

Analysis of Factors that Influence the Use of Electronic Money in Indonesia

Puspa Nada Aliyah Akbar¹, Rima Rachmawati²

Widyatama University, Bandung, Indonesia

Email: puspa.nada@widyatama.ac.id, rima.rachmawati@widyatama.ac.id

Abstract

This empirical study scrutinizes the factors influencing electronic money usage in Indonesia, focusing on financial literacy, security, user accessibility, and government support. Employing a quantitative approach with a descriptive and verificative analysis of data from 210 potential users, the research identifies financial literacy as a cornerstone for adoption, yet finds it insufficiently developed. Security concerns are highlighted as significant, with perceived vulnerabilities in e-money systems. Accessibility challenges, due to infrastructural and educational gaps, further impede e-money's widespread use. The government's role is deemed crucial but not yet fully effective in creating a supportive ecosystem for e-money. Despite the positive influence of these factors, the research concludes that the full potential of e-money is unrealized, with the study's limitations acknowledging unexplored variables that may also affect e-money's utilization in Indonesia. These insights aim to inform strategies to address these barriers and enhance e-money adoption in the Indonesian market.

Keywords: *Financial Literacy, Security of Electronic Money, Ease of Usefull, Role of Government, Use of Electronic Money.*



A. INTRODUCTION

Money is a universal medium commonly utilized as a means of payment (Saha, 2021). Prior to the advent of currency, transactions were conducted through a barter system of goods or services, which eventually led to the creation of fiat money, including coins and paper currency, as the official means of payment. Subsequently, the payment system has evolved, culminating in the development of electronic money (Sriekaningsih, 2020). Electronic money is a form of electronic payment instrument where the monetary value is stored on a specific electronic medium, which could be in the form of a chip or on a server (Bank Indonesia, 2020).

In the realm of electronic money, several factors influence its usage, including the level of financial literacy among the populace (OJK, 2022), the security of electronic funds, ease of use (Cahyono & Adha, 2022), and the role of the government (Lukito, 2017). The electronification of payment methods is an initiative to transition from cash-based transactions to electronic ones, with the expectation of achieving more practical, cost-effective, efficient, transparent transactions, and expanding access and connectivity (Sriekaningsih, 2020).

However, the reality in Indonesia shows that the use of electronic money is not yet effective, with the majority of electronic money instruments concentrated in the capital city of Jakarta, while other regions have a penetration of less than five percent (Bank Indonesia, 2020), indicating that cash remains the primary medium of payment. The ineffectiveness of electronic money usage is attributed to several

factors, such as the more complex use compared to cash (Jain, 2021), low levels of financial literacy (OJK, 2022), limited public facilities (Fauzan, 2020), and unassured security of electronic funds (Setiyadi, 2020).

Given the aforementioned context, it is imperative to conduct an analysis of the impact of financial literacy, security of electronic money, ease of use, and the role of the government on the utilization of electronic money in Indonesia. The aim of this study is to empirically demonstrate the influence of financial literacy, security of electronic money, ease of use, and the role of the government on the adoption of electronic money in Indonesia.

B. LITERATURE REVIEW

1. Unified Theory of Acceptance and Use of Technology & Electronic Service Quality (UTAUT & E-S-Qual)

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a framework developed by Venkatesh et al. (2003) to predict the acceptance and usage of new technology. The UTAUT model identifies four core determinants that influence technology use: performance expectancy, effort expectancy, social influence, and facilitating conditions.

Performance expectancy is concerned with the perceived effectiveness of using electronic money by consumers, which is also related to the users' knowledge. Effort expectancy pertains to the perceived ease and simplicity of using electronic money. Social influence refers to the societal pressures that affect the use of electronic money, and facilitating conditions relate to the environmental factors that ease the use of electronic money, both of which are linked to the government's role in directing innovation and providing public facilities such as internet access or other technical support.

In addition to the UTAUT model, the theory of electronic service quality (E-S-Qual) elucidates the impact of electronic money security on its usage. According to Parasuraman & Malhotra (2005), E-S-Qual influences the level of user satisfaction with electronic money, suggesting that the security and perceived quality of electronic services significantly affect user satisfaction and subsequent adoption.

2. Electronic Money

According to Tellez & Zeadally (2017), electronic money is defined as "All types of stored value cards (also called prepaid cards) and other means to create new forms of money that represent an alternative to the instruments issued or guaranteed by the government. Electronic money is also intended to behave similarly to traditional money but by replacing the traditional support with electronic support, or, in other words, changing the paper to bits." This conceptualization emphasizes the transformative nature of electronic money as it shifts the physical embodiment of currency into a digital format.

Bank Indonesia (2020) offers a more formal definition, characterizing electronic money as a payment instrument that: (1) is issued on the basis of funds

paid in advance to the issuer, (2) stores monetary value electronically on a medium such as a server or chip, and (3) the electronic money managed by the issuer is not considered a deposit as defined by banking regulations. This definition underscores the regulatory perspective, distinguishing electronic money from traditional banking deposits while acknowledging its role as a prepaid payment instrument.

Furthermore, Dobler et al. (2021) describe e-money or electronic money as a storage place for funds or a prepaid product that holds currency value or credits available for consumers to use for various purposes, stored in the form of prepaid cards or electronic devices (for example, computers or mobile phones), with payments that can be accepted by various platforms beyond the issuer (multi-functional). The stored value in electronic money represents a claimable amount on the electronic money provider, either in partial sums or as a whole, highlighting its flexibility and multi-platform usability.

3. Financial Literacy

Financial literacy, as defined by Ismanto et al. (2019), is a synthesis of awareness and knowledge of business and finance, financial capability, financial management, and financial planning. It reflects an individual's ability to comprehend financial concepts, financial products and services, and to independently manage personal financial resources.

Nicolini (2019) further delineates financial literacy as "Knowledge of financial issues and the ability to apply it in a decision-making process concerning finance, including awareness of the available sources of information, the functioning of financial products and services, financial intermediaries, and financial markets." This definition emphasizes the importance of knowledge and its application in financial decision-making processes.

