THE ACCEPTANCE OF ELECTRONIC PAYMENT AMONG URBAN PEOPLE: AN EMPIRICAL STUDY OF THE C-UTAUT-IRT MODEL

[a] Edi Purwanto, [b] Rachman Sjarief, [c] Anil Dawan, [d] Sarahnada Kurniawan, [e]Nawangwulan Pertiwi, [f] Nicky Zahra

ABSTRACT

Purpose: This research focuses on adopting and using smartphone-based digital payment systems among Generation X and millennials in Jakarta, Tangerang, and South Tangerang, Indonesia. Combining UTAUT-IRT was used to investigate digital payment acceptance.

Theoretical framework: This study examines the effect of the UTAUT and IRT factors on the behavior intention to use e-money and actual usage of e-money.

Design/methodology/approach: The study utilizes a non-probability convenience sampling technique, with a sample size of 268 respondents. Data collection is conducted online through Google Forms. Structural Equation Modeling (SEM-PLS) using SmartPLS software is employed for data analysis.

Findings: The research findings indicate that performance and effort expectancy do not significantly influence behavior intention among Generation X and millennials. However, social influence and facilitating conditions drive behavior intention among Generation X and millennials. Technology usage significantly influences behavior intention among millennials. In contrast, technology value influences behavior intention among Generation X. Traditional payment methods significantly impact behavior intention among Generation X but not among millennials. Technology risk and technology image do not significantly influence behavior intention in both groups. Behavior intention positively impacts actual usage among both Generation X and millennials.

Research, Practical & Social implications: This research provides insights for policymakers, financial institutions, and e-money providers to understand the factors driving behavior intention towards e-money adoption among Generation X and millennials, suggesting targeted strategies to promote adoption and enhance the convenience and facilitating conditions for digital transactions, leading to increased financial inclusion and efficiency.

[a] Doctor of Development Studies. Department of Management, Universitas Pembangunan Jaya. South Tangerang Indonesia, E-mail: edi.purwanto@upj.ac.id, ORCID: https://orcid.org/0000-0002-7143-4469
[b] Doctor of Management. Department of Management, Universitas Pembangunan Jaya. South Tangerang Indonesia, E-mail: rachman.sjarief@upj.ac.id, ORCID: https://orcid.org/0000-0001-8461-5018
[c] Doctor of HRM Development. Department of Management, Universitas Pembangunan Jaya. South Tangerang Indonesia, E-mail: anil.dawan@upj.ac.id, ORCID: https://orcid.org/0009-0003-2498-1376
[d] Graduate in Management. Department of Management, Universitas Pembangunan Jaya. South Tangerang Indonesia, E-mail: sarahnada.kurniawan@student.upj.ac.id, ORCID: https://orcid.org/0009-0002-9052-8812
[e] Graduate in Management. Department of Management, Universitas Pembangunan Jaya. South Tangerang Indonesia, E-mail: nawangwulan.pertiwi@student.upj.ac.id, ORCID: https://orcid.org/0009-0001-1384-4013
[f] Graduate in Management. Department of Management, Universitas Pembangunan Jaya. South Tangerang Indonesia, E-mail: nicky.zahra@student.upj.ac.id, ORCID: https://orcid.org/0009-0001-5308-9817

Originality/value: This study contributes to the existing literature by examining the influence of factors on behavior intention toward e-money adoption among Generation X and Generation Y in Indonesia. It fills a gap by analyzing generational differences and motivations for adopting e-money, considering the specific context of personal payment needs.

Keywords: UTAUT model, IRT model, electronic money, technology acceptance.

Received: 24/04/2023
Accepted: 18/07/2023
DOI: https://doi.org/10.55908/sdgs.v11i2.559

A ACEITAÇÃO DO PAGAMENTO ELETRÔNICO ENTRE A POPULAÇÃO URBANA: UM ESTUDO EMPÍRICO DO MODELO C-UTAUT-IRT

RESUMO

Objetivo: Esta pesquisa se concentra na adoção e no uso de sistemas de pagamento digital baseados em smartphones entre a Geração X e a geração do milênio em Jacarta, Tangerang e South Tangerang, na Indonésia. A combinação de UTAUT-IRT foi usada para investigar a aceitação de pagamentos digitais.

Estrutura teórica: Este estudo examina o efeito dos fatores UTAUT e IRT sobre a intenção comportamental de usar dinheiro eletrônico e o uso efetivo do dinheiro eletrônico.
Projeto/metodologia/abordagem: O estudo utiliza uma técnica de amostragem de conveniência não probabilística, com um tamanho de amostra de 268 respondentes. A coleta de dados é realizada on-line por meio do Google Forms. A modelagem de equações estruturais (SEM-PLS) usando o software SmartPLS foi empregada para a análise dos dados.

Resultados: Os resultados da pesquisa indicam que o desempenho e a expectativa de esforço não influenciam significativamente a intenção de comportamento entre a Geração X e a geração do milênio. Entretanto, a influência social e as condições facilitadoras impulsionam a intenção de comportamento entre a Geração X e a geração do milênio. O uso da tecnologia influencia significativamente a intenção de comportamento entre os millennials. Em contrapartida, o valor da tecnologia influencia a intenção de comportamento entre a Geração X. Os métodos de pagamento tradicionais afetam significativamente a intenção de comportamento entre a Geração X, mas não entre a geração do milênio. O risco tecnológico e a imagem da tecnologia não influenciam significativamente a intenção de comportamento em ambos os grupos. A intenção de comportamento afeta positivamente o uso real entre a Geração X e a geração do milênio.

Implicações sociais, práticas e de pesquisa: Essa pesquisa fornece insights para que os formuladores de políticas, as instituições financeiras e os provedores de dinheiro eletrônico compreendam os fatores que impulsionam a intenção de comportamento em relação à adoção do dinheiro eletrônico entre a Geração X e a geração do milênio, sugerindo estratégias direcionadas para promover a adoção e melhorar a conveniência e as condições facilitadoras das transações digitais, levando a uma maior inclusão e eficiência financeira.

Originalidade/valor: Este estudo contribui para a literatura existente ao examinar a influência dos fatores na intenção de comportamento em relação à adoção do dinheiro eletrônico entre a Geração X e a Geração Y na Indonésia. Ele preenche uma lacuna ao analisar as diferenças geracionais e as motivações para a adoção do dinheiro eletrônico, considerando o contexto específico das necessidades pessoais de pagamento.

Palavras-chave: modelo UTAUT, modelo IRT, dinheiro eletrônico, aceitação de tecnologia.

