

Determinant of Digital E-Payment Adoption among Ar-rahnu Co-operative Users in Malaysia

Nik Hadiyan Nik Azman^a, Mohamad Rasydi Abd Rashid^b, Ju Samsuddin Safian^b, Ahmad Faizal Ahmad Shaarani^b, Asha'ari Arshad^b, Nur Afifah Izzati Mokhtar^b, Muhammad Hisyamuddin Mokhtar^a

^aSchool of Management, Universiti Sains Malaysia, Penang, Malaysia, ^bCooperative Institute of Malaysia, Petaling Jaya, Selangor, Malaysia
Corresponding Author Email: nikhadiyan@usm.my

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Abstract

Transitioning to electronic payments offers several advantages, including improved financial management efficiency and support for eco-friendly practices. Acknowledging the significance of technology in bolstering business resilience during the covid-19 pandemic, it is a potential for ar-rahnu industry to tap into the technology stream. Applying the UTAUT theory, this study investigate the determinant of ar-rahnu digital e-payment adoption among its users in Malaysia. This study used Statistical Package for the Social Sciences (SPSS) for data cleaning and screening and Partial Least Square-Structural Equation Model (PLS-SEM) 4.0 to explore the relationship factors influencing the adoption of ar-rahnu e-payment. The finding of this study shows that all hypotheses (H1-H4) exhibit a statistically significant relationship. Consequently, this study recommends that policy makers, such as Suruhanjaya Koperasi Malaysia (SKM), Institut Koperasi Malaysia (IKMa), and other relevant stakeholders, prioritize and promote the utilization and development of digitalization within the ar-rahnu sector. This entails creating a policy framework that encompasses comprehensive support systems and launching extensive awareness campaigns. Furthermore, financial federations should play an active role in fostering a complete ecosystem by providing applications, platforms, expert services, and facilitating collaboration networks among ar-rahnu operators.

Keywords: Ar-Rahnu, E-Payment, Digitalization

Introduction

The early 21st century witnessed a rapid advancement in technology, particularly in the context of financial technology (Fintech), which revolutionized the landscape of financial services. As early as August 1998, the European Central Bank (ECB) issued a "Report on Electronic Money," defining electronic money as the electronic storage of financial value on technical devices that enables electronic payments to entities other than the issuer without the necessity of a bank account. The ECB views electronic payments as a crucial tool for

enhancing economic efficiency, productivity, and growth due to its speed, security, and cost-effectiveness compared to traditional paper-based payments. This transformation was characterized by the integration of various concepts such as mobile internet, cloud computing, big data, and blockchain. The financial and information technology sectors have since embraced numerous fintech innovations, reshaping banking and trade practices. These innovations include digital wallets, mobile trading, mobile banking, peer-to-peer lending, robo advisors, and electronic payments using electronic money et cetera.

Transitioning to electronic payments offers several advantages, including improved financial management efficiency and support for eco-friendly practices (Thaker et al., 2023). Additionally, the widespread use of wireless communication devices and mobile phones has facilitated payments, providing convenient access to e-payment mediums. For instance, mobile phone payments enable transactions for digital goods delivered via mobile platforms, internet-based purchases, and physical-world products and services (Alkhowaiter, 2020). The shift from cash-based to e-payment-based systems underscores the significant changes within the financial sector, aligning with the global trend of leveraging new technologies to enhance delivery channels and payment systems.

In 2020, amidst the global covid-19 pandemic, the price of gold surged significantly by 42%. A study done by Yousef and Shehadeh (2020) suggests a positive correlation between the number of coronavirus cases and the price of gold. This indicates that investors turned to gold during the pandemic, driving up demand and consequently pushing prices higher. Among the beneficiaries of this trend is ar-rahnu (Islamic pawnshop) as highlighted by Nik Azman et al. (2022). Ar-rahnu functions as a microcredit institution, extending capital and facilitating cash flow to clients irrespective of their religious, racial, or gender background. Ar-rahnu provides a cost-effective, rapid, and convenient financing option. In contrast to traditional banks, where obtaining a loan typically necessitates visiting branches primarily located in urban centers, many banks during the pandemic were reluctant to offer small loans (Yahaya, 2021). With an average loan size of approximately RM5,000, the transaction costs associated with bank loans are considerably higher compared to ar-rahnu. Clients often prefer ar-rahnu due to its proximity, streamlined procedures, and straightforward withdrawal processes. While banks typically take around a month to approve a loan application, ar-rahnu processes such requests in under thirty minutes.

