

Measurement of Public Service Applications Quality Using the Electronic Government Quality (E-GovQual) Framework

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Abstract-The public service application serves to facilitate the public in getting public services quickly, precisely and accurately. In its implementation, the application is still experiencing some obstacles and the manager's response is still slow. The purpose of this study is to get user ratings on the quality of public service applications. This study uses the e-GovQual model by adding one dimension, namely the dimensions of user satisfaction so that there are 24 attributes from five dimensions, namely dimensions of efficiency, reliability, trust, community support and user satisfaction. This research uses a quantitative approach with users of public service applications as a population. Determination of the minimum number of samples using the Slovin formula, the distribution of questionnaires using a simple random sampling technique and data analysis process using IBM SPSS version 24. Based on the results of descriptive statistical tests on the application of public services it turns out the service quality is good enough, the five dimensions have the value of Kaiser Meyer Olkin (KMO) > 0.5, which means that the number of samples for each dimension is sufficient, each attribute has a value of Measurement of Sample Adequacy (MSA) > 0.5, which means that each attribute deserves to form each dimension, the efficiency dimension has a reliability level of 0.804, the reliability dimension has a reliability level of 0.869, the dimension of community support has a reliability level of 0.856 and the dimension of trust has a level of 0.862, the dimension of user satisfaction has a reliability level of 0.773.

Keywords: *public service, e-GovQual, IBM SPSS version 24, Slovin, simple random sampling*

I. INTRODUCTION

Community services or public services according to UU No. 25 of 2009 Pasal 1 is an activity or series of activities in order to fulfill the service needs in accordance with the laws and regulations for every citizen and resident for administrative goods, services and or services provided by public service providers [1].

The use of information technology in government agencies to provide public services is called e-Government. In Indonesia, the first time that used e-Government is Ministry of Communications and

Information Technology in the beginning 2000s. It has used for giving transparency and improved public services [2]. Conceptually, the basic concept of e-Government is to provide services through electronic services such as through the internet, cellular and computer telephone networks, and multimedia. Through the development of e-Government, it is in line with that the management of information systems and the process of public services is also carried out and optimizes the use of information and communication [3].

The Tangerang City Government, which acts as a public service provider, strives to provide the best public services for its population. So that in August 2016, the Tangerang LIVE application was launched which is an application for public services for residents of Tangerang City. The Mayor of Tangerang, Arief R. Wismansyah said that the purpose of the launch of Tangerang LIVE was to simplify the bureaucratic process by integrating all the applications that had been built, one of reason to built this was because of lack of staff availability [4]. That was succeed so Tangerang Live has been adopted by 28 city and district government in Indonesia [4].

The Tangerang LIVE application can be accessed through Android and is a combination of several single public service applications that are already available to be easily accessed by users. Public services provided are complaints services, namely LAKSA (Your Aspiration Box Advice), emergency services 112, information services, tourism services, employment services, transportation services, education services, population services, health services, licensing services, public services, economic services, streaming services, statistical services and assistance services.

The results of preliminary observations conducted by researchers on 15 users of the Tangerang LIVE application on 12-16 November 2018, found several problems with the system, namely the loss of features for viewing various complaints that entered the LAKSA service, there were still frequent errors

during account registration using NIK (Population Registration Number), error when filing a complaint on LAKSA services so that complaints cannot be submitted, Tangerang LIVE applications that cannot be opened on several user devices, Tangerang LIVE display which is still not user friendly for some users, the application takes a long time when opening services that are on the menu, there is often a force close when opening the Tangerang LIVE application, and some of the information available on the Tangerang LIVE application service is considered to be less up-to-date by users.

Fig. 1. display graph number if complaints from January to September 2018. The number of complaints that entered were still quite a lot. In general, fluctuations in the number of new users are proportional to the fluctuations in the number of complaints that enter. With the still large number of complaints coming in related to the Tangerang LIVE application, which if ignored is feared to reduce the quality of services provided through the Tangerang LIVE application, research is needed to assess the service quality of the Tangerang LIVE application using the e-GovQual framework. E-GovQual is a framework developed to measure the quality of services from websites or government portals according to user perceptions. The government portal in question is a medium where people can receive information or services needed. E-GovQual has 6 dimensions, namely ease of use, trust, functionality of the interaction environment, reliability, content and appearance of information, and information content. citizen support (community support) which is further reduced to 4 dimensions consisting of dimensions of efficiency (efficiency), trust (trust), reliability (reliability), and citizen support (community support) [3].

