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GENERAL MANAGEMENT

Analysis Of Factors Affecting Usage Electronic Money On Shopping Behavior On Metropolitan Consumers In Indonesia Moderated By Shopping Efficiency

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Abstract

The research was conducted using a field study approach in Indonesia's three largest metropolitan cities. This study evaluates consumer behavior related to e-money aspects. The research was continued to evaluate the impact of using e-money on shopping behavior such as impulsive behavior in transactions and the economic efficiency felt by consumers in each transaction. This research supports the research master plan which is a leading topic of research at the University of North Sumatra, especially in the development of the creative economy through e-marketing. This research is targeted to produce recommendations for the use of e-money and study its impact on shopping behavior and spending efficiency. The results of this research will be published in reputable international journals and international proceedings every year.

Keywords: *Acceptance Model, digitization, Economic Efficiency, E-Money, Consumer behavior*

Background

Corona Virus Disease (COVID-19) has hit the world since 2019 and has resulted in various changes to the world's life order. In Indonesia, the first confirmation of the COVID-19 case occurred in early March 2020 which is still hitting all corners of the country. Data on COVID-19 cases as of 13 October 2020 reached 340,662 confirmed positive cases of COVID-19 (COVID Task Force, 2020). Even though the percentage of patients who have recovered from positive cases of COVID-19 is relatively high, there are still 3.5% of confirmed positive patients who have died. From the point of view of humanity and world ratios, this figure is high (Levin et al., 2020). Therefore, the Indonesian government always invites all its citizens to get used to implementing health protocols in their daily lives in order to break the chain of transmission of COVID-19. Indonesia has the 4th largest population density in the world. This condition makes breaking the chain of spread of the COVID-19 virus in Indonesia more difficult to implement and has the potential to have a bigger impact (Hamidi et al., 2020). The spread of the virus often occurs through community interaction in crowded areas. Research indicates the spread of the virus occurs more quickly in areas that have high levels of crowds (Hope et al., 2020), (Rubin et al., 2020). In an effort to break the chain of transmission, many governments in the world have implemented lockdown and social distancing policies to reduce individual interaction and break the chain of transmission. Unfortunately, this policy had a negative impact on the community's economic development and growth (Ozili & Arun, 2020). Restrictions on social activities hinder various economic activities. Many of the business actors decide to temporarily stop their business operations in order to reduce operational costs or reduce potential business losses. In economic conditions this effect also provides a domino effect such as an increase in the unemployment rate due to termination of employment and causes people's income in general to decrease (Apresian, 2020).

In an effort to reduce direct interactions or the spread that may occur through the paper money medium, it is necessary to reduce the direct use of money. Indonesia has been issuing money in electronic form for quite a long time or commonly known as e-money (Putri & Prasetyo, 2020). During the last five years the use of e-money among young people has increased quite a bit, but overall the use of e-money is still less than 5% of existing transactions. In the midst of a pandemic and social restrictions that are occurring, many people are starting to gain an understanding of the importance of using e-money (MRI et al., 2021). Even though there is a lot of education about the importance of using e-money, there are still many people who have not switched to using e-money (Zokee & MG, 2012; Chiu & Wong, 2014). One issue that is developing is e-money security which is not officially issued by the state but through the management of other parties (Angelini & Koesrindartoto, 2019; Mensah & Jumah, 2021). People still have concerns about the security of e-money. Apart from that, through the technology acceptance model, there are several things that need to be considered before the public fully accepts the e-money (Rohman, 2020)

Formulation of the problem

Based on the background of the problems that have been described, the formulation of the problem in this study is:

To analyze the factors that influence the use of electronic money and their impact on spending efficiency and shopping behavior of metropolitan consumers in Indonesia?

Is factors influencing the use of electronic money and their impact on spending efficiency and shopping behavior of metropolitan consumers in Indonesia?

Research purposes

Referring to the formulation of the research problem, the objectives of this study are:

seeks to evaluate the factors that influence the use of e-money and its impact on shopping behavior.

To find out whether shopping efficiency will increase in Indonesian Metropolitan Costumer.

Literature Review

Technology Acceptance Model (TAM)

This theory was first introduced by Davis, Bagozzi, & Warshaw in 1989, Technology Acceptance Model (TAM) is an information system specifically designed for modeling the acceptance and use of information systems. This theory is a development of Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB). Structurally, TAM consists of two, namely perceived benefits and perceived convenience. the technology.

