Jurnal Ekonomi Syariah Indonesia (JESI)
ISSN : 2503-1872 (e) & 2089-3566 (p)
Volume 16, Nomor 1, 2026, 45-62
DOI : 10.21927/jesi.2026.16(1).45-62

The Role of UTAUT Constructs In The Adoption Of QRIS for Cash Waqf: Evidence from Islamic Economic Communities

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ABSTRACT

Purpose: This study examines determinants of behavioral intention and actual adoption of QRIS for cash waqf within MES using the UTAUT framework, addressing low digital waqf uptake and limited evidence in community-based Islamic contexts.

Methodology: A quantitative PLS-SEM approach (SmartPLS 4.0) was applied to online survey data from 133 MES administrators and members who have used QRIS for cash waqf.

Result: The results show that performance expectancy, effort expectancy, and social influence have a positive and significant effect on intention to use QRIS. In contrast, facilitating conditions and behavioral intention do not significantly influence actual user adoption.

Conclusion: Perceived benefits, ease of use, and social encouragement are key drivers of intention, yet intention does not necessarily translate into real behavior, indicating an intention–behavior gap in QRIS-based cash waqf. To improve adoption, stakeholders should strengthen perceived usefulness through clear value propositions, simplify the donation flow and feedback, leverage community networks, and implement community-based education to support sustained digital waqf participation.

Implications: Limited to purposive sampling in one MES community and a cross-sectional self-reported survey, which may reduce generalizability and introduce common method bias. Future studies should use broader samples, longitudinal designs, and transaction data to better capture the intention–behavior gap.

Originality: This study provides evidence on QRIS-based cash waqf adoption in a community setting by testing intention and actual use with a UTAUT-based PLS-SEM model, highlighting the intention–behavior gap and practical ways to improve conversion.

ARTICLE INFO

Keywords: adoption technology, cash waqf, islamic economic society, QRIS, UTAUT

Article info :
Received August 05, 2025
1st revision August 18, 2025
2nd revision January 09, 2026
Accepted January 09, 2026
Available online April 24, 2026
Published April 24, 2026

JEL Code:
D13, I31, J22, K31

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INTRODUCTION

Waqf is a social Islamic finance instrument that plays a strategic role in improving welfare and reducing poverty ((Abdullah, 2018). Historically, it has supported development in education, health, and the economy (Hasan et al., 2019), with a distinctive feature in its sustainability where the core asset is preserved while benefits are continuously distributed (Alma'amun et al., 2018). In Indonesia, waqf is still dominated by immovable assets with localized utilization (Lubis, 2020); more than seventy percent of waqf land is used for worship facilities, while contributions to broader socio-economic programs remain limited. Although the national waqf potential is estimated at around IDR 180 trillion per year, inefficiencies in collection and management persist (Indonesian Waqf Board, 2023).

Cash waqf offers a more inclusive and flexible alternative, enabling participation beyond those who own land or buildings (Nisa & Anwar, 2019; Rusydiana, 2018) and supporting more productive fund utilization (Kachkar, 2017; Widiastuti et al., 2022). However, realization is still far below potential; in 2022, cash waqf collection was reported at approximately IDR 1.4 trillion (Indonesian Waqf Board, 2023)..This gap indicates the need for innovation to expand participation and improve fundraising effectiveness.

Financial technology may help accelerate this transformation. The Quick Response Code Indonesian Standard introduced by Bank Indonesia enables fast, convenient, and secure payments (Bank Indonesia, 2019), and its application to cash waqf is consistent with evidence on mobile payment and digital banking adoption (Alalwan et al., 2017; Oliveira et al., 2016). Yet adoption barriers remain, particularly technology literacy, network reliability, and trust, reflecting broader issues in digital finance (Malaquias & Hwang, 2016; Novi Arianti et al., 2019; Putu et al., 2021; Talwar et al., 2020). Community-based Islamic organizations are therefore crucial, as their social capital and networks can strengthen literacy and participation; the Islamic Economic Community provides a relevant setting to examine this adoption process.

