

Factors affecting recommendation to use of sharia e-wallet in Indonesia and Malaysia

Eka Rani Fitrianiingsih, Bayu Arie Fianto

Department of Islamic Economic, Faculty of Economics and Business,
Universitas Airlangga, Surabaya, Indonesia

Article Info

Article History

Received : 2022-05-14

Revised : 2022-07-09

Accepted : 2022-07-24

Published : 2022-08-09

Keywords:

Islamic fintech, sharia e-wallet, recommendation to use, theory acceptance model, economic growth

DOI:

<https://doi.org/10.20885/AJIM.vol4.iss1.art1>

JEL Classification:

E50, M15, M31

Corresponding author:

Bayu Arie Fianto

bayu.fianto@feb.unair.ac.id

Author's email:

[eka.rani.fitrianiingsih-](mailto:eka.rani.fitrianiingsih-2018@feb.unair.ac.id)

2018@feb.unair.ac.id

Paper type:

Research paper



Center for Islamic Economics Studies
and Development, Faculty of Business
and Economics, Universitas Islam
Indonesia

Abstract

Purpose – This study aims to analyze the effect of variable ease of use, usefulness, perceived risk, and social influence on a recommendation to use sharia e-wallet in Indonesia and Malaysia.

Methodology – This study uses a quantitative method. This study uses primary data by conducting a survey through an online questionnaire of 200 respondents with the criteria sharia e-wallet users and living in Indonesia or Malaysia. This research uses the SEM-PLS analysis method.

Findings – The results of this study found that variable ease of use, usefulness, and social influence significantly and positively affect the recommendation to use the sharia e-wallet. In contrast, the perceived risk has a negative effect on the recommendation to use a sharia e-wallet. Based on the Multi-Group Analysis (MGA) test, there is no significant difference between Indonesian and Malaysian users for all variables.

Implications – The results of this study can be used as a reference by the Islamic fintech industry to develop a sharia e-wallet both in terms of product, quality, and others to be better in the future.

Originality – This study adds to the literature, especially on the factors influencing recommendation to use in sharia e-wallet. There are limited studies on this topic, especially for sharia e-wallets in Indonesia and Malaysia. The uniqueness of this research is that the primary data used includes respondents in various regions in Indonesia and Malaysia.

Cite this article:

Fitrianiingsih, E. R., & Fianto, B. A. (2022). Factors affecting recommendation to use of sharia e-wallet in Indonesia and Malaysia. *Asian Journal of Islamic Management (AJIM)*, 4(1), 1-14. <https://doi.org/10.20885/AJIM.vol4.iss1.art1>

Introduction

The financial technology (fintech) industry has grown rapidly in recent years. Fintech is a simple, safe, and high-quality online financial service. (Kang 2018; Daragmeh, 2021). Fintech is a financial technology innovation that offers new products, applications, and business models that can facilitate the provision of financial services and support the growth of the financial industry (Thakor, 2020; Daragmeh, 2021). According to the Global Islamic Fintech Report by DinarStandard (2021), the growth of the volume sharia fintech transactions in the OIC (Organization of Islamic Cooperation) countries grew around 21% a year during the 2020-2025 period, compared to conventional fintech growth which only grew 15% a year during 2020-2025, then this shows that Islamic fintech is starting to be widely accepted in various countries,

especially the OIC countries. The Organization of Islamic Cooperation is an intergovernmental organization with 57 member states with permanent representation in the United Nations and the European Union. Based on data in the Global Islamic Fintech Report 2021, Malaysia leads the OIC country with the first rank in the development of Islamic fintech from 2020-2025. Therefore, this study uses the objects of Indonesia and Malaysia. (DinarStandard, 2021)

Internationally, the fintech industry is divided into several sectors, including 1) payment 2) e-wallet 3) lending, 4) crowdfunding and 5) other fintech (insurtech, wealthtech, remitttech, blockchain, regtech, and proptech) (Fintech News Malaysia, 2021). An E-wallet is a technology that can be installed on electronic devices and allows customers to save money and make online transactions directly from electronic wallets (Madan & Yadav, 2016; Singh, 2021). The functionality of an e-wallet includes online purchases and bill payments so its functionality is not limited to bank account transfers. E-wallet users can also monitor or track their transactions (Chandra, et al., 2017; Ridaryanto, 2020).

Global cashless payments are increasing from year to year, in a report shows that 45% of consumers frequently use an e-wallet to make payments, up 23% from 2020. Global cashless transactions are also predicted to increase by almost 200 billion transactions in 2025 from 121.5 billion transactions in 2020. The report also finds that by 2025 instant payments and e-wallet payments will account for more than 25% of global non-cash, up from 14.5% in 2020. (World Payments Report, 2021)

E-wallet in Indonesia in recent years has significant development. Sourced from a summary of information on the Payment and Fintech Gateway Xendit by Isnurhadi, R. (2021) which found that e-wallets experienced significant growth from year to year, especially during the pandemic. The total growth has reached 300% from the beginning of 2021. The number of e-wallet users has also increased by 2.4 times compared to the same period in the previous year. Not only that, Xendit (2021) found that the most widely used payment instruments in Indonesia are e-wallets (>40%), Virtual Accounts (>40%), Credit Cards (>5%), and QR Codes (>5 %). (Isnurhadi, 2021).

On the other hand, the development of e-wallets also continues to progress in Malaysia. Based on The MasterCard Impact Study by Tan, J. (2020) e-wallet was developed and become a trending payment method in Malaysia. The country leads Southeast Asia with a 40% increase in e-wallet usage. During the Covid-19 pandemic, the adoption of e-wallets is growing rapidly in Malaysia as people are concerned about the transmission of the virus through banknotes and coins.

