Research article

The influence of perceived usefulness, perceived ease of use, compatibility and subjective norm on the use of e-money

La influencia de la utilidad percibida, la facilidad de uso percibida, la compatibilidad y la norma subjetiva en el uso del dinero electrónico

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Abstract

Introduction: The advancement of digital technology has significantly transformed payment methods, positioning e-money as a prominent tool for enhancing transaction efficiency and promoting financial inclusion. **Methodology:** This study aims to examine the influence of perceived usefulness, perceived ease of use, compatibility, and subjective norms on the intention to use e-money. A quantitative approach was employed involving 106 accounting students from the State Polytechnic of Malang, selected through purposive sampling. Data were analyzed using multiple regression analysis, preceded by classical assumption tests. **Results:** The findings indicate that all four independent variables have a positive and statistically significant effect on the intention to use e-money. **Discussions:** The results underscore the relevance of the Technology Acceptance Model and diffusion of innovations

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theory in explaining digital financial adoption. The perception of ease, benefit, social influence, and alignment with personal values plays a crucial role in shaping behavioral intention. **Conclusions:** The study provides empirical support for the importance of user-oriented technological design and social influence in promoting e-money adoption. These insights contribute to efforts in advancing digital financial literacy and inclusion among young users, particularly within higher education environments.

Keywords: perceived usefulness; perceived ease of use; compatibility; subjective norm; e-money; digital financial inclusion; student adoption.

Resumen

Introducción: El avance de la tecnología digital ha transformado los métodos de pago, posicionando al dinero electrónico como herramienta clave para mejorar la eficiencia de las transacciones y promover la inclusión financiera. **Metodología:** Este estudio examina la influencia de la utilidad percibida, la facilidad de uso percibida, la compatibilidad y las normas subjetivas en la intención de usar dinero electrónico. Se empleó un enfoque cuantitativo con 106 estudiantes de contabilidad de la Politécnica Estatal de Malang, seleccionados mediante muestreo intencional. Los datos se analizaron mediante regresión múltiple, precedida por pruebas de supuestos clásicos. **Resultados:** Las cuatro variables independientes mostraron un efecto positivo y estadísticamente significativo sobre la intención de uso. **Discusiones:** Los hallazgos confirman la relevancia del Modelo de Aceptación de la Tecnología y la teoría de la difusión de innovaciones para explicar la adopción de finanzas digitales. La percepción de facilidad, beneficio, influencia social y compatibilidad con valores personales resulta determinante en la intención de uso. **Conclusiones:** El estudio respalda la importancia del diseño tecnológico centrado en el usuario y de la influencia social en la adopción del dinero electrónico, aportando evidencia para promover la alfabetización financiera digital y la inclusión entre jóvenes en educación superior.

Keywords: utilidad percibida; facilidad de uso percibida; compatibilidad; norma subjetiva; dinero electrónico; inclusión financiera digital; adopción estudiantil.

1. Introduction

Along with the rapid development of technology, payment patterns and instruments in economic transactions continue to change. Technological advances in payment instruments have shifted the role of cash as a means of payment to non-cash forms of payment that are considered more efficient and economical. The development of money as a means of payment has increased over time. The development of information technology has led to changes in people's needs for faster and more flexible means of payment (Prabowo & Muhamad, 2023). It has led to innovations in the use of payment instruments.

One of the innovations in payment instruments that is growing today, driven by rapidly developing technology, is e-money. Since August 14th, 2014, Bank Indonesia has launched the National Non-Cash Movement (GNNT). This movement aims to increase public awareness of the use of non-cash instruments so that, gradually, a community or society that uses non-cash instruments (Less Cash Society/LCS) is formed.

According to Bank Indonesia (2009), the first license for e-money was issued through Bank Indonesia Regulation Number 11/12/PBI/2009. According to BI data, in August 2020, the nominal value of electronic money transactions reached IDR 17.23 trillion with a volume of 386.7 million transactions. This value increased compared to July, which was 381.5 million transactions, worth IDR 16.09 trillion.

Throughout this year, the highest value of electronic money transactions occurred in April, which was worth IDR 17.55 trillion, even though the transaction volume was only 324.8 million. At that time, it coincided with the implementation of the first phase of large-scale social restrictions (PSBB) in Jakarta to deal with the COVID-19 pandemic. Based on transaction volume so far this year, the highest occurred in January, with 458.9 million transactions worth IDR15.87 trillion (Bareksa, 2020).

