

THE EFFECT OF E-GOVERNMENT QUALITY (E-GOVQUAL) ON LOCAL GOVERNMENT E-GOVERNMENT USER SATISFACTION

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ABSTRACT

The measurement of E-Government user satisfaction at local governments in Indonesia still needs to be improved to achieve the high accountability demanded by the central government. Based on the theory of behavior, six factors influence the satisfaction of local government E-Government users, namely knowledge of ease of use, trust, function and form interaction, reliability, content and display of information, and support. This study examines the influence of these six factors on the E-Government Quality of local governments in the province of West Java. Respondents in this study were the head of the West Java regional government agency. This study uses PLS-SEM and succeeds in proving that there is a positive and significant effect of ease of use, trust, function and form interaction, reliability, content and display of information, and support for local government E-Government user satisfaction. These findings provide practical contributions as a guide for local governments to improve E-Government Quality. Future research needs to expand the scope of the observation area, incorporate subjective and objective scales of user satisfaction variables, and develop other variables based on other theories such as contingency theory, agency theory, and dynamic capabilities theory.

Keywords: *User Satisfaction; E-Government Quality; Ease of Use; Trust; Function and Form Interaction*

INTRODUCTION

Ensuring effective local government performance is crucial, particularly during a pandemic such as the current Covid-19 crisis. The Covid-19 pandemic has compelled local governments to strive for improved performance. The performance levels of local governments directly impact community welfare and the economic growth of associated regions (Hamid, 2018). However, the suboptimal performance of local governments has been further exacerbated by the Covid-19 pandemic, which began in February 2020. This has significantly disrupted the composition of the national and regional budgets for the Fiscal Year 2020, particularly in terms of revenue. State and local revenues, especially those derived from taxes, both central and local, have experienced a decline (Puspitasari, 2017).

The performance of local governments also indirectly affects the degree of dependence on the central government (Puspitasari, 2017). In Indonesia, the central government, along with provincial and district/city local governments, must make necessary adjustments due to the reduction in state and regional revenues. They must refocus their budgets from program/activity spending to expenditures aimed at mitigating and addressing the impact of Covid-19.

Electronic Government (E-Government) is an initiative aimed at developing electronic-based government services (Afifa & Priyono, 2022). The

Indonesian government has been implementing E-Government since the issuance of Presidential Instruction (INPRES) Number 3 of 2003, which outlines the national policy and strategy for E-Government development. The directive requires all government agencies to adapt by utilizing information systems or technology to better serve the public. The central and local government websites are expected to gradually transition towards Government to Government (G2G), Government to Business (G2B), and Government to Citizen (G2C) interactions, which are integrated with each other (Indonesia, 2003).

In 2018, the regulations pertaining to E-Government were strengthened with the issuance of Presidential Regulation (PERPRES) Number 95 of 2018, which focuses on Electronic-Based Government Systems (SPBE). The SPBE emphasizes the adoption of effective, integrated, sustainable, efficient, accountable, interoperable, and secure applications by both central and regional government agencies (Setneg, 2018).

Research conducted by Heeks (2003) on e-government projects in developing countries revealed that almost 35% of projects were total failures, while 50% were partial failures. Several studies have concluded that the acceptance, diffusion, and success of e-government initiatives rely on citizens' willingness to utilize these services (Carter & Bélanger, 2005; Evans & Yen, 2006; Schaupp & Carter, 2005; Shareef, Kumar,

Kumar, & Dwivedi, 2011; Shareef, Kumar, Kumar, & Hasin, 2009). Consequently, there is a significant need for research and development of service quality models to explain the advantages of e-services to citizens. Another critical perspective in service quality research is ensuring a return on investment (Wang, Bretschneider, & Gant, 2005). The taxes paid by citizens to the government are invested in the construction and maintenance of e-government systems (Wang et al., 2005). Therefore, the government should be accountable to citizens regarding the quality of services offered by the new system. Although the dimensions of service quality may vary depending on the political environment, technological advancements, and socioeconomic conditions of a country, the primary objective of this study is to provide transparent and effective services to citizens.

E-Government Quality (E-GovQual) is a method used to measure the quality of electronic-based information systems in providing services to citizens, as introduced by Papadomichelaki & Mentzas (2012). The EGovQual instrument was developed by measuring the quality of services provided by E-Government services from the perspective of end users or the public. E-GovQual comprises six dimensions: ease of use, trust, functionality of the interaction environment, reliability, content and appearance of information, and citizen support.