After the development of e-wallets was quite rapid, in Indonesia one of the e-wallets began to issue a sharia e-wallet, namely the Sharia LinkAja Service, which was established in April 2020. The difference between a sharia e-wallet and an ordinary e-wallet is that all activities and the concept of a sharia e-wallet product are by sharia principles, based on the DSN MUI Fatwa No. 116/DSN-MUI/IX/2017 the contract used in sharia electronic money is a wadiah contract between the e-wallet institution and the owner of the funds. In addition, the collecting bank cooperates with Islamic banks, and products and procedures for transactions are also by sharia principles, which do not contain elements of usury, gharar, maysir, etc. Sharia e-wallet in Indonesia also prioritizes three main categories of service products, namely the ZISWAF Ecosystem (Zakat, Infak, Alms, Waqf), mosque-based economic empowerment, and digitization of Islamic boarding schools and MSMEs (LinkAja, 2020). There is still one available sharia e-wallet in Indonesia. However, the number of users who activate the sharia e-wallet is still very small compared to those who do not activate the sharia e-wallet, from 79 million LinkAja e-wallet users, only 5.8 million (7%) users have activated the sharia e-wallet.

Meanwhile, in Malaysia, various types of e-wallets comply with sharia rules. As stated in Zulkefli (2020) that some of the e-wallets in Malaysia studied including FavePay, MAE Maybank, and Touch n Go have complied with sharia rules but have not issued sharia compliance statements, while sharia e-wallets in Malaysia have launched sharia-compliant service, namely the Zapp application that launches the Islamic Zapp service. In addition, there is Touch n Go, which launches the Go+ feature which is sharia-compliant. So the existence of sharia e-wallets is still limited in Malaysia.

Knowing that there is a considerable comparison between e-wallet users and sharia e-wallets in Indonesia and Malaysia, it raises questions about what factors influence users to recommend sharia e-wallets to others. To answer this question, the research study proposes several important factors that can influence the Recommendation to Use sharia e-wallet. Various technology adoption models, TAM (Technology Acceptance Model) and UTAUT (Unified Theory of Acceptance and Use of Technology) have variables Ease of Use, Usefulness, Perceived Risk, and Social Influence which are several important factors that have a significant influence on intention users and ultimately recommendation to use the technology (Dwivedi et al., 2017; Singh et al., 2020).

Previous studies conducted by Singh et al. (2020) used the theory of UTAUT and TAM to examine the factors that influence the recommendation to use e-wallets in India. However, this research has different from previous research that uses TAM and UTAUT theories, this research aims to know the factors that influence users to the recommendation to use the sharia e-wallet in Indonesia and Malaysia as the object of research. This research is the first research on consumer behavior toward sharia e-wallets that uses two countries' objects on the adoption of sharia e-wallets.

Literature Review

Sharia e-wallet

An electronic wallet, also known as an "e-wallet" is an electronic device or online service that allows a person to make electronic transactions, which includes buying goods online using electronic devices (Zulkefli, 2020). Moreover, the ability of e-wallets to facilitate financial transfers anytime and anywhere not only gives this technology a potential relative advantage over traditional payment methods but may also influence consumers to adopt this technology as the user's preferred payment method (Matemba & Li, 2018; Mombeuil, 2020). Meanwhile, the sharia e-wallet is a fairly new thing in the fintech world, so it still does not have a standard definition that is agreed upon by all parties, but basically, sharia e-wallet law departs from the basic principles of fiqh which state that the law of origin of activity or tool in the context of human relations with others (muamalah) is permissible as long as it does not contradict and departs from the rules and propositions of Islamic law (sharia) (Nuha et al., 2020; Andriyaningtyas et al., 2022).

Theory

In 1989, Davis pioneered the Technology Acceptance Model (TAM) which is constantly being revised to suit the demands of society (Matemba & Li, 2018). In its simplest form, TAM states that Usefulness and Ease of Use are important behavioral factors that drag consumers to adopt the technology. For several surveys, TAM proved to be valid, reliable, and relatively more accurate to predict human intention to use technology (Matemba & Li, 2018). TAM is one of the most commonly used models in research on technology adoption. TAM is also considered an appropriate model for evaluating consumer behavior in e-commerce payments and the Fintech sector in general (Daragmeh et al., 2021). The UTAUT model uses four main constructs, namely performance expectancy, effort expectancy, facilitation conditions, and social influence (Singh et al., 2020). The UTAUT model examines innovative technologies such as m-wallet and can better describe non-linear relationships in a sample of technology users (Slade et al., 2015a; Singh et al., 2021). The UTAUT model is the most effective. The findings reveal that innovation has the highest effect on intentions to adopt mobile payments in India. Perceived risk, a general extension of UTAUT also used, and measures perceived risk as a construct that has a significant negative effect on intentions to use or recommend technology (Thakur and Srivastava, 2014, Singh et al., 2020).

