Assessing the Success of the E-Government System in Terms of the Quality of Public Services: A Case Study in the Regional Government of the City of Tangerang

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Abstract. This paper aims to assess the success of the eGovernment system in the quality of public services. The data was obtained using a questionnaire distributed to residents who had accessed the Tangerang LIVE application, with the number of samples taken up to 400 people. This study found a significant influence between the quality of the information, the quality of the systems used, the quality of the services used, and the perceived net benefit. Currently, information and communication technology in Indonesia has developed rapidly, so all information and government services are fast-paced. Technological sophistication has been applied in various government areas to achieve the effectiveness and efficiency of government services to the community. The Government undertakes these efforts to achieve good governance for the community through information and communication technology. Tangerang City is one of the pioneers in the development of e-government. The Tangerang City Government launched the Tangerang LIVE application by analyzing demand scenarios and simplifying the public service model. However, the success of this e-Government program certainly needs to be examined in terms of its success rate through a systematic and accountable research approach. This study will examine the e-government program implemented in the city of Tangerang using the DeLone and McLean Information System Success Model.

Keywords: Information quality · system quality · service quality · usage · perceived net value

1 Introduction

The rapid development of technology is a phenomenon we cannot avoid, so each country must adapt to change the patterns and methods of activities carried out in all sectors. Currently, information and communication technology in Indonesia has developed rapidly, so all information and government services are fast-paced. Technological sophistication has been applied in various government areas to achieve the effectiveness and efficiency of government services to the community [7]. The Government undertakes these efforts
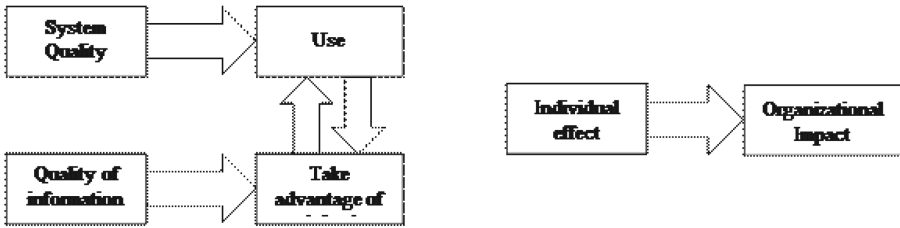
Fig. 1. Delone and McLean's (1992) models.

to achieve good governance for the community through information and communication technology [10].

The Government is obliged to provide public services to all citizens, so in fulfilling these obligations, it seeks to improve its services through technology [6, 8]. Information and communication can process data quickly, effectively, and efficiently to obtain accurate and precise information [11]. To meet these needs, the Government developed e-government by issuing the 2003 Presidential Instruction of the Republic of Indonesia No. 3 on National Policies and Strategies for the Development of E-Government.

E-government is currently one of the most critical information and communication technology developments in the field of public administration, in the delivery of more effective and efficient public services [5]. The implementation of e-government is expected to improve the performance of internal government, but the main goal is to offer better, cheaper or more public services [9]. Respond quickly to the needs of different communities to improve people's quality of life. [1].

Tangerang City is one of the pioneers in the development of e-government. The Tangerang City Government launched the Tangerang LIVE application by analyzing demand scenarios and simplifying the public service model. Users can download these Android and iOS-based applications from their respective phones. Then the public can enjoy all public services in an application.

Since the launch of the e-government program in the urban area of Tangerang, this program has received a good response from the public and appreciation from various media. However, the success of this e-Government program certainly needs to be examined in terms of its success rate through a systematic and accountable research approach. This study will examine the e-government program implemented in the city of Tangerang using the DeLone and McLean Information System Success Model.

1.1 Literature

A successful model for business informatics (Grand Theory). DeLone and McLean [2] specifically measured the SI model and concluded with six categories of SI success variables (Fig. 1).

