Successful Digital Payment Information System Services Using Delon and McLean Models

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ABSTRACT

Online payment is becoming a practical alternative payment option in the Covid-19 pandemic because it reduces physical contact and the risk of coronavirus transmission. This research aims at analyzing the success of digital payment services using the Delone & McLean model with a Go-pay as a case study. Quantitative research methods were carried out using the Amos and SPSS applications. The research results were an analysis of the success of go-pay digital payments. This study explained that the success of digital payment application services on user satisfaction was positively influenced by the system quality, information quality, service quality. Furthermore, user satisfaction affects ruto net benefits for the users. This can be a strategic reference for Go-pay services considering that digital wallet or mobile wallet service providers in Indonesia are rigorous. The most formidable competitor for Go-pay is the mobile wallet service from Shopee pay. Go-pay services should pay attention to (1) demand-side strategies to use price differences in the same service as competitors, develop requests to build purchases during off-peak periods with bigger promos and discounts, and improve the quality of customer care services for customers. (2) Supply-side strategies, Go-pay service providers need to carry out plans to improve service improvement in the future and increase cooperation with mall and restaurant services.

Keywords: Successful Information System Service, Digital Payment, Go-Pay, Delon & McLean Model.

1. INTRODUCTION

practical alternative payment option since it reduces physical contact and the risk of transmission of the coronavirus. Some banks and digital startups offer digital payment applications through mobile banking or mobile wallets. This research aimed to analyze successful digital payment services using the Delone & McLean model.

M-banking is a bank service for customers to make payment transactions using mobile phones. M-wallet is a virtual wallet that stores payment card information on mobile phones [1].

The development of mobile wallets in Indonesia is quite significant due to the large number of internet users in Indonesia. People choose digital payment service providers according to their needs and benefits. Shopee pay, go-pay, Ovo, Dana, Link Aja are several digital payment service providers.

In 2020, the five highest-ranking mobile wallet service users were shopee Pay, Ovo, Go-pay, Dana, and Link Aja. Furthermore, preliminary research results from this study show that Shopee Pay (34.4%) and Go-Pay (34.4%) users are the highest, with OVO (19,7%), Dana (8,2%), and Link Aja (1,6%) following afterward [2].

The service features are direct payments, credits purchases, e-commerce payments, PDAM, BPJS, Electricity, Insurance, Online transportation payments, delivery of goods, and parking payments. Preliminary research shows that the highest use of mobile wallets is for online shopping, online transportation, top-up credit, and direct shopping. Digital payments provide various feature services to provide user satisfaction. User satisfaction is seen when users feel the value of the system.

The Problem of this research is how to analyze the success of digital payment services using the Delone & McLean [3] model with Go-pay as a case study

The Delone and McLean information system success model is crucial for understanding the value and efficacy of information systems management and investment, which has six variables: system quality, information quality, service quality, and Net Benefit [3]. This research aims to analyze the success of digital payment services using the Delone & McLean model with Go-pay as a case study.

1.1. Service

A service is any act or performance that one party can offer to another that is intangible and does not result in ownership. Its production may or may not be related to the physical product [4].

The following are standard practices in service [4]:

1. Strategic Concept: top companies have a clear concept for setting strategy because they understand customer needs.

2. Top-Management Commitment: top management has a full commitment to service quality.

3. High Standards: good companies set high service standards.

4. Monitoring Systems: The Company conducts performance audits of internal companies and competitors.

5. Satisfying Customer Complaints: resolving customer complaints.

6. Satisfying Both Employees and Customers: a well-managed company believes that employee relations will affect customer relations

1.2. The DeLone and McLean Model

In 2003, DeLone and McLean developed Information System Success Model and modified it to address the changing management needs of the E-Commerce era. Modifications to the success model of Information Systems become service quality variables, Information quality, Systems quality, Intention to use as an alternative to use variables, and net benefits [3].

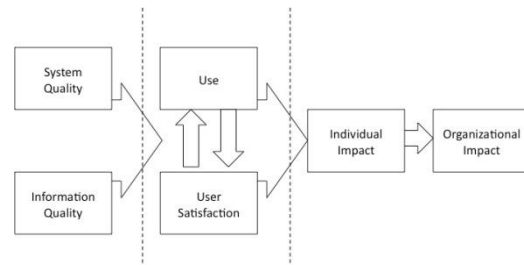The Following DeLone and McLean Model Images are shown in Figure 1.