Hypotheses

Effect of ease of use on the recommendation to use sharia e-wallet

Ease of Use refers to avoiding the system from complexity and making it more user-friendly (Olumide 2016; Daragmeh et al., 2020). More specifically, EOU is described as the level of

comfort and trust that users feel when using fintech services (Hu et al., 2019). Furthermore, there is a significant positive relationship between EOU and intention to use and recommendation to use, including mobile fintech payment services (Shankar & Datta, 2018; Daragmeh et al., 2020). Ease of use is used by several studies on technology adoption and determines the significance of the effect on user intentions (Oliveira et al., 2016). Various studies in India have used ease of use and confirmed the positive relationship between these variables on user behavioral intentions (Abhishek & Hemchand, 2016; Singh et al., 2020). Various studies on mobile payment systems found that ease of use is the most influential factor in determining consumer behavior. The greater the behavioral intention of the user to use the sharia e-wallet, the greater the user satisfaction and the more likely the user to recommend the sharia e-wallet to others (Liebana, 2014; Singh et al., 2020).

H1: Ease of use has a significant positive effect on the Recommendation to Use sharia e-wallet

Effect of usefulness on the recommendation to use sharia e-wallet

Oentario et al. (2017) found that the definition of usefulness is the extent to which individuals believe that using technology will improve their job performance. Consumers will adopt technology if they feel its usefulness. More importantly, the features of the technology that consumers perceive as more attractive and useful to other similar technologies. Usefulness was used by several technology adoption studies and determined its significant effect on user intentions (Oliveira et al., 2016). Various studies in India used Usefulness and confirmed the positive relationship between these variables on user behavioral intentions (Abhishek & Hemchand, 2016; Singh et al., 2020). Various studies on mobile payment systems have found that usefulness is a factor that has an important influence in determining consumer behavior (Liebana, 2014; Singh et al., 2020). The greater the behavioral intention of the user to use the sharia e-wallet, the greater the user satisfaction and the more likely the user to recommend the sharia e-wallet to others (Singh et al., 2020).

H2: Usefulness has a significant positive effect on the Recommendation to Use the sharia e-wallet

Effect of perceived risk on the recommendation to use sharia e-wallet

Perceived risk can be defined as a consumer's prediction of the potential risk or uncertainty regarding the use of technology (Kim et al., 2007; Oentario et al., 2017). Variable Perceived Risk influences consumer behavior in deciding to purchase or use. Several researchers have discussed that perceived risk has a significant effect on users' intentions to use and recommend technology (Hu et al., 2019; Daragmeh et al., 2021). In terms of digital payments, most studies find that "privacy and security" are the main risk issues influencing consumers' intention to use and recommend mobile payments (Sinha et al., 2019; Daragmeh et al., 2021). Verkijika (2020) found that perceived risk has the highest influence on consumer perceptions of adopting new technologies. Previous studies have proven that perceived risk is significantly related to intention and perceived satisfaction in the context of mobile payment adoption. The perceived risk reduces user desire and adoption of technology-based services due to greater security threats from wireless applications such as m-wallet (Schierz et al., 2010; Singh et al., 2020). However, in the study studied by Singh et al. (2020) stated that perceived risk was not found to be significant in predicting the recommendation to use cellular payment services.

H3: Perceived Risk has a significant positive effect on the Recommendation to Use sharia e-wallet decision

Effect of social influence on the recommendation to use sharia e-wallet

Social Influence is the extent to which consumers feel that other people who are considered important (such as family and friends) influence someone to be willing to use technology. It illustrates the influence of environmental factors such as the opinions of friends, relatives, and superiors of users on consumer behavior when they can positively encourage users to adopt mobile

payment services. (Venkatesh et al., 2003; Oliveira et al., 2016). Various studies in India used Social Influence and confirmed the positive relationship between these variables on user behavioral intentions (Abhishek & Hemchand, 2016; Singh et al., 2020). Social influence was used in research to see the extent of its influence on perceived satisfaction and recommendations for using mobile wallet services (De Albuquerque et al., 2016; Singh et al., 2020). Social influence on consumer satisfaction will create the intention to use the service sustainably and encourage recommendations to family and friends on various social platforms (Kizgin et al., 2018; Singh et al., 2020).

H4: Social Influence has a significant positive effect on the Recommendation to Use sharia e-wallet decision

Research Methods

This study uses a quantitative research approach. Quantitative research is research that uses data in the form of numerical values that are quantitative to predict the state of the population, or future trends. Quantitative research allows for the generalization of results calculated by statistical analysis. Based on the general purpose of this type of research, namely causal research, is research that aims to determine cause-and-effect relationships based on observations of the effects that occur by looking for factors that cause based on data collected and processed. This study uses the independent variables ease of use and usefulness which are the main constructs in the TAM model and perceived risk and social influence variables which are the main constructs and derivative constructs in the UTAUT model.