According to the Financial Services Authority's Circular No. 30/SEOJK.07/2017, financial literacy involves knowledge, skills, and confidence that influence attitudes and behaviors to improve the quality of decision-making and financial management towards achieving well-being. The OJK also states that the objectives of financial literacy are (1) to improve the quality of individuals' financial decision-making; and (2) to effect a change in financial management for the better, enabling the determination and utilization of appropriate financial institutions, products, and services based on the needs and capabilities of consumers or the community in order to achieve well-being.

Furthermore, the Financial Services Authority posits several benefits of financial literacy for the community, such as (1) the ability to choose and utilize financial products and services that meet their needs, (2) improved capability in financial planning, (3) avoidance of investment activities in unclear financial instruments, (4) an understanding of the benefits and risks of financial products and services, and (5) benefits to the financial services sector.

There are three indicators of financial literacy: financial knowledge, financial behavior, and financial attitude (Atkinson & Messy, 2012). Financial knowledge is

understood as the measurement of an individual's understanding, ability, and confidence about financial concepts, encompassing a person's capacity to manage personal finances measured by the accuracy of short-term decision-making or future financial planning in accordance with economic conditions (Kholilah & Iramani, 2013).

Financial behavior is defined as an individual's ability to arrange financial planning, management, control, auditing, and how to save finances in day-to-day funds (Suriani, 2022). Financial attitude refers to an individual's financial reference, including the ability to plan for the future and manage finances (Rai et al., 2019).

4. Electronic Money Security

Security is an essential aspect provided by business entities, encompassing products, services, or both. It offers comfort to users and enhances consumer trust, ultimately leading to an increase in sales volume (Pratama, 2015).

Hutabarat & Winarno (2021) define security as providing assurance that only legitimate and authorized users can carry out permitted activities at designated times (only authenticated users perform authorized activities at authorized times). Transaction data security technology is employed to protect the confidentiality of exchanged or transferred data.

Indarta et al. (2022) describe security as the process of defending against cyber attacks on networks, software, and sensitive data. These attacks can be categorized as resource exploitation, unauthorized access to systems, such as ransomware attacks that encrypt data for extortion purposes.

Electronic money security encompasses several indicators, namely perceived security, technical protections, transaction procedures, and security statements (Kim et al., 2010). Perceived security is defined as the degree of an individual's belief that the technology used to transmit sensitive information, such as consumer data and financial transaction data, is secure (Dedek et al., 2021). Technical protections are the foundation of online transactions, referring to technical solutions and mechanisms that function to safeguard consumer security in online transactions (Peikari, 2010).

Transaction procedures signify the consistent and secure execution of transaction activities at all stages and aspects. Examples include conventional database transaction procedures or online application service procedures (Liu & Ozsu, 2018). Security statements are communications provided to consumers regarding a company's operational security mechanisms. These statements contain information about the company's ability and competence to protect sensitive consumer data from irresponsible parties (Peikari, 2010).

5. Ease of Use

According to Santi & Erdani (2021), ease of use is a measure of the extent to which a person believes that using a technology will be free of effort and straightforward to operate. An individual's perception of ease of use is the degree to which they believe that using a system will be error-free and effortless.

Prayudi et al. (2022) define ease of use as the extent to which a user expects a system to be free from challenges in its utilization, referring to one's feelings about the amount of physical and mental effort required to use the system.

Chaniago et al. (2022) describe ease of use as the extent to which a person believes that using a technology will be free from effort, meaning that the use is easy to learn, understand, simple, and easy to operate. Ease of use also implies that the use of the system can reduce the effort, both in time and energy, required to learn the system or technology because the individual is confident that the system or technology is easy to comprehend. The frequency of use and the interaction between the user and the system can also indicate ease of use. A system that is used more often indicates that it is more familiar, easier to operate, and more user-friendly.

Davis (1989) suggested that ease of use could be measured by several indicators: (1) easy to learn, meaning a technology is considered easy to use if consumers do not struggle to learn its mechanisms; (2) controllable, meaning consumers can easily fully control the technology to help enhance their performance; (3) clear and understandable, which is a characteristic of technology that is easy to use. The clearer the features and mechanisms, the easier it is for consumers to understand the performance and function of a technology; (4) flexible, which refers to the ability to adapt to any changes in conditions. Technology that is easy to use must be able to follow developments and always adapt in all situations; (5) easy to master, meaning that consumers can use it proficiently in a short time, thus, they can feel the maximum benefits from using the technology; and (6) easy to use, meaning anyone can use the technology without exerting extra effort and it is not difficult to gain access to its use.

6. Role of Government

Etymologically, the term "government" originates from the word "command," which implies the act of directing or ordering something. In a cybernetic perspective, governance is defined as the process of fulfilling human needs as consumers (of governmental products) for public and civil services, while the body functioning as the processor (manager, provider) is called the government (Nasrudin, 2017).

According to Siagian (2009), the role of government generally manifests in various forms such as regulatory functions, the formulation of various types of policies, service functions, law enforcement, and the maintenance of public order and security. Bintoro (1988) posits that the government has three roles for society: as a guardian of security and order in development, as a social servant for the needs that must be regulated for the community, and as a promoter of initiatives for renewal and community development.

Bahtiar (2020) identifies five indicators of the government's role: (1) development and dissemination of knowledge, which means financial support for research and development and new knowledge to individuals or organizations so that they can utilize the latest technology optimally. Entities that need support in this strategy include research institutions at universities and within the industry; (2)

subsidies, which are financial support to all parties involved in e-money innovation, both directly and indirectly; (3) mobilization, related to the government's desire to make organizations/individuals understand the innovation and its potential benefits correctly and to understand best practices in its implementation and encourage them to do so; (4) innovation direction, which are norms that regulate the production or use of innovations within the government; and (5) standard setting, which is the formalization of practices and limitations of options for organizations participating in technological innovation. In this case, it can be interpreted as the creation of regulations that deal with e-money itself.

7. The Influence of Financial Literacy on the Use of Electronic Money in Indonesia

Financial literacy encompasses the knowledge, skills, beliefs, and competencies required to use both conventional and digital financial products and services safely, enabling sound financial decision-making (OJK, 2022). In the context of electronic money usage, adequate financial and digital knowledge is essential for users to make informed decisions.

Research by Liao & Chen (2020) involving 500 respondents concluded that financial literacy significantly influences the use of electronic money. This finding aligns with the research by Indahyani & Dewi (2021), which stated that financial literacy has a strong impact on the use of electronic money. According to their study, a higher level of financial knowledge can encourage individuals to adopt technologies like electronic money. The more knowledge one possesses, the better they are at selecting or using a product.