Based on previous research, DeLone and McLean [2] propose an SI success model (see Fig. 2).
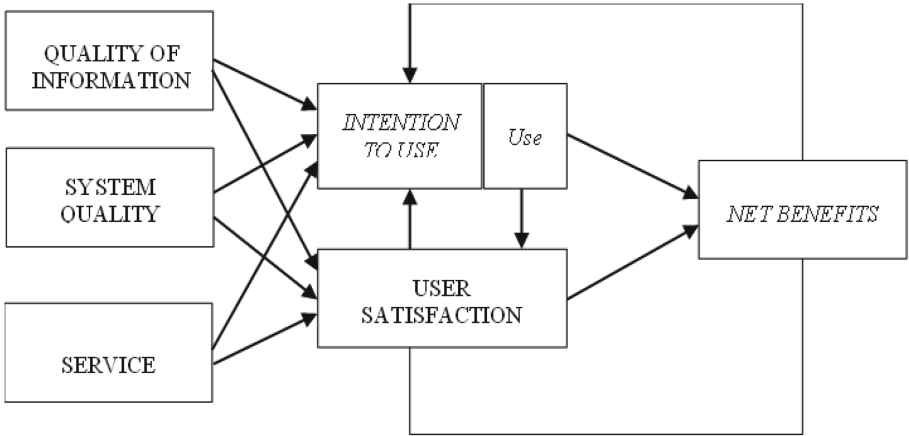
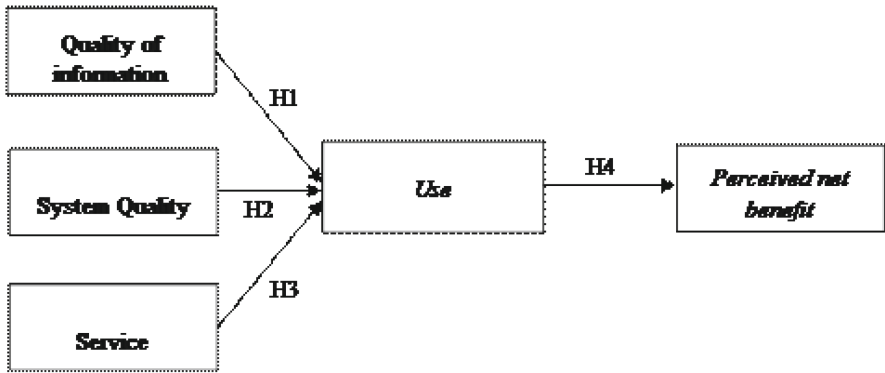**Fig. 2.** Delone and McLean's (2003) updated IS success model.

Fig. 3. Research model.

1.2 Research Models and Hypotheses

Research Model. Following DeLone and McLean (2003) can see at Fig. 3

Hypothesis

H1	:	The quality of the information will positively impact *its use* in e-government services.
H2	:	The quality of the system will have a positive impact on the *use of* e-government services.
H3	:	Service quality will have a positive impact on the *use of* e-government services.
H4	:	*The use* will positively impact *the perceived net benefits* of e-government services.

2 Methodology

2.1 Research Design

The definition of the hypothesis test based on [3] is a method of testing whether a statement resulting from a theoretical framework agrees with the variables of the test variables. This type of research describes the special relationship between bound variables and free variables or other factors that affect one variable with another. This study used a quantitative model that used questionnaires for respondents.

2.2 Samples and Population

The sample for this research is all residents of the city of Tangerang who access the Tangerang LIVE application and use one of its services. In this study, the authors took samples using the non-probability sampling method, a sample where there is not an equal chance in a population for every member selected as a sample [4].

The population in this study was 2,273,697 inhabitants of Tangerang City (Tangerang City Data Source In 2020 Figures). In this study, the Slovin formula was used for population withdrawal.

The Slovin formula is a mathematical system used to calculate the number of populations of particular objects whose properties are unknown. When using the Slovak formula, we first need to set a confidence level (95%) for the result of truth or an error tolerance significance level (0.05) that will occur. With one explanation, the confidence level is 95% of the accuracy of the results (believe that the research conducted is 95% correct), and the significance level is 0.05 (make sure that only 5% of the errors will occur). Based on Slovin's formula, this researcher will process data from up to 400 respondents who entered through a questionnaire that the researcher distributed electronically.

2.3 Data Collection

The research model was tested using data derived from a sample of users accessing the Tangerang LIVE application. Respondents are asked to fill out those distributed via link/URL. Respondents will give the answer that best describes their level of agreement.

3 Results

3.1 Structural Model

The researchers refer to the rating interval on the Likert scale (where the rating is divided into 5 points. Then the data processing is done with the SPSS windows of the application version 26 by first performing structural modeling. In order for the researcher to present 2 (two) structural models, in this study as follows:

Structural Model 1

– The result of the square of the value of R, also known as the value of the correlation coefficient. So if: $.988 \times .988 = .977$.
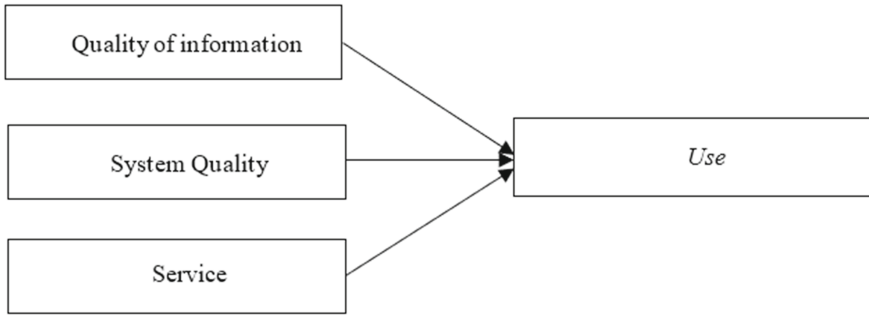
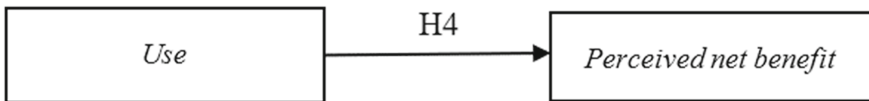**Fig. 4.** Results of testing the structural model hypothesis 1.

