

Evaluation of the Implementation of E-Government Public Service Aduan Konten Using E-Govqual, Importance Performance Analysis and Heuristic Evaluation (case study: Ministry of Communication and Information, APTIKA directorate)

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Abstract

In the current condition of society that is critical in responding to everything, more public services are needed professional, effective, simple, transparent, timely, responsive. Efforts to improve the quality of public services cannot be separated from service evaluation. In order to improve the quality of public services, the Directorate General of Informatics Applications of the Ministry of Communications and Informatics established the Public Service for Aduan konten at the Directorate of Information Application Control (PAI) as a pilot project. So to evaluate the quality of public services, a bureaucratic reform program is carried out at the PAI Directorate through efforts to develop a zone of territorial integrity free from corruption and a clean bureaucratic area to serve. One of the evaluations carried out is for measuring service performance as mandated in the Regulation of the Minister of Administrative Reform Number 14 of 2017 concerning the Community Satisfaction Survey (SKM) on the Implementation of Public Services. This study aims to determine the service quality of the Content Complaint website using the e-Govqual method, while the IPA and heuristic evaluations are to determine the attributes that are priorities for improving service quality, as recommendations to public service providers for Aduan konten. To assess the service quality of the content complaint website, 6 dimensions and 21 e-Govqual attributes are used. Of the 300 respondents who were used as research samples, this study shows the results of the analysis of the level of conformity of the 6 dimensions are 98.03% (<100%) meaning that the public services provided by the Aduan konten website are not satisfactory to users or still not in accordance with user expectations. The result of the average value of the gap between expectations and performance shows the number - 0.05 or < 0. With this gap, it can be said that the quality of public service performance of Aduan konten perceived by the public still does not meet what is expected. Attributes that need improvement are those in quadrant A (3 attributes) and quadrant C (8 attributes). Recommendations are given based on the literature/theory for attributes that need to be improved to improve the quality of public services for Aduan konten.

Keywords

e-government; public service website; e-govqual; IPA; heuristic evaluation



I. Introduction

E-government development efforts in Indonesia have been incorporated into government administration and development activities as regulated in presidential instruction number 96 of 2012 concerning public services. E-government is the use of ICT by government institutions (such as WAN, internet, mobile computing) that has the ability

to change relations with the public and parties related to government. The development of e-government is carried out to improve the management system and working procedures of the government environment by optimizing the use of ICT. The goal is to create good governance and improve the quality of public services that are effective and efficient in accordance with Presidential Instruction No. 3 of 2003. Organization must have a goal to be achieved by the organizational members (Niati et al., 2021). The success of leadership is partly determined by the ability of leaders to develop their organizational culture. (Arif, 2019).

Public services are the most visible benchmark of government performance because the public can directly assess the government's performance. Efforts to improve the quality of public services cannot be separated from service evaluation. One of the evaluations carried out is for measuring service performance as mandated in the Regulation of the Minister of Administrative Reform Number 14 of 2017 concerning the Community Satisfaction Survey (SKM) on the Implementation of Public Services. The purpose of this study is to analyze the quality of the public service website for Aduan konten established by the Ministry of Communication and Information, namely the Aptika Directorate. This site is a negative content complaint facility in the form of sites/websites, URLs, social media accounts, mobile applications, and software that meet the criteria as Information and/or Electronic Documents with negative content in accordance with the laws and regulations.

The methods used in this research are E-Government Quality (E-Govqual), Importance Performance Analysis (IPA) and Heuristic Evaluation. E-Govqual is an evaluation technique for e-Government website services, this method has attributes & dimensions that can measure the service performance of a website (viewed from the perception of end users) and improve the quality of services provided by government agencies. E-GovQual consists of 36 attributes & 6 dimensions, namely the dimensions of ease of use, trust, functionality of the interaction environment, reliability, content and appearance of information and citizen support. IPA is an analytical technique used to identify what important performance factors must be shown by an organization in meeting user satisfaction. Heuristic evaluation is an inspection method designed to evaluate user interfaces with the aim of or identify usability problems in user interface design so that they can be addressed as part of an iterative design process.

The results of this study will describe the quality of public services provided. Then the attributes that become priority improvements will be obtained as recommendations to improve the quality of public services for Aduan konten. Based on the explanation of these problems, a research was conducted with the title "Evaluation of E-government Implementation of Public Services Complaints of Content Using E-Government, Importance Performance Analysis and Heuristic Evaluation (case study: Kominfo Directorate of Aptika).