Customer satisfaction is a crucial marketing goal. According to Kotler & Keller (2012), the purpose of marketing is to "meet and satisfy the needs and desires of target consumers and be better than its competitors." Although there is no standard definition of customer satisfaction, experts have attempted to define it. One way to measure customer satisfaction is through the survey method (Kotler & Keller, 2012). This involves gathering feedback on statements related to customers' likelihood of making repeat purchases, their tendency to share positive experiences with others, and their inclination to file complaints with the company. Satisfied customers are more likely to repurchase products and spread positive word-of-mouth, while dissatisfied customers tend to return or discard products and complain to the company.

The satisfaction indicators in this study align with Kotler & Keller (2012) definition, namely customers making repeat purchases, customers sharing positive experiences about the products they buy with others, and customers refraining from or minimizing complaints to the company.

As mentioned earlier, service quality can directly or indirectly impact customer satisfaction

and loyalty. This has been substantiated by research conducted on online-based service quality in various industries, including banking. The dimensions of technology-based service quality, such as easy and reliable technology support (e-service quality), have a positive influence on customer satisfaction and loyalty (Ganguli & Roy, 2011). Positive customer perceptions of service quality contribute to customer satisfaction and loyalty, thereby influencing their continued use of a product or service (Lupiyoadi, 2013).

To differentiate e-service quality from traditional service quality, it is necessary to first examine the latter, as most e-service quality models are developed based on traditional models. SERVQUAL, developed by Parasuraman et al. (1985), serves as a generic instrument to measure service quality across various sectors. Initially, SERVQUAL was designed for four industries: retail banking, credit cards, securities institutions, and banking services (Parasuraman et al., 1985). SERVQUAL consists of five dimensions: tangibles (physical appearance), reliability, responsiveness, assurance, and empathy. While SERVQUAL has been widely employed to measure service quality in various service industries, some studies have applied the SERVQUAL model to assess e-service quality. However, the applicability of the SERVQUAL model in the context of e-service quality is limited (Parasuraman et al., 1985). The generic SERVQUAL dimensions require reformulation to be meaningfully applied in the realm of e-service quality, as e-service differs from traditional service in three key aspects:

1. Absence of sales staff: In e-service, there is no physical interaction between customers and sales staff, unlike in traditional service.
2. Lack of tangible (physical) elements: E-service operates in a virtual, intangible environment.
3. Customer independence: In e-service, customers handle their own business processes, such as placing orders or transactions (self-service).

Although e-service significantly changes the structure of traditional services, as noted by Alzola & Robaina (2005), the importance of e-service quality as a critical success factor for e-commerce businesses cannot be understated. In addition to the business sector, the issue of e-service quality also applies to other sectors, including the government, especially in improving E-Government services to the public (Parasuraman et al., 1985).

Given these differences between e-service and traditional service, it can be concluded that the SERVQUAL scale is not suitable for measuring e-service quality. Consequently, the E-Government

Quality (E-GovQual) method, introduced by Papadomichelaki & Mentzas (2012), becomes essential for measuring the quality of E-Government services from the perspective of end users or the public. E-GovQual encompasses six dimensions: ease of use, trust, functionality of the interaction environment, reliability, content and appearance of information, and citizen support.

E-government quality (e-govqual) refers to the quality of electronic government services provided to citizens. The impact of e-govqual on user satisfaction with e-government services provided by local governments has been studied in various countries, including Saudi Arabia (Bawazir, 2006; Yamin & Mattar, 2016). The quality of e-government services can be influenced by various factors, such as government policies, internet and information technology, and service providers (Yamin & Mattar, 2016). The success of e-government services can also depend on the enactment of government policies in the provision and deployment of such technology (Yamin & Mattar, 2016). Therefore, it is important for service providers to continuously assess their roles, challenges, and the level of service satisfaction towards citizens, and update their technologies to improve services (Yamin & Mattar, 2016).

Priya (2012) found that most users are satisfied with the services provided by e-government, but this satisfaction is not significantly related to personal attitudes and usability factors. Another study (Pinem, Immanuella, Hidayanto, & Phusavat, 2018) discovered that the factors determining user trust in government online services include service quality, trust in government entities, recommendations to

use these services, and user habits in utilizing these services. The factor that does not influence user trust in government online services is the disposition to trust. Trust, however, does have an impact on continued use through perceived benefits and satisfaction in using online services. Therefore, it can be concluded that e-govqual, as a service quality factor, can indeed affect user satisfaction with e-government services provided by local governments. Nevertheless, further research is needed to specifically examine the relationship between e-govqual and user satisfaction.