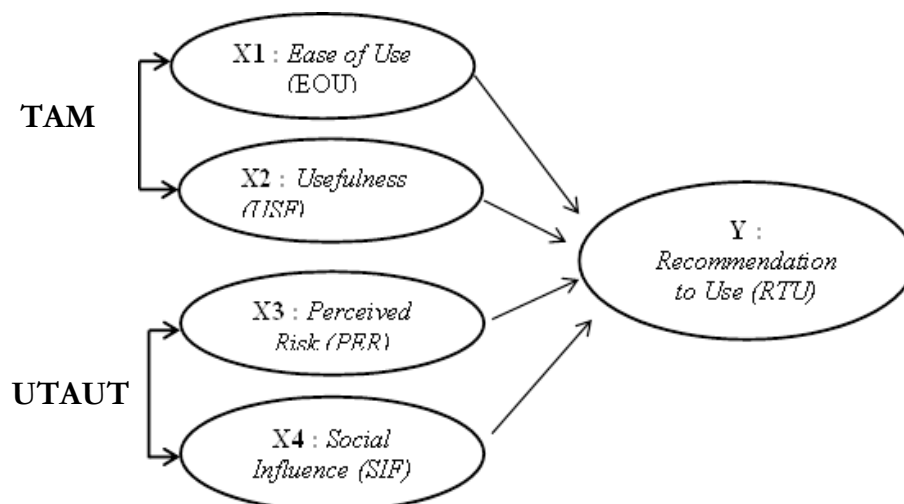


Figure 1. Conceptual Model

In this study, the types of data used are primary data and secondary data. The primary data source used in this study came from surveys by distributed questionnaires that could be filled out online by sharia e-wallet users in Indonesia and Malaysia. While the secondary data comes from various works of literature, such as scientific journals, books, and scientific articles. The population area in this study is sharia e-wallet users in Indonesia and Malaysia. The sample is part of the number and characteristics of a population. The sampling method used in this study used Non-Probability Sampling. Non-Probability Sampling is a sampling technique that does not provide equal opportunities for all members of the population to be sampled. This type of sampling is purposive sampling, namely the technique of determining the sample with certain criteria. The criteria for selecting the sample in this study are 1) sharia e-wallet users and 2) domiciled in Indonesia and/or Malaysia. The sample size for this survey is 200 respondents with a sample distribution of 100 Indonesian respondents and 100 Malaysian respondents. The number of samples is based on the minimum number of samples for analytical techniques using SEM-PLS. According to Hair et al. (1998), the minimum number of samples is the number of indicators multiplied by 5 and the maximum number of samples is the number of indicators

multiplied by 10, the sample in this study is appropriate.

The analytical technique used in this study is Structural Equation Modeling (SEM) to empirically test the proposed research model. SEM is a very useful statistical procedure in surveys that use cross-sectional data, combining multiple regression and factor analysis to evaluate measurement instruments and test hypotheses (Bagozzi & Yi, 2012; Singh et al., 2020). The use of the SEM-PLS method in data analysis is based on the research objective focused on predicting trends in consumer behavior (Hair et al., 2010). Because there are several independent variables in this study, the use of the PLS-SEM method is more appropriate because it allows for the analysis of more than one independent variable simultaneously (Hair et al., 2010).

Measurement Model

Validity test

A validity test is a test used to show how far the validity of the measuring instrument is used to measure survey results. A validity test is also used to measure whether or not the questions in the questionnaire are valid.

Table 1 . Validity Test Measurement

Uji	Parameter	Rule of Thumb
Convergent Validity	Loading Factor (Outer Loading)	>0,70
	Average Variance Extracted (AVE)	>0,50
Discriminant Validity	Fornell Larcker	The square root of AVE > Correlation between Latent constructs
	Cross Loading	>0,70

Source : Ghazali and Latan (2015)

Reliability test

A reliability Test is a tool used to measure the consistency of the questionnaire, which is an indicator variable. If the answers from all respondents to the question are consistent, then the questionnaire is said to be reliable.

Table 2. Reliability Test Measurement

Uji	Parameter	Rule of Thumb
Reliability	Cronbach's Alpha	>0,70
	Composite Reliability	>0,70

Source : Ghazali and Latan (2015)

Structural Model

Hypothesis test

The hypothesis test uses the original sample of 200 respondents with the original sample value (O) to determine the direction of the relationship between variables, and the p-value (P) to determine the significance of the relationship. The original sample value that is close to +1 has a positive relationship, and the value that is close to -1 has a negative relationship. The t-statistics value is greater than 1.96 or the p-value is smaller than the significance level (<0.05) indicating that a relationship between variables is significant. (Sarstedt et al., 2017)

Multi-group analysis

This model is tested in two groups of objects, namely the respondent group of sharia e-wallet users in Indonesia and sharia e-wallet users in Malaysia to see if there is a difference in the influence of the two countries. Partial Least Square – Multi-Group Analysis (PLS-MGA) was conducted to determine the comparison coefficient and its significance (p-value).

Results

Characteristics of Respondents

A total of 200 respondents who filled out this research questionnaire obtained from Indonesia and Malaysia were grouped by gender, age, status, religion, and monthly income.

Table 3. Characteristics of Respondent

Descriptive		Indonesia		Malaysia	
		Amount	Percentage	Amount	Percentage
Gender	Male	48	48%	46	46%
	Female	52	52%	54	54%
Age	<18	1	1%	3	3%
	18- 25	82	82%	70	70%
	25 – 35	15	15%	22	22%
	35 – 50	2	2%	4	4%
	>50	0	0%	1	1%
Status	Student	65	65%	74	74%
	Private employees	24	24%	10	10%
	Government employees	0	0%	5	5%
	Businessman	5	5%	1	1%
	Trader	1	1%	1	1%
	Others	5	5%	9	9%
Religion	Islam	100	100%	98	98%
	Katolik	0	0%	2	2%
	Protestan	0	0%	0	0%
	Hindu	0	0%	0	0%
	Budha	0	0%	0	0%
	Konghucu	0	0%	0	0%
Monthly Income	< IDR1.000.000	56	56%	32	32%
	IDR1.000.000 - IDR2.500.000	16	16%	26	26%
	IDR2.500.000 - IDR5.000.000	15	15%	20	20%
	IDR5.000.000 - IDR10.000.000	10	10%	12	12%
	> IDR10.000.000	3	3%	10	10%

Based on Table 3, shows that the number of respondents in this study is women in more quantity than men, but the two have quite a slight difference so that there is not too much inequality between the number of male and female genders. Then, the majority who filled out this questionnaire, both Indonesian and Malaysian respondents, were people aged 18-25 years, then the second largest was aged 25-35 years, and the fewest were respondents aged over 50 years. After that 100% of Indonesian respondents were Muslim and the majority of Malaysian respondents were also Muslim, only 2% of Malaysian respondents were Catholic Christians, and none of the respondents were Protestant Christians, Hindus, Buddhists, and Confucians.

