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Antecedents of Muslim Students' Adoption of Mobile Banking: An Extended TAM and UTAUT Approach

Heri Sudarsono[1*], Lak lak Nazhat El Hasanah[1], Jannahar Saddam Ash Shidiqie[1], Indri Supriani[2]
1. Department of Economics, Faculty of Business and Economics, Universitas Islam Indonesia, Indonesia
2. Department of Economics, Faculty of Economics and Business, Universitas Brawijaya, Indonesia
*corresponding author e-mail: heri.sudarsono@uii.ac.id

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Abstract

Purpose – This study aims to determine the factors that affect the intention of Muslim students to adopt mobile banking (m-banking) services at Islamic banks.

Methodology – This study included a sample of 336 Muslim students employed by Islamic banks as respondents. The model incorporates 11 constructs: perceived risk (PR), perceived trust (PT), habit (HA), compatibility (CO), perceived usefulness (PU), perceived ease of use (PEU), effort expectancy (EE), performance expectancy (PE), facilitating conditions (FC), social influence (SI), and intention to adopt m-banking (IN). It is a combination of the unified theory of acceptance and use of technology (UTAUT) and the technology acceptance model (TAM).

Findings – Muslim students' intention to adopt mobile banking was positively influenced by perceived usefulness, performance expectancy, and facilitating conditions. Nevertheless, the intention of Muslim students to adopt mobile banking remains unaffected by factors such as perceived ease of use, effort expectancy, or social influence. Perceived ease of use and perceived trust affect perceived usefulness, while perceived risk, perceived risk, habit, and compatibility affect perceived ease of use.

Originality – This study employs the TAM-UTAUT model, which consists of 11 components, to determine the intention of Muslim students towards using mobile banking.

1. Introduction

The Covid-19 pandemic has exposed public service employees to increasing uncertainty and disruptions as part of their job demands. They are required to ensure that their services remain optimal, even though affected by the crisis and must adapt to new ways of working (OECD, 2021a). One of them is the acceleration of technology through automation and digitization of public services.

Indonesia, the country with the largest Muslim population, has a significant opportunity for sharia economics. The Sharia banking sector has great promise because it can pique the interest of the Muslim population in meeting their desire for banking services that align with their religious beliefs (Fusva et al., 2020). It is envisaged that most Muslim-populated nations, including Indonesia, will have a vibrant banking sector based on the sharing of risks and rewards approach

(Abou-Youssef et al., 2015). The national banking market share of just 7.09%, however, indicates that Islamic banking is still not as good as conventional banking in Indonesia, according to recent data (Otoritas Jasa Keuangan, 2022). This demonstrates the significant obstacles Indonesian Sharia banks still face in drawing in both Muslim and non-Muslim clients. Thus, when confronted with obstacles, cultivating and preserving client loyalty is crucial (Fusva et al., 2020).

The success of an organization facing business competition is supported by ever-accelerating advancements in technology. The banking industry responds quickly to advancements in information technology. Banks use this technology advancement to perform organizational tasks as efficiently as possible. The creation of a m-banking customer service system is one way to express this effort is being expressed (Sultan et al., 2023). Modern conveniences, such as m-banking, have kept up with advancements in communication and technology. Payments, transfers, and transaction history viewing are only a few services offered by m-banking (Lee, 2017). Customers can conduct banking operations quickly and easily without being constrained by time or location when using m-banking services on mobile devices. It is envisaged that by enabling consumers to access banking services through their cellphones, m-banking services will bring convenience and advantages to them (Owusu Kwateng et al., 2019).

Using m-banking services is a smart move for banks to keep their customers loyal, particularly in the face of fiercer competition in the industry (Fusva et al., 2020). M-banking is regarded as a tactical tool that can foster client fidelity to a bank (Malaquias & Hwang, 2016; Sultan et al., 2023). Although most consumers anticipate m-banking to be a simple, quick, and inexpensive service method, it is vital to remember that different consumers may have different opinions about its advantages. Younger clients typically see m-banking as a tool to support their desires and preferences. As a result, younger clients increasingly use m-banking (Payne et al., 2018). Given that the younger generation requires accessibility, efficiency, and responsiveness, m-banking is highly relevant for retaining and growing client loyalty in this market.