These research gaps, based on the background, encompass the absence of in-depth research on the impact of the Covid-19 pandemic on local government performance in Indonesia, evaluation of E-Government implementation at the local government level, measurement of E-GovQual dimensions in the Indonesian context, and the relationship between E-Government service quality and user satisfaction at the local government level. This research fills a critical gap that will provide important insights for the improvement and development of local government services in the digital era.

The aim of this study is to analyze the quality of E-Government services using the E-GovQual approach in order to measure the quality of Local Government (Pemda) websites based on user satisfaction. The measurement involves distributing online questionnaires to 100 respondents who are members of the West Java Provincial Government and Regency/City Governments in West Java Province.

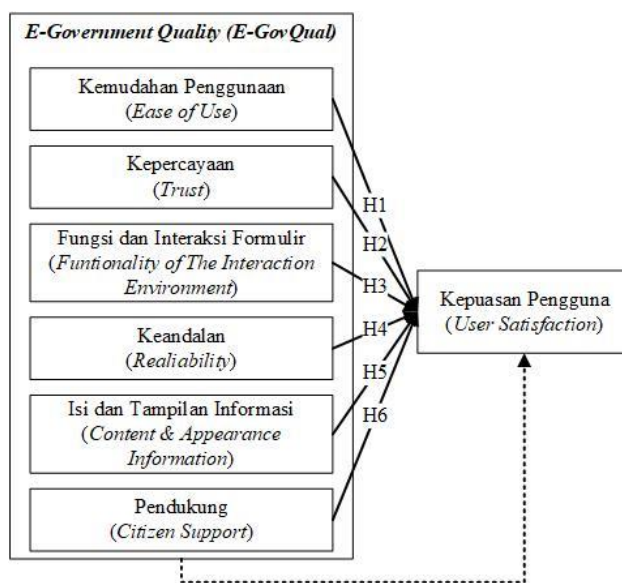


Figure 1. Framework of Thought

Based on Figure 1, this study proposes the following hypotheses:

1. The ease of use variable has a positive and significant effect on user satisfaction.
2. The trust variable has a positive and significant effect on user satisfaction.
3. The functionality of the interaction environment variable has a positive and significant effect on user satisfaction.
4. The reliability variable has a positive and significant effect on user satisfaction.
5. The content and appearance of information variable has a positive and significant effect on user satisfaction.
6. The citizen support variable has a positive and significant effect on user satisfaction.

RESEARCH METHODS

The population for this study was the Heads of the Regency/City Regional Work Units in the West Java Region. There were a total of 27 units of analysis, referred to as the Office of the Office, with a total of 100 individuals. The sample was a subset of the population. According to (Sugiyono, 2017), the sample represented a portion of the population with similar characteristics. In this study, a total sampling technique was employed, which involved sampling all members of the population. Therefore, in this study, the sample consisted of the entire population, as the total sampling technique was used.

Table 1. Operational Variable

No	Variable	Indicator
1.	<i>Ease of Use</i> (Papadomichelaki & Mentzas, 2012)	Website Structure Memorable URL Customized search function Site map Ability to customize and personalize information
2.	<i>Trust</i> (Papadomichelaki & Mentzas, 2012)	Maintain confidentiality Access control Not sharing personal information with others Use of personal data
3.	<i>Functionality Of The Interaction Environment</i> (Papadomichelaki & Mentzas, 2012)	Adequate response format Automatic calculation of forms Presence of online help in the form Reuse of public information
4.	<i>Reliability</i> (Papadomichelaki & Mentzas, 2012)	Internet access should be affordable for the general public Ability to perform promised services accurately Timely delivery of services Speed of loading/transaction Browser system compatibility
5.	<i>Content & Appearance of Information</i> (Papadomichelaki & Mentzas, 2012)	Images should be in color, graphics, animation, and web page size Accuracy and conciseness of data and information Information and issues are updated regularly Information should be clear and understandable Completeness of data and information All links should work Online forms are concise and easy to complete
6.	<i>Support</i> (Papadomichelaki & Mentzas, 2012)	Guidelines are user friendly Problem solving Questions are answered adequately Employee knowledge and courtesy Employees who convey trust and confidence in the service Frequently asked questions Issues and news discussion platform

RESULTS AND DISCUSSION
Respondent Profile

The following is a descriptive profile of the respondents of this study. From a total of 100 respondents it can be seen:

Table 2. Respondents' Descriptive Profiles

Category	Description	Percentage
Age	<20	0
	21-30	15
	31-40	65
	41-50	8
	>50	2
Gender	Man	28
	Woman	72

Source: Processed data (2021)

Test the validity and reliability of research variables

Based on table 3 it can be seen that all corrected item total correlation statements have a

greater value of 0.3610. So it can be said that all statements are valid.