E-money is one of the most promising alternatives to encourage increased financial inclusion. Telecommunications and banking companies are competing to launch e-money services and products. Almost all major banks in Indonesia currently have e-money services; the same is true for telecommunications companies. Amazingly, their steps are also followed by fintech startups that have a smaller scale but are very agile.

Meanwhile, the fintech industry, which has been present in Indonesia for several years, continues to grow in terms of user numbers. According to OJK data, the fintech industry's latest development, particularly in Peer-To-Peer Lending (P2P Lending), has reached 148 companies as of January 22nd, 2021. Previously, the growth in the value of funding or financing of fintech Peer-To-Peer Lending (P2P Lending) in 2020 grew 25 percent on an annual basis.

At the end of 2020, total P2P Lending fintech financing reached IDR 73 trillion. Some of the fintech startup players engaged in the payment sector are Doku, Kartuku, Midtrans, Kesles, Go-Pay and many more. Fintech startups in the e-commerce and marketplace sectors have also launched their payment features. For example, Bukalapak has the Bukadompet feature, Tokopedia has a balance feature, and Kaskus has Brankas and KasPay. Of the 22 e-wallet license holders in Indonesia, only six are fintech startups. The rest are held by banks and telecommunication companies (Triwijanarko, 2017).

E-money or electronic money is a payment instrument that has recently been used for ease of payment and in all forms of transactions. It is a payment instrument that uses electronic media, namely computer networks and the Internet. The value of money from customers is stored in certain electronic media. E-money is also often called Electronic Cash, Digital Money, Digital Cash, Electronic Currency or Digital Currency. E-money is very safe to use. Even the science of cryptography states that electronic money is very difficult to hack or hijack.

E-money can be defined as any amount of monetary value represented by a claim issued on a prepaid basis, stored in an electronic medium (for example, a card or computer) and accepted as a tool of payment by businesses besides the issuer, predominantly for small-value transactions, such as the settlement of modest transactions over the Internet, parking or telephone charges and payment for public transportation service.

2. Literature Review

2.1. E-money

-money is defined as 'store- value or prepaid products in which a record of the funds or value available to a consumer is stored on an electronic device in the consumer's possession' (Bank for International Settlements, 2016). The definition of e-money is a means of payment that uses electronic media, namely computer networks and the Internet. The value of money from customers is stored in certain electronic media. E-money is also often referred to as Electronic Cash, Digital Money, Digital Cash, Electronic Currency or Digital currency (Aliya, 2024).

E-money can be classified into two types based on its form:

a. Prepaid Software, often referred to as digital cash, is a type of e-money in which the value or balance is stored on a computer's hard disk. Fund transfers are conducted through the Internet, enabling users to perform transactions digitally without requiring physical media.

b. Prepaid Cards, also known as electronic purchases, are a type of e-money in which the value or balance is stored on a chip embedded in the card. Examples of prepaid cards commonly used in Indonesia include Flazz BCA, E-Mandiri, Brizzi, and BNI Prepaid.

E-money does not require authorization, such as entering a Personal Identification Number (PIN) or providing a signature, as it is not directly linked to a bank account. Unlike credit or debit cards, transactions with e-money do not impose payments on a bank account. Similar to other prepaid instruments, the balance on e-money can be reloaded (top-up) to facilitate future usage.

E-money is one of the innovations in the payment system that provides various practical benefits. One of the main advantages of e-money is its ability to reduce the need for cash in daily transactions. It allows users to make payments more easily and efficiently in places that have provided special devices. Transactions using e-money are also faster and more accurate because they are managed automatically by an electronic system. In addition, e-money eliminates the need for change because the nominal amount paid directly corresponds to the transaction amount. Another advantage is the automatic recording system that allows users to monitor transaction history without the need for manual recording.

However, e-money also has several shortcomings that need to be considered. As an electronic-based system, e-money is vulnerable to security threats such as hacking or cyber-attacks. The risk of data loss can also occur due to software or system disruptions. In addition, not all places provide supporting facilities for transactions using e-money, so users still need cash as an alternative. Another disadvantage is the potential for losing balances if the card or e-money storage device is lost, considering that the balance can only be accessed again with the device in question.