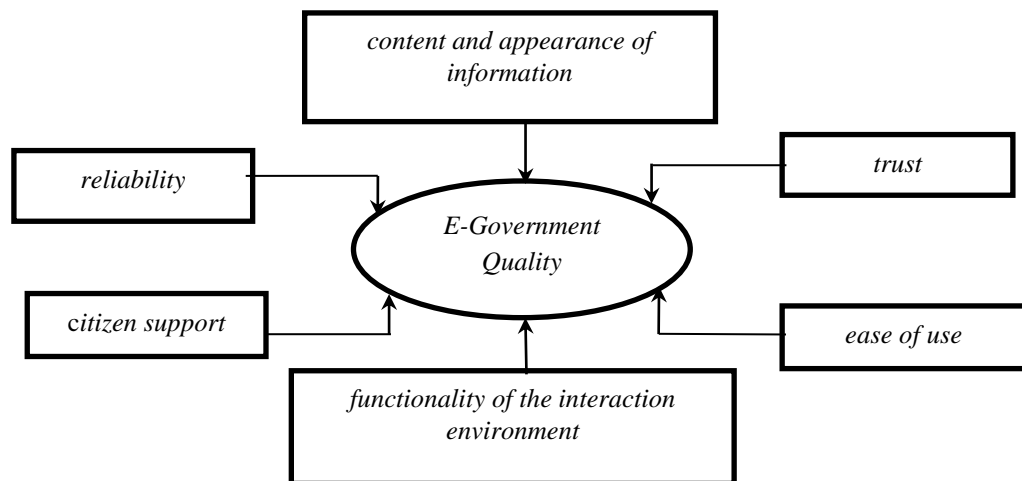
II. Research Method

E-govqual in the initial concept has 36 attributes in 6 dimensions, but not all attributes are used. The number of attributes used is adjusted to the application of the object to be studied, the determination of the e-govqual attributes to be used is carried out by interviewing and discussing with content complaint service providers. Based on the results of discussions with content service providers, out of 6 dimensions in e-govqual,

only 21 attributes will be developed into questionnaire questions. There are 2 reasons that underlie why there are some attributes that are not used in this study, namely:

- a. Attributes are not applied to public service aduan konten so that if they are still used it will produce negative values on these attributes
- b. There are attributes that are felt by content service providers to be difficult to understand by users if used as a research instrument.

The concept of the E-govqual method is mapped in the following figure:



(Source: Papadomichelaki & Menntzas, 2012)

Figure 1. The initial concept of 6 dimensions of e-govqual

The following is the initial concept of egovqual attributes and egivqual attributes after interviews that will be used in research:

Table 1. Initial concept of E-govqual (36 attributes & 6 dimensions)

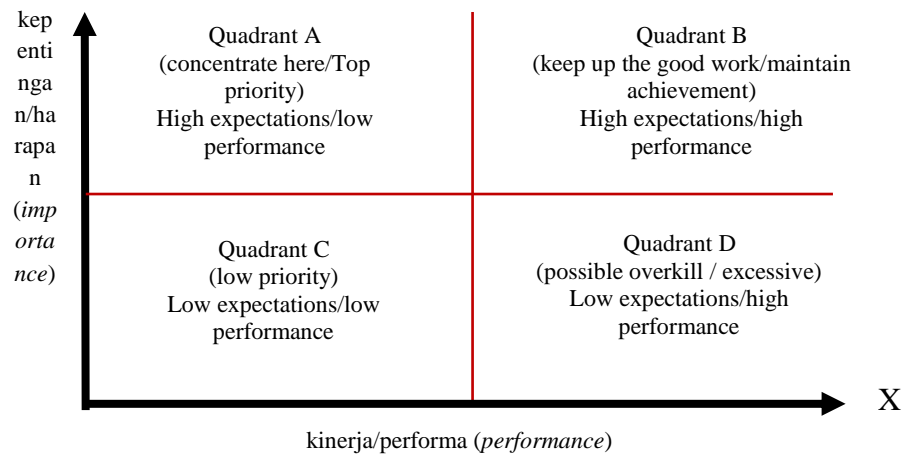
<i>Ease of use</i>	<i>Trust</i>
1. Website structure 2. Customized search function 3. Link site with search engine 4. Easy to remember URL 5. Personalization of information 6. Ability to customize	1. Maintain the confidentiality of personal data 2. Do not share personal information with others 3. Procedure for obtaining secure username and password 4. Correct transactions, Encrypt messages 5. Access control
<i>Functionality of the interaction environment</i>	<i>Reliability</i>
1. There is online help in the form 2. Reuse of community information 3. Automatic calculation of forms 4. Adequate response format	1. Ability to perform promised services accurately 2. timely delivery of services 3. Internet access must be affordable for the general public 4. Browser system compatibility 5. Speed of loading/transaction
<i>Content and appearance of information</i>	<i>Citizen Support</i>
1. Completeness of data and information	1. User friendly guidelines

<ol style="list-style-type: none"> 2. Accuracy and conciseness of data and information 3. Relevance data 4. Information and issues are updated regularly 5. All links must work 6. Online forms are concise and easy to complete 7. Images must be in color, Graphics, Animations 8. Size of web pages 	<ol style="list-style-type: none"> 2. Frequently asked help page 3. Transaction tracking facility 4. contact information 5. Troubleshooting 6. Quickly answered questions 7. Knowledge and courtesy of employees 8. Employees who convey trust and confidence in services
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Table 2. E-govqual attributes after interview (21 attributes & 6 dimensions)