Presently, ar-rahnu operations predominantly involve transactions such as pawning, redemption, or extending the pawning period, requiring customers to physically visit service provider outlets. However, even for clients seeking to make instalment payments for their collateral, this reliance on physical visits poses challenges. It may deter clients from fulfilling payments promptly, potentially leading to delays and default to reclaim their collateral (Saiman et al., 2022; Khairunnisa, 2023; Saharan et al., 2022). Acknowledging the significance of technology in bolstering business resilience during the covid-19 pandemic, this study aims to investigate the determinant of ar-rahnu digital e-payment adoption among its users in Malaysia.

Literature Review

E-payment encompasses various definitions in the academic literature. Fatonah (2018) characterizes it as "the transfer of electronic value of payment from the payer to the recipient

through an electronic payment mechanism," while Chen et al (2022) define it as "the electronic transfer of funds from the payer to the recipient through an e-payment platform that allows customers to access and manage their financial transactions remotely via an electronic network." Presently, e-payments are on the brink of surpassing traditional payment methods worldwide due to enhanced network connectivity and increased consumer awareness (Liu et al., 2022; Chen et al., 2020; Chen et al., 2019; Nadler et al., 2019). Indeed, e-payment services have garnered users from various generations (Namahoot and Jantasri, 2023). An e-payment system is a technological solution enabling both individuals and businesses to conduct online payments swiftly and effortlessly. Moreover, e-payment systems constitute a fundamental principle of electronic business innovation, facilitating efficient business transactions (Wulanduri et al., 2022), particularly in the realm of e-commerce. The four primary categories of e-payments include electronic cash, prepaid cards, credit cards, and electronic checks (Chen and Wu, 2023). These e-payment methods offer numerous positive attributes such as efficiency, convenience, security, reliability, scalability, acceptability, anonymity, and privacy.

Performance Expectancy (PE)

Performance Expectation (PE) is defined as the degree to which the utilization of technology enhances the user's experience during task execution (Venkatesh et al., 2022). Venkatesh's study suggests that expanding the use of technology is warranted as it consistently leads to improved performance. Additionally, Al-Saedi et al (2020); Gupta & Arora (2020) assert that individuals are more inclined to adopt a technology if they have higher performance expectations regarding its outcomes. Previous research has established a positive relationship between intention (BI) to use and adopt electronic payment (EP) and Performance Expectation (PE) (Al-Saedi et al., 2020; Gupta & Arora, 2020; Merhi et al., 2019; Migliore et al., 2022). For instance, Al-Saedi et al (2020) conducted a study among 436 mobile payment users in Oman, highlighting PE as a significant determinant influencing the decision to use mobile payment (m-payment). Their findings underscore that users in Oman are more likely to embrace m-payment technology if it enhances their transactional performance. Furthermore, Gupta and Arora (2020) corroborate this conclusion, indicating that users' intention to use mobile payment systems increases when they anticipate high performance levels from its usage.

The concept of Performance Expectations (PE) elucidates the adoption of mobile payment (m-payment) has heightened public awareness regarding the importance of leveraging existing applications to enhance productivity and expedite transactions (Gupta & Arora, 2020). Merhi et al. (2019) conducted a study among 486 mobile banking users in Lebanon, revealing that PE significantly influences intention to use mobile banking in Lebanon. Consumers in Lebanon have reaped benefits from m-banking, facilitating swift banking operations and access to financial services round the clock. The researchers observed that individuals who strongly perceive the benefits of m-banking are more inclined to utilize it. In this context, Performance Expectation (PE) reflects users' perceptions regarding the extent to which their work profitability or productivity is augmented. Therefore, this study hypothesis that:

H1: Performance expectancy (PE) has a significant relationship towards ar-rahnu e-payment adoption

Effort Expectancy (EE)