1 INTRODUCTION

Technological advancements have increased comfort and speed in financial transactions, making transactions more accessible and cheaper (Kashyap & Weber, 2016). While credit cards and ATMs were introduced to the public in the 1950s and 1970s, nowadays, smartphones have become one of the means to reduce the use of ATMs and shift to digital payment systems (Nienaber, 2016). Digital payments do not wholly replace banking technology; instead, they can collaborate to mutually benefit amidst the shifting consumer behavior in transactional devices Eagar (2016). Richardson (2016) asserts that mobile devices, including smartphones, have transformed payment technology, including digital payments. Furthermore, Richardson (2016) states that digital money or financial transactions through mobile devices have spread widely to over 60 percent of developing countries across three continents. The significant role of FinTech in today's landscape is demonstrated by Huljev (2016), who highlights that FinTech plays a crucial role in connecting banks, merchants, and customers as the pillars of financial transactions.

Smartphone-based digital payments are rising in Indonesia, especially among millennials and Generation Z or post-Millennial generations. According to Nugraha (2020), there are four popular types of digital payments in Indonesia: Mobile Banking, SMS Banking, Internet Banking, and Electronic Money. The utilization of digital payments has increased in line with the current pandemic situation, and it is likely to continue experiencing growth.

The COVID-19 pandemic has accelerated the adoption of digital payment methods as people seek safer and contactless alternatives to traditional cash transactions (Nugraha, 2020). With social distancing measures and hygiene concerns, consumers are increasingly turning to digital payment platforms to make purchases, transfer funds, and conduct financial transactions from the safety of their homes. This shift in consumer behavior has further fueled the growth of digital payments in Indonesia.

The convenience and ease of use offered by smartphone-based digital payment systems have attracted the millennial and Generation Z populations, who are known for their high reliance on mobile technology and preference for seamless and efficient financial solutions. These tech-savvy generations are quick to embrace digital advancements and are driving the widespread adoption of digital payment methods across various sectors in Indonesia.

The Covid-19 pandemic has transformed how people live worldwide, including in Indonesia. One significant change is the preference for digital payment methods, which are considered safer. During the pandemic, particularly during the implementation of Large-Scale Social Restrictions (PSBB), the use of digital payment methods has increased significantly in online shopping (Shofihara, 2020). Bank Indonesia recorded a surge in digital transactions during the PSBB period, with a year-on-year increase of 64.48 percent in April 2020, attributed to the Covid-19 outbreak (Safitri, 2020). Bank Indonesia also noted a decline in cash transactions during the pandemic (Ulya, 2020).

According to Filianingsih Hendarta, Assistant Governor and Head of the Payment System Policy Department at Bank Indonesia, although cash was predominantly used for payment in traditional markets before the pandemic, and digital payments were often rejected, during this pandemic, the market traders have been pushing for the accelerated implementation of digital payments (Ulya, 2020). Transactions through e-commerce platforms increased by 18.1 percent to reach 98.3 million transactions. QRIS interconnection transactions at merchants saw a significant growth of up to 2.2 million transactions during March 2020, with a total nominal value of IDR 75.1 billion (Ulya, 2020).

The Covid-19 pandemic has caused a shift in the lifestyle of people worldwide, including in Indonesia. As a safety measure, there has been a notable increase in the adoption of digital payment methods. Bank Indonesia has observed a rise in digital transactions during the implementation of PSBB, with a decline in cash transactions. Market traders in traditional markets have also embraced digital payments, urging for their rapid implementation. This shift is reflected in the increased volume of transactions in e-commerce platforms and the utilization of QRIS interconnections at merchant locations during the pandemic.

Based on the above background, the research gaps are: First, needs to be a more comprehensive understanding of the motivations and preferences of Indonesia's Generation X and millennials regarding adopting smartphone-based digital payment systems. Second, lack of research on the challenges and barriers faced by market traders in traditional markets in accepting and implementing digital payment methods. Third, need for more knowledge about the specific impact of the COVID-19 pandemic on the adoption and usage of digital payment methods in Indonesia, including changes in consumer behavior and transaction volumes. Fourth, inadequate exploration of digital

payments' potential benefits and drawbacks in traditional markets, such as their impact on efficiency, security, and financial inclusion. Fifth, limited research on the strategies and initiatives that can be implemented to promote further and enhance the acceptance and usage of digital payment methods in Indonesia, particularly in traditional market settings.

The problem statement is that despite the growing popularity and adoption of smartphone-based digital payment systems in Indonesia, there is a need to understand the factors driving the shift towards digital payments, particularly among the Generation X and millennial populations in comparison. Additionally, it is crucial to identify the challenges and barriers faced in implementing and accepting digital payments in traditional markets, as well as the impact of the COVID-19 pandemic on the adoption and usage of digital payment methods. The level of acceptance towards the use of digital payments, particularly during the pandemic and the new normal, becomes crucial to be examined. It is also essential to investigate the factors influencing society's acceptance and usage of digital payments, precisely electronic money. This research will focus on using one type of digital payment: the acceptance and usage of electronic money.

The advantages of this research are as follows: (1) By identifying the factors that influence the acceptance and usage of electronic money, it will provide valuable insights for companies such as OVO, Gopay, Link-Aja, and others to improve the performance of their systems, thus facilitating users in utilizing them. (2) The significance of this research for public policy lies in the fact that promoting electronic money will contribute to the success of social restriction programs during the pandemic and in the new normal phase. (3) The importance of this research for society is to raise awareness that electronic money facilitates transactions and provides security, especially during the pandemic and in the new normal phase. (4) The significance for researchers is that due to its novelty, the findings of this research have the potential to have an impact not only at the national level but also internationally.

This research examines (1) The influence of performance expectancy on the intention to use electronic money. (2) The influence of effort expectancy on the behavior intention to use electronic money. (3) The influence of social influence on the behavior intention to use electronic money. (4) The influence of facilitating conditions on the behavior intention to use electronic money. (5) The influence of usage barriers on resistance to the use of electronic money. (6) The influence of value barriers on resistance

to the use of electronic money. (7) The influence of risk barriers on resistance to the use of electronic money. (8) The influence of traditional barriers on resistance to the use of electronic money. (9) The influence of image barriers on resistance to the use of electronic money. Additionally, it aims to investigate whether behavior intention positively and significantly affects the actual usage of electronic money. (10) The influence of resistance on the actual usage of electronic money.

