Evaluation of User Satisfaction to Service Quality Sistem Pengembangan Daerah (Simbangda) Using Electronic Government Quality Method

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Article Info	ABSTRACT
	Sistem Pengembangan Daerah (Simbangda) Kabupaten Banyuasin is a public service as a forum for data and information from all Regional Government Organizations in the Banyuasin Regency environment to realize program Banyuasin Terbuka. A public service must be evaluated periodically to optimize the services provided. This study aims to evaluate user satisfaction with Simbangda's service quality using Electronic Government Quality (E-GovQual) method. The results showed that there were 5 variables in the level of satisfaction and 1 variable in the level of less satisfied. The variable ease of use averaged 2.80 in the satisfied category, trust with an average 2.75 in the satisfied category, functionality of the interaction environment with an average of 2.61 in the satisfied category, reliability with an average of 2.53 in the satisfied category, content and appearance with an average of 2.49 in the less satisfied category, and citizen support with an average of 2.99 in the satisfied category.

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1. INTRODUCTION

Sistem Pengembangan Daerah (Simbangda) of Banyuasin Regency is a public service system managed by the Division of Public Information and Statistical Data Management of Communication and Informatics Office Banyuasin Regency. This system is a electronic government (E-Government) service which aims to accommodate data and information from all Regional Government Organization in the Banyuasin Regency environment. So that through Simbangda it can provide data and information disclosure for the citizen or community and regional government organization in the Banyuasin Regency.

Based on the results of interview with system manager, during the construction of Simbangda until now there has never been an evaluation of user satisfaction with the quality of services provided. The better service quality of a software, more users will use it[1]. Public service must be evaluated periodically to optimize the services provided [2]. The service optimization process must involve the government and the users. This is in line with statement which described

that it is not only the government that is responsible for making it optimal, but there needs to be community participation to participate in the success of optimizing these services [3]. Therefore, it is necessary to evaluate public services with involve the government, local government organization and citizen. One method that can be used to evaluate public services is Electronic Government Quality (e-GovQual). In assessing a government service can take advantage of the e-GovQual (Electronic Government Quality) method [4]. The method involves six aspects in assessing service quality, namely ease of use the system, trust, functionality of the interaction, reliability, content and appearance of information, and citizen support.

Base on research evaluating the quality of e-government services at the Yogyakarta City Government with the modified e-GovQual method, the results show that all e-GovQual dimension affect the quality of government services [5]. Frandika et al conducted an analysis of the quality of e-government services with a modified e-GovQual approach[6]. The results of his research show that there is a strong relationship between service quality and user satisfaction. Deviani and Fathul 2019 applied the e-GovQual method to evaluate the quality of E-Filing services based on taxpayers' perceptions[7]. The results showed that there were 6 variables that needed improvement. Heni and Eny in their research measured website services using the e-GovQual method in accessing the E-KTP recap[8]. The results of research on service quality affect user satisfaction by 15.1% [7]. Sri et al in a study to assess the quality of the e-government website PPID Diskominfo Probolinggo City, found that the average user satisfaction with the overall service was 4.07 [9]. Taufiq and Maria in their research entitled Evaluation of IT Service Management (ITSM) Using e-GovQual dimensions. His research shows that there are 3 attributes that are priorities for improvement[10].

From the introduction and literature review that has been described, needed to evaluate of user satisfaction to Simbangda service quality because during the construction of Simbangda until now there has never been an evaluation. So the aims of this study is to evaluate the level of user satisfaction to the service quality of Sistem Pengembangan Daerah using e-GovQual method.