Multiple research have examined customers' intention to adopt m-banking for routine transactions (Malaquias & Hwang, 2016; Raza et al., 2011; Singh & Srivastava, 2018; Suhartanto et al., 2019). Several scholars have focused on studying m-banking in the Islamic banking sector using the technology acceptance model (TAM) and unified theory of acceptance and use of technology (UTAUT) (Abu-Taieh et al., 2022; Suhartanto et al., 2019; Raza et al., 2011; Thaker et al., 2019). Sudarsono et al. (2022b) conducted a study on the propensity of the younger Muslim generation to adopt UTAUT for m-banking. This study illustrates the impact of habits, facility conditions, and company expectations on an individual's propensity to utilize m-banking. Given these findings, the objective of this study is to reassess the intention to utilize m-banking by including other technology acceptance model (TAM) attributes, such as perceived usefulness and simplicity of use.

The objective of this study is to assess the impact of components from the unified theory of acceptance and use of technology (UTAUT) and the technology acceptance model (TAM) on the intention of Muslim students to adopt m-banking. The amalgamation of the two models is expected to result in a more comprehensive understanding of the previous findings. This study is noteworthy since it is the first to combine TAM and UTAUT in order to understand the intention of Muslim students in Indonesia to adopt m-banking. Therefore, when compared to previous studies, the integration of TAM and UTAUT is unique.

Venkatesh et al. (2003) proposed the unified theory of acceptance and use of technology (UTAUT) model, which has become widely recognized. This model combines the theories of reasoned action (TRA), technology acceptance model (TAM), theory of planned behavior (TPB), the model of personal computer utilization (MPCU), social cognitive theory (SCT), and innovation

diffusion theory (IDT), which are the eight theories of technology adoption. Venkatesh et al. (2003) proposed four additional concepts: effort expectancy (EE), social influence (SI), facilitating conditions (FC), and performance expectancy (PE). These variables are commonly employed in scientific studies to evaluate the level of technological acceptance within a culture (Im et al., 2011; Yu, 2012). In 2012, Venkatesh et al. developed UTAUT 2 by incorporating additional factors such as price value, hedonic incentive, habit, performance expectancy, social influence, effort expectancy, and facility condition into the original UTAUT model. This study not only includes the properties of UTAUT 2, but also integrates two components from TAM (Davis, 1986) into the model: perceived usefulness (PU) and perceived ease of use (PEU). In order to tackle the increasing challenges faced by Muslim students in Indonesia when using m-banking services, TAM construction and UTAUT were combined.

The degree to which people think that adopting m-banking services would benefit them significantly is known as perceived usefulness (PU) (Jeong & Yoon, 2013). The relationship between perceived usefulness and productivity levels establishes a close relationship between enhanced performance and productivity in day-to-day work and belief in the benefits of services. Users' performance improves and their interest in using the available services rises when they believe that the service offers tangible benefits (Rao & Troshani, 2007; Khan & Khan, 2012; Sangle & Awasthi, 2011). In line with this theory, Kim and Prabhakar (2004) claim that people typically think about the effects of their actions before deciding what to do. In other words, the perception that using m-banking services will benefit oneself influences one's intention to adopt them. The following explanation serves as the foundation for the following hypotheses.
H_1: Perceived usefulness has a positive influence on the intention to adopt m-banking

Perceived ease of use (PEU) refers to the extent to which consumers believe that m-banking is easy to use and understand (Lin, 2011). The majority of favorable views towards technology are mostly influenced by the ease of usage of cellular services. Customers are more inclined to feel comfortable with services that are user-friendly, as they may perceive them as less arduous or complex. Perceived ease of use plays a vital role in helping consumers embrace m-banking technology and utilize its services seamlessly in their daily lives (Govender and Sihlali, 2014; Kazemi et al., 2013; Jeong and Yoon, 2013). Consumers who perceive m-banking as user-friendly are more inclined to integrate it into their normal activities. Perceived ease of use mitigates any issues or inconveniences that users may have when using the service, while also creating a user-friendly interface. Therefore, it is crucial to understand and improve the perceived ease of use (PEU) in order to develop m-banking services that are easy to use and accepted by various user groups. Given the information provided, we put forward the following hypothesis:
H_2: Perceived ease of use has a positive influence on perceived usefulness
H_3: Perceived ease of use has a positive influence on the intention to adopt m-banking