Consumer Safety and Trust

Security is a state that is free from various threats that may occur. These threats can cause economic hardship through damaged data sources or networks, data theft, denial of service, or abuse of authority on the part of service providers. Technically security is a guarantee of integrity, confidentiality and authentication. The level of security can subjectively affect consumer confidence in the technology. Consumers believe that when a system is more secure, their personal data can be protected, not disseminated, and manipulated by other parties (Moretta et al., 2019; Hollebeek & Macky, 2019).

Efficiency and Consumer Protection

Technology-based payment systems are intended to make it easier for users to make transactions with other parties. The authority to regulate and maintain the smooth operation of the payment system in Indonesia is exercised by Bank Indonesia. In its implementation, Bank Indonesia refers to four policy principles, namely security, efficiency, equal access and consumer protection. Security means that payment system operators must be able to manage, mitigate and avoid various risks that may occur. Efficiency in this case is that the payment system must be widely used where this can reduce the costs borne by the community to be cheaper due to increased economies of scale (Karakaya et al., 2012).

Shopping Behavior

Shopping behavior is the act of consumers in obtaining, consuming, and spending products and services. According to Kotler and Keller, there are several factors that influence consumer psychology, including (1) motivation, (2) perception, (3) learning, (4) belief (Kotler & Keller, 2012). The ultimate goal of this research roadmap is towards an increasingly advanced digitalization of the economy, where the majority of citizens no longer use currency, but have switched to using money in electronic form as has been implemented in developed countries such as Japan and Korea.

Research Methods

This study uses two data analysis methods, namely descriptive and inferential.

Descriptive Statistical Analysis

This is done by developing a typology based on research findings and comparing consumer behavior based on fulfilling the criteria for TAM.

Inferential Statistical Analysis

The inferential analysis method is intended to evaluate the influence between research variables. The data analysis tool used is SEM-PLS with the multiple group analysis method (Cheah et al., 2020)

Results

Validity and Reliability Test

Based on the validity and reliability tests of the dipeget the following results:

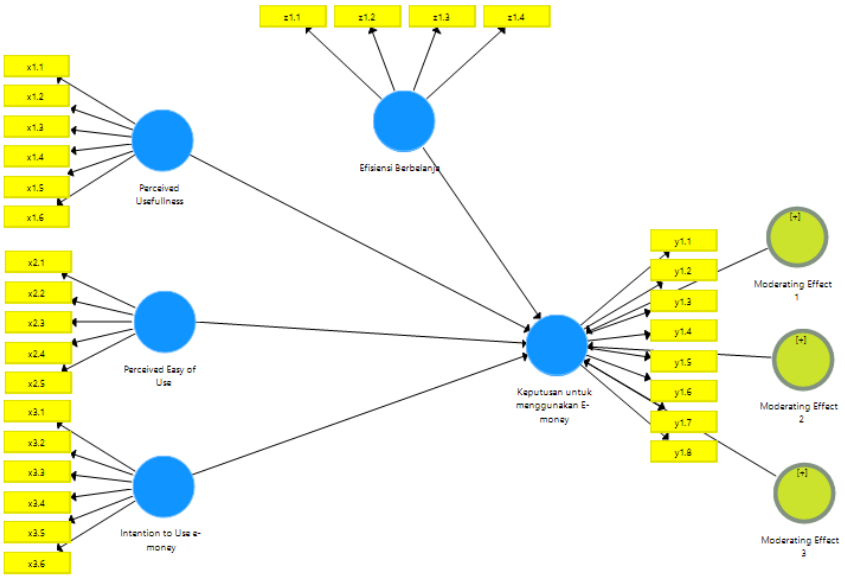

Figure 1. Measurement Model

	Average Variance Extracted (AVE)
Trusts	0.677
Intention to Use e-money	0.730
Online Shopping	0.575
Perceived Ease of Use	0.630
Perceived Usefulness	0.536

Table 1. Average Variance Extracted (AVE)

The recommended AVE value is higher than 0.5 (Fornell & Larcker, 1981). It was found that all AVE values > 0.5 indicated that the validity requirements based on AVE were met.

Reliability

Furthermore, a reliability test was carried out based on the composite reliability (CR) value.

