ANALYSIS OF THE VARIABLES DRIVING THE E-PAYMENT INTENSITY AMONG COLLEGE STUDENTS

Wisnu Yuwono [1)], Nurtia Putri Sari [2)]

[1,2)] Universitas Internasional Batam, Batam, Indonesia

Corresponding author: wisnu@uib.ac.id

Abstract

This study aims to analyze the influence of the variable performance expectancy, benefits, trust, self-efficacy, ease of use, and security on electronic-based non-cash payment (e-payments) among students in Batam City, Riau Islands Province. The growth of e-payments in Indonesia has shown a high rate, but it is still lagging behind several neighboring countries such as Vietnam and Thailand. Several studies on this subject have shown mixed results. Using primary data through the Smart PLS version 3.0 program tools, this study concluded that performance expectancy, benefits, self-efficacy showed a significant positive relationship with the e-payment intention. In contrast, trust, ease of use, and security showed insignificantly. Based on these results, it is recommended that e-payment providers always pay attention to the needs of their users.

Keywords : Performance Expectancy, Benefits, Trust, Self-Efficacy, Ease of Use, Security, E-Payment Intention

Introduction

Fintech (financial technology) is one of the breakthroughs in financial sector reform that makes it easier for people to make payment transactions and reduce the use of cash (Tazkiyyaturrohmah, 2018). These payment transactions are electronic-based, such as mobile payments, e-money, credit cards, and various financial applications on smartphones today. The use of e-payment applications in Indonesia is increasing every year, wherein in 2018 there were 167,205,578 instruments and increased to 292,299,320 instruments (Bank Indonesia, 2020). However, based on data for the Asian region, it is concluded that the growth of mobile payments in Indonesia is still below several countries such as Vietnam, Hong Kong, Thailand, and China (Setiaji, 2019).

Several previous studies have explained the importance of increasing cashless transactions and explained the factors that influence it, such as benefits, ease of use and security (Ramadhan et al., 2016), performance expectancy, effort expectancy, social influence, and facilitating conditions (Larasati et al., 2018), ease of use, perceived quality, self-efficacy, trust, benefit, security (Nadler et al., 2019), benefits, trust, self-efficacy, ease of use and security (Teoh et al., 2013), as well as several other studies. Some of the studies above turned out to produce different conclusions so that in this study, the researchers were interested in developing a model that was different from the research that researchers had encountered, namely using the variable performance expectancy, benefits, trust, self-efficacy, ease of use and security which would be intended for students in Batam City, Riau Islands Province, considering that students are currently included in the category of millennials with relatively high financial literacy tendencies (Yuwono & Juniani, 2020). Based on the explanation in the paragraph above, the objectives of this study are:

1. Analyze the effect of performance expectancy on the e-payment intention;
2. Analyze the effect of benefits on the e-payment intention;
3. Analyze the effect of trust on the e-payment intention;
4. Analyze the effect of self-efficacy on the e-payment intention;
5. Analyze the effect of ease of use on the e-payment intention;
6. Analyze the effect of security on the e-payment intention.

Consumer interest in using electronic payments, one of which is determined by the performance expectancy variable. This variable describes the level of perception and expectations of a consumer on the system's performance, which will affect the intensity of using the system. A high perceived value will also provide a high tendency for consumers to use, speed, and ease of access (Sancaka & Subagio, 2014). Dzulhaida & Giri (2017) concluded that performance expectancy would drive consumer intensity when consumers view that when reasonable electronic payment performance expectations can increase productivity, ease, and comfort and increase transaction speed, the higher the intensity of electronic payment system. This is also following the research of Junadi & Sfenrianto (2015), Sair & Danish (2018), and; Salloum, Al-Emran, Khalaf, Habes, & Shaalan (2019)

H1. Performance expectancy has a positive relationship with e-payment intention.