2 THEORETICAL FRAMEWORK

2.1 UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY (UTAUT)

The measurement of intention in innovative technology has given rise to numerous theories for its examination. Researchers have employed various theories to test the factors influencing individuals' willingness to adopt innovative technology, particularly the Technology Acceptance Models (TAMs) and, more recently, the Unified Theory of Acceptance and Use of Technology (UTAUT) and UTAUT2. The UTAUT model was developed by Venkatesh et al. in 2003 (Venkatesh et al., 2003), and the UTAUT2 model was also formulated by Venkatesh et al. in 2012 (Venkatesh et al., 2012). In the UTAUT model, Venkatesh et al. (2003) demonstrated that performance expectancy, effort expectancy, social influence, and facilitating conditions influence the acceptance of innovative technology. in the UTAUT2 model, Venkatesh et al. (2012) introduced two additional factors: Hedonic Motivation and Habit.

These models have provided valuable insights into understanding the factors that shape individuals' intentions and behaviors toward adopting innovative technologies. Individuals' perceived usefulness and expected benefits of the technology can be assessed by examining performance expectancy. effort expectancy evaluates individuals' perceptions of the ease of use and the perceived level of effort required to use the technology. Social influence factors, such as opinions and recommendations from peers or influential individuals, on an individual's intention to adopt the technology. Facilitating conditions encompass the availability of resources, infrastructure, and support necessary for individuals to use the technology effectively (Venkatesh et al., 2003).

Furthermore, UTAUT2 extends the understanding by including Hedonic Motivation, which reflects individuals' pleasure-seeking and enjoyment derived from using technology, and Habit, which examines technology usage's automatic and repetitive nature (Venkatesh et al., 2012). By incorporating these theories and models into research

on the intention to use electronic money, a comprehensive understanding can be obtained regarding the factors influencing individuals' acceptance and adoption of this digital payment method.

Researchers have widely adopted the UTAUT model to examine the factors influencing the intention to use various innovative technologies in different countries, particularly in studies on the acceptance of mobile banking and digital payment. For instance, Tarhini et al. (2016) utilized the UTAUT model to investigate the acceptance of Internet banking in Lebanon, involving 408 Internet banking users. Their research findings demonstrated that, except for the effort expectancy factor, all other UTAUT factors were determinants of Internet banking acceptance in Lebanon.

The study conducted by Tarhini et al. (2016) highlights the applicability of the UTAUT model in understanding the factors that shape individuals' intention to adopt Internet banking. The findings indicate that factors such as performance expectancy, social influence, facilitating conditions, and hedonic motivation play crucial roles in influencing individuals' acceptance of Internet banking in the Lebanese context.

Sobti (2019) employed the UTAUT model to examine the acceptance of mobile payment in India, involving a sample size of 640 participants. This study followed the original UTAUT model, which does not directly link the facilitating conditions variable with behavior intention but connects it directly to the user behavior variable. The study conducted by Sobti (2019) sheds light on the complexities and nuances involved in understanding the factors influencing the acceptance of mobile payment in the Indian context. While the UTAUT model has been widely used and validated in various settings, the findings of this particular study suggest that the UTAUT factors may not serve as strong determinants of mobile payment acceptance in India.

Rahi et al. (2019) applied the UTAUT model to examine the acceptance of Internet banking using convenience sampling techniques, successfully collecting data from 395 Internet banking users among customers of commercial banks in Pakistan. The research findings demonstrated that all UTAUT factors were significant determinants of Internet banking acceptance in Pakistan. The study conducted by Rahi et al. (2019) contributes to the understanding of factors influencing the adoption and acceptance of Internet banking in the Pakistani context. The results indicate that performance expectancy, effort expectancy, social influence, and facilitating conditions are pivotal in shaping individuals' intention to accept and use Internet banking services in Pakistan.

Giovanis et al. (2019) employed the UTAUT model to investigate the acceptance of mobile banking in Greece. The study collected and utilized a sample size of 513 respondents who were mobile banking users in Athens, Greece. The research did not include the facilitating conditions factor in the research model, as the original UTAUT model does not directly link facilitating conditions with behavior intention, and this study did not incorporate behavior variables. The study's results demonstrated that the three UTAUT factors included in the model were significant determinants of mobile banking acceptance in Greece. The study by Giovanis et al. (2019) provides insights into the factors influencing the acceptance and adoption of mobile banking in the Greek context. The findings indicate that performance expectancy, effort expectancy, and social influence are crucial in shaping individuals' intention to accept and use mobile banking services in Greece.

Odoom & Kosiba (2020) conducted a study on the acceptance of mobile payment services among microenterprise owners in Ghana. A total of 584 entrepreneurs participated as respondents in this research. The findings of this study provided evidence that the UTAUT factors were proven to be significant determinants.

Sivathanu (2019) employed the UTAUT2 model to examine the acceptance of digital payment with a sample size of 766. The research was conducted in India. Sivathanu's (2019) study demonstrated that all UTAUT2 factors significantly influenced digital payment acceptance in India.

Rizkalla et al. (2023) employed the UTAUT framework to examine the intentions of entrepreneurs in Indonesia regarding the utilization of social media for their businesses. The research findings do not provide substantial evidence supporting the impact of effort expectancy on attitude, either directly or indirectly, on intention. Nevertheless, performance expectancy and social influence exhibit a notable influence.

Rasid et al. (2023) Rasid et al. (2023) proposed a theoretical model for accepting a novel Islamic payment gateway system among Malaysians. This research will utilize the UTAUT framework, incorporating four exogenous latent variables: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC). Additionally, two endogenous latent variables, Religiosity (R) and Behavioral Intention (BI), will be moderators in the model.

In the studies mentioned above, the prominence of mobile banking and Internet banking acceptance has been highlighted for investigation. Therefore, examining the

influence of Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating conditions on the acceptance of electronic payment is intriguing, mainly by comparing the acceptance among Generation X, Y, and Z. The UTAUT factors to be utilized include Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Condition. Performance Expectancy refers to how individuals believe technology will enhance their job performance (Venkatesh et al., 2003; Venkatesh et al., 2012). Effort Expectancy pertains to the perceived ease of use when utilizing the technology (Venkatesh et al., 2003; Venkatesh et al., 2012). Social influence encompasses consumers' perceptions of the beliefs of friends, family members, and other consumers regarding technology usage (Venkatesh et al., 2003; Venkatesh et al., 2012). Lastly, Facilitating Condition reflects users' perceptions of the available support and resources when using the technology. This encompasses software resources, hardware resources, technical support, and information technology knowledge (Venkatesh et al., 2003; Venkatesh et al., 2012).