	Composite Reliability
Trusts	0893
Intention to Use e-money	0.942
Online Shopping	0.915
Perceived Ease of Use	0893
Perceived Usefulness	0.872

Table 2. Composite Reliability (CR)

The recommended Composite Reliability value is higher than 0.7 (Fornell & Larcker, 1981), all Composite Reliability values are > 0.7 which means that they meet the reliability requirements based on Composite Reliability. Furthermore, discriminant validity testing was carried out with the Fornell-Larcker approach. Table 4.5 presents the results of discriminant validity testing.

	Trusts	Intention to Use e-money	Online Shopping	Perceived Ease of Use	Perceived Usefulness
Trusts	0.823				
Intention to Use e-money	0.714	0.854			

Online Shopping	0.667	0.726	0.758		
Perceived Ease of Use	0.613	0.703	0.647	0.794	
Perceived Usefulness	0.634	0.604	0.571	0.584	0.732

Table 3. Discriminant Validity Testing

In testing discriminant validity, the AVE square root value of a latent variable is compared with the correlation value between that latent variable and other latent variables. It is known that the AVE square root value for each latent variable is greater than the correlation value between the latent variable and other latent variables. So it is concluded that it meets the requirements of discriminant validity.

Bootstrapping

Table 4 presents the results of the bootstrapping test.

	Original Sample (O)	Sample Means (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Perceived Ease of Use -> Online Shopping	0.213	0.213	0.087	2,441	0.015
Perceived Usefulness -> Online Shopping	-0.026	-0.009	0.099	0.263	0.793
Intention to Use e-money -> Online Shopping	0.418	0.413	0.098	4,274	0.000
Trust -> Online Shopping	0.280	0.281	0.103	2,715	0.007

Table 4. Bootstrapping

Based on the results in Table 4, the results are:

Trust has a positive effect on Online Shopping, with a path coefficient value of 0.280 (original sample), and significant with a P-Values of 0.007 <0.05.

Intention to use E-moneyhas a positive effect on Online Shopping, with a path coefficient value of 0.418 (original sample), and significant with a P-Values of 0.000 <0.05.

Perceived ease of usehas a positive effect on Online Shopping with a path coefficient value of 0.213 (original sample), and significant with a P-Values of 0.001 <0.05.

Perceivedusefulnesshas a negative effect on Online Shopping, with a path coefficient value of -0.026 (original sample), and not significant with a P-Values of 0.793 <0.05.

Table 5 presents the r-square value (coefficient of determination) for each endogenous variable.

	R Square
Online Shopping	0.635

Table 5. Coefficient of Determination (R-Square)

Based on the results in Table 5:

It is known that the coefficient of determination (r-square) of Innovation Capability is 0.635. Ability to influence Intention to use E-money, Perceivedeaseof use, Perceivedusefulnessto online shopping by 63.5% and the remaining 36.5% is influenced by other variables not included in the research model.

Moderating Test

Table 6 presents the results of the moderating test

	Original Sample (O)	Sample Means (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Moderating Effect 1 -> Online Shopping	-0.178	-0.152	0.087	2038	0.042
Moderating Effect 2 -> Online Shopping	0.215	0.218	0.090	2,391	0.017
Moderating Effect 3 -> Online Shopping	0.014	0.019	0.082	0.171	0.864

Table 6. Moderator Test

Based on the results of the moderating test in table 4.9, the results are:

Trust as a moderator variable strengthens the Perceived relationshipusefulnesssignificantly to Online Shopping, with P-Value = 0.04 <0.05. Therefore, the role of trust as a moderator variable to strengthen the perceivedusefulnesstowards Online Shopping.

Trust as a Moderator variable strengthens the relationship between Perceived ease of use significantly to Online Shopping, with P-Value = 0.01 <0.05. Therefore, the role of trust as a moderator variable to strengthen the perceivedeaseof usetowards Online Shopping.

Trust as a Moderating variable weakens the Intention to use E-money relationship that is not significant to Online Shopping, with P-Value = 0.864 <0.05. Therefore, the role of trust as a moderator variable weakens the relationship between Intention to use E-money and Online Shopping.