Table 3. Validity Test

Corrected Item-Total Correlation	Sig. (2-tailed)	
Ease of Use		
KMP1	,714	,000
KMP2	,803	,000
KMP3	,813	,000
KMP4	,651	,000
KMP5	,691	,000
Trust		
KPY1	,931	,000
KPY2	,634	,000
KPY3	,931	,000
KPY4	,819	,000
Form Functions and Interactions		
FIF1	,931	,000
FIF2	,634	,000
FIF3	,931	,000
FIF4	,819	,000
Reliability		
KDL1	,714	,000
KDL2	,803	,000
KDL3	,813	,000
KDL4	,651	,000
KDL5	,691	,000
Contents and Information Display		
ITI1	,569	,000
ITI2	,445	,000
ITI3	,625	,000
ITI4	,636	,000
ITI5	,595	,000
ITI6	,636	,000
ITI7	,677	,000
Supporters		
PND1	,569	,000
PND2	,445	,000
PND3	,625	,000
PND4	,636	,000
PND5	,595	,000
PND6	,636	,000
PND7	,677	,000

Source: Processed data (2021)

The reliability test is used to see the consistency of the variables used in the research. And the variable must have an alpha cronbach value > 0.6. It can be seen that all the variables

used are reliable and meet the requirements to proceed to the next stage.

Table 4. Reliability Test

Variable	Cronbach Alpha	Information
<i>E-GovQual</i>	0.919	Reliable
Customer satisfaction	0.832	Reliable

Source: Processed data (2021)

Descriptive Research Variables

Based on the results of the questionnaire given to respondents with each indication of the

relationship with E-Government Quality (E-GovQual). Respondents answered as in the following table:

Table 5. Ease of Use

Variable	Indicator	Total score	Total	Average
Ease of Use	Website Structure	387	77%	77%
	URLs easy to remember	372	74%	
	Customized search function	373	75%	
	Sitemap	393	79%	
	Ability to customize and Personalize information	394	79%	

Source: Processed data (2021)

Respondents answering the Ease of Use variable can be shown in Table 5, an average of 77% of the percentage value of ease of use is classified in the "good" category.

Table 6. Trust

Variable	Indicator	Total score	Total	Average
Trust	Keeping secrecy	393	79%	78%
	Access control	374	75%	
	Do not share personal information with others	393	79%	
	Use of personal data	394	79%	

Source: Processed data (2021)

Respondents answering the Trust variable can be shown in Table 6, an average of 78% of the percentage value of trust is classified in the "good" category.

Table 7. Form Functions and Interactions

Variable	Indicator	Total score	Total	Average
Form Functions and Interactions	Adequate response format	393	79%	78%
	Automatic calculation of forms	374	75%	
	There is online help in forms	393	79%	
	Community information reuse	394	79%	

Source: Processed data (2021)

Respondents answering the variable of form function and interaction is classified in the "good" category. Function and Form Interaction can be shown in Table 7, an average of 78% of the percentage value

Table 8. Reliability

Variable	Indicator	Total score	Total	Average
Reliability	Internet access must be affordable for the general public	387	77%	77%
	Ability to perform the promised service accurately	372	74%	
	Service delivery on time	373	75%	
	Speed in loading/transaction	393	79%	
	Browser system compatibility	394	79%	

Source: Processed data (2021)

Respondents answering the Ease of Use variable can be shown in Table 8, an average of 77% of the percentage value of ease of use is classified in the "good" category.

Table 9. Contents and Information Display

Variable	Indicator	Total score	Total	Average
Contents and Information Display	Images must be in color, Graphics, Animation, and Web page size	382	82%	77%
	Accuracy and conciseness of data and information	387	78%	
	Information and issues are updated regularly	374	76%	
	Information must be clear and understandable	379	76%	
	Completeness of data and information	395	79%	
	All links should work	379	76%	
	Online forms are concise and easy to complete	390	78%	

Source: Processed data (2021)

Variable Content and Display of Information Respondents answered that the content and display of information can be shown in Table 9, the average percentage of which is 77% is in the "good" category.