Furthermore, research by Lo Prete (2021) on the influence of digital and financial literacy on the use of electronic money found that digital literacy, without concurrent financial literacy, does not aid individuals in managing their finances. Therefore, besides providing access to and services for online transactions, the government should also focus on education aimed at developing financial literacy and assisting the public in managing their digital financial products. In conclusion, financial literacy is a factor that affects the use of electronic money. Based on the discussion above, the following hypothesis is formulated:

H1: Financial Literacy has an effect on the Use of Electronic Money in Indonesia.

8. The Influence of Electronic Money Security on the Use of Electronic Money in Indonesia

Security is a comprehensive process essential for safeguarding systems, and its thorough implementation is crucial for the successful adoption of electronic money (Wahyono, 2007). To increase the usage and gain consumer trust in electronic money, ensuring its security is vital.

Research by Kim et al. (2010) indicates that the security of electronic money significantly influences its use. According to their findings, electronic money service

providers need to enhance security while considering consumer convenience to boost usage and consumer trust in their services.

Similarly, research by Umiyati et al. (2021) reached a comparable conclusion: when consumers perceive the security provided by electronic money services, they tend to increase their usage frequency. This research echoes the findings of Utami (2021), whose study showed that security has an influence on the interest in using electronic money. Based on the discussions above, the following hypothesis is formulated:

H2: The Security of Electronic Money has an influence on the Use of Electronic Money in Indonesia.

9. The Effect of Ease of Use on the Use of Electronic Money in Indonesia

Ease of use is understood as the degree to which a user can employ technology without effort or difficulty in understanding the system. It is a measure of how much effort is required for users to accept and adopt a technology and directly influences their intention to use it (Ravindran & Bacon, 2015). In the context of electronic money, ease of use is a critical factor to consider for attracting consumer interest, as the easier a system is to use, the more likely it is that its usage will increase.

Research by Sarkam et al. (2022) indicates that ease of use influences the adoption of electronic payment systems through the factor of efficiency. Similarly, research by Priambodo & Prabawani (2015) suggests that the easier electronic money is to use, the higher the perceived benefits, which in turn creates a desire to use electronic money services. Thus, ease of use has a significant direct impact on the use of electronic money.

These findings are supported by research conducted by Yogananda & Dirgantara (2017), which found that ease of use increases consumer interest in using electronic money instruments. Electronic money is considered easy to use for transaction payments and easy to learn. Based on the discussions above, the following hypothesis is formulated:

H3: Ease of Use has an influence on the Use of Electronic Money in Indonesia.

10. The Influence of the Government's Role on the Use of Electronic Money in Indonesia

The role of the government encompasses the functions or responsibilities that the government holds, which include ensuring security and order, providing public services, and fostering initiatives for renewal and development (Bintoro, 1988). In the context of electronic money usage, the government's role is crucial as it is responsible for setting regulations, guaranteeing security, providing facilities, and encouraging public initiatives to use electronic money.

Research by Noreen et al. (2022) in Pakistan indicates that the government's role in implementing financial policies and strategies over the last decade has significantly influenced the use of digital financial services in Pakistan. This suggests

that government involvement has a significant impact on the use of electronic money.

Similarly, research conducted by Bahtiar (2020) also shows that the government's role influences the use of electronic money. According to this research, to harness the potential of financial technology in Indonesia, there is a need for government roles in creating strategies that can facilitate this progress. The government's role in this context includes providing protection, prioritizing domestic products, enhancing capacity, and offering facilities.

Likewise, research by Lukito (2017) indicates that the government's role is essential to accelerate and develop the national electronic-based system, startups, business development, and logistics. In this case, the government's role is needed in terms of funding, taxation, consumer protection, human resource education, communication network infrastructure, logistics, and cybersecurity. In conclusion, the government's role has an impact on the use of electronic money. Based on the discussions above, the following hypothesis is formulated:

H4: The Government's Role has an influence on the Use of Electronic Money in Indonesia.

C. METHOD

The research object includes financial literacy, electronic money security, ease of use, the role of government, and the use of electronic money. The purpose of this study is to expand upon existing knowledge (Sudaryono, 2019). This research is categorized as quantitative, employing both descriptive and verificative approaches.

According to Sudaryono (2019), the population is the generalization area consisting of objects or subjects that possess certain qualities and characteristics determined by the researcher to be studied and then concluded upon. The population in this study is users of server-based electronic money registered in Indonesia. However, the specific number of this population is currently unknown. Due to the broad scope and unspecified size of the population, this study will employ sampling methods.

A sample is a subset of the population. By taking a sample, researchers can obtain answers that will be generalized to the population (Sudaryono, 2019). Hair et al. (2022) suggest that the minimum sample size should be equal to ten times the largest number of formative indicators used to measure a construct or ten times the largest number of structural paths affecting a particular construct in the structural model. Based on this theory, the number of samples used in this study is 210, derived from multiplying 21 indicators by ten.

The sampling techniques used in this study are snowball sampling and purposive sampling. Snowball sampling, as described by Sudaryono (2019), is a method where obtained respondents are asked to identify other potential respondents in a chain. On the other hand, purposive sampling is used when the population has members or elements that are not homogenous and are proportionally stratified.

Based on these theories, samples will be taken based on the following criteria:

1. Use one or more electronic money applications.
2. Have been using electronic money for more than six months.
3. Reside in Indonesia.

Data collection in this study will be conducted online. The research questionnaire will be distributed to respondents online using Google Forms.

D. RESULTS AND DISCUSSION

The research findings are articulated according to the employed methods, namely descriptive and verificative analysis. The basis for explaining the descriptive analysis is the respondents' responses to the statements in the questionnaire (primary data). These responses are categorized into financial literacy, electronic money security, ease of use, the role of government, and the use of electronic money. The categorization criteria for the respondents' response scores are established as follows: Score Range Category = "Maximum Score-Minimum Score"/"Number of Categories"

Explanation:

Maximum Score = 5

Minimum Score = 1

Number of Categories = 5

Thus, the categorization intervals are arranged as follows:

Score Interval	Category
1.00 – 1.80	Not Good
1.81 – 2.60	Less Good
2.61 – 3.40	Sufficient
3.41 – 4.20	Good
4.21 – 5.00	Very Good

Source: (Rachmawati, 2016)

Financial literacy is measured using three dimensions: financial knowledge, financial behavior, and financial attitude. In Table 1, it can be seen that the average score falls within the 'Good' category, indicating that the community's knowledge, behavior, and attitude towards finance demonstrate a good level of financial literacy. However, there is a gap from the ideal score of 1.14, meaning there are still deficiencies in the financial literacy possessed by the community.