Discussion

The results of the study show that perceived usefulness has a negative and insignificant effect on online shopping, which is in contrast to previous studies on perceived usefulness which show a direct relationship with online shopping. According to (Davis, 1989) perceived usefulness is the level of one's belief that using information technology can improve performance efficiently and effectively. Thus, the factor that influences online shopping is perceived usefulness. Perceived usefulness is how customers feel online shopping can be efficient (Hu et al., 2009; Lai & Wang, 2012; Yi et al., 2016). This is consistent with research (Koufaris, 2002) that perceived usefulness affects online shopping intentions (Venkatesh & Davis, 2000; Moon & Kim, 2001) and perceived usefulness influences beliefs, attitudes and behavioral intentions. This suggests that Perceived usefulness plays the most role in increasing behavioral intention to use information technology. The results of research (Luarn & Lin, 2005; Amin et al., 2008; Sripalawat et al., 2009; Dasgupta et al., 2011; Enrique et al., 2008) found that perceived usefulness plays an important role in adopting a mobile banking system. Thus, perceived benefits are an important factor in mobile banking adoption. Therefore, Perceived usefulness is very important for e-commerce companies, because Perceived usefulness plays a role in using information technology to improve performance. This suggests that Perceived usefulness plays the most role in increasing behavioral intention to use information technology. The results of research (Luarn & Lin, 2005; Amin et al., 2008; Sripalawat et al., 2009; Dasgupta et al., 2011; Enrique et al., 2008) found that perceived usefulness plays an important role in adopting a mobile banking system. Thus, perceived benefits are an important factor in mobile banking adoption. Therefore, Perceived usefulness is very important for e-commerce companies, because Perceived usefulness plays a role in using information technology to improve performance. This suggests that Perceived usefulness plays the most role in increasing behavioral intention to use information technology. The results of research (Luarn & Lin, 2005; Amin et al., 2008; Sripalawat et al., 2009; Dasgupta et al., 2011; Enrique et al., 2008) found that perceived usefulness plays an important role in adopting a mobile banking system. Thus, perceived benefits are an important factor in mobile banking adoption. Therefore, Perceived usefulness is very important for e-commerce companies, because Perceived usefulness plays a role in using information technology to improve performance. 2008) found that perceived usefulness plays an important role in adopting a mobile banking system. Thus, perceived benefits are an important factor in mobile banking adoption. Therefore, Perceived usefulness is very important for e-commerce companies, because Perceived usefulness plays a role in using information technology to improve performance. 2008) found that perceived usefulness plays an important role in adopting a mobile banking system. Thus, perceived benefits are an important factor in mobile banking adoption. Therefore, Perceived usefulness is very important for e-commerce companies, because Perceived usefulness plays a role in using information technology to improve performance.

Based on the results of the study showing that Intention to use E-money has a positive and significant effect on online shopping, the results of the analysis of Intention to use E-money for online shopping provide results that have the potential to add to the repertoire of studies between Intention to use E-money and previous online shopping rare. The results of the study confirm the potential for Intention to use E-money to have a strong influence on online shopping. Financial technology such as e-money makes it easier for users to make transactions such as online shopping and financial transactions (Jack & Suri, 2011; Gao et al., 2014; Kotecha, 2018). Which is in line with research results (Singh et al., 2010; Rakhi, 2013; Schneider & Tezza, 2020) which states that marketing must often spread advertisements so that customer awareness uses e-money or mobile applications to do online shopping. (DeLone & Mclean, 1992; DeLone & McLean, 2003; Chen & Chang, 2008) The success of the information system model is seen from the quality of the information system to predict and influence user intentions in doing online shopping.

Based on the results of the study, trust is proven to strengthen the relationship between perceived usefulness and online shopping. This shows that trust plays an important role in strengthening the perceived usefulness relationship in online shopping (Sugandini et al., 2018a; Sugandini et al., 2018b; Yuliansyah et al, 2016; Kim et al., 2008). Customer trust in the usefulness of electronic money is strongly influenced by security, privacy, convenience and usability (Casalo et al., 2007). According to (Natarajan et al., 2018; Zhao et al., 2019), perceived usefulness is a key factor for online payments via smartphones. Therefore, if it is easy and beneficial for customers to use e-wallets because it provides fast, safe, convenient transactions that can be done anywhere, then the customer will use the system (Al-Amria et al., 2016). It is proven according to research (Chen & Barnes, 2007) which states that the benefits received by customers are an antecedent of trust in online shopping. The higher or greater the Perceived usefulness that is felt and accepted by customers in shopping, the more often customers do online shopping (Luarn & Lin, 2005). Online shopping provides advantages and convenience for customers such as minimizing time and maximizing convenience in transactions (Shih, 2004). Thus, the formation of a good impression plays an important role in realizing the expectations of customer trust in the convenience of online shopping. 2007) which states that the benefits received by customers are an antecedent of trust in online shopping. The higher or greater the Perceived usefulness that is felt and accepted by customers in shopping, the more often customers do online shopping (Luarn & Lin, 2005). Online shopping provides advantages and convenience for customers such as minimizing time and maximizing convenience in transactions (Shih, 2004). Thus, the formation of a good impression plays an important role in realizing the expectations of customer trust in the convenience of online shopping. 2007) which states that the benefits received