2. RESEARCH METHOD

The research method used in this research is descriptive research using a quantitative approach. Descriptive research is a study that aims to describe a symptom that occurs in the present[11]. And the quantitative approach was carried out using numbers, ranging from data collection, interpretation to presentation of the results [12]. Based on the two statements, it can be compatible that a descriptive study using a quantitative approach is carried out by seeking information related to existing symptoms through data collection in the form of numbers for interpretation to the presentation of research data. The following is the stage of the research carried out.
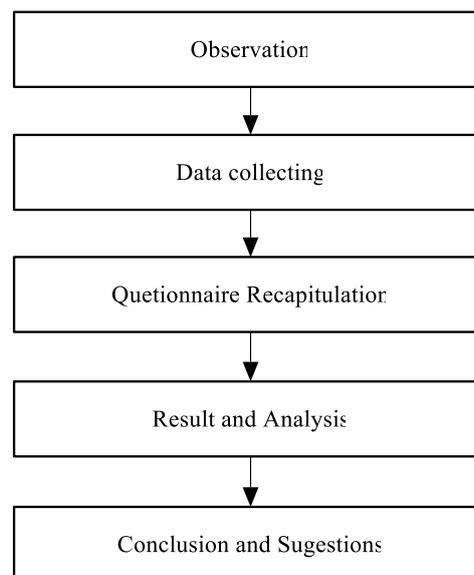

Figure 1. Research Stage

1) Observation, the initial stage of this research started by did the observation though direct observation of the system and interview with system manager. From this stage it can be seen the problems in the system being observed.
2) Data collecting, the data collection technique used in this study was a questionnaire. Questionnaire is a list of questions given to respondents either directly or via electronic means such as e-mail [13]. This research questionnaire consists of 20 question items based on six variables of e-GovQual..
3) Questionnaire recapitulation, the data recapitulation process is carried out to present the data from the distribution questionnaire in diagram or table. In this stage it will be done recapitulation based on user characteristics and recapitulation of responden answer to all item of research variables.
4) Result and analysis, in this stage the result of the evaluation and discussion will be presented regarding user satisfaction with service quality of Sistem Pengembangan Daerah Banyuasin Regency using e-GovQual Method. In this stage also discussed level of user satisfaction with each research variable up to overall service quality.
5) Conclusion and suggestions, the conclusion of this study is a summary of the result of the evaluation conducted carried out on the Sistem Pengembangan Daerah used e-GovQual method. There are suggestions that can be used as input for further research.

2.1. Evaluation Model

This research used evaluation model Electronic Government Quality (e-GovQual). E-GovQual is a service quality assessment method built to measure the performance of government electronic services based on the perceptions of users of these services. In assessing an e-government service, one can use the e-GovQual method (Electronic Government Quality) [4]. E-GovQual involves six aspects in assessing service quality, namely ease of use the system, trust, functionality of the interaction, reliability, content and appearance of information, and citizen support.
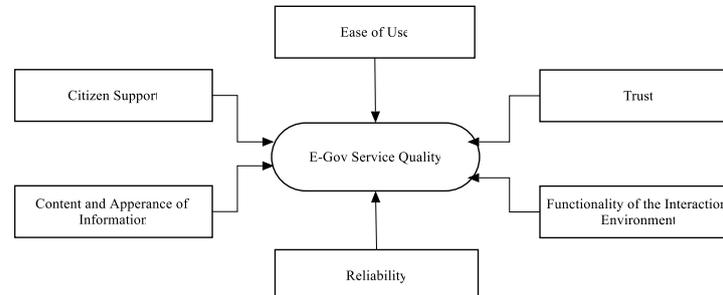

Figure 2. E-Gov Qual Model

1) Ease of use, is a dimension that assesses how easy government e-services are to use.
2) Trust, is a dimension related to the extent to which users trust the system's ability to protect their personal data.
3) Functionality of the interaction environment namely dimensions related to convenience, availability, and assistance with data filling forms
4) Reliability is a dimension related to the accessibility and consistency of the availability of the services provided.
5) Content and appearance of information, namely variables related to the design of the display and the quality of its information, such as color coherence, graphic appearance, system layout size, and attractiveness of appearance.
6) Citizen Support is a dimension related to the assistance provided to system users.

