H3: Control (X4) has a positive and significant effect on user satisfaction with the SIKOJA application (Y)

H4: Efficiency (X5) has a positive and significant effect on user satisfaction with the SIKOJA application (Y)

H5: Service (X6) has a positive effect and is significant to the satisfaction of users of the SIKOJA application (Y)

Method

A. Data Collection

This study used a primary data model that can be obtained from the questionnaires that have been distributed to respondents. The questionnaire was a data collection technique that was done by giving a series of written questions to respondents to be answered. The questionnaire was made in the form of a google form. Researchers randomly distributed google forms to residents of Jambi who used the application, up to 93 people.

B. Sampling Technique

This study used simple random sampling, which for the population was the people of Jambi City. The main purpose of using a sample was to examine respondents' satisfaction of the SIKOJA application. In this study, data collection techniques were used in the use of google forms in the preparation of questionnaires to be distributed to respondents. The researcher also used the snowball sampling technique to obtain 1 respondent, which can be used with various other names of respondents. In determining the population in this study using the Slovin formula with a sample of 93 respondents.

C. Measurement and Analysis Technique

The data management used SEMpls software in order to test the existence of a correlation between research variables or to prove the hypothesis made by researchers related to the analysis of the satisfaction level of using the

SIKOJA application in Jambi City during the COVID-19 pandemic era and regression testing to obtain valid data, to the indicator value of the questionnaire used a Likert scale approach (1. Strongly Disagree, 2. Disagree, 3. Undecided, 4. Agree, and 5. Strongly Agree).

D. *Operational Definition*

Table 1. Operational Definition

Variable	Indicator
Performance (X1)	✓ Mobile applications have fast loading quality when accessed ✓ The interaction interface is easy to understand ✓ Has an easy input process ✓ Has complete features
Information (X2)	✓ Providing information according to user needs ✓ Providing precise and accurate information ✓ Does not take long to provide information ✓ Providing up-to-date information
Control (X3)	✓ Has user access restrictions ✓ Safe from virus attack ✓ Has special security features (such as the emergency button in the application) ✓ Stopped working, crash or error
Efficiency (X4)	✓ Easy to operate ✓ Saving time, cost, and effort ✓ does not require a lot of human resources to run the application ✓ Offering accurate help center service
Services (X5)	✓ Offering accurate help center service ✓ Providing service ✓ Providing bed availability feature ✓ Providing a feature to change participant data ✓ Providing service registration features ✓ Providing a doctor consultation feature ✓ Providing a schedule of surgery features ✓ Including information and complaints features ✓ Providing screening feature ✓ Providing service history feature

Results and Discussion

A. *Respondents' Demographic Profile (n = 88)*

Table 2. User Respondent Data for SIKOJA Application of Jambi City

Characteristic	Jambi City Jambi Province	
	Freq	*%*
Age		
17-25 year	47	79,7%
26-35 year	9	15,3%
36-45 year	2	3,4%
>45 year	1	1,7%
Gender		
Woman	27	45,8%
Man	32	54,2%
Last education		
Primary school	1	1,7%
Junior high school	0	0%
Senior high school	9	15,3%
Diploma/S1	46	78%
S2	3	5,1%
SIKOJA App Usage Experience		
<1 year	1	1,7%
1-2 year	0	0%
3-4 year	2	3,4%
>5 year	56	94,9%

Table 2 is related to respondents' data using the SIKOJA-sensitive application. For the age group, most of them were 17-25 years old (adults) who used the application, and their education level was Diploma/S1 (Bachelor). Most users of the Jambi City SIKOJA sensitive application were male, and the duration of use was more than 5 years.