<i>Ease of use</i>	<i>Trust</i>
<ol style="list-style-type: none"> 1. Website structure 2. Easy-to-remember URLs 	<ol style="list-style-type: none"> 1. Maintain confidentiality of personal data 2. Do not share personal information adi with other people 3. Procedure for obtaining secure username and password 4. Correct transaction, message encryption
<i>Functionality of the interaction environment</i>	<i>Reliability</i>
<ol style="list-style-type: none"> 1. Online help in forms 2. Reuse of community information 3. Adequate response format 	<ol style="list-style-type: none"> 1. Delivery of appropriate services Time
<i>Content and appearance of information</i>	<i>Citizen support</i>
<ol style="list-style-type: none"> 1. Accuracy and conciseness of data and information 2. Information and issues are updated regularly 3. All links must work 4. Online forms are concise and easy to complete 5. Images must be in color, Graphics, Animations 	<ol style="list-style-type: none"> 1. User friendly guidelines 2. Frequently asked help pages 3. Transaction tracking facilities 4. Contact information available 5. Questions answered quickly 6. Knowledge and courtesy of employees

Importance performance analysis (IPA) is a descriptive analysis technique that was introduced by John. A Martila & John. c James in 1977. There are 3 assessment analyzes in IPA is an analysis of the level of conformity used to measure how appropriate the services provided are with the expectations that the user wants, analysis of the gap level to measure the gap or difference between a service performance expected by the user and the performance provided, and quadrant analysis to identify attributes- attributes that need to be prioritized for improvement and/or development to improve the quality of services provided. The Cartesian IPA diagram consists of the X-axis which represents the level of performance/performance (*performance*) and the Y-axis which represents the level of importance/expectation (*importance*) [8]. In the Cartesian diagram below, there is an intersection of the X axis and Y axis and produces 4 quadrants in it, these 4 quadrants can be seen in the following figure:



(Source: Martilla and James, 1977)

Figure 2. Quadrant Importance Performance Analysis (IPA)

Description:

1. Quadrant A: needs to be repaired immediately with top priority because it has a high level of importance but the current quality of performance is low
2. Quadrant B: attributes that need to be maintained in quality because they are successful and are considered to have satisfied users
3. Quadrant C: as low priority consists of attributes that are assessed less important and does not have a big effect on users, so there is a possibility that it will be a priority for improvement
4. Quadrant D: Contains attributes with a low level of importance but the quality of its performance is currently considered very good by users so it can be slightly ignored because it is excessive in its application

Heuristic evaluation an inspection code designed to evaluate user interfaces for the purpose of or identify usability problems in user interface design so that they can be addressed as part of an iterative design process [7]. According to Nielsen (1995), there are 10 general principles of Heuristic evaluation, namely:

Table 3. 10 General Principles of Heuristic evaluation

ID	Heuristic name
H1	Visibility of system status
H2	Match between system and the real world
H3	User control and freedom
H4	Consistency and standards
H5	Error prevention
H6	Recognition rather than recall
H7	Flexibility and efficiency of use
H8	Aesthetic and minimalist design
H9	Help user recognize, diagnose, and recover from errors
H10	Help and documentation

SPSS is a program for statistical data processing which is quite easy to use. Software that is often used in data processing among students, is useful for processing thesis data and forecasting analysis of a company for decision making [9].

The attributes used in the preparation of research instruments are as follows:

Table 4. 21 Attributes of Research Instruments

Attribute	Variable
<i>Ease of Use</i>	
1. . Website	AEU1
2. Easy-to-remember URL	AEU2
<i>Trust</i>	
3. Maintain confidentiality of personal data	ATT1
4. Do not share personal information with others	ATT2
5. Procedures for obtaining secure usernames and passwords	ATT3
6. transactions, message encryption	ATT4
<i>Functionality of the interaction environment</i>	
7. There is online help in	AFI1
8. Reuse of public information	AFI2
9. response format	AFI3
<i>Reliability</i>	
10. Timely service delivery	AR1
<i>Content and appearance of information</i>	
11. Accuracy and conciseness of data and information	ACA1
12. Information and issues are updated regularly	ACA2
13. All links should work	ACA3
14. Concise and easy online form to be completed	ACA4
15. Images must be in color, Graphics, Animation	ACA5
<i>Citizen support</i>	
16. User friendly	ACS1
17. Help page frequently asked	ACS2
18. Transaction tracking facility	ACS3
19. Availability of contact information	ACS4
20. Questions are answered quickly	ACS5
21. Knowledge and courtesy	ACS6

For the research to run well, then the research framework is compiled in the following figure:

