EXAMINING THE ROLE OF E-GOVERNMENT INITIATIVES IN ENHANCING PUBLIC SERVICE DELIVERY IN MEDAN: A QUATITATIVE ANALYSIS USING SEM-PLS

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Abstract

The purpose of this study is to find out and analyze the extent to which acceptability and efficient work affect the improvement of the quality of public services in Medan City through *the E-Government* initiative as an intervening variable. The subject of this study is the population of Medan City, where the variables in this study are independent variables, namely acceptability and efficient work, dependent variables, namely variables for improving the quality of public services and intervening variables for *E-Government* initiatives. The results of the data analysis were used using SEM analysis using SMART PLS 4.0 software. The data collection technique with questionnaires, as well as observation. The research method uses a quantitative descriptive method of data analysis using *the structural equation model* (SEM) method, where the results of data processing using the SEM method are carried out with the PLS 4.0 application. From the results of the study, the existing conclusion, namely that partially the variables of acceptability and efficient work affect the improvement of the quality of public services in Medan City and affect the E-Government initiative in Medan City. Simultaneously, the variables of acceptability and efficient work have an effect on improving the quality of public services in Medan City through the variable of the E-Government initiative as an intervening variable. The better the acceptability or acceptance of E-Government technology in the community, the more efficient the public service work carried out through the Medan City Government initiative in supporting the development of E-Government in improving the quality of public services of the Medan City Government.

Keywords: Role of E-Government İnitiatives, Acceptability, Efficient Work, İmproving the Quality of Public Services.

1. INTRODUCTION

Public services often have to be interpreted in their own way by the State and regional apparatus, where the State and regional apparatus should be alert to the direction, guidance and orders from the superiors in order to improve the ability to serve effectively and efficiently, where this ability to serve is the forerunner of the improvement of the quality of services carried out by the Government to improve the ability to serve (Al-Besher, Abdulaziz and Kumar, 2022).

The public services carried out are still at the manual level or public services based on serving humanely and face-to-face. This kind of service still needs to be carried out when the community knows and understands the use of service applications, both from the Central Government and the Regional Government (Uyar, Ali, 2021). Manual public services still use human resources, where these human resources are empowered through the employee recruitment process, where even though the recruitment process is carried out, there are still some Government and Regional Apparatus individuals who tend to carry out convoluted services and even make it difficult for the community, thus causing antipathy from the community to be served by these individuals (Forastero, 2023).

There is a fundamental advantage of manual public services, namely that manual processes often take longer because all steps are carried out physically and without the help of automation technology, services that rely on filling out paper forms, physical

queues, and manual data processing can slow down the response time and completion of requests (Cordella, 2019). In addition, human errors are more likely to occur in manual processes, such as data input errors, document loss, or other administrative errors, handwritten data can be difficult to read or interpret, which increases the possibility of errors that make the work long, where apparatus personnel tend to change and correct existing administrative errors, so that it takes a long time and makes services ineffective (Simmons, Cassandra, 2024).

Manual public services often require more labor, which increases operational costs, manual public services often require physical presence, which can be an obstacle for individuals who live in remote areas or have limited mobility, limited operational hours can also be a problem for those who cannot access services during standard working hours (From 2000 to 2024). The manual process is less transparent because it is difficult to track the status of requests or ensure that all procedures have been followed correctly, accountability is also an issue because it is difficult to audit and verify every step in the manual service process (Hashmi, Faiz A., 2023).

Manual systems are more difficult to update or change according to changes in policies or the needs of the community. Implementing changes often takes longer and more resources. Although manual services are still necessary in some situations, the application of digital technology can help overcome many of these weaknesses, improving the efficiency, security, and accessibility of public services (Adam, 2020).

Along with the poor manual system, with the digital technology transformation process which is now increasing rapidly, it is necessary to provide fast, precise, efficient and efficient and non-verbose services, where the current manual system can be replaced with a digital system that does not take a long time to serve and can be served quickly (Arayankalam, Jitesh, Khan, Anupriya and Krishnan, 2021). To create good and quality public services, a digital application called E-Government is now needed, where this application provides information and services that will be provided by the Government to the community. This e-Government has always had the ability to increase acceptability, where this acceptability allows the Government to use and adopt a form of service that is transformed into a digital application used through smartphones (Janairo, 2021). With this acceptability, it is hoped that it can create an initiative from E-Government to provide fast and efficient services in order to improve the quality of public services, as well as improve the Government's ability to continue to serve well (German, Josephine D., 2023).