2.2. Perceived Usefulness

Perceived usefulness (PU) is a core construct within the Technology Acceptance Model (TAM), originally introduced by Davis (1989), and refers to the extent to which an individual believes that using a particular technology will enhance their performance. In essence, PU reflects instrumental motivation—users adopt technology when they expect it to yield tangible performance gains or efficiencies in their tasks.

Davis (1989) emphasized that PU plays a more significant role than perceived ease of use in predicting users' intention to adopt information systems. It has been confirmed by numerous empirical studies across various domains, including mobile banking, e-commerce, e-learning, and digital payment systems (Venkatesh & Davis, 2000; Oliveira et al., 2016; Alalwan et al., 2018). These studies consistently show that when users perceive a system as useful, they are more likely to accept and continue using it.

In the context of digital payments, perceived usefulness refers to how e-money can improve users' financial transaction experiences—such as saving time, increasing convenience, and enabling seamless payments without physical cash. Phonthanukitithaworn et al. (2016) observed that PU in mobile payment systems is closely linked to users' expectations regarding efficiency and convenience.

Beyond the direct impact on behavioral intention, PU can act as a mediator between other constructs and adoption behavior. For example, Priambodo and Prabawani (2016) found that perceived ease of use indirectly affects user interest through perceived usefulness. Similarly, compatibility—the extent to which a technology aligns with users' lifestyles and needs—can enhance PU when the system integrates well with users' routines (Rogers et al., 2008).

From a socio-technical perspective, perceived usefulness is not formed solely by system features, but also by trust, perceived risk, social influence, and facilitating conditions (Gefen et al., 2003; Venkatesh et al., 2012). For instance, in the case of e-money adoption among students, perceived usefulness may increase when the technology is promoted by educational institutions or embedded in common campus activities, such as canteen payments or public transport.

Therefore, PU not only represents rational evaluation of system benefits but also captures the intersection between individual expectations, system capabilities, and socio-environmental support. In digital financial innovation, understanding PU is crucial for designing user-centered systems and enhancing financial inclusion.

2.3. Perceived Ease of Use

According to Jogianto in Ramadhan (2016), perceived ease of use is defined as the extent to which a person believes that using a technology will be free from effort. From this definition, perceived ease is a person's belief in the ease of the decision-making process. If a person believes that an information system is easy to use, then they tend to use it.

Perceived ease of use (PEOU) is one of the core constructs in the Technology Acceptance Model (TAM) proposed by Davis (1989) and refers to the degree to which an individual believes that using a particular system will be free of physical and cognitive effort. PEOU represents the user's expectation that a system is not only functional, but also simple, intuitive, and accessible.

Davis (1989) argued that systems perceived as easier to use are more likely to be accepted, particularly in the early stages of technology adoption. While perceived usefulness directly affects behavioral intention, perceived ease of use has both a direct and an indirect influence by enhancing the perception of usefulness itself (Venkatesh & Davis, 2000). It means that even if a technology offers many benefits, users may reject it if it is perceived as complex or difficult to operate.

In the context of digital payments, including e-money, PEOU is reflected in features such as ease of account registration, simplicity of user interface, clarity of payment steps, and minimal technical barriers. Oliveira et al. (2016) highlight that the simplicity of mobile payment apps is one of the strongest predictors of user intention, particularly for first-time users or those with lower digital literacy.

Moreover, PEOU is closely tied to the user experience (UX) and system design. When users perceive a system as user-friendly and responsive, it reduces the cognitive burden associated with learning and operating the technology, thereby increasing the likelihood of adoption (Alalwan et al., 2018). In educational environments such as universities, where digital tools are often integrated into daily activities, ease of use can significantly shape student engagement with technologies like e-money.

The importance of PEOU is also magnified in environments with limited technological infrastructure or varying levels of digital familiarity. In such contexts, reducing complexity is essential not only to encourage adoption but also to promote inclusive access to digital financial services. Accordingly, developers and policymakers must ensure that e-money systems are designed with accessibility and simplicity as core priorities.

2.4. Compatibility

Compatibility refers to the degree to which an innovation is perceived as being consistent with the existing values, needs, past experiences, and lifestyle of the potential user (Rogers et al., 2008). In the context of technology adoption, compatibility plays a significant role in determining whether individuals perceive a system as a natural fit for their routines and preferences.