To explain the determinants of QRIS-based cash waqf adoption, this study applies the Unified Theory of Acceptance and Use of Technology, which links performance expectancy, effort expectancy, social influence, and facilitating conditions to behavioral intention and actual use (Venkatesh et al., 2003, 2012; Venkatesh & Zhang, 2010). The framework has been widely used in Islamic finance and digital banking studies (Diniyah, 2021; Rahma et al., 2021; Wadi & Nurzaman, 2020) and in global mobile and internet banking research (Oliveira et al., 2016) However, empirical evidence on QRIS adoption for cash waqf in organizational community settings is still limited, particularly in relation to the intention–behavior gap. Accordingly, this

study tests UTAUT determinants in the Islamic Economic Community, evaluates the pathway from intention to adoption, and proposes practical interventions such as auto-debit/top-up, adaptive reminders, community-level social proof, and streamlined transaction flows to reduce the gap between intention and actual behavior.

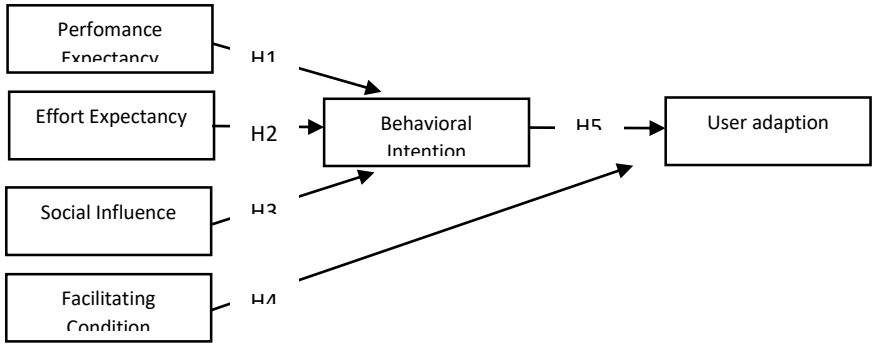

Figure 1. Research Conceptual Framework

Source: Authors' adaptation of UTAUT (Venkatesh et al., 2003)

Grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), the conceptual model in **Figure 1** follows the core causal structure linking performance expectancy, effort expectancy, and social influence to behavioral intention, and positioning behavioral intention and facilitating conditions as key predictors of actual use/adoption (Venkatesh et al., 2003, 2012; Venkatesh & Zhang, 2010). This structure aligns with the intention–behavior logic in behavioral theory, where intention is the most proximal antecedent of actual behavior and is supported by technology-adoption evidence in e-banking and digital payment (Namahoot & Jantasri, 2023; Tarhini et al., 2016; Verkijika, 2020; Yamin & Abdalatif, 2024; Yaseen & El Qirem, 2018).

Building on this foundation, the model is adapted to explain behavioral intention and user adoption of QRIS for cash waqf among managers and members of a community-based Islamic economic organization in Indonesia. Prior studies on digital waqf and online/crowdfunding-based cash waqf indicate that perceived benefits and ease, social influence, and enabling institutional or infrastructural support are salient drivers of intention and use (Kasri & Chaerunnisa, 2022; Masrizal et al., 2023; Musahidah & Sobari, 2021; Rahma et al., 2021; Wadi & Nurzaman, 2020). Accordingly, the model tests the hypothesized direct and mediating effects (H1–H5) and is designed to generate practical recommendations for strengthening QRIS-based cash waqf digitalization.

This subsection synthesizes peer-reviewed evidence on digital payments, mobile banking, Islamic fintech, and digital waqf, emphasizing studies from Indonesia and comparable

developing-country contexts to account for infrastructure, trust, and literacy constraints. The review is organized around UTAUT constructs (performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention, and actual usage) to map areas of convergence, inconsistency, and remaining gaps relevant to community-driven Islamic philanthropy. A summary table then compares studies by context/sample, method, main findings, and the gaps they leave, followed by a comparative discussion that motivates the hypotheses and empirical design of this study.

Table 1. Previous research

Author (Year)	Country/Context & Sample	Method	Key Findings	Gap Highlighted
Alalwan et al. (2017)	Jordanian mobile banking customers	Survey; SEM	Performance expectancy, effort expectancy, and social influence significantly predict intention to adopt mobile banking.	Different sectoral context; does not test facilitating conditions to actual usage in donation/waqf flows.
Rahma et al. (2021)	Islamic digital finance context, Indonesia	Survey; UTAUT framework	Confirms roles of performance expectancy, effort expectancy, and social influence for intention in Islamic fintech adoption.	Does not study cash waqf via QRIS in community organizations; limited on intention–behavior conversion.
Wadi & Nurzaman (2020)	Islamic finance users, Indonesia	Survey; structural modeling	Highlights social influence and facilitating conditions in encouraging adoption of Islamic financial services.	Institutional/individual focus; not community-driven philanthropy or recurring waqf usage.
Diniyah (2021)	Islamic philanthropy technology, Indonesia	Survey; SEM	Shows that ease of use and perceived usefulness increase intention to donate via digital platforms.	Does not evaluate actual usage behavior or QRIS standardization effects.
Verkijika (2020)	Mobile payment security and trust	Survey; SEM	Security perceptions and trust strongly affect intention to use QR-based payments.	Findings not tested in Islamic waqf programs and community mobilization settings.