Effort expectancy (EE), as defined by Venkatesh et al. (2022), refers to the perceived level of effort associated with using a system. It encompasses users' perceptions derived from the Technology Acceptance Model (TAM) and the perceived difficulty of use from the Innovation Diffusion Theory (IDT). Effort expectancy plays a crucial role in both voluntary and mandatory use scenarios, particularly during initial usage, but becomes less significant over time. Initially, users may prioritize overcoming process challenges, but eventually, instrumental concerns take precedence. In the context of digital ar-rahnu, consumers' behavioral intention to use the service can be influenced by their perceived enjoyment, effortlessness, and pleasure in using it. Digital ar-rahnu platforms, designed to simplify the process through online queries about financial goals and risk tolerance, aim to enhance ease of use. These platforms employ computer algorithms to implement and monitor users' investment plans. The ease of using digital wallets facilitates efficient money management, saving users time and effort (Venkatesh et al., 2022). If the process of using an electronic payment (EP) service is perceived as easy, individuals are more likely to adopt it. Conversely, if it requires substantial effort, sustaining the adoption of digital ar-rahnu may be challenging (Wu et al., 2021). Empirical studies support the significance of perceived ease of use in influencing mobile payment adoption. For instance, Wu et al (2021) found that among Chinese respondents using cross-border mobile payments in South Korea, greater perceived ease of use was associated with higher adoption rates. Similarly, Penney et al (2021) observed in Ghana that individuals were more inclined to use mobile money if they perceived it as easy to register, make payments, and receive money from mobile money agents. Therefore, this study hypothesizes that:

H2: Effort expectancy (EE) has a significant relationship towards ar-rahnu e-payment adoption

Social Influence (SI)

Social influence (SI), as defined by Sutrisno et al (2022), refers to the process through which individuals or groups induce changes in the thoughts, feelings, and behaviors of others, thereby encouraging conformity to environmental group norms. It plays a multifaceted role in technology adoption decisions and operates through three mechanisms: compliance, mediation, and identification. While compliance and mediation mechanisms alter an individual's belief system or incentivize them to respond to projected social rewards, compliance merely changes an individual's goals in response to social pressure. As individuals gain experience with a system, their intention to use it becomes more instrumental (non-social), leading to a decrease in normative pressure (Venkatesh et al., 2022). This decline may be attributed to the adoption behavior of peers, such as friends and family members, which is often conveyed through word-of-mouth communication. Additionally, in developing countries, individuals frequently reside in joint family systems and rely on each other across various social and economic contexts. Studies have affirmed the significant impact of social influence on users' intentions to adopt new technology (Joa & Magsamen-Conrad, 2022). Among studies examining technology acceptance using theoretical frameworks is the research by Kamaluzzaman et al (2023), which investigated the online shopping behavior of individuals in Indonesia and reported positive effects. However, a study conducted in Jordan by Albanna et al (2022) examining the influence on internet banking usage behavior yielded contrasting results, suggesting a reverse effect. Based on this, therefore this study hypothesizes that:

H3: Social Influence (SI) has a significant relationship towards ar-rahnu e-payment adoption

Facilitating Condition (FC)

Facilitating condition (FC), as defined by Venkatesh et al (2022), pertains to the extent to which individuals perceive the organizational and technical infrastructure necessary for sustaining system use, encompassing factors such as knowledge, capabilities, and user resources. This concept is akin to behavioral control in the theory of planned behavior (TPB). While the Unified Theory of Acceptance and Use of Technology (UTAUT) model only posits a relationship between enabling conditions and behavioral use, research indicates that conditions exert a significant influence on behavioral intentions. Facilitating conditions represent an individual's assessment of the resources and support available to execute an action (Venkatesh et al., 2022). Numerous studies in the literature have demonstrated a substantial link between facilitating conditions and behavioral intention (Chawla & Joshi, 2019; Migliore et al., 2022; Patil et al., 2020; Soodan & Rana, 2020). For instance, Chawla and Joshi (2019) examined critical factors influencing the intention of 744 Indian consumers to use mobile wallets, revealing that facilitating conditions significantly impact the intention to use mobile wallets. Similarly, in the Indian context, Patil et al (2020) reported similar findings, highlighting the crucial role of convenience in increasing the adoption of mobile payment methods. Soodan and Rana (2020) investigated the influence of convenience on the desire to use e-wallets by examining key factors contributing to the adoption behavior of 613 e-wallet customers in Punjab, India. Their research underscored that individuals' perception of facilitating conditions, including resources, information, support, and privacy, significantly influences their usage of e-wallets. Therefore, this study hypothesis

H4: Facilitating Condition (FC) has a significant relationship towards ar-rahnu e-payment adoption

Based on the review of literature, this study proposed framework as in Figure 1. The independent variables include performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC). The dependent variable is ar-rahnu e-payment adoption. This study elucidates the relationship between these variables as in Figure 1.