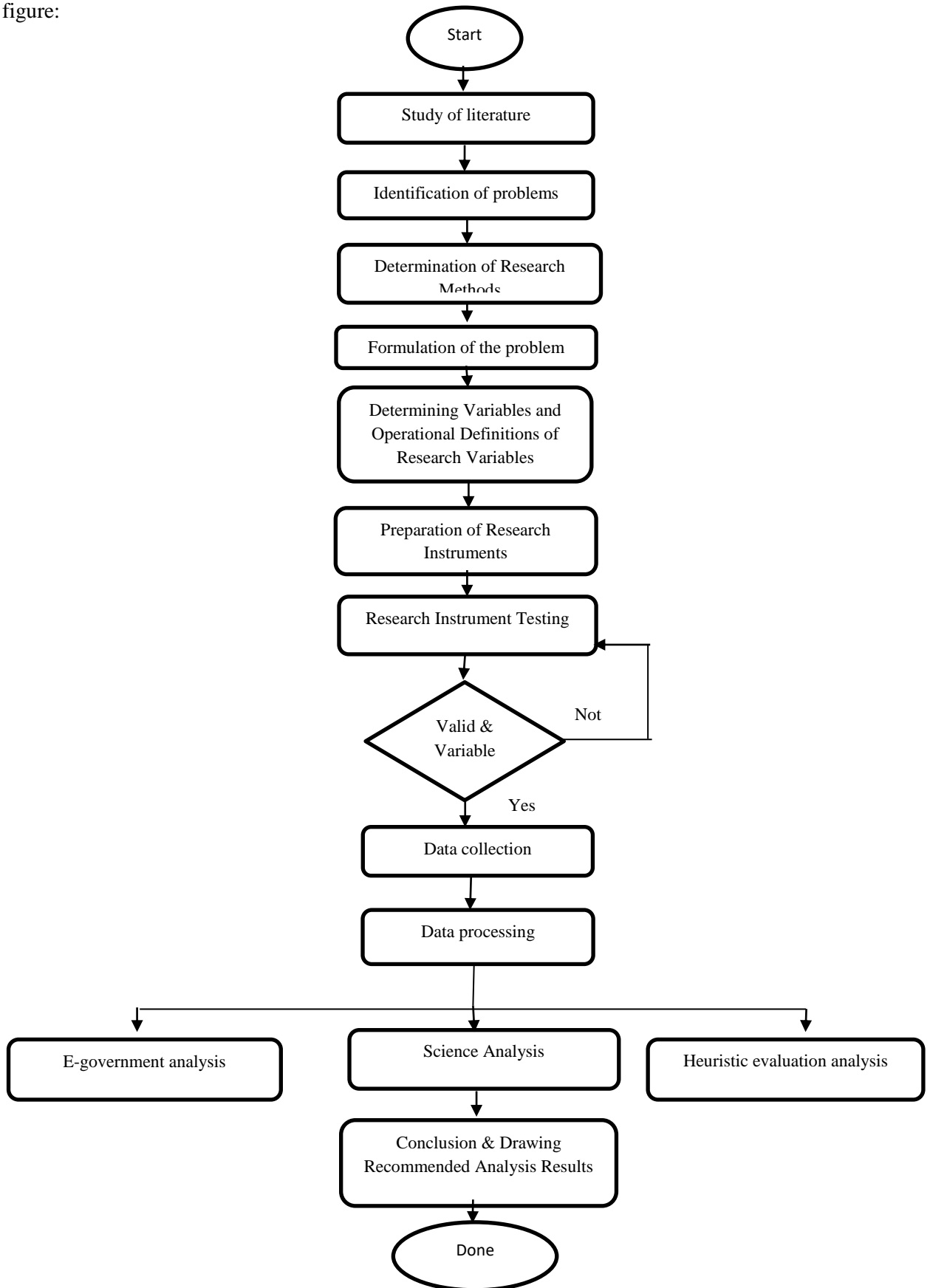


Figure 3. Research Stages
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In Figure 3, Research Steps, it can be seen clearly the steps of this research, starting from defining the problem where we need to know how users view the quality of the Complaints website, then next we will make a questionnaire using 21 variables and 6 dimensions in E-Govqual, then the data that has been obtained will be checked for validity and reliability, after the data is valid and reliable, the data will be collected and analyzed using IPA (Importance-Performance Analysis) and heuristic evaluation in the SPSS program (Statistical Package for the Social Sciences) , and then from the data that has been processed and obtained, we will make recommendations for aduan konten website organizers.

III. Result and Discussion

3.1 Research sample

The population in this study is the public who use public services for aduan konten, totaling 8037 users (as of June 15, 2022). Using the slovin formula $n = N / (1 + (N \times e^2))$, with an error rate of 5% of the 8037 population found as many as 300 research samples.

3.2 The results of the E-Govqual

Analysis of Validity and Reliability Research Instrument Tests are used to determine the level of truth of a survey process or the provision of a questionnaire that has been given to the selected respondents, when it is known that the data obtained is invalid, the process of filling out the survey or questionnaire must be repeated again to get valid data.

1. Validity Test

The value of the r table is seen based on the table from Sugiyono. If $r_{count} > r_{table}$, then the question item from the questionnaire is valid. Where the r table value is obtained from the product moment table with a significance level of 5% with $n = 30$. The r table value for $df = 30$ ($df = n-2 = 28$) is 0.374.

a) Website Performance Level Validity Instrument Test (*Performance/ X*)

Table 5. Website Performance Level Validity Instrument Test Results

Dimension	Attribute Code	R Table	R Calculate	Results
<i>Ease of use</i>	AEU1	0.374	0.735	Valid
	AEU2	0.374	0.755	Valid
<i>Trust</i>	ATT1	0.374	0.751	Valid
	ATT2	0.374	0.777	Valid
	ATT3	0.374	0.698	Valid
	ATT4	0.374	0.845	Valid
<i>Functionality of the interaction environment</i>	AFI1	0.374	0.794	Valid
	AFI2	0.374	0.826	Valid
	AFI3	0.374	0.675	Valid
<i>Reliability</i>	AR1	0.374	0.635	Valid
<i>Content and appearance of information</i>	ACA1	0.374	0.790	Valid
	ACA2	0.374	0.786	Valid
	ACA3	0.374	0.374	Valid
	ACA4	0.374	0.806	Valid
	ACA5	0.374	0.801	Valid
<i>Citizen Support</i>	ACS1	0.374	0.829	Valid