Perceived risk (PR) refers to the likelihood or potential for a user to experience negative consequences, such as financial loss or the compromise of personal account information, when using m-banking services. Laukkanen (2007) found that the acceptance of m-banking is greatly impacted by obstacles related to risk. These findings indicate that users are inclined to exercise caution or hesitation in adopting m-banking technology when they perceive potential hazards. In addition, Riquelme and Rios (2010) discovered that risk directly influences the level of m-banking adoption. Consequently, if users perceive a greater degree of risk, they are more inclined to hesitate in using a service. This highlights the importance of risk management and aims to mitigate the perceived hazards in order to enhance the adoption of m-banking (Ahmed & Sur, 2023; Sudarsono

et al., 2022a). The effectiveness of security measures and user trust in m-banking services may rely on the successful management of risk factors related to data security and confidentiality. Therefore, in order to enhance consumer acceptance and trust in m-banking, it is necessary to have a thorough understanding of and dedication to managing public relations. Given the information provided, we put forward the following hypothesis:
H_4: Perceived risk has a positive influence on perceived usefulness
H_5: Perceived risk has a positive influence on perceived ease of use

Perceived trust (PT) is the term used by Ahmed and Sur (2023) to describe an individual's beliefs that are influenced by the behaviors and characteristics of certain others. Due to the need of trust in a virtual environment, transaction uncertainty is generally greater compared to a traditional setting (Abu-Taieh et al., 2022). Experiments undertaken by both psychology and electronic banking technology have explored the notion that trust is a substantial indicator of future behavior (Alalwan et al. 2017). An individual's transaction behavior in a virtual environment is determined by the level of ambiguity, which in turn affects trust. This form of trust represents an individual's confidence in a provider of products or services to meet their anticipated standards. Due to their strong faith, Muslim students have a sense of ease and confidence when engaging in financial transactions. Moreover, the intention of Muslim students to utilize secure m-banking in their everyday activities may be instigated by their trust in the system's safety measures. Given the information provided, we put forward the following hypothesis:
H_6: Perceived trust has a positive influence on perceived usefulness
H_7: Perceived trust has a positive influence on perceived ease of use

Alalwan et al. (2015) define habit (HA) as an individual's intention to behave automatically, relying on past experiences and acquired information. This behavior gets deeply rooted in individuals due to their internalized process of learning (Raza et al., 2019). According to Venkatesh et al. (2012), several studies have shown that habits can accurately forecast an individual's probability of adopting a new technology or innovation. Customers leverage the expertise and information acquired from their initial interactions with this technology to acquire proficiency in using m-banking. This interaction forms the basis for acquiring knowledge, which then organically develops into patterns of behavior (Raza et al., 2019). Put simply, individuals develop habits through consistent utilization of banking services and then enjoy benefits. Muslim students will find it more convenient to incorporate m-banking into their daily routines (Sudarsono et al., 2022b). They will also be more skilled at harnessing the benefits of m-banking in their daily operations. Given the information provided, we put forward the following hypothesis:
H_8: Habit has a positive influence on perceived usefulness
H_9: Habit has a positive influence on perceived ease of use

Compatibility (CO) is the degree to which a service is considered consistent with consumers' past and present attitudes, beliefs, behaviors, and experiences (Chen et al., 2004). Alignment between the services provided, user expectations, and context is produced via compatibility. Users view m-banking services as beneficial and are more likely to complete transactions that satisfy their needs or wants when they believe that the service meets their needs and preferences. Users believe that m-banking services are a logical extension of their financial practices and values when compatible (Sudarsono et al., 2022a). For Muslim students, this offers a setting in which services can be easily incorporated into daily life. Thus, the secret to creating m-banking services that are

widely accepted and utilized is to ensure that the services are compatible with the demands and preferences of users. Consequently, the following theory was proposed:
H_{10}: Compatibility has a positive influence on perceived usefulness
H_{11}: Compatibility has a positive influence on perceived ease of use

Effort expectancy (EE) refers to the perceived ease of use of a new technology (Venkatesh et al., 2003). Koenig-Lewis et al. (2010) shown that the level of acceptance of a technology is positively correlated with its user-friendliness. If customers perceive m-banking as user-friendly, they are more inclined to integrate it into their usual banking practices (Abu-Taieh et al., 2022; Lin, 2011). The simplicity of use of technology has a significant role in shaping positive perceptions about it. Customers are more inclined to integrate services into their regular routines when they perceive m-banking to be simple and uncomplicated (Rahi et al., 2019). Therefore, enhancing the level of effort expectancy and subsequently boosting the intention of Muslim students to utilize m-banking may rely on the presence of an intuitive user interface and a seamless user experience. Given the information provided, we put forward the following hypothesis:
H_{12}: Effort expectancy has a positive influence on the intention to adopt m-banking