Unlike perceived usefulness and ease of use, which focus on functionality and cognitive effort, compatibility emphasizes the emotional and contextual alignment between the user and the technology. High compatibility often leads to a more seamless and intuitive integration into daily life, reducing resistance and accelerating adoption. In the adoption of e-money, compatibility reflects how well digital payments fit within users' financial behaviors, technological habits, and social environments. For students, for example, compatibility may be expressed through the ease of integrating e-money into everyday activities such as paying for public transportation, canteen purchases, or online shopping. When the use of e-money aligns with students' mobile-centric lifestyle and need for speed and convenience, adoption is more likely to occur.

Several studies have confirmed the critical role of compatibility in influencing behavioral intention toward mobile payment technologies. Oliveira et al. (2016) and Anjelina (2018) found that perceived compatibility significantly increased users' willingness to adopt mobile payment systems. In particular, they note that users are more receptive to innovations when they perceive minimal disruption to their current practices.

Moreover, compatibility has been shown to interact with other variables in technology acceptance models. It can reinforce perceived usefulness by making the benefits of a system more personally relevant, and it can also moderate the impact of subjective norms by validating social influences through personal alignment.

As a construct rooted in the Diffusion of Innovations theory, compatibility is especially useful for understanding adoption patterns in diverse socio-cultural settings. In developing countries where traditional practices may coexist with emerging technologies, ensuring that e-money systems are culturally and contextually relevant is essential for meaningful and inclusive financial innovation.

2.5. Subjective Norm

Subjective norm refers to the perceived social pressure to perform or not to perform a particular behavior (Ajzen & Fishbein, 1980). In the context of technology adoption, it reflects the extent to which an individual believes that important referent groups—such as friends, family, peers, or authority figures—think they should use a particular system. This concept originates from the Theory of Reasoned Action (TRA) and is further elaborated in the Theory of Planned Behavior (TPB), both of which emphasize the role of normative beliefs in shaping behavioral intention.

Subjective norms become particularly influential in the early stages of innovation diffusion, where users may rely on the opinions and behaviors of others in the absence of personal experience or technical knowledge. In such scenarios, individuals are likely to adopt a technology if they believe that people important to them endorse its use (Taylor & Todd, 1995).

In collectivist cultures like Indonesia, where social harmony and group conformity are highly valued, subjective norms can have an even stronger effect on technology adoption. Peer influence, institutional recommendations, and trends within social circles significantly shape individual decision-making processes. For instance, students may be more inclined to use e-money if they observe their friends, lecturers, or campus systems encouraging or normalizing its use.

Phonthanukitithaworn et al. (2016) demonstrated that subjective norm is a key determinant of intention to adopt mobile payment systems in Southeast Asia. Similarly, research by Mathieson (1991) and Anjelina (2018) confirmed that perceived social expectation significantly influences behavioral intention, particularly in communal settings.

Subjective norm also interacts with other psychological constructs. It can strengthen perceived usefulness through social validation, and its effect can be amplified when the referent group is perceived as knowledgeable or trustworthy. For policymakers and developers, this highlights the importance of leveraging social campaigns, peer-led education, and institutional endorsement to foster digital financial adoption.

2.6. Conceptual Framework

The conceptual framework of this study is grounded in the Technology Acceptance Model (TAM) developed by Davis (1989), which has been widely applied to explain user behavior toward information systems. TAM posits that two key beliefs—perceived usefulness (PU) and perceived ease of use (PEOU)—influence an individual's intention to adopt a technology. This study extends the traditional TAM by incorporating two additional constructs: compatibility and subjective norm. These additions are drawn from the Diffusion of Innovation Theory (Rogers et al., 2008) and the Theory of Planned Behavior (Ajzen, 1991), respectively, in order to capture better the social and contextual dimensions influencing user behavior in the adoption of e-money.

Perceived usefulness reflects the extent to which users believe that e-money improves the efficiency and effectiveness of their transactions. Perceived ease of use captures users' beliefs about the effortlessness of using e-money platforms. Compatibility refers to the degree to which e-money aligns with users' lifestyle and transaction habits, while subjective norm represents the influence of significant others in shaping users' decisions to adopt the technology.