Figure 1 Information System Success Model Adoption from The Delone and Mc Lean Model [3]

Based on the figure, there are six dimensions from DeLone & McLean Model [3]:

1. System Quality, which is used to measure the quality of Information Technology Systems.

2. Information Quality which is used to measure the quality of the Information systems.

3. Service Quality, which is the service provided by Information System developers.

4. User Satisfaction is the user's response to the use of Information systems output.

5. Net Benefit is the effect of information on behavior. The use and influence of information on organizational performance in order to increase knowledge and communication effectiveness.

In this DeLone & McLean Information Systems Success Model, system quality measures technical success. Information technology measures semantic success and usage, user satisfaction, individual impact, and organizational impact measures success effectiveness as Shannon and Weaver (1949) proposed.

2. METHODS

Quantitative research methods are carried out using the Amos and SPSS applications. Questionnaires have been distributed to as many as 177 Respondent. Based on the data from the questionnaire, the profile of respondents based on age was obtained as follows in Figure 2.
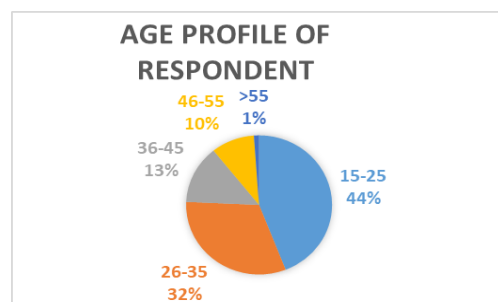

Figure 2 Age Profile of Respondent

The Research variables used DeLone and Mclean model, known Information system Success Model. This model reflects the dependence of the six measures of information system success. The following are variables used in Table 1.

Table 1. The Research Variables

Variables	Indicator	Code
System Quality	Reliability	SQ1
	Response Time	SQ2
(DeLone&McLean, 2003) [5]	Security	SQ3
	Ease of Use	SQ4
Information Quality	Accuracy	IQ1
	Relevance	IQ2
(DeLone&McLean, 2015) [3]	Completeness	IQ3
	Timeliness	IQ4
	Understandable	IQ5
Service Quality (DeLone&McLean, 2003) [5]	Responsiveness	SQL1
	Assurance	SQL2
	Empathy	SQL3
	Compensation	
User Satisfaction	Application Performance	US1
	Overall satisfaction	US2
	Invite others to use the Application	US3
	Repeat Intention to Use	US4
Net Benefit (DeLone&McLean, 2003) [5]	Improve customer knowledge	NB1
	Time-saving	NB2
	Reduce search time	NB3
	Improve service support	NB4
	Cost-saving	NB5

3. RESULTS AND DISCUSSION

The Construct validity test in this study used the Product Moment correlation technique using the SPSS Version 23 application. The significance test was carried out by comparing the calculated r-value and r table for the degree of freedom (df) = n-2, where n is the number of samples from the pre-test as many as (n=30) questionnaires.

A questionnaire is reliable if the answers from respondents to the statements on the questionnaires are stable. Reliability testing in this study uses the SPSS Version 23 application. A construct or variables is reliable if Cronbach's alpha value > 0.70 [6]. The results of the reliability test can be seen in Table 2 below.

Table 2 Reliability Statistics

Cronbach's Alpha	N of items
.943	22

The test in this study uses confirmatory factor analysis assisted by IBM SPSS AMOS Version 22 application. The model created can be seen in Figure 3 below.
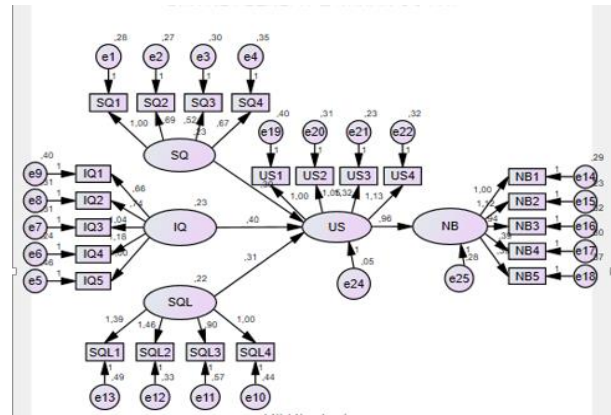

Figure 3. Research Measurement Model adoption from The Delone and Mc Lean Model

3.1. The Effect of Information Quality on User Satisfaction on the Go-Pay Application

This hypothesis aimed to analyze whether Information Quality affects User Satisfaction. The hypothesis tested was:

H0: There is no positive and significant relationship between Information Quality and User Satisfaction.

H1: There is a positive and significant relationship between Information Quality on User Satisfaction.