Performance expectancy (PE) refers to the significance of utilizing technology to improve production or performance (Venkatesh et al., 2003). Banking has been proven to enhance banking activity. The adoption of technology is influenced by factors that are often linked to expected advantages (Sultan et al., 2023). Users are more inclined to embrace m-banking when they expect that using the service will lead to positive results, such as easy access to their accounts, efficient transactions, and enhanced financial monitoring. Therefore, it is crucial to understand and promote positive views about financial transactions and the benefits linked to banking (Rahi et al., 2019). Performance expectancy has a significant role in the acceptance of m-banking and affects the desire of Muslim students to utilize this technology for their financial management. The hypothesis regarding performance expectancy and the intention to adopt m-banking is as follows:
H_{13}: Performance expectancy has a positive influence on the intention to adopt m-banking

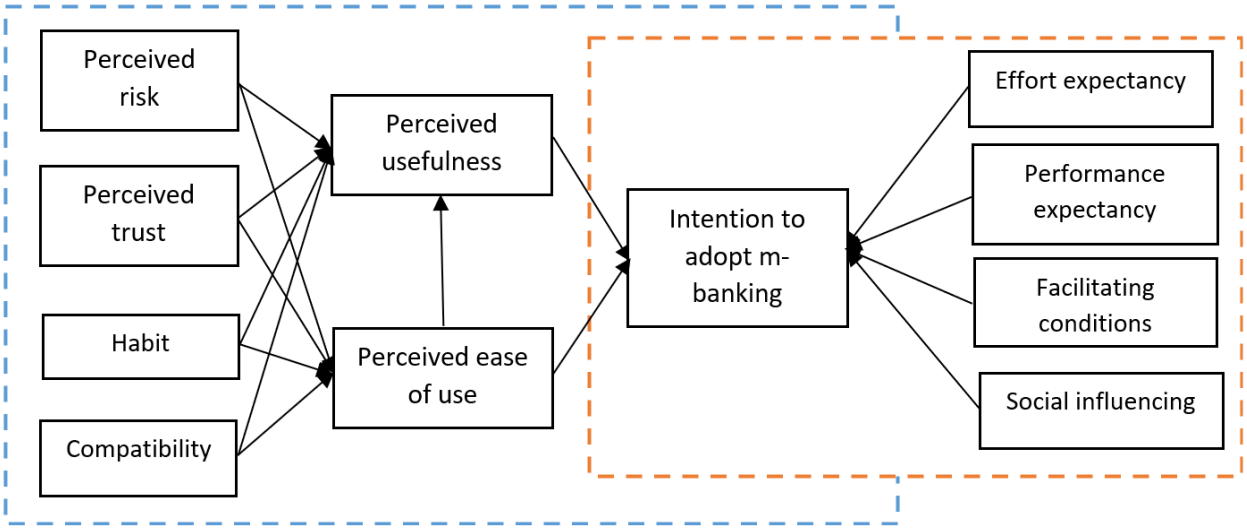
The support available to individuals when using a particular technology is referred to as facilitating conditions (FC) (Venkatesh et al., 2003). Individuals desiring to utilize m-banking must possess a specific skill set, a high-quality smartphone, and a dependable, secure internet connection. According to Baptista and Oliveira (2015), individuals are more inclined to embrace technology when they receive enough technical assistance. Technical support, provided through user manuals, tutorials, and dedicated customer service, can help users resolve any challenges they encounter with m-banking. Users of m-banking services can have increased comfort and confidence when they possess robust financial control. Therefore, focusing on facilitating conditions can improve user experience and have a substantial impact on increasing the public's adoption of m-banking. Given the information provided, we put forward the following hypothesis:
H_{14}: Facilitating conditions has a positive influence on the intention to adopt m-banking

Social influence (SI) refers to the extent to which an individual perceives that others consider a system or piece of technology to be the most optimal choice for use. Venkatesh et al. (2003) found that individuals' perceptions of how their close relatives feel about specific technologies significantly influence their adoption of new technology. Research conducted by Hong et al. (2008) has demonstrated that the acceptance of M-banking is influenced by the opinions of close relatives. Riquelme and Rios (2010) highlighted the importance of strong social connections in

influencing an individual's intention to adopt technology. The importance of social influence in the context of technology adoption highlights that users' intents and behavior towards m-banking are greatly influenced by the viewpoints and perspectives of their social circle, especially close friends and family (Abu-Taieh et al., 2022). Therefore, employing m-banking marketing strategies that emphasize user endorsements or social media support can effectively increase technology adoption rates. Understanding and leveraging social influence can greatly enhance public acceptability of m-banking. Given the information provided, we put forward the following hypothesis:

H_{15}: Social influence has a positive influence on the intention to adopt m-banking

The above hypotheses can be described in Figure 1 as follows:



Source: Venkatesh et al. (2003) and Davis (1986)

Figure 1. Research Model

2. Research Methods

Muslim students are members of Generation Z, sometimes known as digital natives since they have always been exposed to technology. Owing to its innate ability to use technology, Generation Z is an early adopter of many new platforms and applications (Lisana, 2024). However, Islamic banks use cutting-edge technology in their m-banking apps to separate themselves from rivals and draw new clients (Yudaruddin, 2023). Customers can greatly benefit from features such as fast money transfers, automated bill payments, and personal financial assessments. For these reasons, m-banking users at Islamic banks and Muslim students served as the study's respondents. This study followed Sekaran and Bougie's (2016) recommendation to employ over 30 samples, with fewer than 500 samples deemed adequate for investigation.

This analysis employed a model that was previously utilized in studies on m-banking (Lin, 2011; Zhou et al., 2010). The survey instrument was partitioned into two portions. The identify section inquired about the respondent's age, gender, education level, monthly expenses, and place of birth. The second half consists of eleven structures, each containing three to five questions. The response possibilities were based on a five-point Likert scale, derived from the work of Bhatti and Qureshi (2007). The evaluations spanned from 1 (showing strong disagreement) to 5 (expressing strong agreement), with 2 representing a neutral stance, 3 representing disagreement, and 4 representing agreements. The investigations of each construct were based on the studies conducted by Farzin et al. (2021), Raza et al. (2019), Samsudeen et al. (2020), and Venkatesh et al. (2012).

The study participants comprised Muslim students aged 17–26 years who had accounts with Islamic banks. The minimum age of 17 years was chosen because opening a bank account and using m-banking requires a certain level of qualification. Given that Indonesia offers both traditional and Sharia banking services to students in 34 provinces, respondents were drawn from these 34 provinces. To determine how well respondents understood the questions, a test group of 28 people answered them. Most respondents said that it was easy to answer these questions. Then, via personal networks, student WA groups, banking professor network groups, and practical Sharia banking association groups, the questionnaire was disseminated via WA. The theory in exploratory research is described in this work using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. This methodology was selected to explain the cause-and-effect link between independent and dependent conceptions (Hair et al., 2014). PLS-SEM is a multivariate analysis technique that forecasts several potential correlations by mapping and measuring the impact of independent variables on dependent variables. This approach is pertinent and useful for this study because it can help to expand the comprehension of discrepancies in the dependent variable (Hair et al., 2014). Using PLS-SEM, researchers can determine and quantify the degree to which fluctuations in a dependent variable can be explained by independent factors. The primary benefit of this method is its capacity to handle intricate models and more thoroughly examine interactions between variables.

3. Results and Discussions

The study had 336 respondents, more of whom were female (63%) than male (37%), as shown in Table 1. The majority of respondents (85%) were undergraduate students, high school graduates, and between the ages of 17 and 22. Most Muslim lessons had monthly costs below IDR 1,000,000 (82%). The majority of respondents were from East, West, and Central Java: Jakarta, Riau, Yogyakarta, Lampung, Banten, and South Sumatra were next in line. Less than ten responses were found at other locations.

Table 1. Description Data

Demographics	Description	Frequency	Percentage
Gender	Male	124	0.37
	Female	212	0.63
Age	17-22 Years	284	0.85
	23-27 Years	52	0.15
Last education	High School	285	0.85
	Masters	47	0.14
	Doctor	4	0.01
Expenses per month	Under IDR 1,000,000	275	0.82
	IDR 1.001.000 - IDR 2.500.000	48	0.14
	IDR 2.501.000 - IDR 5.000.000	11	0.03
	Above IDR 5,001,000	2	0.01

Source: processed data

Table 2 displays the factor loading (FL) for each question; all factor loadings are greater than the 0.55 cutoff point (Tabachnick & Fidell, 2007). In Table 3, the average variance explained (AVE) and composite reliability (CR) are higher than in the provisions. According to the model fit results, every fit index falls within the recommended range (Kline, 2010; Hair et al., 2014). A

measurement scale is considered reliable in terms of convergent validity if its CR and AVE values are higher than the suggested thresholds of 0.7 and 0.5 (Bagozzi & Yi, 1988; Gefen et al., 1988).