Table 1. Recapitulation of Average Score of Respondents' Answers on Financial Literacy Variable

No	Dimension	Average Score	Category
1	Financial Knowledge	3.81	Good
2	Financial Behavior	3.84	Good
3	Financial Attitude	3.93	Good
	Financial Literacy	3.86	Good
	Ideal Score	5.00	
	Gap	1.14	

Electronic money security is measured by four dimensions: security perception, technical protection, transaction procedures, and security statements. Table 2 shows that the average score is in the 'Good' category, meaning that the security perception, technical protection, transaction procedures, and security statements of electronic money security meet the standards. However, there is a gap of 1.08 from the ideal score, indicating that there are still deficiencies in electronic money security.

Table 2. Recapitulation of Average Score of Respondents' Answers on Electronic Money Security Variable

No	Dimension	Average Score	Category
1	Security Perception	3.94	Good
2	Technical Protection	3.93	Good
3	Transaction Procedures	3.92	Good
4	Security Statements	3.90	Good
	Electronic Money Security	3.92	Good
	Ideal Score	5.00	
	Gap	1.08	

Ease of use is measured using four dimensions: easy to learn, clear and easy to understand, easy to use, and easy to master. The average score indicates that ease of use is perceived as 'Good' by the community in using electronic money (as seen in Table 3). However, there is a gap of 1.23 from the ideal score, meaning there are still obstacles or barriers in its use.

Table 3. Recapitulation of Average Score of Respondents' Answers on Ease of Use Variable

No	Dimension	Average Score	Category
1	Easy to Learn	3.74	Good
2	Clear and Easy to Understand	3.78	Good
3	Easy to Use	3.75	Good
4	Easy to Master	3.80	Good
	Ease of Use	3.77	Good
	Ideal Score	5.00	
	Gap	1.23	

The role of the government is measured through three dimensions: development and dissemination of knowledge, innovation direction, and standard setting. Table 4 shows that the average score is in the 'Good' category, indicating that the government is performing well in its role. However, there is a gap of 1.21 from the ideal score, which means there are still challenges or barriers for the government in executing its functions.

Table 4. Recapitulation of Average Score of Respondents' Answers on the Role of Government Variable

No	Dimension	Average Score	Category
1	Development and Dissemination of Knowledge	3.82	Good
2	Innovation Direction	3.75	Good
3	Standard Setting	3.80	Good
	Role of Government	3.79	Good
	Ideal Score	5.00	
	Gap	1.21	

The use of electronic money is measured using three dimensions: hedonic motivation, habit, and behavioral intention. Based on Table 5, the average score is in the 'Good' category, meaning that the use of electronic money in Indonesia is favored by the community. However, there is a gap indicating a score of 1.34 from the ideal score of 5.00, showing that there are still barriers or obstacles in the use of electronic money in Indonesia.

Table 5. Recapitulation of Average Score of Respondents' Answers on the Use of Electronic Money Variable

No	Dimension	Average Score	Category
1	Hedonic Motivation	3.66	Good
2	Habit	3.71	Good
3	Behavioral Intention	3.61	Good
	Use of Electronic Money	3.66	Good
	Ideal Score	5.00	
	Gap	1.34	

The relevant verificative analysis for this research's objectives is multiple linear regression analysis. Before conducting the analysis, there are several tests for the research instrument that must be performed first, namely validity test, reliability test, and classical assumption test. The classical assumption test consists of four tests: normality test, multicollinearity test, autocorrelation test, and heteroskedasticity test. These analyses and tests will be conducted using SPSS software version 25.

The validity test aims to ensure that each item of the instrument in this research is accountable. The validity test is used to determine the suitability of question items in defining a variable. This test is conducted by comparing the calculated r-value with the r-table value. If the calculated r-value is greater than the r-table value, then the questionnaire is considered valid.

Table 6. Validity Test

Variables	Items	r calculated	r table	Significance	Remarks
Financial Literacy (X1)	X1.1	0,925	0,135	0,000	Valid
	X1.2	0,862	0,135	0,000	Valid
	X1.3	0,890	0,135	0,000	Valid
	X1.4	0,881	0,135	0,000	Valid

	X1.5	0,923	0,135	0,000	Valid
	X1.6	0,902	0,135	0,000	Valid
	X1.7	0,851	0,135	0,000	Valid
Security (X2)	X2.1	0,907	0,135	0,000	Valid
	X2.2	0,878	0,135	0,000	Valid
	X2.3	0,885	0,135	0,000	Valid
	X2.4	0,919	0,135	0,000	Valid
	X2.5	0,900	0,135	0,000	Valid
	X2.6	0,912	0,135	0,000	Valid
	X2.7	0,929	0,135	0,000	Valid
Ease of Use (X3)	X3.1	0,884	0,135	0,000	Valid
	X3.2	0,854	0,135	0,000	Valid
	X3.3	0,888	0,135	0,000	Valid
	X3.4	0,881	0,135	0,000	Valid
	X3.5	0,908	0,135	0,000	Valid
	X3.6	0,918	0,135	0,000	Valid
	X3.7	0,910	0,135	0,000	Valid
Government Role (X4)	X4.1	0,926	0,135	0,000	Valid
	X4.2	0,919	0,135	0,000	Valid
	X4.3	0,913	0,135	0,000	Valid
	X4.4	0,925	0,135	0,000	Valid
	X4.5	0,862	0,135	0,000	Valid
	X4.6	0,890	0,135	0,000	Valid
	X4.7	0,881	0,135	0,000	Valid
Use of Electronic Money (Y)	Y.1	0,923	0,135	0,000	Valid
	Y.2	0,902	0,135	0,000	Valid
	Y.3	0,851	0,135	0,000	Valid
	Y.4	0,907	0,135	0,000	Valid
	Y.5	0,878	0,135	0,000	Valid
	Y.6	0,885	0,135	0,000	Valid
	Y.7	0,919	0,135	0,000	Valid

Based on the validity test results in Table 6, all items have an r calculated value $>$ r table value (0.135), with a significance value of 0.00. Therefore, the questionnaire in this study is valid. The reliability test in this study was conducted using the Cronbach Alpha Coefficient. If the Cronbach's alpha value is greater than or equal to 0.6, then the data is said to be reliable.