Respondents have several types of work or status. The majority of respondents are students and the second most are private employees. Only a few respondents work as government employees, businessmen or traders. However, in addition to these five jobs, 5% of Indonesian respondents and 9% of Malaysian respondents have status outside the existing job list, including being a teacher, housewife, fresh graduate, and others. By the majority of respondents' status as students, it can be seen that the majority of respondents have an income of <IDR1,000,000, while the second most respondents have an income of IDR1,000,000 - IDR2,500,000, and the least are respondents who have an income of > IDR10,000,000.

Measurement Model Evaluation

Figure 2 shows the results of the outer model test which shows the outer value of each indicator on each variable including the variables ease of use, usefulness, perceived risk, social influence, and recommendation to use. The purpose of this test is to find out how valid and reliable the indicators in each variable are.

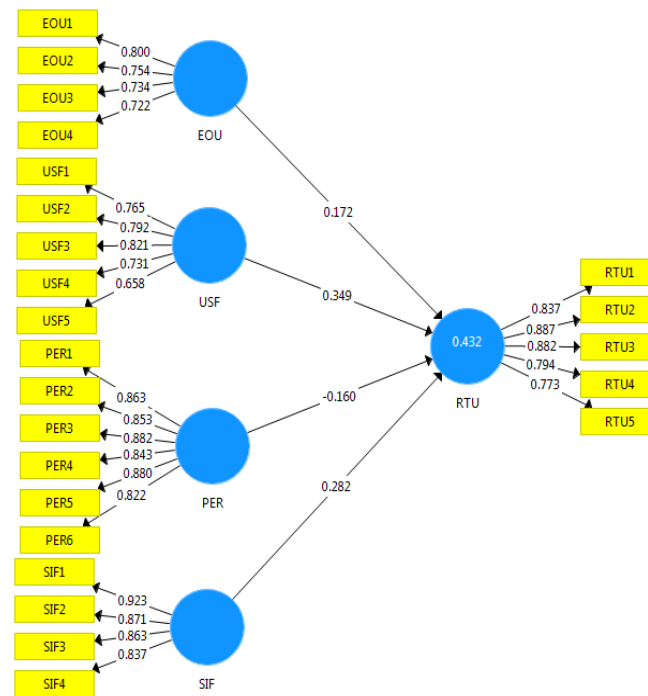


Figure 2. Measurement Model

This study used validity and reliability tests. A convergent validity test based on the measurement model can be measured by looking at the Loading factor and Average Variance Extracted (AVE) values. The following are the results of the convergent validity test:

Table 4. Convergent Validity Test Results (Loading Factor)

	EOU	USF	PER	SIF	RTU	Validity
EOU1	0.8					VALID
EOU2	0.8					VALID
EOU3	0.7					VALID
EOU4	0.7					VALID
USF1		0.8				VALID
USF2		0.8				VALID
USF3		0.8				VALID
USF4		0.7				VALID
USF5		0.7				VALID
PER1			0.9			VALID
PER2			0.9			VALID
PER3			0.9			VALID
PER4			0.8			VALID
PER5			0.9			VALID
PER6			0.8			VALID
SIF1				0.9		VALID
SIF2				0.9		VALID
SIF3				0.9		VALID
SIF4				0.8		VALID
RTU1					0.8	VALID
RTU2					0.9	VALID
RTU3					0.9	VALID
RTU4					0.8	VALID
RTU5					0.8	VALID

Based on Table 4, it can be seen that each indicator on the variables of ease of use, usefulness, perceived risk, social influence, and recommendation to use has a loading factor value of 0.7. Therefore, the conclusion is that all variable indicators are declared convergently valid. This means that each variable can be measured and illustrated precisely.

Table 5. Convergent Validity Test Results (AVE)

	Average Variance Extracted (AVE)	Validity
EOU	0.6	VALID
USF	0.6	VALID
PER	0.7	VALID
SIF	0.8	VALID
RTU	0.7	VALID

Based on Table 5 it can be shown that all variables have an Average Variance Extracted (AVE) value is >0.5 which means that all indicators for each variable are also said to be convergently valid. If the indicator meets the convergence test requirements, then the indicators in the study have a low average error rate.

The discriminant validity test based on the measurement model can be measured by looking at the Fornell Larcker and Cross Loading values. The following are the results of the discriminant validity test:

Table 6. Discriminant Validity Test Results (Fornell Larcker)

	EOU	PER	RTU	SIF	USF
EOU	0.8				
PER	-0.2	0.9			
RTU	0.5	-0.2	0.8		
SIF	0.2	0.1	0.4	0.9	
USF	0.7	-0.2	0.6	0.2	0.8

Table 7. Discriminant Validity Test Results (*Cross Loading*)