Table 2. Validity and Reliability of the Construct

Construct	Items	FL	CA	rho_A	CR	AVE	Source
Compatibility	CO1	0.834					Abu-Taieh et al (2022);
	CO2	0.827	0.827	0.845	0.897	0.743	Farzin et al. (2019);
	CO3	0.922					Samsudeen et al. (2020)
Effort expectancy	EE1	0.837					Abu-Taieh et al (2022);
	EE2	0.854					Farzin et al. (2021);
	EE3	0.827	0.890	0.891	0.919	0.695	Raza et al. (2019);
	EE4	0.835					Samsudeen et al. (2020);
	EE5	0.814					Venkatesh et al. (2012)
Facilitating conditions	FC1	0.867					Farzin et al. (2021);
	FC2	0.869	0.861	0.876	0.906	0.707	Raza et al. (2019);
	FC3	0.878					Samsudeen et al. (2020);
	FC4	0.741					Venkatesh et al. (2012)
Habit	HA1	0.843					Farzin et al. (2021);
	HA2	0.885	0.883	0.908	0.918	0.738	Raza et al. (2019);
	HA3	0.815					Samsudeen et al. (2020);
	HA4	0.891					Venkatesh et al. (2012)
Intention to adopt m-banking	IN1	0.867					Abu-Taieh et al (2022);
	IN2	0.864					Farzin et al. (2021);
	IN3	0.807	0.864	0.864	0.907	0.710	Raza et al. (2019);
	IN4	0.830					Venkatesh et al. (2012); Davis (1986)
Performance expectancy	PE1	0.865					Abu-Taieh et al (2022);
	PE2	0.861					Farzin et al. (2021);
	PE3	0.860	0.907	0.907	0.931	0.729	Raza et al. (2019);
	PE4	0.846					Samsudeen et al. (2020);
	PE5	0.837					Venkatesh et al. (2012)
Perceived ease of use	PEU1	0.874					Abu-Taieh et al (2022);
	PEU2	0.883	0.907	0.909	0.935	0.782	Haider et al (2018);
	PEU3	0.885					Govender & Sihlali (2014);
	PEU4	0.895					Davis (1986)
Perceived risk	PR1	0.852					Abu-Taieh et al (2022);
	PR2	0.863					Farzin et al. (2021);
	PR3	0.854	0.896	0.931	0.922	0.703	Raza et al. (2019);
	PR4	0.779					Samsudeen et al. (2020);
	PR5	0.842					Venkatesh et al. (2012)
Perceived trust	PT1	0.862					Abu-Taieh et al (2022);
	PT2	0.857					Farzin et al. (2021);
	PT3	0.792	0.900	0.902	0.926	0.714	Raza et al. (2019);
	PT4	0.867					Samsudeen et al. (2020);
	PT5	0.846					Venkatesh et al. (2012)
Perceived usefulness	PU1	0.825					Abu-Taieh et al (2022);
	PU2	0.810					Haider et al (2018);
	PU3	0.775	0.848	0.854	0.892	0.624	Govender & Sihlali (2014);
	PU4	0.710					Davis (1986)
	PU5	0.823					
Social influence	SI1	0.883					Abu-Taieh et al (2022);
	SI2	0.902					Farzin et al. (2021);
	SI3	0.871	0.926	0.930	0.944	0.773	Raza et al. (2019);
	SI4	0.844					Samsudeen et al. (2020);
	SI5	0.894					Venkatesh et al. (2012)

Note: FL= Factor Loading; CA= Cronbach's Alpha; CR= Composite Reliability; AVE= Average Variance Explained

Source: processed data

Discriminant validity is necessary to ensure that there is no correlation between the measuring scale and other factors. Gefen et al. (1988) found that the square root of the average variance extracted (AVE) is greater than the correlation coefficient between the scale and other components. This suggests that there is significant discriminant validity.