2.2 INNOVATION RESISTANCE THEORY (IRT)

In addition to previous research on accepting technological innovation, some theories and studies focus on resistance or rejection. Ram and Sheth (1989) developed the Innovation Resistance Theory (IRT). The factors influencing innovation rejection in this model include Usage Barrier, Value Barrier, Risk Barrier, Traditional Barrier, and Image Barrier. When an innovation that differs from existing systems, habits, and practices emerges, individuals tend to reject that innovation, referred to as Usage Barrier (Ram & Sheth, 1989). The value of the innovation related to monetary value and performance is considered as the Value Barrier. It is also related to users' perceptions of whether the innovation adds value to their performance (Ram & Sheth, 1989). Risk Barrier refers to the perceived level of risk associated with the use of the innovation, and this risk is related to the potential losses that users may incur (Ram & Sheth, 1989). Traditional Barrier to the adoption of technological innovation is associated with barriers of norms, traditions, habits, and behaviors that are seen as conflicting with family, societal, or group norms, and the disapproval of the community leads to resistance to innovation (Ram & Sheth, 1989). On the other hand, the Image Barrier is generally influenced by various types of information, rumors, and stereotypes. For example, negative perceptions of the image of an innovation can arise due to media coverage that highlights negative aspects of a

particular innovation, resulting in societal rejection of that innovation (Ram & Sheth, 1989).

Studies that have tested IRT have primarily been conducted in the context of resistance to the Internet and mobile banking in Laukkanen & Kiviniemi (2010), mobile financial transaction services in Tunisia by Chemingui dan Lallouna (2013), and mobile commerce in India by Thakur dan Srivastava (2013). As resistance to new technologies or innovations is generally observed among lower-income populations with limited technological literacy and some Generation X and baby boomers, it is necessary to examine the IRT model through a comparative approach between Generation X and Y. The factors in IRT are opposite to those in UTAUT, making it interesting to integrate both models to examine the differences between Generation X and Y in accepting digital payment, particularly in the context of this study, electronic money.

2.3 COMBINED UTAUT-IRT

By combining UTAUT and IRT, hypotheses for the research can be formulated as follows:

H1: Performance expectancy positively and significantly influences the behavior intention to use electronic money.

H2: Effort expectancy positively and significantly influences the behavior intention to use electronic money.

H3: Social influence positively and significantly influences the behavior intention to use electronic money.

H4: Facilitating condition positively and significantly influences the behavior intention to use electronic money.

H5: Technology usage positively and significantly influences the behavior intention to use electronic money.

H6: Technology value positively and significantly influences the behavior intention to use electronic money.

H7: Technology risk positively and significantly influences the behavior intention to use electronic money.

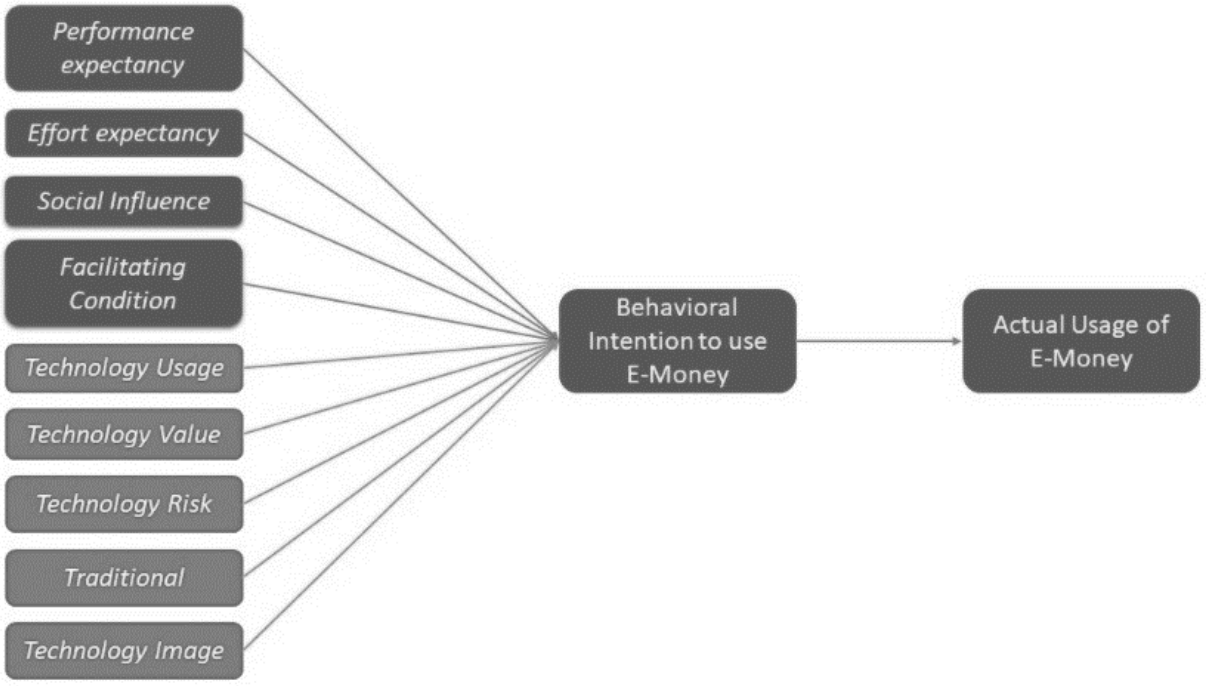
H8: Traditional factors positively and significantly influence the behavior intention to use electronic money.

H9: Technology image positively and significantly influences the behavior intention to use electronic money.

H10: Behavior intention positively and significantly influences the actual usage of electronic money.

Based on these hypotheses, a conceptual framework can be constructed, as shown in Figure 2.1.

Figure 1. Conceptual Framework



Source: Prepared by the authors (2023)

The novelty of this research lies in testing the Combined UTAUT-IRT for the acceptance of electronic money usage by comparing Generations X and Y. Thus, the conceptual framework or model in Figure 2.1 will be tested on Generation X, followed by Generation Y, and finally comparing the test results among these different generations.

3 METHODOLOGY

3.1 RESEARCH LOCATION

Considering the scale of the study and the ongoing pandemic situation, this research will be conducted in Jakarta, Tangerang, and South Tangerang.