	ACS2	0.374	0.839	Valid
	ACS3	0.374	0.857	Valid
	ACS4	0.374	0.784	Valid
	ACS5	0.374	0.741	Valid
	ACS6	0.374	0.720	Valid

b) User Expectancy Level Validity Instrument Test (*Importance/ Y*)

Table 6. Instrument Test Results Validity User Expectancy Level

Dimension	Attribute Code	R Table	R Calculate	Results
<i>Ease of use</i>	AEU1	0,374	0,755	Valid
	AEU2	0,374	0,650	Valid
<i>Trust</i>	ATT1	0,374	0,719	Valid
	ATT2	0,374	0,731	Valid
	ATT3	0,374	0,739	Valid
	ATT4	0,374	0,826	Valid
<i>Functionality of the interaction environment</i>	AFI1	0,374	0,676	Valid
	AFI2	0,374	0,783	Valid
	AFI3	0,374	0,623	Valid
<i>Reliability</i>	AR1	0,374	0,758	Valid
<i>Content and appearance of information</i>	ACA	0,374	0,722	Valid
	ACA2	0,374	0,728	Valid
	ACA3	0,374	0,722	Valid
	ACA4	0,374	0,723	Valid
	ACA5	0,374	0,863	Valid
<i>Citizen Support</i>	ACS1	0,374	0,767	Valid
	ACS2	0,374	0,784	Valid
	ACS3	0,374	0,755	Valid
	ACS4	0,374	0,749	Valid
	ACS5	0,374	0,691	Valid
	ACS6	0,374	0,710	Valid

Conclusion: Based on Table 5 shows the results of R arithmetic > R table, then the data is declared valid

2. Reliability Test

The reliability test uses *Cronbach Alpha*. If the value of *Cronbach's alpha* > 0.6 then the data is reliable.

a) Website Performance Level Reliability Instrument Test (*Performance/ X*)

Table 7. Test Results of Website Performance Level Reliability Instruments

Cronbach's Alpha	N of Items
0.727	22

Conclusion: Based on table 7 shows *Cronbach's alpha* 0.727 (> 0.6) then the data is reliable.

b) User Expectation Level Reliability Instrument Test (*Importance/ Y*)

Table 8. Results of User Expectancy Reliability Instrument Test

Cronbach's Alpha	N of Items
0.772	22

Conclusion: Based on table 8 shows *Cronbach's alpha* 0.772 (> 0.6) then the data is reliable.

3.3 Results of IPA Analysis

a. Results of Conformity

This analysis was conducted with the aim of knowing the value of the level of conformity between perceived service performance and service interests based on the average value of performance and the importance of the 21 attributes that have been determined. If the value of the level of conformity <100% indicates that the performance of the service has not met the interests of the user. Then if the value of the level of conformity > 100% illustrates that the performance of the service has met user expectations.

Table 9. Results of Conformity Analysis

Attribute code	Mean Performance		Mean importance		Conformity level	
	Per attribute	Per dimension	Per attribute	Per dimension	Per attribut	Per dimension
AEU1	2.88	2.88	2.8	2.86	1.028571	100%
AEU2	2.89		2.92		0.989726	
ATT1	2.99	2.94	2.93	2.95	1.020478	99.6%
ATT2	2.93		2.96		0.989865	
ATT3	2.96		2.96		1	
ATT4	2.89		2.96		0.976351	
AFI1	2.72	2.77	2.81	2.82	0.967972	98.2%
AFI2	2.82		2.83		0.996466	
AFI3	2.61		2.76		0.945652	
AR1	2.67	2.67	2.69	2.69	0.992565	26.7%
ACA1	2.59	2.75	2.70	2.81	0.959259	97,7%
ACA2	2.57		2.66		0.966165	
ACA3	2.92		2.93		0.996587	
ACA4	2.83		2.85		0.992982	
ACA5	2.84		2.89		0.982699	
ACS1	2.71	2.57	2.72	2.63	0.996324	96.3%
ACS2	2.63		2.74		0.959854	
ACS3	2.62		2.72		0.963235	
ACS4	2.65		2.79		0.94502	
ACS5	2.44		2.57		0.949416	
ACS6	2.41		2.50		0.964	
The average level of conformity of 6 dimensions						98.03 %

Conclusion: In the table above the results of the analysis show that the level of conformity of the 6 dimensions is 98.03%, (<100%) meaning that the public services provided by the contest complaint website and unsatisfactory users are still not in accordance with user expectations.

b. Gap Analysis Results (GAP)

This analysis was conducted with the aim of knowing the value of the gap between perceived service performance and service interest based on the average value of performance and importance of the 21 attributes that have been determined. If the value of the gap is positive (+) or > 0 , it indicates that the performance of the service has met the interests of the user. Then if the value of the gap is negative (-) or < 0 it illustrates that the performance of the service has not met the interests of the user.