Table 4. Hypothesis Testing

Hypothesis		Coeff	SD	T-Stat	P Values	Result
H_1	Perceived usefulness => Intention to adoption	0.381	0.070	5.409	0.000	Supported
H_2	Perceived ease of use => Perceived usefulness	0.285	0.082	3.482	0.001	Supported
H_3	Perceived ease of use => Intention to adoption	0.037	0.053	0.694	0.488	Not Supported
H_4	Perceived risk => Perceived usefulness	0.022	0.041	0.537	0.591	Not Supported
H_5	Perceived risk => Perceived ease of use	-0.087	0.029	3.014	0.003	Supported
H_6	Perceived trust => Perceived usefulness	0.482	0.072	6.676	0.000	Supported
H_7	Perceived trust => Perceived ease of use	0.238	0.046	5.142	0.000	Supported
H_8	Habit => Perceived usefulness	0.039	0.078	0.508	0.612	Not Supported
H_9	Habit => Perceived ease of use	0.334	0.053	6.309	0.000	Supported
H_{10}	Compatibility => Perceived usefulness	-0.002	0.064	0.028	0.977	Not Supported
H_{11}	Compatibility => Perceived ease of use	0.408	0.056	7.258	0.000	Supported
H_{12}	Effort Expectancy => Intention to adoption	-0.100	0.058	1.714	0.087	Not Supported
H_{13}	Performance expectancy => Intention to adoption	0.169	0.074	2.276	0.023	Supported
H_{14}	Facilitating conditions => Intention to adoption	0.288	0.068	4.242	0.000	Supported
H_{15}	Social influence => Intention to adoption	0.086	0.060	1.453	0.147	Not Supported

Source: processed data

Table 4 illustrates the impact of perceived usefulness (PU) on the intention of Muslim students to adopt m-banking services. The finding is supported by research conducted by Sangle and Awasthi (2011) as well as Khan and Khan (2012). The results illustrate that users are more likely to utilize m-banking services in their daily routines when they perceive the service as beneficial. Muslim students utilize m-banking services to cover various fees, including tuition, rent or housing charges, and electricity bills. Utilizing m-banking services can enable students to economize both time and money, streamlining and enhancing transaction processing. Hence, Muslim students are more likely to embrace this technology due to the straightforwardness of m-banking financial services.

The perceived usefulness (PU) is influenced by perceived ease of use (PEU), however the intention to adopt is not altered. The user-friendly nature of m-banking has led to an increase in the attention of Muslim students. The findings of Govender and Sihlali (2014), Kazemi et al. (2013), and Jeong and Yoon (2013), which provide evidence that people generally seek out uncomplicated m-banking services for their everyday transactions, support this conclusion. Interestingly, the convenience of use of m-banking does not have an impact on the intention of Muslim students to use it. This is due to the fact that students use m-banking for somewhat sporadic purposes, such as making payments for tuition, accommodation, rent, and utility bills. Consequently, the usage of m-banking is not very common among Muslim students, suggesting that their intention to adopt m-banking is not influenced by its ease of use.

Perceived risk (PR) has an adverse effect on how simple m-banking is to use. However, perceived usefulness was unaffected by perceived risk. This conclusion is consistent with the research by Ahmed and Sur (2023), Sudarsono et al. (2022a), and Riquelme and Rios (2010), who demonstrate that risk plays a significant role in consumers' decisions to adopt m-banking. Customers are typically cautious when utilizing obscure transaction instruments for routine tasks. The desire to steer clear ambiguities and probable hazards in the future is the source of this caution. Similarly, Muslim students prefer to utilize m-banking less, even when they understand that it is simpler to use if they think there are risks involved. However, risk has no bearing on the frequency

with which people use m-banking. Since most Muslim students only use m-banking in an emergency and not on a regular basis, this danger is not considered.

Perceived trust (PT) has a major influence on how simple it is for Muslim students to utilize m-banking and how likely they are to use it overall. One of the main factors encouraging Muslim students to adopt m-banking is their confidence. As Muslim students perceive m-banking as having more advantages and find it easier to use, this high degree of trust is a significant factor (Abu-Taieh et al., 2022). In addition to providing comfort, a high degree of trust helps Muslim students adopt m-banking. Muslim students' perceptions of the security and dependability of m-banking are positively impacted by this trust, which motivates them to use the service more frequently. Muslim students are more likely to use m-banking frequently in their daily lives because they trust and feel dependable.

Habit (HA) influences perceived ease of use because (PEU) it creates familiarity with and comfort in using a certain technology, making users feel that it is easier to use. However, habit does not influence perceived usefulness (PU), because usefulness is more related to the function and benefits of the technology in achieving specific user goals (Raza et al., 2019; Sudarsono et al., 2022b). Even if users feel comfortable and accustomed to using the technology, this does not necessarily mean that they perceive it as beneficial or useful for their needs. According to Venkatesh et al. (2012), habit plays an important role in determining ease of use but does not always contribute to perceived usefulness. This distinction is crucial for understanding how users adopt and continue using technology. For instance, users might find a mobile banking app easy to navigate due to its frequent use, but they will only continue to use it if they meet their financial needs effectively.