2.2. Indicators Research

Each variable in e-GovQual has indicators in its assessment. These indicators explain each research variable so that it is clearer the items to be evaluated. In this study, there were 20 indicator items or attributes used. The following are indicators for each research variable used.

Table 1. Research Indicators

No	Dimension / Variable	Indicator / Attribute	Initial	Item
		Website structure	E1	1
1	Ease of Use (E)	Search function running well	E2	2
		Easy to remember website address (URL)	E3	3
		Use of personal data	T1	4
2	Trust (T)	Keeping secrecy	T2	5
		Good data archiving	T3	6
	Functionality of the	For filling available	F1	7
3	interaction (F)	Sufficient form response	F2	8
		Return user information	F3	9
		Service speed	R1	10
4	Reliability (R)	Site availability	R2	11
		Compatibility system browser on the computer	R3	12
		Compatibility system browser on the mobile	R4	13
	Content and	Graphic appearance	C1	14
5	appearance (C)	Information update	C2	15
		Color	C3	16
		There is customer service contact	S1	17
6	Citizen Support (S)	Speed of replay user questions	S2	18
		Employee knowledge	S3	19
		Employee courtesy	S4	20

2.3. Evaluation

Evaluation is an activity to collect information related to how a system works, which is then used as an appropriate alternative for decision making[14]. The main function of evaluation in this case is to provide useful information for decision makers to determine policies to be taken based on the evaluations that have been carried out.

2.4. Information System

The system is a collection of interrelated components from one component to another[15]. So that it can be interpreted that a system is things that are interrelated with each other to achieve a certain goal. While the information system is a combination of people, hardware, software, communications networks, and data sources that are collected, transformed, and processed within an organization[16].

2.5. Service Quality

Service quality can be interpreted as how far the difference between user expectations and perceived reality[17]. In measuring service quality itself involves two factors, namely the expectations of users and performance or reality. This means that service quality can be interpreted as the ability of an organization to provide services that meet the expectations of its users.

2.6. User Satisfaction

User satisfaction is a condition where consumers are satisfied with the product or service they use and will return to using the product or service[18]. A product or service can be said to satisfy users if it meets user expectations so that users will reuse the product or service.

2.7. Population and Sample

The population of this research consisted of all users of the Sistem Pengembangan Daerah (Simbangda) of Banyuasin Regency which consisted of the community and local government organizations. The total population of website visitor statistics is 324.120 people. To determine the number of research samples, the Slovin formula is used as follows.

$$n = \frac{N}{1 + Ne^2} \qquad n = \frac{324.120}{1 + (324.120)(0,1)^2} \approx 100 \qquad\qquad (1)$$

Information :

n   = Sample Size
N   = Population Size
E   = error rate (margin of error).