Table 10. Gap Analysis Results (GAP)

Attribute code	Mean Performance		Mean importance		Gap value	
	Per attribute	Per dimension	Per attribute	Per dimension	Per attribute	Per dimension
AEU1	2.88	2.88	2.8	2.86	0.08	0.025
AEU2	2.89		2.92		-0.03	
ATT1	2.99	2.94	2.93	2.95	0.06	-0.02
ATT2	2.93		2.96		-0.03	
ATT3	2.96		2.96		0	
ATT4	2.89		2.96		-0.07	
AFI1	2.72	2.77	2.81	2.82	-0.09	-0.08
AFI2	2.82		2.83		-0.01	
AFI3	2.61		2.76		-0.15	
AR1	2.67	2.67	2.69	2.69	-0.02	-0.02
ACA1	2.59	2.75	2.7	-0.80	-0.11	-0.05
ACA2	2.57		2.66		-0.09	
ACA3	2.92		2.93		-0.01	
ACA4	2.83		2.85		-0.02	
ACA5	2.84		2.89		-0.05	
ACS1	2.71	2.57	2.72	2.67	-0.01	-0.09
ACS2	2.63		2.74		-0.11	
ACS3	2.62		2.72		-0.1	
ACS4	2.65		2.79		-0.14	
ACS5	2.44		2.57		-0.13	
ACS6	2.41		2.5		-0.09	
Average level of 6 dimensional gap						-0.05

Conclusion: Based on the table above shows the average value of the gap between expectations and good performance from the aspect of *Ease of use*, *Trust*, *Functionality of the interaction environment*, *reliability*, *Content and appearance of information* and *citizen support* is -0.05 or < 0 . With this gap, it can be said that the quality of public service performance of aduan konten perceived by the public still does not meet what is expected, where there is only one measurement variable/dimension that has met the expectations of the public. The existence of this gap also shows the distance between reality and needs where the larger the gap, the farther away the reality and needs are. In the table it can be seen that the highest gap or gap is in the Public Support dimension (*Citizen Support*). Thus, based on the results of the assessment, it shows that employees have not been responsive and not quick in responding to problems experienced by users in terms of information and public services. By looking at the gap and the high value of public expectations, it can be concluded that the public expects employees with a more responsive response in helping to solve problems experienced by the public. This is of course related to non-technological factors, especially in terms of organizational culture in serving the

community. Factors that become weaknesses need to be considered to improve the quality of public services through the e-Government system for aduan konten and public service sites.

Calculation of the average value of performance & importance

Table 11. The results of the calculation of the average value of Performance & importance

Variable	Average Value
Axis x	2.74
Axis y	2.79

The results of the calculation of the average level of performance that will be used as the X axis in the Cartesian quadrant analysis is equal to 2.74. The results of the calculation of the average level of importance that will be used as the Y axis in the Cartesian quadrant analysis is 2.79.

3.4 Results of the IPA Quadrant Analysis

To analyze the factors of e-Government services that need to be improved based on the priority scale, it is necessary to map them into the perspective of performance and interests with IPA which can be presented in the figure below:

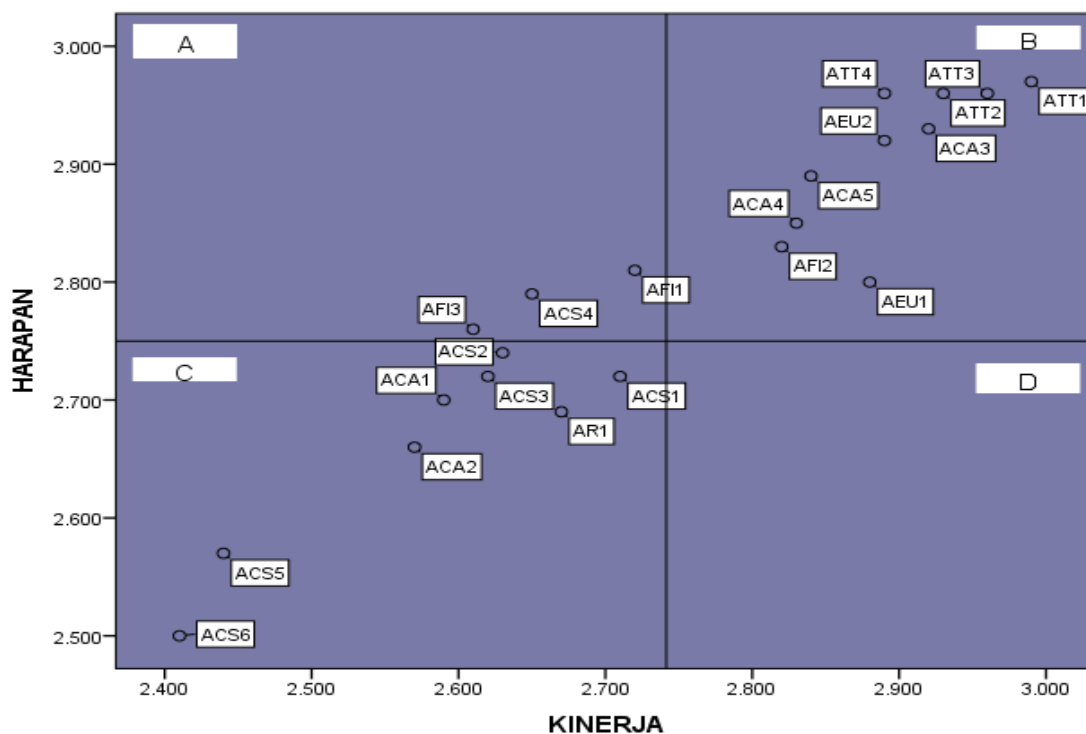


Figure 4. Results of the IPA Quadrant Analysis

Recommendations based on the results of the IPA quadrant :