The P weight for the construct relationship between Information Quality and User Satisfaction was 0.026, which means it was smaller than 0.05; thus, H0 is rejected. For the estimated value, the result was 0.252, which has met the requirements of 0.05. The CR value was 2,213, which has met the predetermined requirements of > 1.96.

3.2. The Effect of System Quality on User Satisfaction on the Go-Pay Application

This hypothesis aimed to analyze whether System Quality affects User Satisfaction.

The hypothesis tested was:

H0: There is no positive and significant relationship between System Quality and User Satisfaction.

H1: There is a positive and significant relationship between System Quality and User Satisfaction

The P weight for the construct relationship between System Quality and User Satisfaction was 0.006, which means it was smaller than 0.05, so H0 is rejected. For the estimated value, the result was 0.266, which has met

the requirements of 0.05. The CR value was 2,770, which has met the predetermined requirements of > 1.96.

3.3. The Effect of Service Quality on User Satisfaction on the Go-Pay Application

This hypothesis aimed to analyze whether Service Quality affects User Satisfaction. The hypothesis tested was:

H0: There is no positive and significant relationship between Service Quality and User Satisfaction.

H1: There is a positive and significant relationship between Service Quality and User Satisfaction.

The P weight for the construct relationship between Service Quality and User Satisfaction was 0.003, which means it is smaller than 0.05, so H0 is rejected. For the estimated value, the result was 0.312, which has met the requirements of 0.05. The CR value was 3,007, which have met the predetermined requirements of > 1.96.

3.4. The Effect of User Satisfaction on Net Benefit on the Go-Pay Application

This hypothesis aimed to analyze whether User Satisfaction affects Net benefits.

The hypothesis tested was:

H0: There is no positive and significant relationship between User Satisfaction and Net Benefit.

H1: There is a positive and significant relationship between User Satisfaction and Net Benefit.

The weight P for the construct relationship between User Satisfaction and Net Benefit. was ***, which means it was smaller than 0.05, so H0 is rejected. The estimated value obtained was 1.097, which has met the requirements of 0.05. The CR value was 4,914, which has met the predetermined requirements of > 1.96. Research result hypothesis model show by Figure 4.
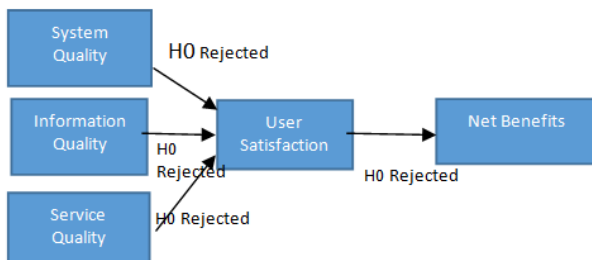

Figure 4. Research Result Hypothesis Model

Based on the measurement results, it was known that User Satisfaction for Go-pay users was significantly affected by System Quality, Information Quality, and Service Quality variables. Based on the measurement

results, it was found that the variable with the most significant total influence on the User Satisfaction variable was the Service Quality, with a score of 0.392. This means that the quality of Go-pay services affected the satisfaction of Go-pay service users.

Go-pay user satisfaction was achieved because the quality of Go-pay services can meet user expectations as it is mentioned by [4] that service quality management is carried out to provide customer service expectations. Customer expectations are shaped by experience. Promotion and advertising. This study also measures user satisfaction in influencing the net benefits received by customers. Based on the measurement results, it was found that the variable with the most significant total influence on the Net Benefits variable was the User Satisfaction variable of 0.596. The benefits gained by service users from Go-pay are increasing customer knowledge, saving time, reducing searches, improving service support, and saving costs.

The research result related to user satisfaction and net benefits of go-pay services showed the success of the services provided by Go-pay to users. This could be a strategic reference for Go-pay services considering that Indonesia's digital wallet or mobile wallet service providers are very strict. The most formidable competitor for Go-pay is the mobile wallet service from Shopee pay. Go-pay services should pay attention to (1) demand-side strategies to use price differences in the same service as competitors, develop requests to build purchases during off-peak periods with bigger promos and discounts, and improve the quality of customer care services for customers. (2) Supply-side strategies, Go-pay service providers carry out plans to improve service improvement in the future and increase cooperation with mall and restaurant.

4. CONCLUSIONS

Based on the measurement results, it was found that User Satisfaction for Go-pay users was significantly affected by System Quality, Information Quality, and Service Quality variables.

Furthermore, it was known that the variable that had the most significant total influence on the user satisfaction variable was the Service Quality variable of 0.392. This means that the quality of Go-pay services will affect the satisfaction of Go-pay service users.

ACKNOWLEDGMENTS

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