Benefits are the benefits felt by consumers when using an electronic payment system (Salloum et al., 2019). Benefits include all experiences that benefit both efficiency, effectiveness, and other benefits from using the electronic payment system, such as convenience, accuracy, and easiness. Benefits will have a significant positive effect on consumer intensity in electronic payments. The use of electronic payments

makes it easier for consumers to financing activities and time efficiency (Alyabes & Alsalloum, 2018; Miliani et al., 2013) when compared with using cash (Anjelina, 2018)

H2. Benefits have a positive relationship with e-payment intention.

Trust is the main basis for consumers in improving electronic payment services because this variable shapes consumers' intention to use electronic payment services. Trust is the most significant variable influencing consumer interest in using e-payment services (Dzulhaida & Giri, 2017). Trust also means minimizing one's risk using an electronic payment service system (Qatawneh et al., 2015). Trust shows the level of security and privacy protection to affect the intensity of the use of a payment system used by consumers (Teoh et al., 2013).

H3. trust has a positive relationship with e-payment intention.

Self-efficacy describes a person's belief in mastery of specific technologies. This variable has four essential criteria, namely the experience of oneself, friends, relatives, and others which significantly influence the intensity of a person using an electronic payment system, especially if consumers find it easy and successful in implementing the electronic payment system (Teoh et al., 2013). The mastery of technology is an essential factor because if someone has high self-efficacy about the technology used, they will be more likely to encourage the intensity of the use of electronic payments (Nadler et al., 2019), so this variable refers to the ability of users to implement electronic payments (Alyabes & Alsalloum, 2018).

H4. Self-efficacy has a positive relationship with e-payment intention.

Ease of use will always keep abreast of developments in innovation and technology. In the electronic payment systems, this variable significantly increases consumer interest in the use of electronic payments through the content, design, and ease of use of electronic payments (Alyabes & Alsalloum, 2018; Teoh et al., 2013). Ease of use also implies a level of trust, and if consumers believe the operational system is easy, it will increase interest in using electronic payments (Ramadhan et al., 2016).

H5. Ease of use has a positive relationship with e-payment intention.

Inadequate security is a factor that will hinder consumers from making electronic payment transactions and vice versa. Security is divided into three things: the security system, transaction systems, and legal aspects increasing the intensity of using electronic payment systems (Junadi & Sfenrianto, 2015; Qatawneh et al., 2015). Consumers prefer a high level of security, and this will significantly affect positively and significantly the intensity of consumers in electronic transactions (Oney et al., 2017)

H6. Security has a positive relationship with e-payment intention.

Research Method

This study is a quantitative and causal-comparative study to examine the causal relationship between independent variables, in this case, performance expectancy, benefits, trust, self-efficacy, ease of use, and security on the dependent variable, namely the e-payment intention. The sample in this study were active students from the four largest campuses in Batam City. They still use non-cash payment instruments such as credit/debit cards, e-money, and financial applications such as Go-Pay, Ovo, Dana, etc. Determination of the number of samples using a ratio of 1:10, because there are 23 statement items, a minimum of 230 questionnaires are distributed (Black & Anderson, 2017). This study using 255 respondents. The questionnaire statement (look in the appendix) refers to research from Junadi & Sfenrianto (2015) and Ming-Yen et al. (2014) with a Likert scale with a rating of 1-5 (strongly disagree-strongly agree). The equation model in this study uses Structural Equation Modelling (SEM) with SmartPLS version 3.0 as a tool. The things that will be analyzed are descriptive analysis, validity test, reliability test, inner model, t-test, and determination coefficient test (adjusted R2)