3.2 POPULATION AND SAMPLE

The population of this study consists of electronic money users in Jakarta, Tangerang, and South Tangerang, with an unknown total population size. Therefore, a suitable sampling technique is non-probability convenience sampling, where the sample size is determined by multiplying the number of indicators by 5 to 10. The determination of the sample size follows Sekaran & Bougie (2013). The total number of indicators in this study is 43. The sample size for Generation X is 96, and the sample size for Generation Y is 172. Thus, the total sample size for this study is 268 samples, exceeding the minimum required sample size, which is the number of indicators multiplied by 6.

3.3 DATA COLLECTION TECHNIQUE

As mentioned in the explanation of the population and sample above, the data collection technique in this study will utilize non-probability convenience sampling. Data collection will be conducted online through Google Forms and distributed to the targeted respondents.

3.4 DATA ANALYSIS METHOD

Considering the complexity of the research model, the data analysis method will employ Structural Equation Modeling (SEM-PLS) using the SmartPLS software. The data analysis using SEM-PLS will involve outer model evaluation to test reliability and validity and inner model evaluation to measure R2 and conduct T-statistic or hypothesis testing (Hair et al., 2011).

4 RESULTS AND DISCUSSION

The SEM-PLS results analysis begins with measuring the outer model to test reliability and validity. This involves assessing the reliability of the indicators and confirming their ability to measure the latent constructs accurately. Validity is examined by assessing convergent validity, which measures the extent to which indicators within the same construct are related, and discriminant validity, which ensures that indicators from different constructs are distinct.

After ensuring the reliability and validity of the outer model, the analysis proceeds to the measurement of the inner model. In this stage, the focus is on testing the hypotheses formulated in the research. The inner model evaluation involves examining the

relationships between constructs and assessing the strength and significance of these relationships. This analysis allows for the assessment of the hypothesized paths and the determination of the impact of each construct on the dependent variable.

4.1 RESULTS OF THE MODEL TESTING AMONG GENERATION X

Table 1. Outer Loadings

Variabel & Indikator	Outer Loadings
Actual Usage	
AU1	0,897
AU2	0,879
AU3	0,937
AU4	0,741
Behavior Intention	
BI1	0,832
BI2	0,877
BI3	0,841
BI4	0,919
BI5	0,911
Effort Expectancy	
EE1	0,835
EE2	0,860
EE3	0,870
EE4	0,830
Facilitating Condition	
FC1	0,792
FC2	0,881
FC3	0,895
FC4	0,867
Performance Expectancy	
PE1	0,910
PE2	0,893
PE3	0,800
PE4	0,895
Social Influences	
SI1	0,875
SI2	0,854
SI3	0,779
SI4	0,806
Traditional	
T1	0,955
T2	0,952
Technology Image	
TI1	0,906
TI2	0,959
TI3	0,942
Technology Risk	
TR1	0,870
TR2	0,795
TR3	0,807
TR4	0,910
TR5	0,894
Technology Usage	
TU1	0,879
TU2	0,878

TU3	0,904
TU4	0,930
TU5	0,756
Technology Value	
TV1	0,875
TV2	0,908
TV3	0,921

Source: SmartPLS 3 Output

Table 1 shows that all indicators from each variable have outer loadings greater than 0.70, demonstrating that all indicators meet the indicator reliability criterion (Hair et al., 2011). Similarly, the assessment of internal consistency reliability reveals that all variables meet the criteria, as shown in Table 2, where the values of Composite Reliability exceed 0.70. Additionally, Cronbach's Alpha values for all variables are greater than 0.70, confirming the reliability of all variables.

Table .2. Construct Reliability and Validity

	Cronbach's Alpha	**Composite Reliability**	**Average Extracted (AVE)**	**Variance**
Actual Use	0,887	0,923		0,751
Behavior Intention	0,924	0,943		0,768
Effort Expectancy	0,871	0,912		0,720
Facilitating Condition	0,882	0,919		0,738
Performance Expectancy	0,899	0,929		0,767
Social Influence	0,849	0,898		0,688
Technology Image	0,929	0,955		0,876
Technology Risk	0,909	0,932		0,734
Technology Usage	0,919	0,940		0,759
Technology Value	0,884	0,929		0,812
Traditional	0,901	0,953		0,910

Source: SmartPLS 3 Output

The Average Variance Extracted (AVE) values of all variables in Table 2 exceed 0.50, indicating that all variables are valid. Similarly, Table 3 reveals that the AVE values are greater than their squared correlations, suggesting that all variables meet the criteria for discriminant validity.

Tabel 3. Discriminant Validity

0,867										
0,787	0,877									
0,726	0,784	0,849								
0,734	0,791	0,836	0,859							
0,629	0,698	0,808	0,683	0,876						
0,623	0,670	0,650	0,659	0,617	0,830					
0,821	0,796	0,742	0,732	0,682	0,638	0,936				
0,724	0,717	0,685	0,688	0,605	0,673	0,765	0,857			
0,790	0,826	0,785	0,786	0,686	0,607	0,835	0,775	0,871		
0,819	0,790	0,796	0,730	0,753	0,611	0,828	0,731	0,851	0,901	
0,757	0,718	0,637	0,619	0,598	0,596	0,704	0,643	0,710	0,738	0,954

Source: SmartPLS 3 Output

Table 4 presents R Square values exceeding 0.60, proving the PL-SEM model meets the goodness-of-fit criteria.

Tabel 4. R Square

	R Square	R Square Adjusted
Actual Use	0,696	0,693
Behavior Intention	0,881	0,869

Source: SmartPLS 3 Output

Table 5 reveals that the influence of social influence on behavior intention is positively and significantly supported, as evidenced by the T Statistics value of 2.079 > 1.96 and a P-value of 0.038 < 0.05. Therefore, H3 is accepted. The acceptance of Hypothesis 3 (H3) suggests that social influence significantly contributes to the participants' inclination to adopt the behavior under study. This finding aligns with previous research highlighting the importance of social influence in shaping individuals' intentions and behaviors. People are often influenced by the attitudes and opinions of their social networks, and this effect is particularly relevant in the context of behavior adoption.

The influence of facilitating condition on behavior intention is also positively and significantly supported, indicated by the T Statistics value of 2.497 > 1.96 and a P-value of 0.013 < 0.05, leading to the acceptance of H4. The acceptance of H4 suggests that the availability of facilitating conditions plays a crucial role in shaping individuals' intention to engage in the behavior under investigation. Facilitating conditions refer to supportive factors or resources that enable individuals to adopt and perform the desired behavior. In this study, facilitating conditions include the availability of necessary technology infrastructure, user-friendly interfaces, and secure systems that facilitate the use of e-money.