Table 10. Support

Variable	Indicator	Total score	Total	Average
Supporters	User friendly guide	382	82%	77%
	Solution to problem	387	78%	
	Questions answered adequately	374	76%	
	Knowledge and courtesy of employees	379	76%	
	Employees who convey trust and confidence in the service	395	79%	
	Frequently asked questions	379	76%	
	platforms discussion of issues and news	390	78%	

Source: Processed data (2021)

Supporting Variable Respondents answering support can be shown in Table 10, the average percentage of 77% is in the "good" category.

Partial Least Square (SEM)

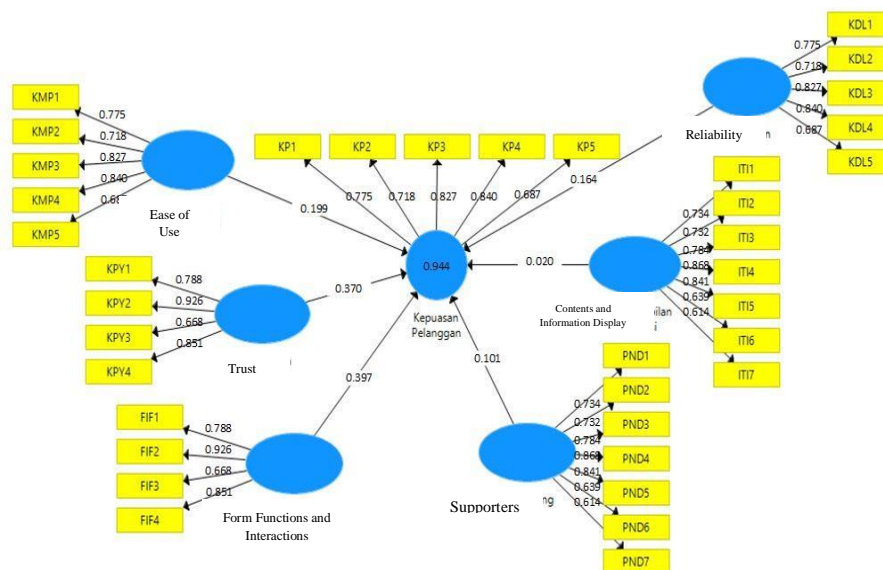


Figure 2. Partial Least Square (SEM)

Indicator Reliability

Indicator Reliability used to test the consistency of the indicators used in the study.

Have a minimum requirement of 0.4. can be seen all the variables used to qualify to proceed to the next stage.

Table 11. Indicator Reliability

Variables	Indicators	Reliability
Ease of Use	KMP1	0.775
	KMP2	0.718
	KMP3	0.827
	KMP4	0.840
	KMP5	0.687
Trust	KPY1	0.788
	KPY2	0.926
	KPY3	0.668
	KPY4	0.851
Form Functions and Interactions	FIF1	0.788
	FIF2	0.926
	FIF3	0.668
	FIF4	0.851
Reliability	KDL1	0.775
	KDL2	0.718
	KDL3	0.827
	KDL4	0.840
	KDL5	0.687
Contents and Information Display	ITI1	0.734
	ITI2	0.732
	ITI3	0.784
	ITI4	0.868
	ITI5	0.841
	ITI6	0.639
	ITI7	0.614
Supporters	PND1	0.734
	PND2	0.732
	PND3	0.784
	PND4	0.868
	PND5	0.841
	PND6	0.639
	PND7	0.614

Source: Processed data (2021)

Internal Consistency Reliability

Internal Consistency Reliability is used to measure the consistency of the variables used in the study and has provided a composite reliability

above 0.6. It can be seen that all variables meet the requirements, so that the research can proceed to the next stage.

Table 12. Internal Reliability

Variables	Composite Reliability	Description
Ease of Use	0.880	<i>reliable</i>
Trust	0.854	<i>reliable</i>
Form Functions and Interactions	0.854	<i>reliable</i>
Reliability	0.880	<i>reliable</i>
Contents and Information Display	0.899	<i>reliable</i>
Supporters	0.899	<i>reliable</i>

Source: Processed data (2021)

Convergent Validity

Convergent Validity is used to measure the accuracy of the variables used in the study, having

the required AVE value above 0.5. It can be seen that all the variables used are valid and can be continued to the next stage.