Compatibility (CO) has a significant impact on how simple it is for Muslim students to adopt m-banking. Students who identify as Muslims find it easier to use m-banking because they meet their demands. According to Chen et al. (2004), users' prior and present values, beliefs, habits, and experiences are connected to their idea of appropriateness. Muslim students view m-banking as a helpful tool for their transactions when services are tailored to their requirements and preferences. However, due to the relatively low frequency of m-banking use, compatibility may not affect Muslim students' perceived usefulness (PU) of m-banking. Muslim students may not regularly utilize these services, even if m-banking meets their demands (Sudarsono et al., 2022a). This could be related to how infrequently people use m-banking in their daily lives. Therefore, even though m-banking is easier to use when tailored to the needs of Muslim students, this factor has little bearing on how beneficial Muslim students view m-banking.

There was no correlation between Muslim students' intention to adopt m-banking and effort expectancy (EE). This is in contrast to the study by Koenig-Lewis et al. (2010), which demonstrated that a technology's simplicity of use can raise its level of adoption. According to Lin (2011), users, including Muslim students, should be more inclined to incorporate m-banking into their banking activities, given its simplicity of use. However, the reason for this discrepancy might be that Muslim students do not use m-banking regularly. As most Muslim students do not have a source of income on their own, their expenses are typically limited. As a result, rather than being used frequently, m-banking among Muslim students typically focuses on a few essential transactions.

Facilitating conditions (FC) has a beneficial impact on Muslim students' desire to adopt m-banking. According to Baptista and Oliveira (2015) and Sudarsono et al. (2022b), individuals are more likely to adopt technology when facilities support it. This conclusion is consistent with their theory. Aside from ensuring that the m-banking gadget and Internet connection are reliable and secure, a few more unique abilities are required while utilizing m-banking. Muslim students will

feel more at ease and confident in utilizing m-banking if they have access to ideal facilities, such as cellphones with m-banking apps and dependable Internet connections. When provided with sufficient facilities, Muslim students can engage in m-banking for a range of comfortable and simple transactions and activities. Consequently, observing the state of the facilities plays a significant role in motivating Muslim students to adopt m-banking.

The intention of Muslim students to utilize m-banking is not influenced by social influence (SI), which supports the findings of Baptista and Oliveira (2015) and Raza et al. (2019). Social influence greatly impacts the decision-making process of Muslim students when it comes to their daily activities. However, social factors are not the main driving force for students to utilize m-banking, in contrast to m-banking. Due to the requirement for consumers to download an m-banking application in order to open an account, m-banking is closely linked to the banking system (Abu-Taieh et al., 2022). Therefore, the decision of Muslim students to adopt m-banking is not directly impacted by social influence. The adoption of m-banking is driven by banking regulations and infrastructure, notwithstanding the potential influence of social connections on different elements of individuals' life.

4. Conclusions

According to the study of data using the TAM-UTAUT model, the intention of Muslim students to adopt m-banking is positively affected by their perceived usefulness, performance expectancy, and facilitating conditions. However, perceived ease of use (PEU), effort expectancy (EE), and social influence (SI) did not have a significant impact on the intention of Muslim students to adopt m-banking. Moreover, perceived usefulness (PU) was impacted by the perceived ease of use (PEU) and perceived trust (PT). Conversely, compatibility (CO), habit (HA), perceived risk (PR), and perceived trust (PT) affects perceived ease of use (PEU). These findings suggest that Islamic banks should consistently improve their m-banking services in order to meet the demands of Muslim students. In addition, Islamic banks should contemplate the development of m-banking functionalities similar to electronic wallets or electronic commerce in order to optimize the acceptance of m-banking services among Muslim students. One disadvantage of this study is that the number of respondents does not provide an exact representation of all Muslim students in Indonesia who have accounts at Islamic banks. Subsequent investigations should incorporate a larger number of participants in order to augment the sample size and circumvent this limitation. Moreover, the model failed to appropriately depict the religious inclination of Muslim students in relation to their stance on the use of m-banking. In order to examine the impact of Muslim students' level of religious devotion on their utilization of m-banking services provided by Islamic banks, it is recommended that future research include the consideration of perceived religiosity as a factor in the model. In order to enhance the comprehensiveness and practicality of the research on the utilization of banking technology by Muslim communities in Indonesia, this study provides a deeper understanding of the factors that impact the adoption of m-banking among Muslim students.

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