Based on the results of the IPA quadrant analysis above, it can be seen what attributes need to be prioritized for improvement and what attributes need to be maintained in performance. Attributes that need to be prioritized for improvement are in quadrant A and quadrant C. While the attributes that need to be maintained for their performance are in quadrant B. The following are recommendations for each attribute:

Table 12. Recommendations based on the results of the IPA quadrant

Attributes	Recommendation
<ul style="list-style-type: none"> - There is online help in website (<i>AFII</i>) - There is contact information (<i>ACS4</i>) 	<p>Improved communication features between users and service providers that are online. In the case of community interaction with service providers to resolve problems, the availability of communication channels (telephone, e-mail, fax, suggestion box, etc.) is very important. Complaints website can provide communication facilities such as effective mailing lists, chats or discussion forums</p>
<ul style="list-style-type: none"> - There is a help page on the site(<i>ACS2</i>) 	
<ul style="list-style-type: none"> - There is contact information (<i>ACS4</i>) 	
<ul style="list-style-type: none"> - This content complaint site provides timely service (<i>ARI</i>) - Adequate response format (<i>AFI3</i>) 	<p>Fix speed of access to enter the website. If to enter the website the waiting time required is more than 1 second, the user can indicate that the service is having problems</p>
<ul style="list-style-type: none"> - Accuracy and conciseness of data and information (<i>ACA1</i>) 	<p>This attribute has a high level of importance, but its performance is still low. So it is necessary to get a top priority for improvement by providing concise data and accurate information to users.</p>
<ul style="list-style-type: none"> - Information and issues that are regularly updated (<i>ACA2</i>) 	<p>Updating information regularly. A website must pay attention to customer value, one of which is to have interesting content (content that has commercial value, maintains its quality, is always up-to-date and relevant)</p>
<ul style="list-style-type: none"> - A user friendly <i>website</i> (<i>ACS1</i>) 	<ul style="list-style-type: none"> - Changes the appearance of the website into a responsive website. When users want to find information and display information that is not displayed neatly, it will result in decreased website performance - . Change the size of the page's width. In addition to graphic design, the elements of color, layout, graphic design, page width, and typeface are also factors that greatly determine the performance of a website
<ul style="list-style-type: none"> - The transaction tracking facility for this content complaint site is sufficient (<i>ACS3</i>) 	<p>Provide tracking facility to track complaint license & continuously update complaint status information as well as provide detailed replies and reasons for unprocessed complaints.</p>
<ul style="list-style-type: none"> - Employees provide quick replies to respond to complaints (<i>ACS5</i>) 	<p>Speed up replies to user questions. Not answering user questions is one of the top ten mistakes in web design that go against usability theory. Any questions, complaints, requests, and other interactions by the user must be responded to quickly by the service provider.</p>
<ul style="list-style-type: none"> - Employees have the knowledge to answer user questions (<i>ACS6</i>) 	<ul style="list-style-type: none"> - Improve the format for replying to user complaints in the sms center service. Through employee training and development, work instruction training methods can be applied, namely work instructions can be given to employees to train employees on the procedures for their current job. - Provide employee development training on a regular basis. Case study method training can improve employee performance such as requiring employees to identify

	problems, analyze situations and formulate alternative solutions to problems.
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3.5 Recommendations for improvement based on the Heuristic Evaluation approach

Recommendations for improvement are made in quadrant A and quadrant C with a heuristic evaluation approach.

Table 13. Recommendations for improvement based on the Heuristic Evaluation approach

Indicators	Principal categories of Heuristic evaluation	Recommendations
There is online help on the website (<i>AF11</i>)	<i>Help and documentation</i>	<ul style="list-style-type: none"> - Making help and guidance features that are displayed and presented in a logical manner, as well as placing the content in strategic positions so that it is easy to reach . - Provide solution steps for users to be able to solve problems on the content complaint website - Create or clarify user access to be able to submit criticism and suggestions regarding the experience of using the website
There is contact information (<i>ACS4</i>)		
There is a help page on the site(<i>ACS2</i>)		
There is contact information (<i>ACS4</i>)		
Information and Issues that are updated regularly (<i>ACA2</i>)	<i>Visibility of system status</i>	Grouping the content of news information on the content complaint website according to the information (for example: according to the day of update, according to region, or according to the type of news).
User friendly website (<i>ACS1</i>)	<i>Aesthetic and minimalist design</i>	The system needs to be developed in terms of efficient menus to contain the information needed by users