Research Variable for Reliability

Tabel 3. Results of Examination of Composite reliability and Cronbach alpha

Construction	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)	
Control	0.780	0.786	0.872	0.695	Reliabel
Efficiency	0.780	0.785	0.872	0.696	Reliable
information	0.852	0.858	0.895	0.632	Reliabel
Performance	0.951	1.445	0.966	0.904	Reliabel
Services	0.878	0.922	0.924	0.804	Reliable
The level of satisfaction of using the Jambi City SIKOJA application	0.939	0.939	0.961	0.891	Reliable

Source: Processed from primary data, 2022

In the **Table 3**, the results of the reliability test (Composite Reliability and Cronbach Alpha) showed that the value of each variable was >0.70 for Composite Reliability & Cronbach Alpha (Sarstedt, 2019). For users of the Jambi City SIKOJA application with the performance, the Composite Reliability was 0.966, and Cronbach Alpha was 0.951. While the variables with the lowest values in control and efficiency were 0.872 and 0.780. The lowest values was not less than 0.70, it can be concluded that each research in this test already had good reliability.

B. *Regression Analysis*
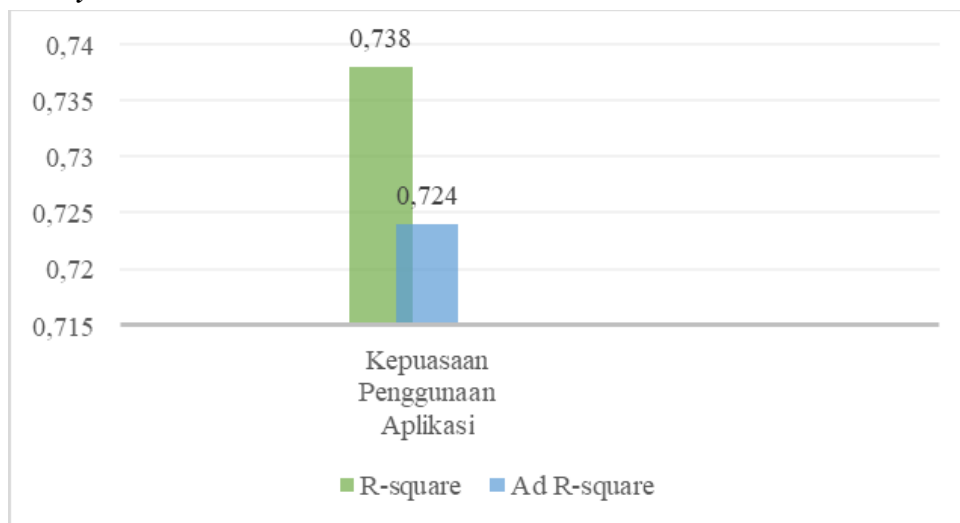
Source: processed from primary data, 2022

Figure 2. Regression results of the satisfaction level of the SIKOJA application in Jambi