	EOU	PER	RTU	SIF	USF
EOU1	0.8	-0.1	0.4	0.1	0.6
EOU2	0.8	-0.1	0.4	0.2	0.5
EOU3	0.7	0	0.3	0.1	0.6
EOU4	0.7	-0.1	0.5	0.2	0.6
PER1	-0.2	0.9	-0.2	0.1	-0.2
PER2	-0.1	0.9	-0.2	0.1	-0.2
PER3	-0.1	0.9	-0.2	0.1	-0.2
PER4	-0.1	0.8	-0.2	0	-0.2
PER5	-0.2	0.9	-0.2	0	-0.2
PER6	-0.1	0.8	-0.2	0	-0.1
RTU1	0.5	-0.1	0.8	0.3	0.5
RTU2	0.5	-0.2	0.9	0.4	0.5
RTU3	0.4	-0.3	0.9	0.4	0.5
RTU4	0.4	-0.1	0.8	0.3	0.4
RTU5	0.4	-0.2	0.8	0.2	0.4
SIF1	0.2	0	0.3	0.9	0.1
SIF2	0.1	0.1	0.3	0.9	0.1
SIF3	0.3	0	0.4	0.9	0.2
SIF4	0.2	0.1	0.3	0.8	0.2
USF1	0.6	-0.2	0.4	0.1	0.8
USF2	0.6	-0.1	0.4	0.1	0.8
USF3	0.6	-0.2	0.4	0.2	0.8
USF4	0.5	-0.1	0.4	0.1	0.7
USF5	0.6	-0.1	0.4	0.2	0.7

Based on Table 6, it can be seen that according to the requirements of the measurement model for the discriminant validity test, the Fornell Larcker value must be 0.7 to be declared valid.

Table 7 shows that the cross loading of each indicator on each variable also has a value >0.7 . So the conclusion is that all indicators in each variable are declared discriminantly valid, which means that they can describe and measure each variable validly.

The construct reliability test based on the measurement model can be measured by looking at Cronbach's Alpha value and composite reliability is measured by looking at the Composite Reliability value. The following are the results of the construct and composite reliability tests.

Table 8. Construct Reliability Test Results

	Cronbach's Alpha	Reliability
EOU	0.7	Reliable
USF	0.8	Reliable
PER	0.9	Reliable
SIF	0.9	Reliable
RTU	0.9	Reliable

Based on Table 8, it can be seen that all constructs have Cronbach's Alpha >0.7 , which means that the indicators of the constructs or variables in this research questionnaire are said to be reliable.

Table 9. Composite Reliability Test Results

	Composite Reliability	Reliability
EOU	0.8	Reliable
USF	0.9	Reliable
PR	0.9	Reliable
SIF	0.9	Reliable
RTU	0.9	Reliable

Based on, Table 9 shows that all variables have a Composite Reliability value of >0.7 , which means that the indicators of the constructs or variables in this research questionnaire are said to be reliable. Questionnaires are said to be reliable, namely when respondents' answers to questions are consistent from time to time.

Structural Model Evaluation

Table 10. Hypothesis Test Results

	Original Sample (O)	Sample Mean (M)	Standard deviation (STDEV)	T Statistics (O/STDEV)	P Values
EOU -> RTU	0.2	0.2	0.1	2	0
USF -> RTU	0.3	0.3	0.1	4.1	0
PER -> RTU	-0.2	-0.2	0.1	2.6	0
SIF -> RTU	0.3	0.3	0.1	4.7	0

Based on Table 10, the conclusions of the results of hypothesis testing are as follows:

Hypothesis 1: The effect of ease of use on the decision recommendation to use has an original sample worth 0.2, which is close to +1, has t-statistics worth 2, which is > 1.96 , and has p-values 0 which is < 0.05 . So it can be concluded that the ease of use has a significant positive effect on the recommendation to use the sharia e-wallet, so hypothesis 1 can be accepted.

Hypothesis 2: The effect of usefulness on the recommendation to use decision has an original sample of 0.3, which is close to +1, has t-statistics of 4.1, which is > 1.96 , and has p-values of 0, which is <0.05 . So it can be concluded that usefulness has a significant positive effect on the recommendation to use the sharia e-wallet, so hypothesis 2 can be accepted.

Hypothesis 3: The effect of perceived risk on the recommendation to use decision has an original sample of -0.2, which is close to -1, has t-statistics of 2.6, which is > 1.96 , and has p-values of 0 which is <0.05 . So it can be concluded that perceived risk has a significant negative effect on the recommendation to use the sharia e-wallet, so hypothesis 3 can be accepted.

Hypothesis 4: The effect of social influence on the recommendation to use decision has an original sample of 0.3, which is close to +1, has t-statistics of 4.7, which is > 1.96 , and has p-values of 0 which is < 0.05 . So it can be concluded that social influence has a significant positive effect on the recommendation to use the sharia e-wallet, so hypothesis 4 can be accepted.

Multi Group Analysis (MGA)

Multi Group Analysis (MGA) is used to look at the comparison coefficients and the significance of the differences based on sample data that have different characteristics. The MGA test in this study aims to analyze whether there are differences in the influence of the independent variable on the dependent variable between Indonesia and Malaysia. If the p-value is more than > 0.05 , then there is no significant difference in influence between the two countries. The following are the results of the MGA test:

Table 11. Multi Group Analysis Test Results (MGA)

	p-Value(Indonesia vs Malaysia)
EOU -> RTU	0.2
USF -> RTU	0.5
PER -> RTU	0.5
SIF -> RTU	0.9

Based on Table of 11, shows that the effect of the ease of use variable on recommendation to use has a p-value of 0.2 which is not less than 0.05, which means that there is no significant difference, the conclusion is that the ease of use variable has a positive effect on recommendation to use. Sharia e-wallet, either in Indonesia or Malaysia. Kemudian, hasil uji tersebut juga menunjukkan bahwa pengaruh variabel usefulness terhadap recommendation to use memiliki p-value 0,5 yang tidak kurang dari 0,05, yang artinya tidak ada perbedaan yang signifikan. Sehingga kesimpulannya yaitu variabel usefulness berpengaruh positif terhadap recommendation to use e-wallet syariah, baik di Indonesia atau Malaysia.