Based on the calculation using the formula above, the rate margin of error used is 10% (0.1) This rate was chosen because the research was conducted in socio-cultural clusters to determine user perceptions of a phenomenon, not exact science clusters. In socio-cultural research cluster the margin of error used can be tolerated up to a maximum of 10% with a limit of 5% [19]. In addition, by considering the time and cost of research. The characteristics of the research sample based on job, intensity of use, and duration of use are depicted in the diagram below.
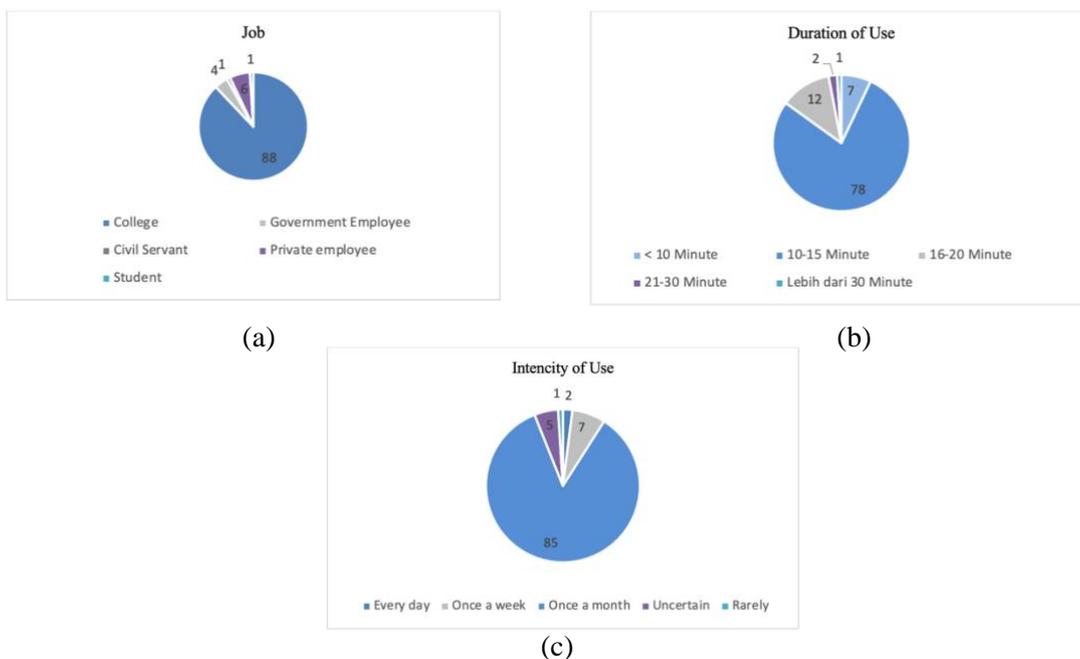

(a)   (b)

(c)

Figure 3. (a) Job (b) Intencity of use 9 (c) Duration of Use

2.8. Likert Scale and Interval

Likert scale is a scale that can be used and set to measure a person's opinion or perception in assessing a certain phenomenon [14]. In this research using Likert scale with a range of values from 1-4 with the following weights in table 2.

Table 2. Alternative Answers

No	Alternative Answers	Initial	Weight
1	Strongly Agree	SS	4
2	Agree	S	3

| 3 | Disagree | TS | 2 |
| 4 | Strongly Disagree | STS | 1 |

The process of determining the Likert scale interval needs to be done in order to find out what variables are satisfactory and vice versa. To find this out, an interval is needed that divides user satisfaction with service quality into several categories. Therefore, the calculation of the Likert scale interval is carried out with the following formula.

$$RS = \frac{(m-n)}{b} \qquad\qquad RS = \frac{(4-1)}{4} = 0,75 \qquad\qquad\qquad (2)$$

Information:
RS = Scale Range
m   = The highest number in the measurement
n   = The lowest number in the measurement
b   = The number of categories formed

Based on the above calculations, it can be concluded that there are 4 categories with an interval or scale range of 0,75. This means that every 0,75 points increase, user satisfaction with the quality of system services will increase. The following is a Likert scale interval table.

Table 3. Interval Scale

No	Category	Interval in Numeric
1.	Very Satisfied	$3,25 \leq x \leq 4$
2.	Satisfied	$2,5 \leq x < 3,25$
3.	Less Satisfied	$1,75 \leq x < 2,5$
4.	Not Satisfied	$1 \leq x < 1,75$

2.9. Validity Test

Validity test was conducted to determine the accuracy of an instrument in measurement [13]. In this study, the validity test uses Product Moment correlation by correlating each statement with the total score for each variable. If the item has r count > r table and a significance value of less than 0.01 (1%) indicates the item is valid to use. The following are the results of the validity of the research instrument.