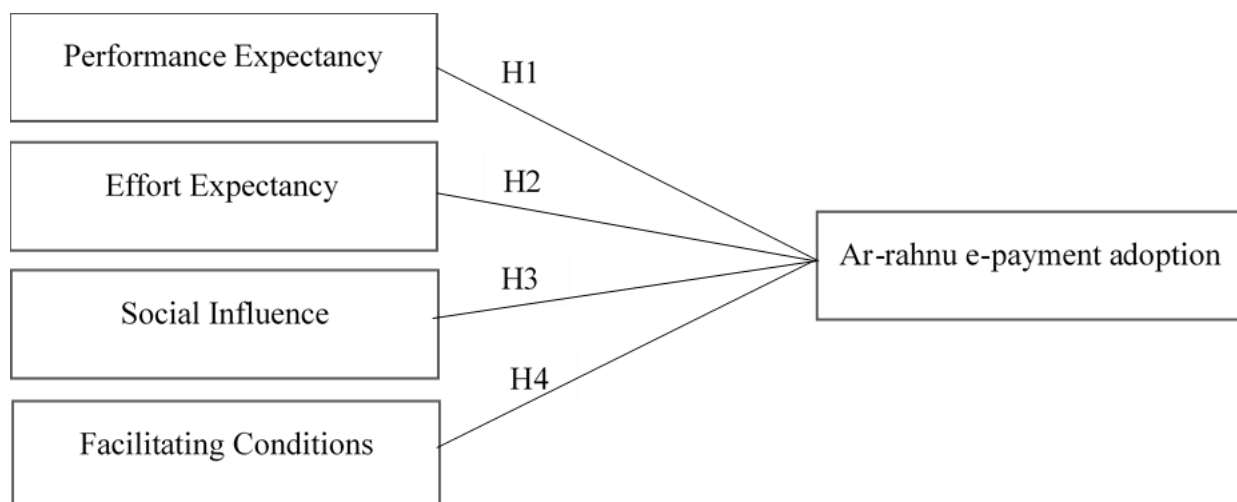


Figure 1. Research Framework

Research Methodology

This study employs quantitative methods to investigate adoption of e-payment among ar-rahnu users. Utilizing a purposive sampling technique, respondents were selected based on specific criteria, namely their utilization of ar-rahnu services and being aged 18 years or above. The survey instrument comprises three sections: Section A addresses independent variables, Section B assesses the dependent variable—adoption of e-payment at ar-rahnu, and Section C gathers demographic information from respondents. Each question in Sections A and B employs a Likert scale with five response options: "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree." Distribution of the survey was facilitated through Google Forms with the assistance of designated ar-rahnu supervisors. Cooperatives including Felda Capital Cooperative (KPF), Sahabat Amanah Ikhtiar Cooperative, Kedah State Government Officer Cooperative Berhad, Royal Malaysian Police Cooperative Berhad, Terengganu Education Cooperative Berhad (KOGURU), Sarawak Koperkasa Cooperative Berhad, and Cooperative Sabah Government Officers (KOPEKS) were enlisted for questionnaire dissemination. In term of data analysis, its involved two main stages, firstly, employing Statistical Package for the Social Sciences (SPSS) Version 32.0 for data cleaning and screening to eliminate extraneous data. Subsequently, descriptive analysis was conducted to delineate the demographic profile of respondents. Second stage, the data underwent analysis using the Partial Least Square-Structural Equation Model (PLS-SEM) 4.0 to explore the relationship factors influencing the adoption of ar-rahnu e-payment.

Result and Finding

According to the data presented in Table 2, a majority of respondents were women, comprising 59.0% or 118 individuals, whereas male respondents accounted for 41.0%, totalling 82 individuals. Regarding ethnicity, Malays constituted the largest proportion at 89.5%, with 179 respondents, followed by 1.0% or 2 Indian respondents and 9.5% or 19 respondents from other ethnic backgrounds. In terms of age distribution, 48.5% or 97 respondents fell within the 31-40 age group, followed by 37.0% or 74 respondents aged 21-30. Respondents aged 41-50 and 51 years and above constituted 10.0% and 4.5%, respectively. Marital status analysis revealed that 75.5% or 151 respondents were married, 21.5% or 43 were single, and 3.0% or 6 fell into other marital status categories.