Table 7. Reliability Test

Variable	Cronbach's Alpha	N of Items	Remarks
Financial Literacy (X1)	0.825	5	Reliable
Electronic Money Security (X2)	0.822	5	Reliable
Ease of Use (X3)	0.845	4	Reliable

Government Role (X4)	0.824	5	Reliable
Use of Electronic Money (Y)	0.828	5	Reliable

Based on Table 7, the reliability test results show that all independent and dependent variables have a Cronbach's alpha > 0.6. Therefore, it can be concluded that all items or questionnaires in the study are declared reliable or dependable.

The Normality Test is used to determine whether in the regression model, the residual values have a normal distribution or not. The way to test normality is by using the normal probability plot graphic method. If the points are around the line, then the residual values are normally distributed.

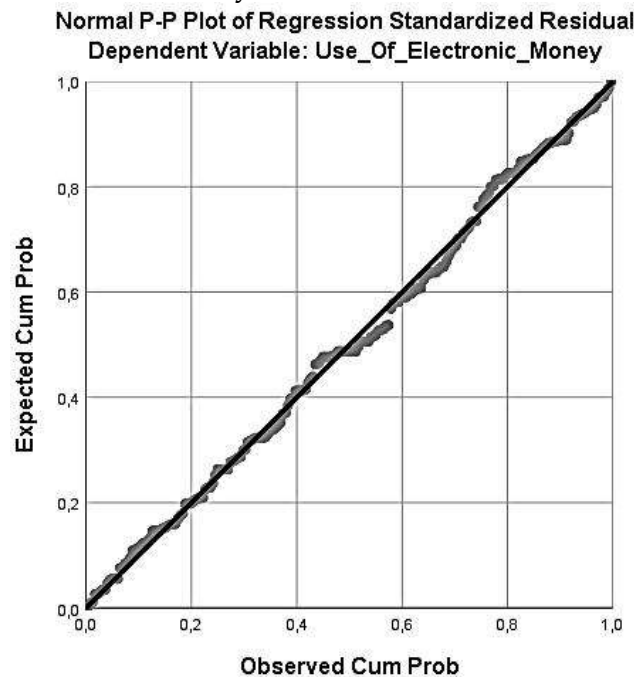


Figure 1. Normality Test Normal Probability Plot Graphic

Based on Figure 1, the points are clustered around the line, not scattered or far apart, indicating that the residual values are normally distributed and meet the assumption of normality.

The multicollinearity test aims to examine whether there is a correlation among independent variables within the model. This test is conducted by observing the tolerance value and the variance inflation factor (VIF). If the tolerance value is greater than 0.10 and the VIF value is not more than 10, then multicollinearity does not occur.

Table 8. Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
Financial Literacy	0.307	3,260
Security	0.304	3,288
Ease of Use	0.588	1,700
Government Role	0.434	2,306

Based on Table 8, all variables have a tolerance value > 0.10 and a VIF value < 10 . Therefore, based on the multicollinearity test that has been conducted, there is no correlation among the independent variables, or multicollinearity does not occur.

The Autocorrelation Test is used to determine whether there is a correlation between errors or disturbances at time t with the previous period. The autocorrelation test is performed using the Durbin-Watson test.

Table 9. Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,873 ^a	,761	,757	2,248	2,060

Based on the autocorrelation test results in Table 9, the model has a Durbin-Watson value of 2.060 with a dU (lower bound) value of 1.803 and a 4-dU (upper bound) value of 2.197. This indicates that the Durbin-Watson value is between dU and 4-dU ($1.803 < 2.060 < 2.197$), and based on these results, there is no autocorrelation in the model.

The heteroskedasticity test is conducted to examine whether there is a variance inequality among observations within the model. This test is performed by examining a scatterplot graph. If the points scatter above and below the number 0 on the Y-axis, then heteroskedasticity does not occur.

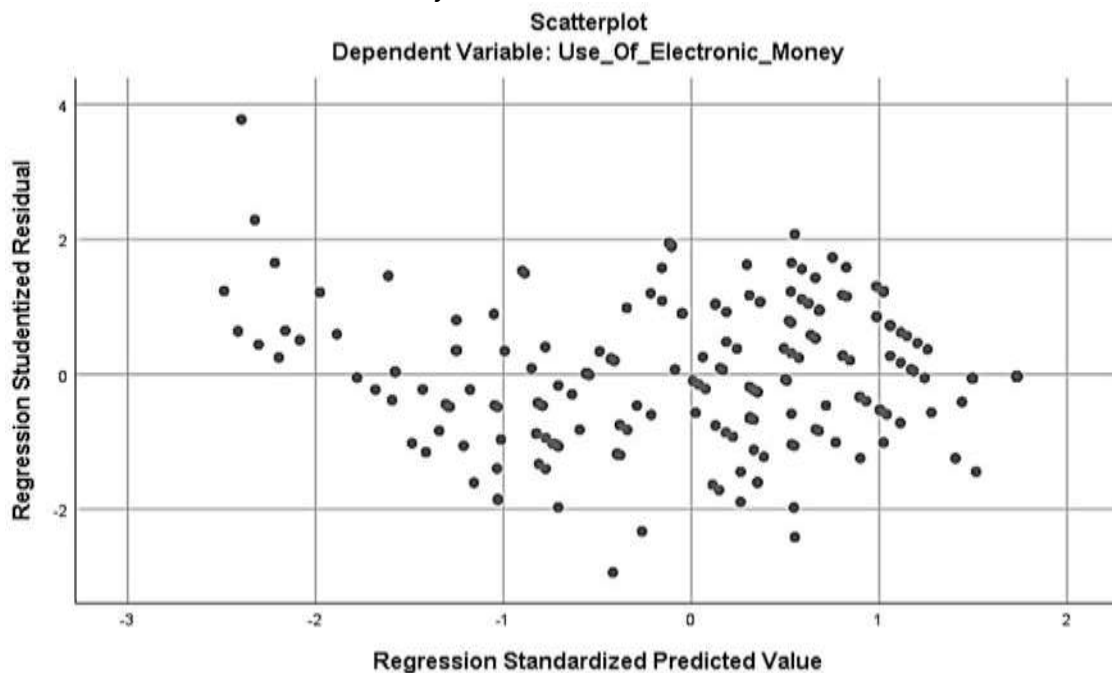


Figure 2. Heteroskedasticity Test Scatterplot Graph

Based on the results of the heteroskedasticity test in figure 2, it can be seen that the points are scattered above and below the number 0, thus it can be concluded that there is no heteroskedasticity in the model.