Furthermore, the influence of the perceived risk variable on the recommendation to use also shows a p-value of 0.5, which is not less than 0.05, which means that there is no significant difference. So it can be concluded that the perceived risk variable on the recommendation to use the sharia e-wallet has the same negative effect, both in Indonesia and Malaysia.

The effect of the social influence variable on the recommendation to use shows a p-value of 0.9, which is not less than 0.05, which means that there is no significant difference. So it can be concluded that the social influence variable on the recommendation to use sharia e-wallet has a positive influence, both in Indonesia and Malaysia.

Discussion

Based on the results of hypothesis testing, the original sample value is 0.3, t-statistics is $4.1 > 1.96$ and the p-value is $0.00 < 0.05$, means that the ease of use variable has a significant positive effect on the recommendation. to use a sharia e-wallet, which means that if the sharia e-wallet is easier to use, the more likely it is that someone will recommend a sharia e-wallet to others. Then the results of the MGA test state that this variable does not have a significant difference in influence so it is equally influential, both in Indonesia and Malaysia. The finding that ease of use has a significant positive effect on the recommendation to use the sharia e-wallet is supported by several previous studies conducted by Singh et al. (2020) which state that ease of use has a significant influence on adoption and recommendation to use.

Based on the results of the hypothesis testing that has been carried out, the original sample value is 0.3, has t-statistics worth $4.1 > 1.96$, and has p-values $0 < 0.05$., which means that the usefulness variable has a significant positive effect on decision recommendation to use sharia e-wallet, which means that the more uses of sharia e-wallet for daily life, the greater the possibility

that someone will recommend sharia e-wallet to others. Then the results of the MGA test show that this variable does not have a significant difference in influence so it is equally influential, both in Indonesia and Malaysia. The finding that usefulness affects the recommendation to use decision is supported by previous research which states that the usefulness variable is the variable that has the most important influence on e-wallet adoption and recommendation to use e-wallets (Singh et al, 2020).

Based on the results of hypothesis testing that have been carried out, the original sample value is -0.2, which is close to -1, has t-statistics worth 2.6, which is > 1.96 , and has p-values 0 which is < 0.05 , then it means perceived risk variable has a significant negative effect on the recommendation to use sharia e-wallet, which means that the higher the risk created by the sharia e-wallet, the smaller or lower the possibility for someone to recommend sharia e-wallet to others. Then the results of the MGA test stated that. In addition, the results of the MGA test state that this variable does not have a significant difference in influence so it is equally influential, both in Indonesia and Malaysia. The finding that perceived risk has a significant negative effect on the recommendation to use is supported by previous research in the United States, a survey found that more than half of consumers of all ages said that they were concerned about the risk of their personal information when using mobile payments (Koch, 2019; Pal 2021). Similarly, in the research of Pal et al. (2021), perceived risk has a negative and significant effect, both on actual use and intention to recommend in the future.

Based on the results of hypothesis testing that have been carried out, the original sample value is 0.3, which is close to +1, has t-statistics worth 4.7, which is > 1.96 , and has p-values 0 which is < 0.05 , then it means that the variable Social influence has a significant positive effect on the decision to recommend to use sharia e-wallet, which means that the bigger the environment can affect a person, the greater the desire for someone to recommend sharia e-wallet to others. In addition, the results of the MGA test also state that this variable does not have a significant difference in influence so it is equally influential, both in Indonesia and Malaysia. The finding that Social influence has a significant positive effect on Recommendations to use is supported by previous research which explains that there is a significant influence between social influence and intentions to adopt and recommend a mobile wallet because users are strongly influenced by opinions in their social environment. (Liebana et al., 2014; Oliviera et al., 2016).

Conclusion

There is a significant positive effect of variable ease of use, usefulness, and social influence on the recommendation to use of sharia e-wallet, while the variable perceived risk has a negative significance to the recommendation to use of sharia e-wallet in Indonesia and Malaysia. In addition, there is no significant difference in the effect of all variables on the recommendation to use sharia e-wallet in Indonesia and Malaysia. Therefore, in this study, hypothesis 4 is accepted.

Based on these results, this study provides recommendations that sharia fintech practitioners in Indonesia and Malaysia are expected to make the sharia e-wallet application easier and more useful. In addition, sharia e-wallet practitioners should provide more detailed information about the investment process in sharia e-wallet, to reduce the perceived risk by consumers when they want to invest their funds in sharia e-wallet.

The results of this study can contribute in terms of academics and practice, but there are some limitations of the research that can't be avoided by the author. The first limitation is that so far Indonesia still has one sharia e-wallet, so in Indonesia, the respondents are only sharia LinkAja users. While in Malaysia, there is still little information about e-wallet that has fulfilled sharia compliance, there may be other e-wallets in Malaysia that comply with sharia rules but are not mentioned in this study. A further limitation is that although this questionnaire is spread evenly in various regions in Indonesia and Malaysia, the number of samples used by the authors is not too large when compared to the total number of sharia e-wallet users in Indonesia and Malaysia.