Table 2

Respondents' Profile

Item		Frequency [%]
Gender	Male	82 [41.0]
	Female	118 [59.0]
Race	Malay	179 [89.5]
	Indian	2 [1.0]
	Others	19 [9.5]
Age	21-30 years old	74 [37.0]

	31-40 years old	97 [48.5]
	41-50 years old	20 [10.0]
	51 years old and above	9 [4.5]
Marital status	Single	43 [21.5]
	Married	151 [75.5]
	Widow/ Widower	6 [3.0]
Education level	SPM and below	37 [18.5]
	Certificate/ Diploma	87 [43.5]
	Bachelor's Degree	62 [31.0]
	Master's Degree	6 [3.0]
	Others	8 [4.0]
Residential area	City	132 [66.0]
	Rural	68 [34.0]
Occupation	Government	11 [5.5]
	Private Sector	136 [68.0]
	Self-employed	23 [11.5]
	Traders/ Hawker	8 [4.0]
	Others	22 [11.0]
State	Selangor	37 [18.5]
	Kuala Lumpur	17 [8.5]
	Perak	17 [8.5]
	Kedah	37 [18.5]
	Pulau Pinang	3 [1.5]
	Kelantan	4 [2.0]
	Terengganu	18 [9.0]
	Pahang	13 [6.5]
	Negeri Sembilan	3 [1.5]
	Johor	16 [8.0]

	Melaka	2 [1.0]
	Sabah	18 [9.0]
	Sarawak	15 [7.5]
Cooperative members	Yes	92 [46.0]
	No	108 [54.0]
Household size	1-3 persons	105 [52.5]
	4-6 persons	89 [44.5]
	7-9 persons	6 [3.0]
Head of household	No	116 [58.0]
	Yes	84 [42.0]

Note: N=200

Regarding the educational attainment, the majority held certificates or diplomas (43.5%), followed by bachelor's degrees (31.0%). Additionally, 18.5% had Malaysian Certificate of Education (SPM) or lower qualifications, 4.0% had other educational credentials, and 3.0% had master's degrees. The urban-rural distribution showed that 66.0% or 132 respondents resided in urban areas, while 34.0% or 68 lived in rural regions. In terms of employment sectors, the private sector employed the most respondents (68.0%), followed by self-employment (11.5%). Notably, 11.0% of respondents indicated occupations not listed, 5.5% were government employees, and 4.0% were traders/peddlers.

From a state perspective, Selangor and Kedah had the highest representation, each accounting for 18.5% with 37 respondents, while Terengganu and Sabah each had 9.0%, represented by 18 respondents. Kuala Lumpur and Perak had 8.5% each with 17 respondents, followed by Johor (8.0%), Sarawak (7.5%), Pahang (6.5%), Kelantan (2.0%), Negeri Sembilan and Penang (1.5% each), and Melaka (1.0%). Regarding cooperative membership, 54.0% or 108 respondents were non-cooperative members, while 46.0% or 92 were cooperative members. Household size analysis showed that 52.5% or 105 respondents had 1-3 members, 44.5% or 89 had 4-6 members, and 3.0% lived in households with 7-9 members. Finally, 58% or 116 respondents stated they were not heads of their families, while 42% or 84 respondents identified as family heads.

Measurement Model

According to the evaluation results presented in Table 2, the measurement model was assessed based on established criteria. As per Hair et al (2022), a threshold value of above 0.60 for standardized factor loadings is recommended. It is observed that all standardized factor loadings meet this criterion, except for AD4, which falls short with a value of 0.341. Consequently, this item was removed from further analysis to ensure the model's integrity. Furthermore, the Average Variance Extracted (AVE) values ranged from 0.759 to 0.858. As per the guideline proposed by Hair et al (2022), all AVE values exceeding the cut-off of 0.5 indicate

satisfactory convergent validity. In terms of composite reliability, the values ranged from 0.950 to 0.970 across all constructs. These results surpass the recommended threshold of 0.7 proposed by Hair et al (2022), signifying strong internal consistency and reliability of the measurement model. Overall, the majority of the measurement model's parameters meet or exceed the established criteria, indicating robustness and validity. The removal of the AD4 item addressed the issue of low factor loading, ensuring the reliability of subsequent analyses.