Based on the **Figure 2**, the output of the satisfaction level of the SIKOJA application in Jambi City showed that Control, Efficiency, Information, Performance, and Service score was 0.738. From this statement it can be concluded that the interpretation of the satisfaction level of using the application was 73.8%, in which the R-square identified that there were 3 scales, namely 19% - 33% (weak/moderate), 33% - 67% (moderate), and > 67% (strong/good/substantial). Looking at the interpretation of the results of the regression and R-square on the variable of satisfaction with the use of the application, the scale obtained was in the medium category. Therefore, it can be concluded from the results of this regression test that the independent variable had a moderate impact on the dependent variable.
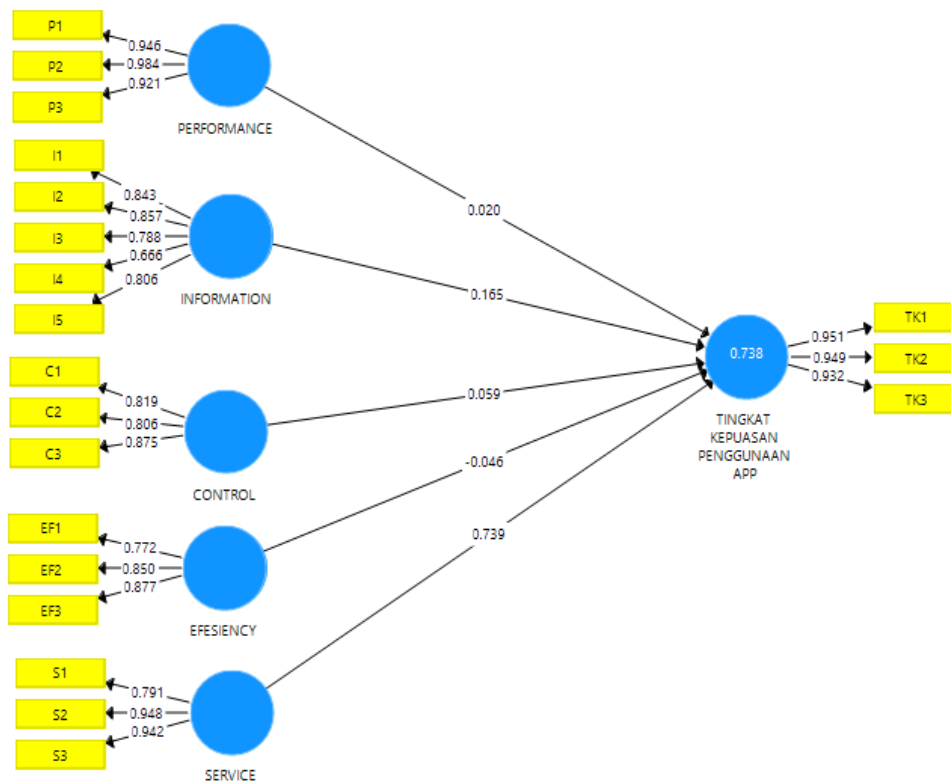
C. Hypothesis Testing

Figure 3. Output Bootstrapping.

In **Figure 3**, hypothesis testing was carried out between independent and dependent variables using the bootstrapping method on SEMpls to determine the validity and reliability of the research data. This test used T-statistics and P-values , which would later be presented as a t-table, to find valid research data, for t-statistics values that were > 1.96 and P-values that were< 0.05 [28]. t hypothesis test results "Analysis of the level of satisfaction of the SIKOJA application user community in Jambi City in the COVID-19 pandemic era can be seen as follow **Table 4**:

Table 4. Hypothesis Testing of SIKOJA Application User

Variabel	Original Sample (O)	Sample Mean (M)	STDEV	T-Statistics (|O/STDEV|)	P value	Hipotesis
Control	0.059	0.073	0.080	0.743	0.458	Rejected
Efiesiency	-0.046	-0.027	0.150	0.305	0.760	Rejected
Information	0.165	0.165	0.074	2.233	0.026	Received
Performance	0.020	0.015	0.050	0.406	0.685	Rejected
Service	0.739	0.709	0.185	4.001	0.000	Received

Source: primary data, 2022

1) Control Hypothesis (C) – SIKOJA Application User Satisfaction

The Control hypothesis table above showed that the statistical findings on control had a value of 0.743, which was showing that the T-statistic results did not include > 1.96, and the P-value was 0.458, which did not include matters of <0.05. In this explanation, it meant that the control has no significant effect on the satisfaction of the users of the SIKOJA application.

2) Efficiency Hypothesis (EF) – SIKOJA Application User Satisfaction

In the Efficiency hypothesis on community Satisfaction of SIKOJA Application users table, there was a T-statistic of 0.305, which did not include the value (>1.96). For the P-value of 0.760, which did not include the discount (<0.05), the explanation is that efficiency had no significant effect on the satisfaction of the users of the SIKOJA application.