Table 4. Validity Test Result

Item	r table	r count	Significance	Inf.
E1	0,256	0,560	0,000	Valid
E2	0,256	0,600	0,000	Valid
E3	0,256	0,470	0,000	Valid
T1	0,256	0,450	0,000	Valid
T2	0,256	0,440	0,000	Valid
T3	0,256	0,460	0,000	Valid
F1	0,256	0,440	0,000	Valid
F2	0,256	0,430	0,000	Valid
F3	0,256	0,290	0,003	Valid
R1	0,256	0,630	0,000	Valid
R2	0,256	0,520	0,000	Valid
R3	0,256	0,630	0,000	Valid
R4	0,256	0,740	0,000	Valid
C1	0,256	0,460	0,000	Valid
C2	0,256	0,610	0,000	Valid
C3	0,256	0,480	0,000	Valid
S1	0,256	0,440	0,000	Valid
S2	0,256	0,490	0,000	Valid
S3	0,256	0,420	0,000	Valid
S4	0,256	0,560	0,000	Valid

2.10. Reliability Test

The reliability test is used to determine whether the research instrument has reliability in revealing the symptoms of the problem even though it is carried out repeatedly at different times. The reliability test in this study used technique Cronbach's Alpha. Reliability of an instrument is said to be reliable if the value of Cronbach's Alpha exceeds the value of 0.600 [20]. Each coefficient has a different level of reliability relationship category. The following is a table of categories of the relationship level of each coefficient.

Table 5. Reliability Relationship Level

Coefficient	Relationship Level
0,00 - 0,200	Very Low
0,200 - 0,400	Low
0,400 - 0,600	Current
0,600 - 0,800	High
0,800 - 1,00	Very High

The reliability test was carried out using the PSPP software. With the Cronbach's Alpha technique, the following results were obtained.

Table 6. Reliability Test Result

r alpha	r critical	Information
0,850	0,600	Reliable

From the results of the reliability test on all items used, it shows that the coefficient of Cronbach's Alpha is 0.850. This means that the value exceeds the critical value of 0.60 so that the instrument is declared reliable with the level of instrument relationship in the very high category.

3. RESULTS AND ANALYSIS

3.1. Variable Ease of Use

Ease of use (ease of use) is a variable or dimension related to how easy the service is to use. Simbangda Banyuasin Regency is used by users. In this variable, there are 3 indicators, namely E1 related to the structure of the website, E2 related to the availability of an adequate search column, and E3 the ease of the website address to remember. The following is a table of calculations on the ease of use variable.

Table 7. Variable Ease of Use Result Analysis

No	Item	STS	TS	S	SS	Average	Information
		1	2	3	4		
1	E1	1	38	58	3	2,63	Satisfied
2	E2	12	19	47	22	2,79	Satisfied
3	E3	10	17	37	36	2,99	Satisfied
Average of all item						2,80	Satisfied

All items on variable ease of use is in the satisfied category. Users are satisfied with the structure of the Simbangda website which is easy to understand or follow, making it easier to use the website. Users are also helped by the existence of a search column that runs well, making it easier for users to find information. In addition, the domain name or URL of Simbangda, namely simbangda.banyuasinkab.go.id is easy for user to remember, making it easier for user when they want to revisit the website. So that overall Simbangda users are satisfied with the ease of use of the system with an average of 2.80.

3.2. Variable Trust

Trust (trust) is a variable related to the extent to which users trust the system's ability to protect their personal data. In this variable, there are 3 indicators used, namely T1 for the use of personal information, T2 for user trust in the security of personal information and T3 related to archiving users' personal information properly.

Table 8. Variable Trust Result Analysis

No	Item	STS	TS	S	SS	Average	Information
		1	2	3	4		
1	T1	9	17	53	21	2,86	Satisfied
2	T2	12	27	40	21	2,70	Satisfied
3	T3	10	31	39	20	2,69	Satisfied
Average of all item						2,75	**Satisfied**

In the trust variable, the average user satisfaction states that the three service quality items in the statement are in the satisfied category. Users are satisfied with the use of general personal information such as e-mail. Users are not asked to provide important personal data such as a residence registration number (NIK), place and date of birth or so on. Users also state they believe that the personal information requested will be properly archived and not disseminated to other parties. So overall on the variable trust users are satisfied with an average of 2.75.