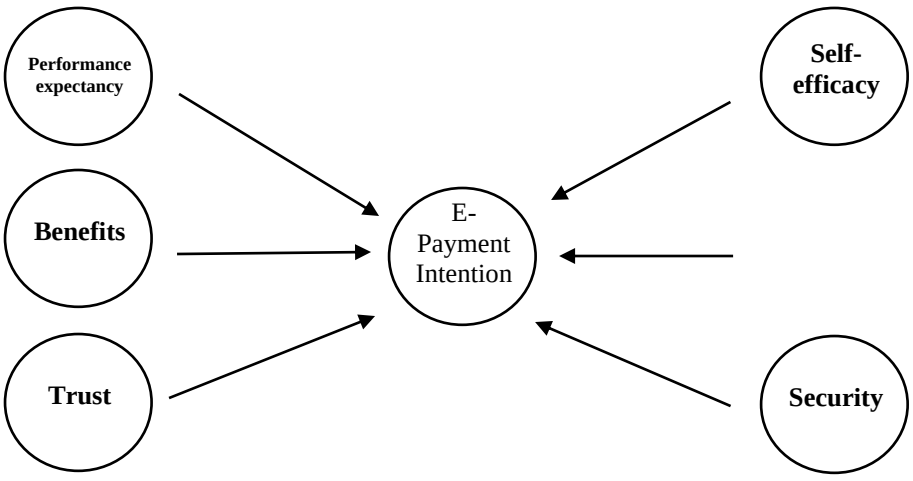

Figure 1. Research Model

Result and Discussion

Descriptive analysis of respondents is presented in the following table:

Table 1. Respondent Demographics

Category	**Total**	**Percentage**
Sex	**Total**	**Percentage**
Male	102	40,0
Female	153	60,0
Origin College		
Universitas International Batam	98	38,4
Politeknik Negeri Batam	55	21,6
Universitas Putra Batam	45	17,6
Universitas Riau Kepulauan	57	22,4
Income per month		
< Rp 3.000.000	50	19,6
Rp 3.000.000 – Rp 5.000.000	89	34,9
Rp 5.000.000 – Rp 7.000.000	17	6,7
Rp 7.000.000 – Rp 10.000.000	1	0,4
> Rp 10.000.000	1	0,4
Unemployment	97	38,0

Source: Primary data processed, 2020

The validity test in this study uses the outer loading test, where the outer loading value is said to be valid if it is more than 7.0, and if it is below that, it will be removed from the model (Ghozali & Latan, 2015). The table below contains the results of the validity test, where there are three statements. Regarding performance expectancy, five statements related to benefits, four statements related to trust, three statements related to self-efficacy, two statements related to ease of use, two statements related to security, and four statements related to the use of a valid e-payment system and forwarded for the next test

Table 2. Validity Test

Indicator	Benefits	Customer Intention	Ease of Use	Performance Expectancy	Security	Self-Efficacy	Trust
BNF1	0.759						
BNF3	0.792						
BNF5	0.819						
CIN1		0.713					
CIN2		0.778					
CIN3		0.762					
CIN4		0.763					
EOU1			0.867				
EOU2			0.850				
PEX1				0.768			
PEX2				0.803			
PEX3				0.759			
SCR1					0.896		
SCR2					0.824		
SEF1						0.821	
SEF2						0.806	
SEF3						0.757	
TRS1							0.799
TRS2							0.819
TRS3							0.822
TRS4							0.736

Source: Primary data processed, 2020

Reliability Test

The reliability test results show that the variables meet the reliability requirements, which can be seen from the Composite Reliability and Cronbach's Alpha values above 6.0 (Ghozali & Latan, 2015) as in the table below.

Table 3. Reliability Test Results

Variable	Composite Reliability	Cronbach's Alpha	Result
Performance Expectancy	0,820	0,671	Reliable
Benefits	0,833	0,702	Reliable
Trust	0,873	0,806	Reliable
Self Efficacy	0,837	0,719	Reliable
Ease of Use	0,848	0,642	Reliable
Security	0,851	0,656	Reliable
E-Payment Intention	0,841	0,747	Reliable

Source: Primary data processed, 2020

T-Test

Table 4. T-Test

Hypothesis	T Statistics	P Value	Result
H_1. Performance expectancy has a positive relationship with e-payment intention.	2,280	0,023	Accepted
H_2. Benefits have a positive relationship with e-payment intention.	2,259	0,024	Accepted
H_3. trust has a positive relationship with e-payment intention.	1,182	0,238	Rejected
H_4. Self-efficacy has a positive relationship with e-payment intention.	4,849	0,000	Accepted
H_5. Ease of use has a positive relationship with e-payment intention.	1,224	0,222	Rejected
H6. Security has a positive relationship with e-payment intention.	1,339	0,181	Rejected

Source: Primary data processed, 2020

Hypothesis testing results:

H_1. Performance expectancy has a positive relationship with e-payment intention.