3) Information Hypothesis (I) – SIKOJA Application User Satisfaction

In the Information hypothesis table on SIKOJA Application user's satisfaction, there was a T-statistic of 2.233, which included the value (>1.96), and the P-value was 0.026, which consisted of the value (<0.05). See

the explanation regarding the data obtained from the survey respondents. It can be concluded that the results indicated that the information had a significant effect on the satisfaction of the people who used the SIKOJA application

4) The hypothesis of Performance (P) – User Satisfaction of the SIKOJA Application

In the table of the Performance hypothesis on the satisfaction of the community of users of the SIKOJA Application, a T-statistic value was 0.406, which did not include the value (>1.96). The P-value was 0.685, which did not have the discount (<0.05), meaning that performance did not significantly influence the satisfaction of the users of the SIKOJA application.

5) Service Hypothesis (S) – SIKOJA Application User Satisfaction

In the Service hypothesis table of SIKOJA Application user's satisfaction, there was a T-statistic of 4,001, which includes a value > 1.96. For a P-value of 0.000, which provided for a deal <0.05, the explanation means that the service did not significantly affect the satisfaction of the users of the SIKOJA application.

Results and Discussion

The results of the hypothesis test can be concluded that there is no control effect on user's satisfaction of the Jambi City SIKOJA application. The SIKOJA application used by the Jambi City Government was not optimal in increasing supervision of services and providing information to the public. Control was one factor used to oversee applications in improving information services and public services in Jambi City. The result of testing the hypothesis can be concluded that the SIKOJA application did not significantly influence the community and solve the problems of public service affairs in the community during the COVID-19 pandemic. Testing the hypothesis on information can be concluded that information substantially affected the effectiveness of providing public services and information to the public. Communication was one of the influencing factors in providing services and information for the people of Jambi City, especially in the pandemic era. When COVID-19 hit Jambi City, it caused the service and information system changing. The government utilized applications that aimed to make it easier for the government to provide information services related to vaccines, and stopple food prices in modern or traditional markets. Testing the hypothesis on facility condition can be concluded that the condition of the facility did not have a significant effect on the effectiveness of the program implementation. This can be seen from the fact that several respondents believed that They often experienced slow loading when accessing the application. Interaction interfaces were difficult to access, understand, and it was difficult in the input process. Testing the hypothesis on service indicated that service significantly affected satisfaction. It can be seen from an accurate help of service center, providing services for the community in exploring the city of Jambi. It is noted that the explanation regarding the satisfaction level of using the SIKOJA application has not been achieved optimally.

Conclusion

The purpose of this study was to prove the researcher's hypothesis, which was related to the analysis of the level of satisfaction of the users of the SIKOJA application in Jambi City during the COVID-19 pandemic era—discussing the use of applications in the period of the COVID-19 pandemic. Optimal use of Information and Communication Technology resources allows the government to implement new ways of running information services to the fullest. During the COVID-19 attack, the Jambi City government immediately developed an information service strategy through artificial intelligence called the Jambi City SIKOJA application (Jambi City information system), which met the needs of the Jambi City community during the pandemic to facilitate services to the community in the COVID-19 pandemic era by exclusive features according to requirements, primarily digital services in all fields that were closely related to the lives of the people of Jambi City, starting from the education sector, health, economy, government, and other COVID-19 services.

The theoretical contribution that can be built from the results of this study can be explained as follows. According to the results of the hypothesis test can be concluded that various indicators of measuring the use of applications in facilitating government work, such as information and service, have a significant influence on providing services and information to the people of Jambi City. Meanwhile, suggestions for practical implications for local government officials must be committed to improving information services to the public, evaluating any problems encountered in enhancing the role and function of the SIKOJA application, especially in terms of efficiency, control, and performance based on the Analysis using the PIECES framework, having public benefits, being able to become solutions to general problems, keeping up with the times, and integrated policies. And this study has some limitations, such as the small number of respondents, which may not reflect the residents' actual situation and the study's short duration. The following are some suggestions for future research. The following study should look into the various constructs of the general theory of public service quality adoption. To cover a wider area, future research will involve a broad spectrum

of local government agencies and institutions. Future research should also include more individuals to evaluate the Jambi City SIKOJA application's performance system to provide better information services.

Acknowledgment

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