Table 2

Factor Loading

Construct	Item	Loading	CR	AVE
Digital Adoption	I intend to choose the digital ar-rahnu application in the future. (DA1)	0.900	0.955	0.810
	In the future, I plan to choose the digital ar-rahnu application. (DA2)	0.947		
	The digital ar-rahnu application is my first choice. (DA3)	0.930		
	I intend to recommend the digital ar-rahnu application to others (e.g., word of mouth). (DA5)	0.836		
	I will try/strive to choose the digital ar-rahnu application. (DA6)	0.883		
	Performance Expectancy	I perceive the digital ar-rahnu platform as useful in my daily life (PE1) .		
	The use of the digital ar-rahnu platform is expected to help fulfil my needs (PE2) .	0.909		
	The digital ar-rahnu platform can be used anytime and anywhere (PE3) .	0.952		
	The digital ar-rahnu platform enhances my productivity (PE4) .	0.938		
	The digital ar-rahnu platform enables faster financial transactions (PE5)	0.914		
Effort Expectancy	I expect that learning to use the digital ar-rahnu platform will be easy (EE1) .	0.940	0.970	0.843
	I expect the digital ar-rahnu platform to be easy to understand (EE2) .	0.956		
	I expect that the interface/display of the digital ar-rahnu platform will be easy to use (EE3) .	0.934		
	I find it easy for me to become proficient in using the digital ar-rahnu platform (EE4) .	0.941		
	I assume that the digital ar-rahnu application is swift (EE5) .	0.909		
	I believe the interface/display of the digital ar-rahnu application is user-friendly (EE6) .	0.823		
Facilitating Conditions	I have references when using the digital ar-rahnu application (FC1) .	0.880	0.953	0.770

	I have knowledge to use the digital ar-rahnu application (FC2) .	0.837		
	The digital ar-rahnu application is compatible with other technologies that I use (FC3) .	0.880		
	I can get assistance from family members when facing problems using the digital ar-rahnu application (FC4) .	0.873		
	The digital ar-rahnu application is always updated (FC5) .	0.910		
	I find the digital ar-rahnu application easy for new users to register (FC6) .	0.883		
Social Influence	People who are close to me think I should use the digital ar-rahnu platform (SI1) .	0.909	0.950	0.759
	People who are influencing my behavior believe I should use the digital ar-rahnu platform (SI2) .	0.901		
	People whose opinions I value would prefer me to use the digital ar-rahnu platform (SI3) .	0.911		
	I will use the digital ar-rahnu platform because of advice from ar-rahnu staff (SI4) .	0.858		
	I will use the digital ar-rahnu platform because of persuasion from family and friends (SI5) .	0.767		
	Advertisements have influenced me to use the digital ar-rahnu platform (SI6) .	0.871		

Note: AD4 item is deleted due to low loading

Based on the evaluation presented in Table 2, the model's ability to differentiate between various constructs was examined. It is essential for items in the model to demonstrate stronger associations with their intended constructs compared to other constructs. Additionally, the average shared variance between a construct and its measures should surpass the shared variance between the construct and other constructs (Sarstedt et al., 2022). Moreover, as per Rasoolimanesh (2022), discriminant validity using the heterotrait-monotrait ratio (HTMT) of correlation was assessed after confirming convergent validity. HTMT threshold values lower than HTMT0.85 and HTMT0.90 thresholds indicate no issues with discriminant validity, as recommended by (Hair and Alamer, 2022). However, the HTMT results displayed in Table 3 indicate that the value exceeds the HTMT threshold. This suggests potential concerns regarding discriminant validity within the model. Further analysis and refinement may be necessary to address this issue and ensure the robustness of the model's discriminant validity.

Table 3

Discriminant Validity (HTMT)

	1	2	3	4	5
1. Digital Adoption					
2. Performance Expectancy	0.744				
3. Effort Expectancy	0.792	0.850			
4. Facilitating Condition	0.724	0.580	0.649		
5. Social Influence	0.780	0.796	0.807	0.755	

The reliability analysis summarized in Tables 2 and 3 demonstrates that all scales exhibit a satisfactory level of reliability, meeting the minimum threshold. This indicates that the instrument utilized in the study is stable and consistent in measuring the concepts represented by each variable. The robustness of the measurement model is underscored by the high composite reliability values and strong factor loadings, ensuring the dependable assessment of the constructs under investigation. Consequently, the findings derived from this study can be considered reliable and valid. The structural model of the study was assessed using the R^2 measure, as advocated by Ramayah et al (2018), along with evaluating the coefficient of determination and significance level of the beta value, as suggested by (Hair et al., 2022). Table 4 illustrates that the R^2 value for digital adaptation is 0.678, indicating that 67.8% of the variation in digital adaptation can be elucidated by the factors of Performance Expectations, Effort Expectations, Facilitating Conditions, and Social Influence. Furthermore, to validate the significance of the structural model, the researcher computed the path coefficients and conducted a bootstrap analysis. Table 4 demonstrates that all hypotheses (H1-H4) exhibit a statistically significant relationship. Additionally, the bias-corrected confidence intervals at 95% for the upper limit and 5% for the lower limit reveal that none of the intervals encompass the value of 0. This substantiates significant support for the study's findings, reinforcing the robustness of the structural model's outcomes.