Table 13. Convergent Validity

Variables	AVE	Description
Ease of Use	0.596	<i>Valid</i>
Trust	0.662	<i>Valid</i>
Form Functions and Interactions	0.662	<i>Valid</i>
Reliability	0.596	<i>Valid</i>
Contents and Information Display	0.562	<i>Valid</i>
Supporters	0.562	<i>Valid</i>

Source: Processed data (2021)

Rated R-Square and Q-Square

It can be seen that the percentage of influence of Ease of Use, Trust, Form Function and Interaction,

Reliability, Information Content and Display, and Support on User Satisfaction is 94.4%.

Table 14. R-square

Variables	R-square
User Satisfaction	0.944
Ease of Use	-
Trust	-
Form Functions and Interactions	-
Reliability	-
Contents and Information Display	-
Supporters	-

Source: Processed data (2021)

Values Q2

$$= 1 - (1 - 0.944)$$

$$= 1 - 0.056$$

$$= 0.944$$

The Q-Square value is used to see the PLS model used in the study. It can be seen that the goodness of fit of the model used is 94.4%. It can be concluded that the model used is very good.

Hypothesis test

Rule of thumbs that support the research hypothesis are: (1) if the coefficient or direction of the variable relationship (indicated by the value of the original sample) is in accordance with the hypothesis, and (2) if the t-value statistic is more than 1.64 (two-tiled) or 1.96 (one-tiled) and the probability value (p-value) is less than 0.05 or 5%.

Table 15. Hypothesis Testing Results

Variables	Path Coefficient	Description
Ease of Use -> User Satisfaction	0.317	<i>accepted</i>
Trust -> User Satisfaction	0.000	<i>accepted</i>
Form Functions and Interaction -> User Satisfaction	0.000	<i>accepted</i>
Reliability -> User Satisfaction	0.317	<i>accepted</i>
Content and Information Display -> User Satisfaction	0.493	<i>accepted</i>
Support -> User Satisfaction	0.493	<i>accepted</i>

Source : Data Processed (2019)

R² (R square) equals 0.944 with an Adjusted R square of 0.939 or 93.90%, meaning that the influence of other variables besides Ease of Use, Trust, Form Function and Interaction, Reliability, Content and Information Display, and Support is 0.61.

The results of this study confirm the findings of the conceptual model research conducted by (Papadomichelaki & Mentzas, 2012).

The objective of this study was to identify the factors that influence user satisfaction with E-Government Quality. All three factors examined in this study were found to have a significant impact on user satisfaction with E-Government Quality. The model used in the study demonstrated a high level of explanatory power, reaching 94.4%. This indicates that the three factors play a substantial role in explaining local government eGovQual.

These findings contribute significantly to the improvement of local government E-Government Quality measurement. The results can serve as a guide for other local governments in their efforts to enhance user satisfaction through eGovQual measurement.

One limitation of this study lies in the E-Government Quality variable, which was measured quantitatively and objectively. Future research could incorporate qualitative and subjective measurements, such as using LAKIP scores or assessing the quality of local government performance measurement reports.

Another limitation is related to the study's population, which was limited to local governments in the West Java province. To obtain more generalizable results, it is recommended to expand the population to include other regions. Moreover, considering the contextual factors, including the ongoing Covid-19 pandemic since early 2020, might yield different results. Including variables based on contingency theory, agency theory, and dynamic capability theory could provide a more comprehensive understanding of the influencing factors and outcomes.

Furthermore, the practical implications of this study highlight the importance of the factors of ease of use, trust, form function and interaction, reliability, information content and display, and support for improving local government E-Government Quality in Indonesia. Empirically, this research demonstrates that without these six factors, it will be challenging to enhance local government E-Government Quality.

CONCLUSION

The measurement of local government eGovQual in Indonesia requires further improvement. Based on behavioral theory, this study confirms that local government E-Government Quality in the West Java province is influenced by ease of use, trust, form function and interaction, reliability, information content and display, and support. These six factors significantly impact the quality of local government performance measurement. Therefore, to enhance the quality of performance measurement (via LAKIP), local governments should enhance the technical knowledge of their personnel, ensure strong and genuine leadership commitment, and provide adequate resource support, including human, financial, and time resources.

Future research should aim for broader generalizability by expanding the geographical scope of the study. Additionally, combining subjective and objective measurement scales using

LAKIP scores or eGovQual measurement results can provide a more comprehensive assessment. Furthermore, the development of the variables examined can be expanded by incorporating other theories such as contingency theory, agency theory, and dynamic capabilities. This will contribute to a more comprehensive understanding of the subject matter in terms of content and context.

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