The positive and significant influence of technology value on behavior Intention is evident with a T Statistics value of 3.665 > 1.96 and a P-value of 0.000 < 0.05. Hence, H6 is accepted. This indicates that Generation X considers the perceived value of e-money as a driving force behind their interest in using e-money. The acceptance of H6 indicates that technology value is crucial in driving Generation X's interest in using e-money. Generation X considers the perceived value of e-money as a significant factor in influencing their behavior intention. The perceived value encompasses various aspects, including the benefits, advantages, usefulness, and relevance of e-money in meeting their financial needs and preferences.

Similarly, when traditional values do not bind them, and they are not technology-averse, it encourages them to use e-money. Furthermore, the variable Traditional significantly influences behavior intention, with a T Statistics value of 2.215 > 1.96 and a P-value of 0.027 < 0.05. Thus, H8 is accepted. The acceptance of Hypothesis 8 (H8) supports the notion that traditional values play a role in shaping Generation X's intention to use e-money. When traditional values do not exert strong constraints on individuals and when they are not averse to technology, it encourages their adoption and usage of e-money. Traditional values encompass cultural, societal, and personal beliefs that influence individuals' preferences and behaviors. They often emphasize conventional practices, including physical currency and traditional payment methods. However, when these traditional values are not perceived as restrictive, and individuals are open to technological advancements, it creates an environment conducive to adopting e-money.

Lastly, the positive and significant influence of behavior intention on actual use is confirmed, with a T Statistics value of 23.686 > 1.96 and a P-value of 0.000 < 0.05. Therefore, H10 is accepted. These findings provide robust evidence of the impact of behavior intention on the actual use of e-money. The positive and significant influence of behavior intention on actual use underscores the importance of individuals' willingness and commitment to utilizing e-money in their everyday financial transactions. Individuals who firmly intend to use e-money are more likely to engage in its actual usage, translating their initial intentions into tangible actions.

Table 5 indicates that the influence of performance expectancy on behavior intention is not supported, as evidenced by the T Statistics value of 0.020 < 1.96 and a P-value of 0.984 > 0.05. Thus, H1 is rejected. Similarly, the testing of the influence of effort expectancy on behavior intention leads to the rejection of H2. The influence of technology

usage on behavior intention is also not found to be positive and significant, with a T Statistics value of 1.001 < 1.96 and a P-value of 0.317 > 0.05. This suggests that there are barriers for Generation X in adopting e-money technology. Therefore, H5 is rejected. Examining the influence of technology risk on behavior intention also fails to provide significant results, as indicated by the T Statistics value of 0.440 < 1.96 and a P-value of 0.660 > 0.05, leading to the rejection of H7. The influence of technology image on behavior intention is also not supported, resulting in rejection H9.

Table 5. Path Coefficients

	Hipotesis	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
H1	Performance Expectancy -> Behavior Intention	-0,002	0,020	0,984
H2	Effort Expectancy -> Behavior Intention	0,100	1,149	0,250
H3	Social Influence -> Behavior Intention	0,130	2,079	0,038
H4	Facilitating Condition -> Behavior Intention	0,235	2,497	0,013
H5	Technology Usage -> Behavior Intention	0,107	1,001	0,317
H6	Technology Value -> Behavior Intention	0,349	3,665	0,000
H7	Technology Risk -> Behavior Intention	-0,035	0,440	0,660
H8	Traditional -> Behavior Intention	0,152	2,215	0,027
H9	Technology Image -> Behavior Intention	0,037	0,471	0,638
H10	Behavior Intention -> Actual Use	0,834	23,686	0,000

Source: SmartPLS 3 Output

The findings highlight the importance of factors other than performance expectancy, effort expectancy, technology usage, technology risk, and technology image in shaping Generation X's behavior intention toward e-money adoption. Future research could explore additional factors such as trust, security, social influence, or individual characteristics to understand behavioral intention determinants in e-money adoption better.

This study demonstrates that performance expectancy, effort expectancy, technology usage, technology risk, and technology image do not significantly influence the behavior intention of Generation X toward e-money adoption. The rejection of H1, H2, H5, H7, and H9 indicates the need to focus on other factors to foster positive behavior intention and encourage the adoption and usage of e-money among Generation X. Understanding the specific barriers and concerns faced by Generation X can guide policymakers and organizations in designing effective strategies to promote e-money adoption and facilitate the transition towards a digital payment ecosystem.

4.2 RESULTS OF THE MODEL TESTING AMONG GENERATION Y

All indicators of each variable have outer loading values greater than 0.70, indicating that all indicators meet the indicator reliability criteria. Additionally, the measurement of internal consistency reliability found that all variables are fulfilled as the Composite Reliability values, as shown in Table 6, are greater than 0.70. Moreover, Cronbach's Alpha values for all variables are also greater than 0.70, indicating the reliability of all variables.

Table 6. Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Actual Use	0,887	0,923	0,751
Behavior Intention	0,924	0,943	0,768
Effort Expectancy	0,871	0,912	0,720
Facilitating Condition	0,882	0,919	0,738
Performance Expectancy	0,899	0,929	0,767
Social Influence	0,849	0,898	0,688
Technology Image	0,929	0,955	0,876
Technology Risk	0,909	0,932	0,734
Technology Usage	0,919	0,940	0,759
Technology Value	0,884	0,929	0,812
Traditional	0,901	0,953	0,910

Source: SmartPLS 3 Output

AVE values of all variables in Table 6 are greater than 0.50, indicating that all variables are valid. Similarly, Table 7 shows that the AVE values are greater than their squared correlations, suggesting that all variables have met the criterion for discriminant validity.

Table 7. Discriminant Validity

	0,867										
	0,787	**0,877**									
	0,726	0,784	**0,849**								
	0,734	0,791	0,836	**0,859**							
	0,629	0,698	0,808	0,683	**0,876**						
	0,623	0,670	0,650	0,659	0,617	**0,830**					
	0,821	0,796	0,742	0,732	0,682	0,638	**0,936**				
	0,724	0,717	0,685	0,688	0,605	0,673	0,765	**0,857**			
	0,790	0,826	0,785	0,786	0,686	0,607	0,835	0,775	**0,871**		
	0,819	0,790	0,796	0,730	0,753	0,611	0,828	0,731	0,851	**0,901**	
	0,757	0,718	0,637	0,619	0,598	0,596	0,704	0,643	0,710	0,738	**0,954**

Source: SmartPLS 3 Output

Table 8 displays R Square values above 0.60, proving that the PL-SEM model satisfies the goodness of fit criteria.