The effect of performance expectancy on the e-payment intention shows a significant positive relationship, which means that any increase in the variable use of performance expectancy will significantly increase the use of e-payment because users expect that the current e-payment system will perform well, making it easier and accelerate in supporting their activities. These results align with some of the research results (Dzulhaida & Giri, 2017; Junadi & Sfenrianto, 2015; Sair & Danish, 2018; Salloum et al., 2019; Sancaka & Subagio, 2014).

H_2. Benefits have a positive relationship with e-payment intention.

The effect of benefits on the e-payment intention shows a significant positive relationship. Each increase in the benefit variable will increase the increase in the use of e-payments. By currently using electronic-based non-cash payment instruments, it turns out that respondents have a good experience in terms of efficiency, convenience, accuracy, and easiness. This will encourage respondents to make further transactions with this non-cash payment instrument. This is in line with the results of research from Alyabes & Alsalloum (2018), Anjelina (2018), Miliani et al. (2013), and Salloum et al. (2019).

H_3. trust has a positive relationship with e-payment intention.

The effect of trust on the e-payment intention shows no significant relationship. Even though this trust variable is a variable that shapes the user's intention to transact (Dzulhaida & Giri, 2017). This condition occurs because student respondents have high confidence that providers will maintain and control the e-payment system properly. Trust has no effect on electronic payment systems because of consumer confidence that providers have implemented security processes to avoid fraud (Alyabes & Alsalloum, 2018). Also, trust is not a determining variable in the use of electronic payments (Anjelina, 2018).

H_4. Self-efficacy has a positive relationship with e-payment intention.

The effect of self-efficacy on the e-payment intention shows a significant positive relationship. Students have a good mastery of electronic payment system technology because they are in a technology-literate millennial era. Good mastery of technology will further encourage its users to make electronic payments, especially now that providers provide various interesting content and application features. The results of this study support research from Alyabes & Alsalloum (2018), Nadler et al. (2019), and Teoh et al. (2013).

H_5. Ease of use has a positive relationship with the e-payment intention.

The ease of use variable does not have a significant effect on the e-payment intention. This is because users are very familiar with using an e-payment payment system; besides that, electronic payment system providers have provided steps in operating the existing system and because they are used to it. The standards are almost

the same, and this does not significantly affect users in using the tool. Electronic-based non-cash payments. This supports research from Anjelina (2018)

H_6. Security has a positive relationship with e-payment intention.

The security variable has no significant effect on the e-payment intention. Because student respondents, on average, have confidence in providers related to security, and on the one hand, the bank or provider always routinely declares security, gives warnings to users, and updates the application so that users feel that these things are normal/standard, which is the responsibility of the provider. These results support the research of Alyabes & Alsalloum (2018), and Teoh et al. (2013)

Result of Determination Coefficient Test (Adjusted R^2)

The coefficient of determination (Adjusted R^2) test results shows a value of 0.420, meaning that 42.0% of the variation in the independent variable can explain the dependent variable. Meanwhile, 58.% is explained by variations in other variables outside of modeling.

Table 5. Result of Determination Coefficient Test (Adjusted R^2)

Variable	R^2 adjusted
e-payment intention	0.420

Source: Primary data processed, 2020

Conclusion

This study indicates that the variable performance expectancy, benefits, and self-efficacy show a significant relationship to the e-payment intention in Batam City. In contrast, trust, ease of use, and security do not show a significant effect. The managerial implication of this research is that providers of non-cash payment applications, such as banks and non-banks, should always pay attention to the needs of their users, namely, speed, convenience, security, and cheap financing until it is free, given the high level of competition among current electronic payment system providers, resulting in users switching to other applications. One way is to provide cashback or in other forms. This study is more focused on the behavioral aspects; for the following research, it is also recommended to pay attention to financial aspects such as connection fees, charging service/administration fees in each transaction, and others.

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