Table 4

Structural Model

Hubungan	Std Beta	Std Error	t-value	BCI LL	BCI UL	R^2	f^2
H1 PE -> DA	0.158	0.109	1.454*	-0.027	0.329	0.678	0.022
H2 EE -> DA	0.325	0.114	2.847***	0.143	0.513		0.088
H3 FC -> DA	0.284	0.055	5.12***	0.196	0.374		0.119
H4 SI -> DA	0.167	0.079	2.116**	0.046	0.302		0.024

Note: *p* value, ***0.01, **0.05, *0.10

This study extends its analysis to PLSpredict to incorporate out-of-sample prediction, aligning with the recommendation of (Sharma et al., 2022). This extension was motivated by criticism suggesting that blindfolding Q^2 might not truly measure out-of-sample prediction, as it only excludes data points rather than entire observations, as highlighted by Sarstedt et al. (2022). While Q^2 can be considered a partial out-of-sample predictive measure, it does not fully capture the structural changes that occur when new data is introduced. The predicted Q^2 value obtained for this study is 0.5278, allowing for further examination of measurement items. The Root Mean Square Error (RMSE) or Mean Absolute Error (MAE) value is then

compared with the naive LM benchmark. All indicators demonstrate the prediction error from the LM model, with the PLS model outperforming the LM model. Consequently, following the principles outlined by Shmueli et al (2019), the model exhibits a high level of predictive power. This extension of the analysis enhances the understanding of the model's predictive capabilities and reinforces the validity and reliability of the findings. By considering out-of-sample prediction, the study provides a more comprehensive assessment of the model's performance and its potential practical applications.

Table 5

Forecasting

Item	PLS-SEM		LM	
	RMSE	MAE	RMSE	MAE
Digital Adoption 1	0.609	0.431	0.571	0.405
Digital Adoption 2	0.600	0.422	0.544	0.382
Digital Adoption 3	0.618	0.490	0.602	0.472
Digital Adoption 5	0.835	0.615	0.831	0.589
Digital Adoption 6	0.583	0.447	0.568	0.433

Discussion

The concept of Performance Expectancy (PE) revolves around the perception of users that the utilization of technology will enhance their experience while performing a specific activity (Venkatesh et al., 2022). In the context of this study, the findings affirm a positive relationship between performance expectancy (PE) and digital adoption (DA) This corroborates with previous research conducted by (Al-Saedi et al., 2020; Gupta and Arora, 2020; Merhi et al., 2019; Migliore et al., 2022). The preference of ar-rahnu customers for digital ar-rahnu services, indicated by the ability to access them anytime and anywhere, underscores the convenience and efficiency associated with digital platforms. The top three items within the performance expectancy construct further elucidate this sentiment: the availability of a digital platform enables users to access ar-rahnu services at their convenience (0.952), enhances customer productivity (0.938), and offers various benefits in their daily lives (0.916). In essence, the adoption of digital ar-rahnu facilitates operational efficiency by streamlining the mortgage process, reducing time and costs, and expediting record management. Moreover, it grants customers seamless access to ar-rahnu services, enhancing their overall experience and satisfaction. Consequently, the integration of digital technology into ar-rahnu services not only modernizes the process but also aligns with the evolving preferences and needs of customers in today's digital age.

Effort expectancy (EE) pertains to the perceived level of effort required by ar-rahnu customers to utilize digital ar-rahnu services. The study findings indicate a positive relationship between effort expectancy and digital adaptation, where customers anticipate ease of understanding (0.956), proficiency (0.941), and usability (0.940) of ar-rahnu's digital platform. The provision of robust infrastructure, such as efficient data management systems, reliable computer networks, and user-friendly ar-rahnu management software, plays a crucial role in facilitating sustainable digital adaptation. This infrastructure ensures smoother and more seamless user experiences, thereby promoting greater acceptance and utilization of digital ar-rahnu

services. This aligns with the overarching goal of introducing digital ar-rahnu, which is to enhance customer satisfaction by offering a platform that simplifies mortgage management without necessitating excessive time or effort (Venkatesh et al., 2022). Studies by Wu et al. (2021); Penney et al (2021) support this notion, suggesting that if a service is perceived as easy to use, people are more likely to adopt it. Conversely, if the process requires significant effort, the sustainability of digital ar-rahnu may be compromised, as users may be less inclined to engage with it. In essence, ensuring that digital ar-rahnu services are user-friendly and require minimal effort from customers is essential for fostering widespread adoption and long-term sustainability. This underscores the importance of designing and maintaining digital platforms that prioritize ease of use and accessibility, ultimately enhancing customer satisfaction and driving overall success.