In addition to acceptability, this E-Government requires efficient work, where work that was previously complicated when using human resources, even services tend to be long and repairs are also very long will be inefficient, so initiatives from the Central and Regional Governments are needed in striving for maximum service (Muñoz, Alcaide Laura, Bolívar, Manuel Pedro Rodríguez and Muñoz, 2023).

The city of Medan is a city that must implement fast public services, but even though the population of Medan City in 2023 is 2,494,512, where through this population the existing application services are still manual and have not implemented E-Government properly, so that the level of acceptability of this E-Government application has not been able to be adopted properly,   and has not been able to be well accepted, so that the service results are very slow and ineffective, as well as efficient, and reduce the level of public services due to the lack of initiative from the Medan City Government to

implement E-Government, so that the services carried out in the community are not so optimal.

2. MATERIAL AND METHODS

This research method is carried out using a quantitative descriptive method using the analysis of *The Structural Equation Model* (SEM) method, where according to (Sharma, Sujit Kumar, 2021) SEM analysis is a statistical method used to test and measure the relationship between variables in a conceptual model. The population in this study is 2,494,512 residents of Medan City in 2023, where the sampling method is carried out using *the accidental sampling* method, where according to the sampling method using *accidental sampling* is a sampling method where the object is taken somewhere or the object being studied (Mukhopadhyay, Sandip, Bouwman, H. and Jaiswal, 2019).

The number of samples taken can be done using the slovin formula as follows:

n = N / (1 + Ne²) = 2,494,512 / (1 + 2,494,512 x 0.1²) = 99.99 = 100 inhabitants of Medan City.

3. RESULTS AND DISCUSSION

Research Results

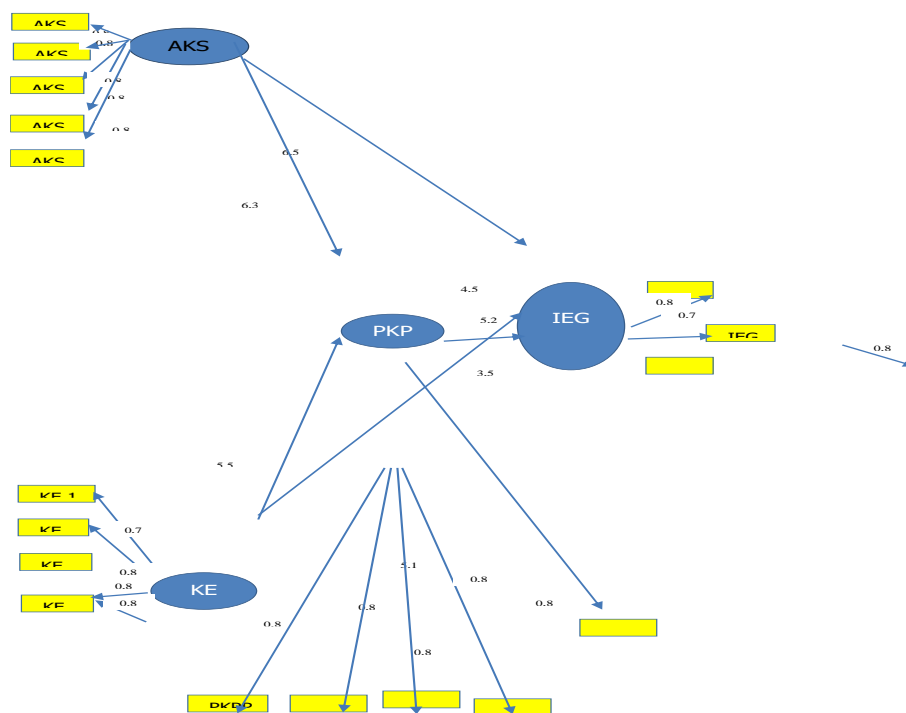The output of the SEM test can be described through the following *Bootstraping* diagram:

Figure 2: *Bootsraping Diagram*

Convergent Validity Analysis

(Basloom, Rami Salmin, Sani Mohammed, Muslim Her and Auzaire, 2022) states that the analysis *convergent validity* is a type of test that describes how well the data from

existing construct variables is. The test results *convergent validity* in this study, it is as follows:

Table 1: *Convergent Validity Test*

Variable	Indicator	Outer Loading
Acceptability (x1)	AKS 1	0,836
	AKS 2	0,867
	AKS3	0,868
	AKS 4	0,846
	AKS 5	0,855
Efficient Work (X2)	WED 1	0,842
	WED 2	0,752
	WED 3	0,862
	WED 4	0,861
Improving the Quality of Public Services (Y)	PKPP 1	0,830
	PKPP 2	0,841
	PKPP 3	0,882
	PKPP 4	0,863
	PKPP 5	0,854
E-Government Initiative (Z)	IEG 1	0,880
	IEG 2	0,761
	IEG 3	0,812

Source: Results of Data Processing with PLS 3.0, 2024

The table above states that the data from each construct variable is valid and can be used for other data analysis.

***Analysis of Average Variant Extracted* (AVE)**

(Basloom, Rami Salmin, Sani Mohammed, Muslim Her and Auzaire, 2022) states that the AVE test is one of the test results aimed at determining the validity value of the construct variable. The test results *Average Variant Extracted* (AVE) is in the following table:

Table 2: AVE Test

Variable	AVE
Acceptability (x1)	0,831
Efficient Work (X2)	0,864
Improving the Quality of Public Services (Y)	0,843
E-Government Initiative (Z)	0,862

Source: Data Processing Results with PLS 4.0, 2024

The table above describes the *Average Variant Extracted* (AVE) value greater than 0.5 which means that the construction equation model is validly distributed.

Composite Reliability Analysis

According to (Basloom, Rami Salmin, Sani Mohammed, Muslim Her and Auzaire, 2022) Testing *Composite Reliability* It is an analysis to understand whether the data is reliable or not. This can be seen in the following table:

Table 3: *Composite Reliability Test*

Variable	Composite Reliability
Acceptability (x1)	0,882
Efficient Work (X2)	0,824
Improving the Quality of Public Services (Y)	0,875
E-Government Initiative (Z)	0,851

Source: Data Processing Results with PLS 4.0, 2024

The table above states that the *composite reliability* value is greater than 0.6, where the existing data is reliably distributed and suitable for use.

Discriminant Validity *Analysis*

In confirmatory factor analysis (CFA) or structural equation modeling (SEM), the validity analysis of discrimination is how different the construct equations are from one equation to another (Basloom, Rami Salmin, Sani Mohammed, Muslim Her and Auzaire, 2022). The results of the Discriminant Validity analysis can be seen in the following Table 5:

Table 5: *Discriminant Validity Analysis*

	Improving the Quality of Public Services Moderating Effect 1	Improving the Quality of Public Services Moderating Effect 2	Improving the Quality of Public Services Moderating Effect 3	Improving the Quality of Public Services Moderating Effect 4
Acceptability	.758	1.000	.758	.626
Use of Artificial Intelligence	.664	.738	1.000	.725
Improving the Quality of Public Services	.758	.786	.838	1.000
E-Government Initiative	1.000	.745	.668	.637

Source: PLS Data Processing Results, 2023

Based on the table above, it can be seen that the existing AVE value of one already meets the *Discriminant Validity assumption*.

Path Coefficient *Testing*

As for the *path coefficient test*, it can be found through the following table:

Table 6: R Square Test

Variable	R Square
Acceptability (x1)	0,881
Efficient Work (X2)	0,842
Improving the Quality of Public Services (Y)	0,864
E-Government Initiative (Z)	0,853

Source: Data Processing Results With PLS 3.0, 2023

From the existing table, the R Square variable of improving the quality of public services can be explained by the variables of acceptability, efficient work and E-Government initiative of 86.4%, while the remaining 13.6% can be explained by other variables that are not in the study.