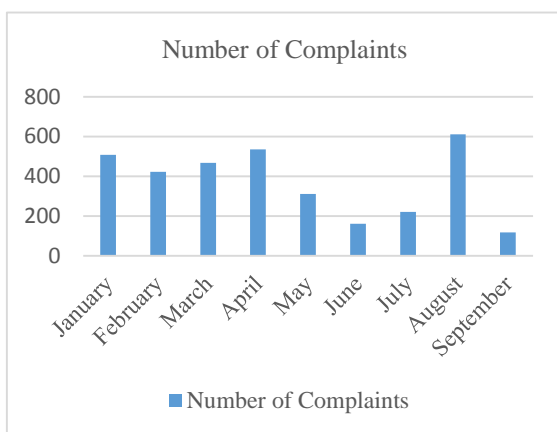


Fig. 1. Total Data Number of Complaints (Diskominfo Kota Tangerang, 2018)

In addition, researchers also add a factor of customer satisfaction because Skelcher (1992) [6] revealed seven principles of service to the community, where one of them is accessibility which

means that the services provided must be able to provide satisfaction to customers. Therefore, researchers are interested in adding dimensions of customer satisfaction (user satisfaction) in this study.

- *ELECTRONIC GOVERNMENT QUALITY (E-GOVQUAL) FRAMEWORK*

Electronic government quality or e-Govqual is a framework for measuring the quality of e-Government services on government sites or e-Government portals, where people are looking for services or information. This framework can improve the ability of government institutions to explore needs and encourage the public to utilize services optimally [5]. The research model used by researchers in this study is shown in Fig. 2. consists of 5 dimensions, namely efficiency (efficiency), reliability (reliability), trust (trust), citizen support (community support), and user satisfaction (user satisfaction).

II. METHOD

The research approach used in this study is the quantitative approach. The research instrument was a questionnaire consisting of 24 research statements. The population in this study was 32,867 users of the Tangerang LIVE application, determining the minimum number of samples using the Slovin formula and sampling using a simple random sampling technique.

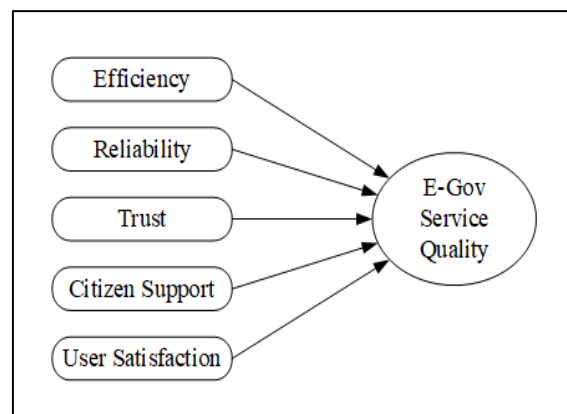


Fig. 2. Developed Research Model

III. RESULTS

A. Validity Test

To find out whether or not the validity of a model and factors in the study is valid, use the Kaiser Meyer-Olkin (KMO) validity test. In the KMO value, the criteria are feasible if the value of KMO > 0,5 and its significance value $\alpha < 0,05$ [7].

Table I. *the results of the validity test with KMO*

Dimension	Significance	KMO
Efficiency	0.00	0.784
Reliability	0.00	0.851
Trust	0.00	0.779
Citizen Support	0.00	0.815
User Satisfaction	0.00	0.693

With the number of respondents as many as 233 respondents, the five dimensions have KMO values > 0.5 which means that the number of samples of each dimension is fulfilled.

Next, to find out the correlation value between variables in one dimension, use the Measure of Sampling Adequacy (MSA) test. The eligibility criteria in MSA are > 0.5. If the MSA eligibility criteria below 0.5 will be excluded from the model. Then the initial variables that meet the criteria are tested again until the MSA value is achieved.