IV. Conclusion

Based on the evaluation results that have been carried out on the quality of e-Government public services, in this case, aduan konten sites can be taken several the conclusions are as follows:

1. Evaluation of the quality of public services for aduan konten using the e-GovQual method which consists of 6 variables, including; *ease of use, trust, functionality of the interaction environment, reliability, content and appearance of information, citizen support* with the number of attributes used are 21 attributes.
2. Mapping recommendation variables mapped in the IPA quadrant and heuristic evaluation
3. Test the level of conformity to the value of the level of performance and importance of the content complaint website. Complaints about content that are not satisfactory to users or are still not in line with user expectations.
4. Gap value results (GAP):

- Shows the average value of the gap between expectations and good performance from the aspects of *Ease of use*, *Trust*, *Functionality of the interaction environment*, *reliability*, *Content and appearance of information* and *citizen support*, namely -0.05 or < 0 . With this gap, it can be said that the quality of public service performance on aduan konten perceived by the public still does not meet what is expected.
 - Where there is only one measurement variable/dimension that has met the expectations of the public, namely the ease of use dimension because it has a GAP value (< 0) which is 0.025. Meanwhile, the highest gap is found in the *Citizen Support*, which is -0.09, indicating that employees are not responsive and are not quick enough in responding to problems experienced by users in terms of information and public services.
5. Attributes that need improvement are those in quadrants A and C.
- a. In quadrant A there are 3 attributes, namely:
 - There is online help on the website (*AFI1*)
 - Adequate response format (*AFI3*)
 - There is contact information (*ACS4*)
 - b. In quadrant C there are 8 attributes namely:
 - This content complaint site provides timely service (*AR1*)
 - Accuracy and conciseness of data and information (*ACA1*) *Regularly updated*
 - information and issues (*ACA2*)
 - User friendly website (*ACS1*)
 - There is a help page on the site (*ACS2*)
 - Facilities This content complaint site complaint transaction tracking is sufficient (*ACS3*)
 - Employees provide quick replies to respond to complaints (*ACS5*)
 - Employees have the knowledge to answer user questions (*ACS6*)
6. Recommendations based on the results of the Cartesian IPA diagram, namely:
- Attribute recommendations (*AFI1*, *ACS4*, *ACS2*, *ACS4*) : Improved communication features between users and service providers that are online. According to Papadomichelaki and Mentzas (2011), in the case of interaction between the community and service providers to resolve problems, the availability of communication channels (telephone, email, fax, suggestion box, etc.) is very important. Complaint websites can provide communication facilities such as effective mailing lists, chats or discussion forums.
 - Recommended attributes (*AR1*, *AFI3*) : Improved access speed to enter the website. If the waiting time is more than 1 second, the user can indicate that there is a problem with the service.
 - Recommended attribute (*ACA1*): This attribute has a high level of importance, but its performance is still low. So it is necessary to get a top priority for improvement by providing concise data and accurate information to users. Attribute recommendation (*ACA2*) : Update information periodically. A website must pay attention to customer value, one of which is to have interesting content (content that has commercial value, maintains its quality, is always up to date and relevant).
 - Attribute recommendations (*ACS1*): a.) Change the appearance of the website into a responsive website. When users want to find information and

display information that is not displayed neatly, it will result in a decrease in website performance. b) Change the size of the front page width. In addition to graphic design, color elements, layout, graphic design, page width, and typeface are also factors that greatly determine the performance of a website

- Attribute recommendations (ACS3): Provide tracking facilities to track complaint licenses & continue to update the complaint status information and also provide detailed replies and reasons for complaints that are not processed.
- Attribute recommendation (ACS5) : Speeds up replies to user questions. Not answering user questions is one of the top ten mistakes in web design that go against usability theory. Every question, complaint, request, and other interaction by the user must be responded to quickly by the service provider.
- Attribute recommendations (ACS6): a) Improve the format for responding to user complaints on the sms center service. Through employee training and development, work instruction training methods can be applied, namely work instructions can be given to employees to train employees on the procedures for their current job. b) Provide training and employee development on a regular basis. Case study method training can improve employee performance such as requiring employees to identify problems, analyze situations and formulate alternative solutions to problems.

7. The results of heuristic evaluation analysis recommendations:

- a) There is online help on the website (*AFII*), There is contact information (*ACS4*), There is a help page on the site(*ACS2*) and There is contact information (*ACS4*) included in the category of Heuristic evaluation "*Help and documentation*" with recommendations namely:
 - Making help and guidance features that are displayed and presented logically, as well as placing their content in strategic positions so that they are easily accessible.
 - Provide solution steps for users to solve problems on content complaint websites.
 - Create or clarify user access to be able to submit criticisms and suggestions regarding the experience of using the website.
- b) Information and issues that are regularly updated (*ACA2*) are included in the category of Heuristic evaluation "*Visibility of system status*" with recommendations, namely: Grouping news information content on the complaint website content according to the information (for example: according to the day of the update, according to the region, or according to the type of news).
- c) A user-friendly website (*ACSI*) is included in the Heuristic evaluation "*Aesthetic and minimalist design*" with recommendations, namely: The system needs to be developed in terms of efficient menus to contain information needed by users.

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