Hypothesis Test

The results of hypothesis testing can be seen through the following table:

Table 7: Hypothesis Test

Hypothesis	Influence	T-Statistics	P-Value	Result
H1	Acceptability to improve the quality of public services in Medan City	6,515	0,000	Accepted
H2	Efficient work towards improving the quality of public services in the city of Medan	5,142	0,001	Accepted
H3	Acceptability of E-Government initiatives in Medan City	6,314	0,001	Accepted
H4	Efficient work on E-Government initiatives in Medan City	5.513	0,000	Accepted
H5	E-Government Initiative on Medan City MSME Customer Satisfaction	5,251	0,000	Accepted
H9	Acceptability to improve the quality of public services in Medan City through the E-Government initiative as an intervening variable	4,520	0,000	Accepted
H10	Efficient work towards improving the quality of public services in Medan City through the E-Government initiative as an intervening variable	3,515	0,000	Accepted

Source: Data Processing Results With PLS 3.0, 2023

According to the table above, it can be concluded that partially the variables of acceptability and efficient work affect the improvement of the quality of public services in Medan City and affect the E-Government initiative in Medan City. Simultaneously, the variables of acceptability and efficient work have an effect on improving the quality of public services in Medan City through the variable of the E-Government initiative as an intervening variable.

4. DISCUSSION

Acceptability Affects Improving the Quality of Public Services in Medan City

The results of the study stated that acceptability has an effect on improving the quality of public services in Medan City. This is in accordance with research (Yigitcanlar, Tan, 2023) which states that the Government that adopts E-Government technology will be able to create a qualified and characterful service quality.

Efficient Work Affects Improving the Quality of Public Services in the City of Medan

The results of the study explain that efficient work has an effect on improving the quality of public services in Medan City. This is in line with research (Chen, Tao, 2021) which states that the better and more efficient the work and efficiency of the services provided, the higher the quality of services that will be provided to the community.

Acceptability Affects E-Government Initiatives in Medan City

According to the results of existing research, the acceptability variable affects the E-Geverment initiative in Medan City. This is in accordance with research (Mogues, Tewodaj, 2023) who stated that the more able to adopt E-Government, it will make the

Government able to take the initiative on the use of E-Government by jumping into providing fast and cheap services to the community

Efficient Work Affects E-Government Initiatives in Medan City

According to the results of the existing research, the variable of efficient work affects the E-Government initiative in Medan City. This is in line with research (Ratinger, Tomáš, 2021) which states that the more efficient work is created for the public services provided to the community, the more the Government's initiative in serving the community through E_Geverment.

The E-Government Initiative in Medan City Has an Effect on Improving the Quality of Public Services in Medan City

The results of the study stated that the E-Government initiative in Medan City had an effect on improving the quality of public services in Medan City. This is in accordance with research (Yuan, Yun Peng, 2023) which explained that the initiative taken by the Government to continue to provide services through E-Government will be able to create maximum quality of public services in a region.

Acceptability Affects Improving the Quality of Public Services in the City of Medan through the E-Government Initiative as an Intervening Variable

The results of the study explain that the acceptability variable has an effect on improving the quality of public services in Medan City through the E-Geverment initiative as an intervening variable. This is in accordance with research (Kshetri, Nir, Dwivedi & and Janssen, 2024) who explained that the more technology and applications are adopted, the more able it will be able to increase initiatives to directly serve, and will be able to create an improvement in the quality of qualified services.

Efficient Work Affects Improving the Quality of Public Services in the City of Medan through the E-Government Initiative as an Intervening Variable

The results of the study explain that the efficient work variable has an effect on improving the quality of public services in Medan City through the E-Government initiative as an intervening variable. This is in accordance with research (Alajmi, Mohammed, Mohammadian, Masoud and Talukder, 2023) which states that the efficient services provided will foster the Government's initiative to continue to serve and improve the quality of public services professionally.

Implementation

The better the acceptability or acceptance of E-Government technology in the community, the more efficient the public service work carried out through the Medan City Government initiative in supporting the development of E-Government in order to improve the quality of public services of the Medan City Government.

5. CONCLUSION

From the results of the study, the existing conclusion, namely partially acceptability and efficient work affect the improvement of the quality of public services in Medan City and affect the E-Government initiative in Medan City. Simultaneously, the variables of acceptability and efficient work have an effect on improving the quality of public services in Medan City through the variable of the E-Government initiative as an intervening variable.

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