Table 8 R Square

	R Square	R Square Adjusted
Actual Use	0,620	0,617
Behavior Intention	0,782	0,770

Source: SmartPLS 3 Output

Table 9 demonstrates that the influence of Facilitating Condition on Behavior Intention is positive and significant, indicated by the T Statistics value of 1.983 > 1.96 and a P-value of 0.047 < 0.05, thereby supporting H4. Similarly, the influence of Technology Usage on Behavior Intention is also found to be positive and significant, with a T Statistics value of 2.576 > 1.96 and a P-value of 0.047 < 0.010, thereby supporting H5. Furthermore, the impact of Behavior Intention on Actual Use is also confirmed to be positive and significant, with a T Statistics value of 20.826 > 1.96 and a P-value of 0.000 < 0.05. Hence, H10 is accepted.

Table 9 Path Coefficients

	Hipotesis	ginal Sample (O)	tatistics (|O/STDEV|)	'alues
H1	Performance Expectancy -> Behavior Intention	0,035	0,444	**0,657**
H2	Effort Expectancy -> Behavior Intention	0,093	0,830	**0,406**
H3	Social Influence -> Behavior Intention	0,100	1,620	**0,105**
H4	Facilitating Condition -> Behavior Intention	0,199	1,983	**0,047**
H5	Technology Usage -> Behavior Intention	0,256	2,576	**0,010**
H6	Technology Value -> Behavior Intention	0,042	0,429	**0,668**
H7	Technology Risk -> Behavior Intention	-0,008	0,102	**0,919**
H8	Traditional -> Behavior Intention	0,140	1,912	**0,056**
H9	Technology Image -> Behavior Intention	0,152	1,390	**0,165**
H10	Behavior Intention -> Actual Use	0,787	20,826	**0,000**

Source: SmartPLS 3 Output

Table 9 illustrates that the influence of performance expectancy on behavior intention is not supported, as evidenced by the T Statistics value of 0.444 < 1.96 and a P-value of 0.657 > 0.05. Therefore, H1 is rejected. Similarly, upon examining the impact of effort expectancy on behavior intention and the influence of social influence on behavior intention, H3 is also rejected. The influence of technology value on behavior intention is not proven to be positive and significant, as indicated by the T Statistics value of 0.429 < 1.96 and a P-value of 0.668 > 0.05. Hence, H6 is rejected. Furthermore, the effect of technology risk on behavior intention is not substantiated, with a T Statistics value of 0.102 < 1.96 and a P-value of 0.919 > 0.05, leading to the rejection of H7. Similarly, the

influence of technology image on behavior intention is also not supported, resulting in the rejection of H8 and H9.

5 CONCLUSION

The influence of performance expectancy on behavior intention (Hypothesis 1) is not supported in both the model testing among Generation X and Generation Y. Since the utilization of e-money for both Generation X and Generation Y is primarily for personal payment needs rather than business or commercial transactions, performance expectations are not a significant factor driving them to use e-money.

The impact of effort expectancy on behavior intention (Hypothesis 2) is also not significantly supported in the model testing among Generation X and Generation Y. The respondents from Generation X, who participated in this study, have a higher education background and are technologically savvy, especially those from Generation Y. Operating e-money is perceived as easy for them. Hence, the ease of use is not a crucial factor driving them to use e-money.

The influence of social influence on behavior intention (Hypothesis 3) is supported in the model testing among Generation X. However, not in the model testing among Generation Y. The difference may be attributed to the tendency of Generation X to have a collectivist culture compared to Generation Y.

The influence of facilitating conditions on behavior intention (Hypothesis 4) is supported in the model testing among Generation X and, Generation Y. In addition to smartphones, various e-money applications, and stable and secure internet connectivity, are essential for conducting digital transactions or payments. Therefore, facilitating conditions are significant factors driving both Generation X and Y to use e-money.

The impact of technology usage on behavior intention (Hypothesis 5) is not supported in the model testing among Generation X but is supported in the model testing among Generation Y. Since Generation X users are already technologically literate, especially Generation Y, they do not face significant barriers in using technology. Therefore, technology usage is not a significant factor driving them to use e-money.

The influence of technology value on behavior intention (Hypothesis 6) is supported in the model testing among Generation X but not in the model testing among Generation Y. Generation X is still sensitive to slight increases in service costs when

using e-money, but this is not the case for Generation Y. That is what distinguishes the results of the testing.

The influence of technology risk on behavior intention (Hypothesis 7) is not supported in the model testing among Generation X and Generation Y. The low uncertainty avoidance culture in Indonesian society makes both Generation X and Y less risk-averse, especially since e-money usage is primarily for personal needs with relatively small nominal values.

The impact of traditional on behavior intention (Hypothesis 8) is supported in the model testing among Generation X but not in the model testing among Generation Y. Besides electronic payments, conventional payment methods are still preferred by Generation X, but this differs for Generation Y.

The influence of technology image on behavior intention (Hypothesis 9) is not supported in both the model testing among Generation X and Generation Y. This means that both Generation X and Generation Y do not perceive negative images of e-money companies or products, and the existing technological image does not influence their utilization of e-money.

The impact of behavior intention on actual use (Hypothesis 10) is supported in the model testing among Generation X and Generation Y. Hence, their intention to use e-money has been implemented in the actual usage of e-money.

Several limitations of this study are: First, the generalizability of the results may be limited due to the specific context of the sample, comprising Generation X and Generation Y from a particular geographic region. Caution should be exercised when extrapolating these findings to other populations or settings. Second, the cross-sectional design employed in the study restricts the ability to establish causal relationships between variables.

Several recommendations for future research are suggested: (1) Exploring the factors influencing behavior intention toward e-money adoption among other generational cohorts, such as Generation Z, would provide a broader understanding of the factors driving e-money adoption. (2) Cultural differences across various regions or countries may yield valuable insights into the factors influencing behavior intention. Future studies could explore the influence of cultural dimensions on e-money adoption and usage. (3) Investigating the long-term adoption and usage of e-money among different generations would provide insights into the sustainability of e-money adoption.

(4) Future research could delve deeper into the influence of trust and security on behavior intention toward e-money adoption. Examining the specific trust factors and security concerns among generational cohorts would help develop targeted strategies to address these issues. (5) Conducting comparative studies across different countries or regions with varying levels of e-money adoption could also provide valuable insights into the contextual factors that influence behavioral intention. (6) Lastly, adopting mixed-methods approaches combining quantitative and qualitative methods would offer a more comprehensive understanding of the factors influencing behavior intention. Integrating surveys with interviews or focus groups would provide rich insights into participants' perceptions and experiences.