3.3. Variable Functionality of the Interaction

Functionality of the interaction environment (functionality on interaction) is a variable related to the ease, availability, and assistance of data filling forms when using the system. This variable consists of 3 items, namely F1 available form filling assistance, F2 adequate form response and F3 Information reuse. The following is the calculation of the average user satisfaction on service quality on the functionality variable.

Table 9. Variable Functionallity of the Interaction Result Analysis

No	Item	STS	TS	S	SS	Average	Information
		1	2	3	4		
1	F1	14	31	44	11	2,52	Satisfied
2	F2	15	25	45	15	2,60	Satisfied
3	F3	6	30	50	14	2,72	Satisfied
Average of all item						2,61	**Satisfied**

On variable functionality of the interaction environment the average user satisfaction with the quality of Simbangda's service states that it is in the satisfied category. There is an infographic that contains how to use Simbangda to make it easier for users when searching for information on the system. In addition, there is a manual (guide book) the use of Simbangda which contains an explanation of each part of the system. With the available instructions, it is easier for users to search for information either through the search feature or selection based on certain categories. Overall, on this variable users are satisfied with an average of 2.61.

3.4. Variable Reliability

Reliability (reliability) is a dimension related to the ease of accessibility and consistency of the availability of the services provided. There are 3 indicator items used, namely R1 for the information search process that can be done quickly and R2 related to accessibility which can be done anytime without interruption. Then for R3 and R4 it states that the accessibility of the system can run either through computers or mobiles.

Table 10. Variable Reliability Result Analysis

No	Item	STS	TS	S	SS	Average	Information
		1	2	3	4		
1	R1	12	24	41	23	2,75	Satisfied
2	R2	17	17	42	24	2,73	Satisfied
3	R3	9	22	39	30	2,90	Satisfied
4	R4	58	17	17	8	1,75	Less Satisfied
Average of all item						2,53	Satisfied

In the reliability variable of the 4 items used, there are 3 items in the satisfied category and 1 item in the less satisfied category. Users are satisfied with items R1, R2, and R3, namely the information search process can be done quickly, accessibility can be done anytime without interruption, and system accessibility can run well through a computer. However, users are not satisfied with the accessibility of the system via mobile. This is because when accessing the system via mobile, the system does not appear in its entirety. This is because the system has not been responsive properly at the time mobile version. So that overall user satisfaction with the services quality on variable reliability in the category of dissatisfied with an average of 2.49.

3.5. Variable Content and Appearance of Information

Content and appearance of information is variables related to the design of the display and the quality of its information, such as color coherence, graphic appearance, system layout size, and attractiveness of appearance. In this study, there are 3 indicator items used, namely C1 related to the attractive Simbangda display design, C2 related to the information conveyed which is always updated regularly, and C3 related to a harmonious mix of colors.

Table 11. Variable Content and Appearance Result Analysis

No	Item	STS	TS	S	SS	Average	Information
		1	2	3	4		
1	C1	3	33	35	39	2,90	Satisfied
2	C2	63	15	17	5	1,64	Not Satisfied
3	C3	4	24	47	25	2,93	Satisfied
Average of all item						2,49	Less Satisfied

Based on the above calculation, in the content and display variables of the 3 items used, there are 2 items in the dissatisfied category and 1 item in the dissatisfied category. Users are satisfied with items C1 and C3, namely Simbangda's attractive display design with a matching color combination on every part of the website. However, users are not satisfied with the content in the form of information that is not updated regularly. The available information is not updated regularly, seen from the inconsistent data upload date, either daily, weekly or monthly. So that the average user satisfaction with the quality of item C2 is 1.64 in the dissatisfied category. So that overall user satisfaction with the quality of Simbangda's service on the content and appearance variables is in the less satisfied category with an average of 2.49.

3.6. Citizen Support

Citizen support (community support) is a variable related to the availability of assistance provided to users in using system services. In this variable there are 4 indicator items used, namely S1 related to contact information, S2 is the speed of replying to user questions, S3 is related to employee knowledge, and S4 is related politeness of employees in responding to questions.