These four independent variables are hypothesized to have a direct and positive effect on the dependent variable—intention to use e-money. The relationships are presented in the following research model (Figure 1), and are formulated into the following hypotheses:

- H1: Perceived Usefulness has a positive and significant influence on the interest in using e-money.

- H2: Perceived Ease of Use has a positive and significant influence on the interest in using e-money.

- H3: Compatibility has a positive and significant influence on the interest in using e-money.

- H4: Subjective Norm has a positive and significant influence on the interest in using e-money.

Figure 1.

SLR Methodological Flow
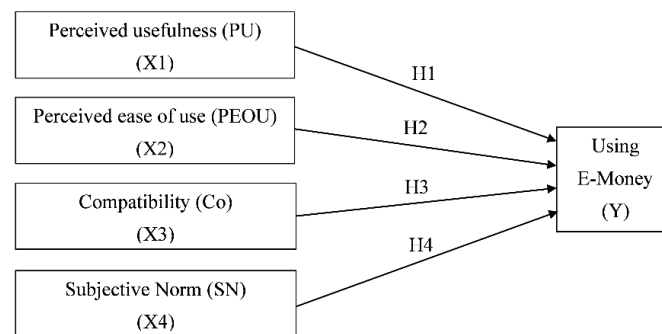
Source: Authors, 2024.

3. Methodology

This study employs an explanatory quantitative research design to examine causal relationships among variables and test predefined hypotheses. According to Sugiyono (2019), explanatory research highlights associative relationships in which changes in one variable are presumed to influence another. In this study, the relationship under investigation is between four independent variables—perceived usefulness, perceived ease of use, compatibility, and subjective norm—and the dependent variable, intention to use e-money.

The population consisted of 145 students enrolled in the D3 Accounting program at the State Polytechnic of Malang. Using purposive sampling, a non-probabilistic technique based on predefined inclusion criteria, a total of 106 respondents were selected. The inclusion criteria were:

1) being an active student in the D3 Accounting program during the 2024/2025 academic year,

2) having experience using or knowledge of e-money, and

3) willingness to participate voluntarily.

Students who did not meet these criteria were excluded. This method ensured that the sample was relevant to the study objectives.

Data were collected using a structured questionnaire with closed-ended items measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The instrument was adapted from validated scales in prior studies and underwent a validity and reliability assessment before use.

3.1. Instrument Validity and Reliability

Validity was assessed using Pearson's product-moment correlation between each item's score and the total score. All items had correlation coefficients (r) ranging from 0.421 to 0.756 with p-values < 0.05, indicating that each item was valid (Ghozali, 2016). Reliability was evaluated using Cronbach's Alpha. The results showed α **=** 0.872 for perceived usefulness, α = **0.861** for perceived ease of use, α = 0.846 for compatibility, α = 0.832 for subjective norm, and α = **0.889** for intention to use e-money. All values exceeded the 0.70 threshold (Hair et al., 2019), confirming acceptable internal consistency.

3.2. Normality Test

The normality test was conducted to determine whether the residuals of the regression model follow a normal distribution. Following Ghozali (2016), a normally distributed residual should approximate a straight diagonal line on a normal probability plot. The distribution is considered normal when the residual data closely follows this line.

3.3. Heteroscedasticity Test

To identify the presence of heteroscedasticity, a statistical test was conducted to assess whether the variance of residuals is consistent across observations. According to Ghozali (2016), if the significance value (p-value) of the independent variable's regression coefficient exceeds the alpha level of 0.05, heteroscedasticity is considered absent.

3.4. Autocorrelation Test

The autocorrelation test was performed to examine whether residuals in the regression model are correlated over time, specifically whether the error term at time t correlates with the error term at time t-1. This test ensures that the residuals are independent and that the model does not violate the assumption of independence (Ghozali, 2016).

3.5. Multicollinearity Test

Multicollinearity occurs when two or more independent variables in the regression model are highly correlated, potentially distorting the estimation of regression coefficients. The test was conducted using tolerance and Variance Inflation Factor (VIF) values. As per Ghozali (2016), a tolerance value below 0.10 or a VIF greater than 10 indicates multicollinearity.