ACKNOWLEDGMENTS

The authors thank the Center for Research & Community Service (LPPM) of Universitas Pembangunan Jaya for the financial support extended to facilitate this research. This publication directly results from Grant No. 001/PER-P2M/UPJ/11.21.

REFERENCES

Chemingui, H., & Lallouna, H. Ben. (2013). Resistance, motivations, trust and intention to use mobile financial services. *International Journal of Bank Marketing*, *31*(7), 574–592. https://doi.org/10.1108/IJBM-12-2012-0124

Eagar, M. (2016). FinTech + Digital Currency – Convergence or Collision? In S. Chishti & J. Barberis (Eds.), *The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries* (pp. 212–216). John Wiley & Sons, Inc. https://doi.org/https://doi.org/10.1002/9781119218906.ch56

Giovanis, A., Assimakopoulos, C., & Sarmaniotis, C. (2019). Adoption of mobile self-service retail banking technologies: The role of technology, social, channel and personal factors. *International Journal of Retail and Distribution Management*, *47*(9), 894–914. https://doi.org/10.1108/IJRDM-05-2018-0089

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–151.

Huljev, R. (2016). Payments and Point of Sales (POS) Innovation. In S. Chishti & J. Barberis (Eds.), *The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries* (pp. 92–94). John Wiley & Sons, Inc. https://doi.org/https://doi.org/10.1002/9781119218906.ch24

Kashyap, M., & Weber, G. (2016). How Emerging Technologies Will Change Financial Services Many Opportunities for FinTech Are Yet to be Explored Global Insurance Premiums Will Amount to US $ 800 per The Future of FinTech Largely Depends on Five Game-changers. In S. Chishti & J. Barberis (Eds.), *The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries* (pp. 226–228). John Wiley & Sons, Inc. https://doi.org/10.1002/9781119218906.ch58

Laukkanen, T., & Kiviniemi, V. (2010). The role of information in mobile banking resistance. *International Journal of Bank Marketing*, *28*(5), 372–388. https://doi.org/10.1108/02652321011064890

Nienaber, R. (2016). Banks Need to Think Collaboration Rather Than Competition. In S. Chishti & J. Barberis (Eds.), *The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries* (pp. 21–22). John Wiley & Sons, Inc. https://doi.org/https://doi.org/10.1002/9781119218906.ch4

Nugraha, D. (2020). *4 Jenis Digital Payment Yang Populer di Indonesia*. Paper Blog. https://www.paper.id/blog/bisnis/digital-payment-indonesia/

Odoom, R., & Kosiba, J. P. (2020). Mobile money usage and continuance intention among micro enterprises in an emerging market – the mediating role of agent credibility. *Journal of Systems and Information Technology*, *22*(4), 97–117. https://doi.org/10.1108/JSIT-03-2019-0062

Rahi, S., Othman Mansour, M. M., Alghizzawi, M., & Alnaser, F. M. (2019). Integration of UTAUT model in internet banking adoption context: The mediating role of

performance expectancy and effort expectancy. *Journal of Research in Interactive Marketing*, *13*(3), 411–435. https://doi.org/10.1108/JRIM-02-2018-0032

Ram, S., & Sheth, J. N. (1989). Consumer resistance to innovations: The marketing problem and its solutions. *Journal of Consumer Marketing*, *6*(2), 5. https://doi.org/10.1108/EUM0000000002542

Rasid, A. M. M., Bakri, M. H., Md, M. I., Razak, Ismail, A. F. M. F., & Nizam, N. Z. (2023). Overview of Acceptance Islamic Payment Gateway System in Malaysia: A Conceptual Framework. *International Journal of Professional Business Review*, *8*(5), 1–21.

Richardson, C. J. (2016). Smartphones, FinTech, and Education – Helping the Unbanked Reach Financial Inclusion. In S. Chishti & J. Barberis (Eds.), *The FinTech Book: The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries* (pp. 75–77). John Wiley & Sons, Inc. https://doi.org/https://doi.org/10.1002/9781119218906.ch20

Rizkalla, N., Lestari, E. D., Othman, N., Joremi, L., & Arinto, B. (2023). Elucidating the Factors Affecting Entrepreneurs' Intention To Adopt Social Media in Their Business: a Perspective From Indonesia. *International Journal of Professional Business Review*, *8*(5), 1–21. https://doi.org/10.26668/businessreview/2023.v8i5.1413

Safitri, K. (2020). *Transaksi Digital Melonjak 64,48 Persen Saat PSBB*. Kompas. https://money.kompas.com/read/2020/06/18/180000126/transaksi-digital-melonjak-64-48-persen-saat-psbb

Sekaran, U., & Bougie, R. (2013). *Research Methods for Business*. Jhon Wiley & Sons Ltd.

Shofihara, I. J. (2020). *Pandemi Covid-19 Picu Masyarakat untuk Bertransaksi Digital*. Kompas. https://money.kompas.com/read/2020/07/29/130000226/pandemi-covid-19-picu-masyarakat-untuk-bertransaksi-digital?page=all

Sivathanu, B. (2019). Adoption of digital payment systems in the era of demonetization in India: An empirical study. *Journal of Science and Technology Policy Management*, *10*(1), 143–171. https://doi.org/10.1108/JSTPM-07-2017-0033

Sobti, N. (2019). Impact of demonetization on diffusion of mobile payment service in India: Antecedents of behavioral intention and adoption using extended UTAUT model. *Journal of Advances in Management Research*, *16*(4), 472–497. https://doi.org/10.1108/JAMR-09-2018-0086

Tarhini, A., El-Masri, M., Ali, M., & Serrano, A. (2016). Extending the utaut model to understand the customers' acceptance and use of internet banking in lebanon a structural equation modeling approach. *Information Technology and People*, *29*(4), 830–849. https://doi.org/10.1108/ITP-02-2014-0034

Thakur, R., & Srivastava, M. (2013). Customer usage intention of mobile commerce in India: An empirical study. *Journal of Indian Business Research*, *5*(1), 52–72.

https://doi.org/10.1108/17554191311303385

Ulya, F. N. (2020). *Dampak Covid-19, Transaksi Digital Melonjak, Transaksi Tunai Anjlok*. Kompas. https://money.kompas.com/read/2020/04/30/201300126/dampak-covid-19-transaksi-digital-melonjak-transaksi-tunai-anjlok

Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: towards a unified view. *MIS Quarterly*, *27*(3), 425–477.

Venkatesh, V., Thong, J., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, *36*(1), 157–178.