Author Contributions

Conceptualization: Eka Rani Fitrianiingsih, Bayu Arie Fianto
 Data curation: Eka Rani Fitrianiingsih
 Formal analysis: Bayu Arie Fianto
 Investigation: Bayu Arie Fianto
 Methodology: Eka Rani Fitrianiingsih
 Project administration: Eka Rani Fitrianiingsih
 Supervision: Bayu Arie Fianto
 Validation: Eka Rani Fitrianiingsih, Bayu Arie Fianto
 Visualization: : Eka Rani Fitrianiingsih
 Writing – original draft: Eka Rani Fitrianiingsih
 Writing – review & editing: Eka Rani Fitrianiingsih, Bayu Arie Fianto

References

- Andriyaningtyas, I., Adam, M., & Herianingrum, S. (2022). Penerimaan e-wallet syariah LinkAja dalam rangka pengembangan ekonomi digital di Indonesia. *EKUITAS (Jurnal Ekonomi dan Keuangan)*, 5(4). <https://doi.org/10.24034/j25485024.y2021.v5.i4.4772>
- Daragmeh, A., Lentner, C., & Sági, J. (2021). FinTech payments in the era of Covid-19: Factors influencing behavioral intentions of “Generation X” in Hungary to use mobile payment. *Journal of Behavioral and Experimental Finance*, 32, 100574. <https://doi.org/10.1016/j.jbef.2021.100574>
- DinarStandard. (2021). Global Islamic fintech report: Executive summary. *DinarStandard and Elipses*. <https://cdn.salaamgateway.com/special-coverage/islamic-fintech-2021/Global-IslamicFintech-Report-2021-Executive-Summary.pdf>
- Fintech News, M. (2021). Malaysia fintech report 2021. *Fintech News Malaysia*, 92. <https://de.statista.com/statistik/studie/id/44591/dokument/fintech-report/>
- Ghazali, I., & Latan, H. (2015). *Partial least squares; Konsep, teknik dan aplikasi menggunakan program smart PLS 3.0*. Semarang: Badan Penerbit Undip
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hu, Z., Ding, S., Li, S., Chen, L., & Yang, S. (2019). Adoption intention of fintech services for bank users: An empirical examination with an extended technology acceptance model. *Symmetry*, 11(3). <https://doi.org/10.3390/sym11030340>
- Isnurhadi, R. (2021). *E-wallet payments usage, and trends in Indonesia*. <https://www.xendit.co/en/blog/e-wallet-payments-usage-and-trends-in-indonesia/>
- LinkAja. (2020). *Layanan LinkAja syariah*. LinkAja.id. <https://www.linkaja.id/syariah>
- Matemba, E. D., & Li, G. (2018). Consumers’ willingness to adopt and use WeChat wallet: An empirical study in South Africa. *Technology in Society*, 53, 55–68. <https://doi.org/10.1016/j.techsoc.2017.12.001>
- Mombeuil, C. (2020). An exploratory investigation of factors affecting and best predicting the renewed adoption of mobile wallets. *Journal of Retailing and Consumer Services*, 55. <https://doi.org/10.1016/j.jretconser.2020.102127>
- Oentario, Y., Harianto, A., & Irawati, J. (2017). Pengaruh usefulness, ease of use, risk terhadap intention to buy online patisserie melalui consumer attitude berbasis media sosial di Surabaya. *Jurnal Manajemen Pemasaran*, 11(1), 26–31. <https://doi.org/10.9744/pemasaran.11.1.26-31>

- Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior*, 61(2016), 404–414. <https://doi.org/10.1016/j.chb.2016.03.030>
- Pal, A., Herath, T., De', R., & Raghav Rao, H. (2021). Why do people use mobile payment technologies and why would they continue? An examination and implications from India. *Research Policy*, 50(6), 104228. <https://doi.org/10.1016/j.respol.2021.104228>
- Ridaryanto, Firmansyah, R. K., Kartono, R., & Sundjaja, A. M. (2020). Factors affecting the use of e-wallet in Jabodetabek area. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(2), 1005–1012. <https://doi.org/10.30534/ijatcse/2020/17922020>
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2020). Handbook of market research. In *Handbook of Market Research* (Issue July). <https://doi.org/10.1007/978-3-319-05542-8>
- Singh, N., Sinha, N., & Liébana-Cabanillas, F. J. (2020). Determining factors in the adoption and recommendation of mobile wallet services in India: Analysis of the effect of innovativeness, stress to use, and social influence. *International Journal of Information Management*, 50, 191–205. <https://doi.org/10.1016/j.ijinfomgt.2019.05.022>
- Tan, J. (2020). *Mastercard: Malaysia has highest mobile wallet usage in southeast asia*. The MasterCard Impact Study. <https://ringgitplus.com/en/blog/e-wallet/mastercard-malaysia-has-highest-mobile-wallet-usage-in-southeast-asia.html>
- Verkijika, S. F. (2020). An effective response model for understanding the acceptance of mobile payment systems. *Electronic Commerce Research and Applications*, 39. <https://doi.org/10.1016/j.elerap.2019.100905>
- Wang, E., & Chou, N. (2014). Consumer characteristics, social influence, and system factors on online group-buying repurchasing intention. *Journal of Electronic Commerce Research*, 15(2). <https://www.academia.edu/download/36483321/Paper3.pdf>
- World Payment Report. (2021). *World payments report 2021*. 60. https://worldpaymentsreport.com/wp-content/uploads/sites/5/2021/10/World-Payments-Report_2021_Web.pdf
- Zulkefli, A., Rusmadi, H., & Aziz, A. A. (2019). Application of e-wallet: a preliminary analysis from the shariah perspective: تطبيق المحفظة الإلكترونية: تحليل أولي من منظور الشريعة الإسلامية. *International Journal of Fiqh and Usul al-Fiqh Studies*, 3(2), 98-105. <https://journals.iium.edu.my/al-fiqh/index.php/al-fiqh/article/view/159>