Social influence, in the context of this study, refers to the process through which individuals or groups exert influence on the thoughts, feelings, and behaviors of others, thereby encouraging conformity to the norms prevailing within their social environment. Specifically, in the context of this research, social influence pertains to how the influence of peers and social circles affects the decision of customers to utilize digital ar-rahnu services. Analysis of the loading factor of the social influence construct reveals that the highest value indicates the perceived impact of peer influence on the adoption of digital ar-rahnu services (0.911). This finding aligns with prior research conducted by Kamaluzzaman (2023) and Albanna et al. (2022), both of which have affirmed the significant effect of social influence on consumer intentions to adopt new technologies. These findings underscore the importance of considering social factors in understanding and predicting consumer behavior regarding the adoption of digital ar-rahnu services. The influence of peers and social networks can play a pivotal role in shaping individuals' attitudes and perceptions towards technology adoption, highlighting the need to incorporate social influence mechanisms into the design and implementation of digital ar-rahnu initiatives. By recognizing and leveraging social influence dynamics, organizations can enhance their strategies for promoting the uptake and utilization of digital services among their target audience.

According to Venkatesh et al (2022), facilitating conditions refer to an individual's assessment of the resources and assistance available to execute a particular action. In the context of this study, facilitating conditions exhibit a positive relationship with the digital adaptation of ar-rahnu services. This positive association is evident as ar-rahnu customers expect digital applications to be continuously updated (0.910), equipped with specific usage references (0.880), and compatible with other technologies (0.880) they use. These findings are in line with previous research conducted by Chawla & Joshi (2019); Migliore et al (2022); Patil et al (2020); Soodan & Rana (2020), which emphasize the significance of convenience in increasing the adoption of digital payments. The greater the individual's perception of facilitating conditions, including access to resources, information, support, and privacy, the higher the likelihood of digital usage. Overall, the study's findings underscore the importance of ensuring that facilitating conditions, such as the availability of updated and compatible digital platforms, are in place to facilitate the adoption and utilization of digital ar-rahnu services. By addressing these facilitating conditions, organizations can enhance the user experience and promote greater acceptance of digital solutions among ar-rahnu customers.

Conclusion

Based on the findings of the study, it is evident that Performance Expectancy (PE) exhibit a weak relationship with the digital adoption of ar-rahnu. Consequently, this study recommends that policy makers, such as Suruhanjaya Koperasi Malaysia (SKM), Institut Koperasi Malaysia (IKMa), and other relevant stakeholders, prioritize and promote the utilization and development of digitalization within the ar-rahnu sector. This entails creating a policy framework that encompasses comprehensive support systems and launching extensive awareness campaigns. Furthermore, financial federations should play an active role in fostering a complete ecosystem by providing applications, platforms, expert services, and facilitating collaboration networks among ar-rahnu operators. Research and development (R&D) initiatives within the cooperative sector must also be intensified to stimulate creativity and innovation. This is essential to ensure that cooperatives produce high-quality products or services that differentiate themselves in the competitive business landscape.

In this context, "excellent research findings" refer to results indicating that the integration of digital technologies, such as online platforms, mobile applications, or computerized systems, will yield significant benefits for ar-rahnu services. "Business Expectations" pertain to the belief that implementing digital innovations will lead to substantial returns and success in ar-rahnu operations. Facilitating Conditions encompass the circumstances and factors that enable or support the implementation of digital adaptation. These conditions may include adequate technological infrastructure, user support, and managerial acumen to effect necessary changes. Therefore, in light of the positive outcomes of this study, ar-rahnu operators must be prepared and committed to undertaking significant transformations in their business practices. This involves transitioning from conventional offline operating models to ones that prioritize digital presence. Such changes may necessitate overhauling business processes, implementing new systems, staff training, and ongoing efforts to ensure consistency and quality in the customer experience online. By adopting this approach, ar-rahnu operators can fully leverage the potential offered by digitization in the ar-rahnu industry.

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