Table II. *Results of MSA Test Efficiency Dimension*

	E1	E2	E3	E4	E5	E6	E7
E1	0.694 ^a						
E2		0.788 ^a					
E3			0.726 ^a				
E4				0.840 ^a			
E5					0.824 ^a		
E6						0.756 ^a	
E7							0.873 ^a

Table III. *Results of MSA Test Reliability Dimension*

	R1	R2	R3	R4	R5	R6
R1	0.907 ^a					
R2		0.860 ^a				
R3			0.825 ^a			
R4				0.924 ^a		
R5					0.787 ^a	
R6						0.849 ^a

Table IV. *Results of MSA Test Trust Dimension*

	T1	T2	T3	T4
T1	0.796 ^a			
T2		0.786 ^a		
T3			0.766 ^a	
T4				0.770 ^a

Table V. *Results of MSA Test Citizen Support Dimension*

	CS1	CS2	CS3	CS4
CS1	0.800 ^a			
CS2		0.827 ^a		
CS3			0.797 ^a	
CS4				0.843 ^a

Table VI. *Results of MSA Test User Satisfaction Dimension*

	US1	US2	US3
US1	0.734 ^a		
US2		0.661 ^a	
US3			0.694 ^a

All attributes in this study have a value above the threshold of > 0.5 so that all attributes can be considered as forming attributes of their respective dimensions.

B. Reliability Test

The reliability test by determining the value of Cronbach's Alpha aims to determine the level of reliability in the form of consistency of a dimension in measuring the service quality of the Tangerang LIVE application in this study.

Table VII. *Results of Reliability Test*

Dimension	Cronbach's Alpha Value	Reliability Level
Efficiency	0.804	Very Reliable
Reliability	0.869	Very Reliable
Trust	0.862	Very Reliable
Citizen Support	0.856	Very Reliable
User Satisfaction	0.773	Reliable

C. Quality Assessment Result

The results of descriptive statistical analysis aim to determine the user's assessment of each e-GovQual dimension in assessing the quality of services provided through the Tangerang LIVE application. The result, based on the largest percentage value of 233 respondents, as many as 51% of users agree with the efficiency of services provided through the Tangerang LIVE application, 50.3% of users agree with the reliability of services provided through the Tangerang LIVE application, 48% of users agree to trust the service security given through the Tangerang LIVE application, 56.8% of users agreed with the community support provided through the Tangerang LIVE application, and 56.8% of users agreed with user satisfaction obtained thanks to services provided through the Tangerang LIVE application.

IV. CONCLUSIONS

The conclusions from the results of the research that have been done are as follows:

1. Based on the results of data processing from the total number of respondents, namely 233 respondents, the results of descriptive analysis of data from 5 dimensions with a total of 24 attributes with rating scale were Likert scale (1-5) used in this study, 51% of users agreed with efficiency of Tangerang LIVE application services, 50.3% of users rate agree with the reliability of the Tangerang LIVE application service, 48% of users rate agree to believe in the security of services provided through the Tangerang LIVE application, 56.8% of users agree with community support provided through the Tangerang application LIVE, and 56.8% of users agree with user satisfaction obtained thanks to services provided through the Tangerang LIVE application.
2. The results of the validity tests obtained by the KMO (Kaiser Meyer Olkin) value of the five dimensions have a value above the threshold of 0.5. It can be concluded that the five dimensions have sufficient sample sizes. Furthermore, data processing is carried out to obtain the MSA (Measure of Sample Adequacy) value for each

attribute with a total of 24 attributes, all of which have values above the 0.5 threshold. It can be concluded that each attribute deserves to form its dimensions.

3. The reliability test results for each of the five dimensions obtained Cronbach's Alpha Efficiency dimension, Reliability dimension, Trust dimension and Community Support dimension have a consistency level > 0.8 so that it can be said Efficiency dimension, Reliability dimension, Trust dimension and Community Support dimension are very reliable to measure the quality of Tangerang LIVE application services. While the User Satisfaction dimension has a consistency level of > 0.6 so that it can be said to be a reliable User Satisfaction dimension to measure the quality of Tangerang LIVE application services.

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