Table 12. Variable Citizen Support Result Analysis

No	Item	STS 1	TS 2	S 3	SS 4	Average	Information
1	S1	6	8	39	47	3,27	Very Satisfied
2	S2	5	15	66	14	2,89	Satisfied
3	S3	9	13	54	24	2,93	Satisfied
4	S4	8	13	63	16	2,87	Satisfied
Average of all item						**2,99**	**Satisfied**

Based on the calculation above, there is one item from the citizen support variable where the user feels very satisfied, namely item S1. Users are very satisfied because on the Simbangda website there is an admin contact that can be contacted. So that when users need help or have questions, they can directly contact the available contacts. For S2 items, S3, and S4, users expressed satisfaction with 3 items. When you need help or ask questions, admins or employees have a responsive response, good knowledge and courtesy in answering user complaints. So that overall user satisfaction to citizen support variable is satisfied with an average of 2.99.

Based on calculations on each variable studiedfrom points 3.1 to 3.6, the variable that gives the highest user satisfaction is citizen support with an average of 2.99 in the satisfied category. Then followed by the ease of use variable with an average of 2.80 in the satisfied category, the trust variable with an average of 2.75 in the satisfied category, the functionallity of the interaction variable with an average of 2.61 in the satisfied category, reliability variable with an average of 2.53 in the satisfied category. The variable with the lowest level of satisfaction is content and appearance of information with an average of 2.49 in the less satisfied category.

If analyzed based on research indicators, it can be seen that the indicator that has the highest value in providing user satisfaction is the S1 indicator. While the indicator that has the lowest value is C2. The following is a ranking of all research indicators based on average user satisfaction from the highest to the lowest.

Table 13. Rank of Research Indicators

Rank	Item	Ave.	Info.	Rank	Item	Ave.	Info.
1	S1	3,27	Very Satisfied	11	R1	2,75	Satisfied
2	E3	2,99	Satisfied	12	R2	2,73	Satisfied
3	C3	2,93	Satisfied	13	F3	2,72	Satisfied
4	S3	2,93	Satisfied	14	T2	2,70	Satisfied
5	R3	2,90	Satisfied	15	T3	2,69	Satisfied
6	C1	2,90	Satisfied	16	E1	2,63	Satisfied
7	S2	2,89	Satisfied	17	F2	2,60	Satisfied
8	S4	2,87	Satisfied	18	F1	2,52	Satisfied
9	T1	2,86	Satisfied	19	R4	1,75	Less Satisfied
10	E2	2,79	Satisfied	20	C2	1,64	Not satisfied

Based on the table above, the S1 indicator provides the highest user satisfaction with an average of 3.27 in the very satisfied category. The system manager should maintain the service quality indicator in the very satisfied category. As for the indicators that are in the satisfied category, the system manager can improve the quality of service so that it can be more optimal and satisfy users. The indicators R4 which is in the less satisfied category and C2 in the not satisfied category so that they can be the focus of system improvement. Both indicators require improvement so that Simbangda can provide better service quality.

4.   CONCLUSION

The results showed that there were 5 variables in which users were satisfied with the quality of Simbangda's service and 1 variable in the less satisfied category. Variable ease of use with the average user satisfaction is 2.80 in the category of satisfied, trust with an average of 2.75 in the

satisfied category, functionality of the interaction environment with an average user satisfaction of 2.61 in the category of satisfied, reliability with an average of 2.53 in the category of satisfied, content and appearance with an average user satisfaction of 2.49 in the less satisfied category, and variable citizen support with an average 2.99 in the satisfied category.

The suggestions that researchers can give are for system managers to be able to maintain variable items that are in the very satisfied category, improve service quality for items variables that are in the satisfied category, and make improvements to the variable items that are in the less satisfied and dissatisfied category. For further research, the research results obtained can be used as literature and references with better development such as the use of all indicators in e-GovQual. In addition, research can also be carried out on evaluating the quality of public service system services using a modified e-GovQual evaluation model or a model other than e-GovQual.

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