4. Results

4.1. Correlation Testing

Prior to conducting the regression analysis, a Pearson Product-Moment correlation test was performed to examine the strength and direction of the linear relationship between the independent variables—perceived usefulness (PU), perceived ease of use (PEOU), compatibility (Co), and subjective norm (SN)—and the dependent variable, e-money usage.

Table 1.

Pearson product-moment correlation test

Variable	Correlation (r)	Sig. (p)	Decision
Perceived Usefulness (PU)	0.546	0.000	Significant
Perceived Ease of Use (PEOU)	0.634	0.000	Significant
Compatibility (Co)	0.617	0.000	Significant
Subjective Norm (SN)	0.471	0.000	Significant

Source: Own elaboration (2024)

4.2. Multiple Regression Testing

The regression results can be arranged in a table based on the test results.

Table 2.

Regression analysis results

Variable	Regression (b)	Std. Error	Beta	t Count	Sig.	Decision
Constant	0.503	1.397		0.360	0.730	Not significant
X1	0.284	0.116	0.201	2.442	0.016	Significant
X2	0.289	0.095	0.280	3.028	0.003	Significant
X3	0.312	0.097	0.280	3.209	0.002	Significant
X4	0.221	0.086	0.192	2.580	0.011	Significant
R (Multiple R)	= 0.742					
R Square	= 0.551					
R Square (adjusted)	= 0.533					
F Count	= 30.933					
Sign. F	= 0.000					
α	= 0.05					

Source: Own elaboration (2024)

Based on Table 2, the coefficient of determination (R^2) is 0.551, indicating that 55.1% of the variance in e-money usage can be explained by the independent variables—perceived usefulness (PU), perceived ease of use (PEOU), compatibility (Co), and subjective norm (SN). The adjusted R^2 value of 0.533 accounts for the number of predictors and sample size, and reflects the model's generalizability to the broader population. The remaining 44.9% of the variance is attributed to other factors not included in the model.

Furthermore, the F-test result shows a significance value of 0.000 ($p < 0.05$), indicating that the regression model is statistically significant. It suggests that the four predictors collectively have a significant simultaneous effect on the use of e-money, and that the model is appropriate for predictive purposes. The resulting regression equation is as follows:

$$Y = 0.503 + 0.284\,X1 + 0.289\,X2 + 0.312\,X3 + 0.221\,X4$$

The constant term has a p-value of 0.720, which exceeds the 0.05 significance level, indicating that it is not statistically significant. In contrast, the p-values for PU (0.016), PEOU (0.003), Co (0.002), and SN (0.011) are all below 0.05, suggesting that each variable has a significant partial effect on e-money usage. These results support the hypotheses that each independent variable contributes meaningfully to explaining the variation in users' adoption of e-money.

5. Discussion

The findings of this study provide robust empirical support for the Technology Acceptance Model (TAM) and its theoretical extensions. All four independent variables—perceived usefulness, perceived ease of use, compatibility, and subjective norm—were found to have a positive and statistically significant influence on students' intention to use e-money.

The significant effect of perceived usefulness (PU) reaffirms TAM's core proposition that users adopt technology primarily for its functional value. In the context of e-money, this means users are motivated by tangible benefits such as faster transactions, reduced need for physical cash, convenience during mobility, and the ability to access services across platforms.

These findings are aligned with Davis (1989) and extended by Venkatesh and Davis (2000), who emphasized that perceived performance enhancement is a key determinant in shaping user acceptance. Moreover, the results resonate with global findings—such as Alalwan et al. (2018) in Jordan and Oliveira et al. (2016) in Portugal—which showed that perceived usefulness is one of the most consistent predictors of mobile financial service adoption.

The role of perceived ease of use (PEOU) was similarly substantial. E-money platforms that are perceived as easy to operate reduce psychological resistance and increase user satisfaction, particularly for first-time users or those with moderate digital literacy levels. In developing countries like Indonesia, where digital infrastructure and familiarity with fintech tools may vary widely among users, ease of use becomes an essential element of accessibility. These results are congruent with the findings of Priambodo and Prabawani (2016), who highlighted the dual role of PEOU as both a direct predictor and an indirect enhancer of PU, and with studies from emerging economies that underscore the importance of user-friendly design in promoting inclusion.