To test the hypothesis regarding the influence of independent variables on the dependent variable, an analysis is carried out using the technique of multiple linear regression analysis.

Table 10. Multiple Regression Analysis

Variable	B (Unstandardized Coefficients)	Std. Error	Beta (Standardized Coefficients)	t (t- statistic)	Sig (Significance)	
Constant	-	0.905	-5.053	0.000	Constant	
Financial Literacy (X1)	4.572	0.285	0.235	3.819	0.000	Financial Literacy (X1)
Security (X2)	0.290	0.072	0.248	4.012	0.000	Security (X2)
Ease of Use (X3)	0.219	0.060	0.163	3.673	0.000	Ease of Use (X3)
Government Role (X4)	0.435	0.063	0.356	6.869	0.000	Government Role (X4)

Based on Table 10, the regression equation obtained for the study is as follows: $Y = -4.572 + 0.285X_1 + 0.290X_2 + 0.219X_3 + 0.435X_4 + e$. The constant value (α) of -4.572 indicates that if the variables Financial Literacy (X1), Electronic Money Security (X2), Ease of Use (X3), and Government Role (X4) are zero, then the value of Electronic Money Usage (Y) would be -4.572.

The coefficient value (β) for the Financial Literacy variable (X1) is 0.285. This means that an increase in Financial Literacy (X1) will also increase the Usage of Electronic Money (Y) by 0.285, assuming other variables remain constant.

The coefficient value (β) for the Electronic Money Security variable (X2) is 0.290. This indicates that an increase in Electronic Money Security (X2) will also increase the Usage of Electronic Money (Y) by 0.290, assuming other variables remain constant.

The coefficient value (β) for the Ease of Use variable (X3) is 0.219. This means that an increase in Ease of Use (X3) will increase the Usage of Electronic Money (Y) by 0.219, assuming other variables remain constant.

The coefficient value (β) for the Government Role variable (X4) is 0.435. This means that for every increase in the Government Role (X4), the Usage of Electronic Money will also increase by 0.435, assuming other variables remain constant.

According to Table 9, the Adjusted R Square (R^2) coefficient is 0.757 or 75.7%. This indicates that Financial Literacy (X1), Electronic Money Security (X2), Ease of Use (X3), and Government Role (X4) can explain 75.7% of the variance in Electronic Money Usage (Y), and the remaining 24.3% is explained by other variables.

Based on the t-statistic test (from Table 10), the results can be interpreted as follows:

- a. The Financial Literacy variable (X1) has a t-value of 3.819 with a significance of 0.000. If the t-value is compared with the t-table value, then $3.819 > 1.972$, with a significance value of $0.00 < 0.05$. This result indicates that the Financial Literacy variable (X1) has an effect on the Electronic Money Usage variable (Y), which means H1 stating that Financial Literacy affects the Usage of Electronic Money in Indonesia is accepted.

- b. The Electronic Money Security variable (X2) has a t-value of 4.012 with a significance of 0.000. If the t-value is compared with the t-table value, then $4.012 > 1.972$, with a significance value of $0.00 < 0.05$. This result indicates that the Electronic Money Security variable (X2) has an effect on the Electronic Money Usage variable (Y), which means H2 stating that Electronic Money Security affects the Usage of Electronic Money in Indonesia is accepted.
- c. The Ease of Use variable (X3) has a t-value of 3.673 with a significance of 0.000. If the t-value is compared with the t-table value, then $3.673 > 1.972$, with a significance value of $0.00 < 0.05$. This result indicates that the Ease of Use variable (X3) has an effect on the Electronic Money Usage variable (Y), which means H3 stating that Ease of Use affects the Usage of Electronic Money in Indonesia is accepted.
- d. The Government Role variable (X4) has a t-value of 6.869 with a significance of 0.000. If the t-value is compared with the t-table value, then $6.869 > 1.972$, with a significance value of $0.00 < 0.05$. This result indicates that the Government Role variable (X4) has an effect on the Electronic Money Usage variable (Y), which means H4 stating that the Government Role affects the Usage of Electronic Money in Indonesia is accepted.

The Influence of Financial Literacy on the Use of Electronic Money in Indonesia

Based on the research conducted, the results indicate that financial literacy has a significant influence on the use of electronic money in Indonesia. This is consistent with research conducted in other countries, such as the study by Lo Prete (2021), which states that digital literacy must be accompanied by financial literacy to make decisions in choosing financial products or digital payment methods. Similarly, research by Yoshino et al. (2020), conducted with 25,000 respondents in Japan, shows that individuals with good financial literacy tend to use fintech services more frequently, especially electronic money.

Grounded on these research findings and others, it can be concluded that financial literacy is a factor that needs attention in the use of electronic money because adequate financial knowledge is required to fully control what is used, minimize risks, and benefit from its use.

The Influence of Electronic Money Security on the Use of Electronic Money in Indonesia

According to the analysis in this study, the security of electronic money is proven to be one of the significant factors influencing the use of electronic money in Indonesia. This result aligns with the research by Sarkam et al. (2022), which concludes that security is an important factor in adopting electronic payment systems. Similarly, research by Peikari (2010), based on a survey of 337 respondents in Malaysia, found that security and technical protection are significant factors affecting customer satisfaction in online transactions.

Based on these findings and previous research, it can be concluded that to increase the use of electronic money, security is one of the factors that need attention because to gain user trust, financial service providers need to ensure that money or assets are safe and protected from crime, even though they are not physically tangible.