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The results of the study state that trust strengthens the relationship between perceived ease of use and online shopping. This is proven by trust as a moderator variable between Perceived ease of use and online shopping. Perceived ease of use refers to the ease of understanding and interaction through information technology (Davis, 1989; Tarigan et al., 2020). According to (Brusch & Rappel, 2020; Iskandar et al., 2020), customers who use e-wallets find the payment process clear, easy to understand, and easy to use. Therefore, e-wallet services focus on developing e-wallets that are easy to use, efficient, attractive and secure. Therefore, emotional advertising and promotions play an important role in the pleasant use of e-wallets (Senali et al., 2022). In accordance with the results of research (Yoon, 2009) Perceived usefulness, Perceived ease of use, and trust play an important role in consumer e-commerce transactions in both developing and developed countries. Elements of Perceived ease of use are systems that are easy to process, with technology that is easily accepted by customers, customers will easily do online shopping (Beldona et al., 2005; Zeithaml et al., 2002). It can be concluded that customers who feel the convenience of online shopping will have trust in the e-commerce (Davis et al., 1989). According to (Gefen et al., 2003) argues that online shopping intention is a customer's assessment of information technology and trust in online shopping. Perceived usefulness, Perceived ease of use and Trust play an important role in driving the progress of e-commerce. Elements of Perceived ease of use are systems that are easy to process, with technology that is easily accepted by customers, customers will easily do online shopping (Beldona et al., 2005; Zeithaml et al., 2002). It can be concluded that customers who feel the convenience of online shopping will have trust in the e-commerce (Davis et al., 1989). According to (Gefen et al., 2003) argues that online shopping intention is a customer's assessment of information technology and trust in online shopping. Perceived usefulness, Perceived ease of use and Trust play an important role in driving the progress of e-commerce. Elements of Perceived ease of use are systems that are easy to process, with technology that is easily accepted by customers, customers will easily do online shopping (Beldona et al., 2005; Zeithaml et al., 2002). It can be concluded that customers who feel the convenience of online shopping will have trust in the e-commerce (Davis et al., 1989). According to (Gefen et al., 2003) argues that online shopping intention is a customer's assessment of information technology and trust in online shopping. Perceived usefulness, Perceived ease of use and Trust play an important role in driving the progress of e-commerce. It can be concluded that customers who feel the convenience of online shopping will have trust in the e-commerce (Davis et al., 1989). According to (Gefen et al., 2003) argues that online shopping intention is a customer's assessment of information technology and trust in online shopping. Perceived usefulness, Perceived ease of use and Trust play an important role in driving the progress of e-commerce. It can be concluded that customers who feel the convenience of online shopping will have trust in the e-commerce (Davis et al., 1989). According to (Gefen et al., 2003) argues that online shopping intention is a customer's assessment of information technology and trust in online shopping. Perceived usefulness, Perceived ease of use and Trust play an important role in driving the progress of e-commerce.

Conclusion

Based on the results of the study it can be concluded as follows:

Trust as a moderator variable strengthens the Perceived relationshipusefulnesssignificantly to Online Shopping.
Trust as a Moderator variable strengthens the relationship between Perceived ease of use significantly to Online.
Trust as a Moderating variable weakens the Intention to use E-money relationship that is not significant to Online Shopping
Trust as a moderator variable strengthens the Perceived relationshipusefulnesssignificantly to Online Shopping.
Trust as a Moderator variable strengthens the relationship of Perceived ease of use significantly to Online Shopping.
Trust as a Moderating variable weakens the Intention to use E-money relationship that is not significant to Online Shopping.

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