The construct of compatibility—adapted from the Diffusion of Innovation Theory (Rogers et al., 2008)—adds a contextual layer to the model. Its significance in this study underscores the importance of aligning digital payment systems with users' existing values, routines, and financial behaviors. For students, the integration of e-money into campus activities (e.g., canteen payments, transportation, digital purchases) makes the technology feel intuitive and embedded within their lifestyle. This insight is crucial for service providers seeking to achieve seamless integration of fintech products with day-to-day practices. Notably, this result is in line with Oliveira et al. (2016), who identified compatibility as a key differentiator between casual users and committed adopters of mobile payment systems.

The influence of subjective norm points to the social dimension of technology adoption. In collectivist societies like Indonesia, where social harmony, peer influence, and family endorsement play an important role in individual decisions, subjective norms significantly shape behavioral intentions. Students may feel encouraged—or even obligated—to adopt e-money if their peers, lecturers, or institutional systems promote it as a norm. This finding is consistent with the Theory of Planned Behavior (Ajzen, 1991) and with studies by

Phonthanukitithaworn et al. (2016) in Thailand and Mathieson (1991), who found that social expectations are particularly influential when the technology is new, unfamiliar, or rapidly evolving.

The convergence of all four predictors highlights the multifaceted nature of technology adoption. Users are not only motivated by rational evaluations of benefit and effort, but also by emotional, social, and contextual considerations. It reinforces the value of using an integrated theoretical framework that combines TAM with elements of the Diffusion of Innovation and social influence models (Fitriana & Wingdes, 2017). The results suggest that promoting e-money adoption requires a holistic strategy that addresses not only system functionality but also cultural alignment and social visibility.

From a broader perspective, this study contributes to the ongoing discourse on digital financial inclusion. By focusing on students—a group often considered early adopters and trendsetters—the research provides insights into how fintech solutions can scale effectively within younger populations. Given that financial technology has the potential to close gaps in access to formal banking systems, especially in developing countries, understanding the behavioral factors influencing adoption is essential. These insights are particularly relevant for regulators, financial institutions, and educational policymakers aiming to build more inclusive and digitally empowered societies.

Future research should explore additional factors such as trust, perceived risk, and facilitating conditions, which may interact with the variables tested in this study. Longitudinal studies could also provide insight into how perceptions evolve as users become more familiar with e-money. In addition, qualitative approaches may uncover deeper insights into emotional and cultural responses that are not fully captured through quantitative surveys.

6. Conclusions

This study examined the influence of perceived usefulness, perceived ease of use, compatibility, and subjective norm on students' intention to use e-money. The findings demonstrate that all four variables have a positive and statistically significant effect, reinforcing the applicability of the Technology Acceptance Model (TAM), the Diffusion of Innovation Theory, and the Theory of Planned Behavior in explaining the adoption of digital financial technologies.

Perceived usefulness emerged as a key driver, indicating that students are more likely to use e-money when it enhances transaction efficiency. Perceived ease of use further supports adoption by reducing cognitive effort and fostering positive user experiences. Compatibility underscores the importance of aligning digital tools with users' existing lifestyles and habits, while subjective norm reflects the role of social influence—particularly in collectivist cultures—in shaping user behavior.

These findings collectively highlight that technology adoption is a multidimensional process influenced by both individual perceptions and social context. As such, promoting the use of e-money requires attention to system design, user education, and community engagement. This study contributes empirical evidence from a higher education context in Indonesia, providing insights into how digital financial services can be more effectively introduced to young, digitally literate populations.

7. Implications

This study extends the classical TAM framework by integrating compatibility and subjective norm, offering a more comprehensive model for understanding e-money adoption. The significant role of these constructs suggests that future research should incorporate contextual and social variables to enrich technology acceptance models, particularly in developing countries with strong communal cultures.

For policymakers and financial service providers, the findings underscore the need to prioritize user-centered design and seamless user experience to improve the perceived usefulness and ease of use of e-money platforms. Compatibility can be enhanced by embedding e-money into everyday student activities, while subjective norm can be leveraged through peer-led promotion, campus engagement strategies, and institutional endorsement.

Furthermore, educational institutions play a strategic role in promoting digital financial literacy. Integrating e-money use into academic and administrative processes not only normalizes its usage but also prepares students to engage responsibly with digital financial ecosystems. Such efforts can support broader national goals of financial inclusion and digital transformation.

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