The Influence of Ease of Use on the Use of Electronic Money in Indonesia

The results of the research indicate that ease of use significantly affects the use of electronic money in Indonesia. These findings support the research by Utami (2021) on 225 respondents, which states that the interest in using mobile payment is higher if users experience ease of use. Similarly, research by Sumerta & Wardana (2018) found that ease of use has a positive and significant impact on attitudes towards the use of electronic money.

Based on the obtained results and other research findings, the factor of ease of use is one of the things that need attention in the use of electronic money. The easier electronic money is to use, the more people can use it, and the easier it is to access, the more effective its benefits will be.

The Influence of Government Role on the Use of Electronic Money in Indonesia

The analysis in this study shows that the government's role influences the use of electronic money in Indonesia. This is in line with the findings of Chen et al. (2019) in China, where the higher the level of government support for mobile payment, the greater the likelihood of the Chinese public using mobile payment. Similarly, research by Noreen et al. (2022) revealed that the government in Pakistan has successfully implemented several programs and policies that have increased the use of fintech there, one of which is providing public facilities that support and create a national financial literacy program for the youth.

Based on the research conducted and findings from other countries, it can be concluded that the government's role is quite important in the use of electronic money because the government has a role as the command of a country, where all citizens have an obligation to comply with policies made by the government. In addition, the government also plays a role in the development of its country, one of which is as a director of innovation. In directing an innovation, there are several things that can be done, such as providing adequate facilities, education, and supporting positive things related to that progress.

E. CONCLUSION

This work analyses how the use of electronic money is associated to financial literacy, electronic money security, ease of use, and the government's role. Our findings show that financial literacy, electronic money security, ease of use, and the government's role are significant factors for improving the use of electronic money in Indonesia. This research develops a theoretical model of financial literacy, electronic money security, ease of use, and the government's role, including their

roles in the use of electronic money. According to the result of this study, electronic money security and ease of use are important variable that affect Indonesian users adoption of electronic money. Therefore, it is suggested that enterprises operating electronic money service can attract consumers by using these two aspects (e.g., making electronic money transaction systems simpler and more safer), thereby increasing the number of people using electronic money. And based on the result of this study also, the government's role is the most important variable that affect Indonesian users to use electronic money. As such, the government's support (e.g., initiated programs and policies, including financial literacy, security, and public facilities) can increasing people to use electronic money. Although this research provides several contributions, it still has many limitations, most notably that the survey data were collected online from Indonesia customers with a small sample size. Moreover, this research also did not examine the moderation effects of users' demographic characteristics, such as gender, experience, and age. Further research may also focus on other environmental factors.

REFERENCES

1. Atkinson, A., & Messy, F. A. (2012). Measuring Financial Literacy: Result of The OECD International Network on Financial Education (INFE) Pilot Study. *OECD Working Papers on Finance, Insurance and Private Pensions*, 15.
2. Bahtiar, R. A. (2020). Potensi, Peran Pemerintah, dan Tantangan dalam Pengembangan E-Commerce di Indonesia. *Jurnal Ekonomi & Kebijakan Publik*, 11(1), 13–25.
3. Bank Indonesia. (2020). *Apa Itu Uang Elektronik*. Retrieved from: <https://www.bi.go.id/id/edukasi/Pages/Apa-itu-Uang-Elektronik.aspx>
4. Bintoro, T. (1988). *Pengantar Administrasi Pembangunan*. Jakarta: LP3ES.
5. Cahyono, Y. T., & Adha, A. H. (2022). Pengaruh Manfaat, Kemudahan, dan Keamanan Terhadap Minat Penggunaan E-Money Pada Aplikasi Dana di Masa Pandemi Covid-19. *Seminar Nasional Pariwisata dan Kewirausahaan (SNPK)*, 1, 439-444.
6. Chaniago, S., Ginting, B. br, Nabella, S. D., Mahyudin, & Novirsari, E. (2022). *Keputusan Pembelian Pengguna OVO ditinjau dari Kemudahan, Price Discount dan Kepuasan*. Surabaya: Global Aksara Pers.
7. Chen, W. C., Chen, C. W., & Chen, W. K. (2019). Drivers of Mobile Payment Acceptance in China: An Empirical Investigation. *Information (Switzerland)*, 10(12), 1-20.
8. Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly: Management Information Systems*, 13(3), 319–339.
9. Dedek, S., Muinah, F., & Udayana, B. I. N. (2021). Pengaruh Persepsi Keamanan, Kualitas Informasi Dan Kepercayaan Terhadap Keputusan Pembelian Online (Studi Kasus Pada Konsumen Shopee Di Yogyakarta). *Jurnal Ilmu Manajemen*, 18(2), 89–97.