Fig. 5. Results of structural model hypothesis testing 2.

- The influence variables X1, X2, and X3 simultaneously on the usage variable (Y) is 0.977 or 97.7%.
- The rest of the influence can be calculated by subtracting the number 1 by the value of the R-square, then $1 - .977 = 0.02$ or can be read as 2%.

The value of the F test show a significance value of 0.000, which means that the value is $0.000 < 0.05$, so it can be concluded that the variables (X1), (X2), (X3) simultaneously affect the Use (Y) variables.

- The significance value of the variable X) is 0.000, where the value of 0.000 is < 0.05. It can be concluded that the variable X1 has a direct and significant influence on use (Y), which means that the hypothesis is accepted.
- The significance value of the variable X2 is 0.000, where the value of .000 < 0.05 can then be closed, the variable X2 has a direct and significant influence on usage (Y), which means that the hypothesis is accepted.
- The significance value of the variable X3 is .000, where the value of .000 < 0.05 concludes that the variable X) has a direct and significant influence on usage (Y), which means that the hypothesis is accepted.

Structural Model 2

- The result of the square of the value of R, also known as the value of the correlation coefficient. So if: .868 x .868 = .753.
- The result of the concurrent effect of the usage variable (Y) on the Perception Net Benefit Variable (Z) was 0.753 or 75.3%.
- The rest of the influence can be calculated by subtracting the number 1 by the value of the R-square, then $1 - .753 = 0.24$ or can be read as 24%

– The significance value of the user variable (Y) is 0.000, where the value of .000 <
0.05 can then be inferred, the usage variable (Y) has a direct and significant influence
on the perceived net benefit (Z), which means that the hypothesis is accepted.

The variables to describe each equation in the hypothesis model are shown in Fig. 4
and Fig. 5. As expected, then:

a. Information quality (X1) has a significant influence the usage variable (Y) with a
standard coefficient value of 0.540;
b. System quality (X2) has a significant influence the usage variable (Y) with a
coefficient value of 0.0to 64;
c. The quality of service (X3) significantly influences the usage variable (Y) with a
coefficient value of0.41 0.
d. In addition, the use of (Y) with a standard coefficient of 0.868 significantly impacts
the perceived net benefit (Z).

H1	;	The quality of information will positively impact the use of e-Government services.	Adopted
H2	:	The quality of the system will have a positive impact on *its use* in e-government services.	Adopted
H3	:	Service quality will have a positive impact on the *use of* e-government services.	Adopted
H4	:	*Usage* has a positive effect on perceived net benefit	Adopted

4   Conclusion

The conclusion of this study refers to the results of the research hypothesis test, namely
H1, H2, H3 & H4 obtained. The results of this hypothesis show that the application of
e-government in the city of Tangerang was practical in terms of information, system,
and service quality. The results of the study are as follows:

a. Structural model 1: Information quality (X1), system quality (X2), and service quality
(X3) have a very positive and significant effect on the use of e-government services
(Y).
b. Structural Model 2: Usage (Y) positively and significantly impacts perceived net
benefit (Z).

Structural model 1 with the significance value of the information quality variable
(X1) is 0.000, where the value of 0.000 < 0.05 can then be concluded that the information
quality variable (X1) has a direct and significant influence on use (Y), which means that
the hypothesis is accepted. Furthermore, the significance value of the system quality
variable (X2) is .000, where the value of .000 < 0.05 it can be concluded that the system

quality variable (X2) has a direct and significant effect on the use (Y), which means that the hypothesis is accepted. Similarly, the significance value of the quality of service variable (X3) is 0.000, with a value of $0.000 < 0.05$, concluding that the quality of service variable (X3) has a direct and significant influence on usage (Y), meaning that the hypothesis is accepted.

Structural model 2, with the value oh the user variable (Y), is 0.000, where the value of $0.000 < 0.05$ can then be concluded that the usage variable (Y1) has a direct and significant influence on the perceived net benefit (Z), which means that the hypothesis is accepted. From the evaluation results, it can be hypothesized that the quality of the information, the quality of the system, the quality of the service, and the use have a very positive and significant effect on the perceived net benefit.

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