10. Fauzan, R. (2020). *Ini Penyebab Masyarakat Sulit Beralih Ke Pembayaran Digital*. Retrieved from: <https://teknologi.bisnis.com/read/20200207/84/1198775/ini-penyebab-masyarakat-sulit-beralih-ke-pembayaran-digital>
11. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). In *International Journal of Research & Method in Education*, 38(2).
12. Indahyani, K., & Dewi, I. G. A. K. R. S. (2021). Pengaruh Nilai Harga, Literasi Keuangan dan Kemampuan Finansial terhadap Minat Penggunaan Dompot Digital (Shopeepay) dalam Transaksi Keuangan. *Jurnal Ilmiah Mahasiswa Akuntansi*, 12(3).
13. Ismanto, H., Widiastuti, A., Muharam, H., Pangestu, I. R. D., & Rofiq, F. (2019). *Perbankan dan Literasi Keuangan*. Yogyakarta: Deepublish.
14. Jain, A. (2021). *Challenges Online Payments Are Facing and How to Solve Them*. Retrieved from: <https://finance.yahoo.com/news/challenges-online-payments-facing-solve-152910966.html>
15. Kholilah, N. Al, & Iramani, R. (2013). Studi Financial Management Behavior Pada Masyarakat Surabaya. *Journal of Business and Banking*, 3(1):69.
16. Kim, C., Tao, W., Shin, N., & Kim, K.-S. (2010). An empirical study of customers' perceptions of security and trust in e-payment systems. *Electronic Commerce Research and Applications*, 9(1): 84–95.
17. Liao, C.-F., & Chen, C.-D. (2020). Financial Literacy and Mobile Payment Behaviors. *Journal of Accounting and Finance*, 20(7).
18. Liu, L., & Ozsu, M. T. (2018). *Encyclopedia of Database Systems*. New York: Springer.
19. Lo Prete, A. (2021). Digital and Financial Literacy as Determinants of Digital Payments and Personal Finance. *Journal Economics Letters*, 213(110378).
20. Lukito, I. (2017). Tantangan Hukum dan Peran Pemerintah dalam Pembangunan E-Commerce (Legal Challenges and Government's Role in E-Commerce Development). *Pusat Pengkajian dan Pengembangan Kebijakan Badan Penelitian dan Pengembangan Hukum dan HAM Kementerian Hukum dan HAM R.I.*, 11(3):349–367.
21. Nasrudin, I. (2017). *Etika Pemerintahan*. Yogyakarta: Lintang Rasi Aksara Books.
22. Nicolini, G. (2019). *Financial Literacy in Europe*. New York: Taylor & Francis.
23. Noreen, M., Mia, M. S., Ghazali, Z., & Ahmed, F. (2022). Role of Government Policies to Fintech Adoption and Financial Inclusion: A Study in Pakistan. *Universal Journal of Accounting and Finance*, 10(1), 37-46.
24. OJK. (2022). *Saatnya Belajar Literasi Keuangan Digital*. Retrieved from: <https://sikapiuangmu.ojk.go.id/FrontEnd/CMS/Article/40763>
25. Parasuraman, A., & Malhotra, V. A. Z. A. (2005). E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality. *Journal of Service Research*, 7(3), 213-233.
26. Peikari, H. R. (2010). The Influence of Security Statement, Technical Protection, and Privacy on Satisfaction and Loyalty; A Structural Equation Modeling. *Communications in Computer and Information Science*, 92, 223–231.

27. Pratama, I. P. A. E. (2015). *E-Commerce, E-Business dan Mobile Commerce*, Edisi 1. Bandung: Informatika Bandung.
28. Prayudi, I. G., Sukaatmadja, I. P. G., Yasa, N. N. K., & Giantari, I. G. A. K. (2022). *Persepsi Kemudahan Penggunaan dan Kegunaan untuk Membangun Kepercayaan dan Niat Menggunakan Kembali Layanan Mobile Banking*. Bandung: Media Sains Indonesia.
29. Priambodo, S., & Prabawani, B. (2015). Pengaruh Persepsi Manfaat, Persepsi Kemudahan Penggunaan, Dan Persepsi Risiko Terhadap Minat Menggunakan Layanan Uang Elektronik (Studi Kasus Pada Masyarakat di Kota Semarang). *Jurnal Ilmu Administrasi Bisnis*, 5(2), 127-135.
30. Rachmawati, R. (2016). Struktur Organisasi, Pengendalian Intern terhadap Kualitas Sistem Informasi Akuntansi Manajemen. *Jurnal Ilmiah Manajemen*, 6(1), 70-82.
31. Rai, K., Dua, S., & Yadav, M. (2019). Association of Financial Attitude, Financial Behaviour and Financial Knowledge Towards Financial Literacy: A Structural Equation Modeling Approach. *FIIB Business Review*, 8(1), 51-60.
32. Ravindran, A., & Bacon, L. (2015). *Innovations in Technology Enhanced Learning*. United Kingdom: Cambridge Scholars Publishing.
33. Saha, S. K. (2021). *Applied Money and Banking*. India: SBPD Publications.
34. Santi, I. H., & Erdani, B. (2021). *Technology Acceptance Model (TAM)*. Pekalongan: NEM.
35. Sarkam, N. A., Mohamad Razi, N. F., Mohammad, N. H., Jamil, N. I., & Kurniawati, L. (2022). Attitudes, Security, and Perceived Ease of Use Influence The Consumers' Decision to Use An E-payment System. *International Journal of Academic Research in Business and Social Sciences*, 12(3).
36. Setiyadi, H. (2020). *LPS Tak Jamin Saldo Uang Elektronik*. Retrieved from: <https://www.cnnindonesia.com/ekonomi/20201022080435-78-561333/lps-tak-jamin-saldo-uang-elektronik>
37. Siagian, S. P. (2009). *Administrasi Pembangunan*. Jakarta: Bumi Aksara.
38. Sriekaningsih, A. (2020). *QRIS dan Era Baru Transaksi Pembayaran 4.0*. Yogyakarta: Andi.
39. Sudaryono. (2019). *Metodologi Penelitian Kuantitatif, Kualitatif, dan Mix Method*, Edisi 2. Depok: Rajawali Pers.
40. Sumerta, I. K., & Wardana, I. M. (2018). Analysis of Intention To Use Electronic Money in Denpasar City: Tam Approach. *Archives of Business Research*, 6(10), 86-103.
41. Suriani, S. (2022). *Financial Behavior*. Jakarta: Yayasan Kita Menulis.
42. Tellez, J., & Zeadally, S. (2017). *Mobile Payment Systems*. Switzerland: Springer.
43. Umiyati, I., Putri, T. E., & Maya, N. (2021). Social Influence, Usability And Security On The Intensity Of DANA e-Wallet Use. *Journal of Accounting for Sustainable Society*, 03, 113-130.
44. Utami, M. K. (2021). Pengaruh Kepercayaan, Kegunaan, Keamanan Terhadap Minat Menggunakan Mobile Payment Linkaja Dengan Kemudahan Sebagai

- Variable Mediasi. *Jurnal Ilmiah Manajemen Kesatuan*, 9(2), 111-120.
45. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance Of Information Technology: Toward a Unified View. *MIS Quarterly: Management Information Systems*, 27(3), 425–478.
46. Wahyono, T. (2007). *Building & Maintenance PC Server*. Jakarta: Elex Media Komputindo.
47. Yogananda, A. S., & Dirgantara, I. M. B. (2017). Pengaruh Persepsi Manfaat, Persepsi Kemudahan Penggunaan, Kepercayaan dan Persepsi Risiko Terhadap Minat Untuk Menggunakan Instrumen Uang Elektronik. *Diponegoro Journal of Management*, 6(4), 1-7.
48. Yoshino, N., Morgan, P. J., & Long, T. Q. (2020). Financial Literacy and Fintech Adoption in Japan. In *Asian Development Bank Institute Working Paper*, 1095.