As summarized in **Table 1**, studies on mobile payments and Islamic digital finance consistently find that performance expectancy and effort expectancy predict behavioral intention, with social influence also important in community-oriented settings (Alalwan et al., 2017; Diniyah, 2021; Oliveira et al., 2016; Rahma et al., 2021; Wadi & Nurzaman, 2020). Facilitating conditions more often explain actual use when access and skills vary, while trust and security show mixed effects across contexts (Malaquias & Hwang, 2016; Verkijika, 2020)

However, research rarely tests QRIS adoption for cash waqf in Islamic community organizations or the intention–behavior link. Therefore, this study applies UTAUT to model the

effects of performance expectancy, effort expectancy, and social influence on intention, and the roles of facilitating conditions and intention in predicting adoption, which are formalized in hypotheses H1–H5 (Venkatesh et al., 2003, 2012).

Hypotheses Development

Building on UTAUT, this study posits that individuals develop intentions to use a technology when they perceive it as beneficial (performance expectancy), easy to use (effort expectancy), and socially endorsed (social influence) (Venkatesh et al., 2003, 2012). Consistent with the intention–behavior tradition, behavioral intention is expected to predict actual use, while facilitating conditions may also directly enable adoption through resources, knowledge, and infrastructure (Venkatesh et al., 2003; Yamin & Abdalatif, 2024). These links are widely supported in digital finance adoption studies (Tarhini et al., 2016; Verkijika, 2020; Yaseen & El Qirem, 2018). In the context of QRIS-enabled cash waqf within Indonesian Islamic economic communities, adoption is therefore expected to be shaped by perceived usefulness and ease of QR-based payments, community norms, and institutional readiness, consistent with prior evidence in digital waqf research (Kasri & Chaerunnisa, 2022; Masrizal et al., 2023; Musahidah & Sobari, 2021; Wadi & Nurzaman, 2020). Accordingly, the study proposes the following hypotheses:

H1: Performance expectancy positively influences behavioral intention to use QRIS for cash waqf (Venkatesh et al., 2003; Venkatesh et al., 2012; Verkijika, 2020).

H2: Effort expectancy positively influences behavioral intention to use QRIS for cash waqf (Venkatesh et al., 2003; Tarhini et al., 2016).

H3: Social influence positively influences behavioral intention to use QRIS for cash waqf (Venkatesh et al., 2003; Yaseen & El Qirem, 2018; Musahidah & Sobari, 2021).

H4: Facilitating conditions positively influence user adoption of QRIS for cash waqf (Venkatesh et al., 2003; Zhou et al., 2010; Namahoot & Jantasri, 2023).

H5: Behavioral intention positively influences user adoption of QRIS for cash waqf (Fishbein & Ajzen, 1975; Venkatesh et al., 2003; Zhou et al., 2010).

METHODOLOGY

This study employs a quantitative, positivist approach to test causal relationships among variables based on empirical data (Benitez et al., 2020).

Operational Definition

This study employs a quantitative, causal design to test cause–effect relationships among constructs (Benitez et al., 2020). The model measures performance expectancy (perceived benefits of QRIS for waqf, such as speed and convenience) (Darmansyah et al., 2021; Musahidah & Sobari, 2021; Rahim et al., 2023), effort expectancy (perceived ease of learning and using QRIS) (Musahidah & Sobari, 2021; Yaseen & El Qirem, 2018), and social influence (encouragement or pressure from family, peers, leaders, and media) (Kasri & Chaerunnisa, 2022; Masrizal et al., 2023). It also includes facilitating conditions (resources, infrastructure, and technical support) (Rahim et al., 2023; Rahma et al., 2021), behavioral intention (intention and commitment to use QRIS for waqf) (Masrizal et al., 2023; Rahim et al., 2023; Yaseen & El Qirem, 2018)), and user adoption (actual frequency and preference of QRIS use for cash waqf) (Rahim et al., 2023; Yamin & Abdalatif, 2024)

Population and Sample

The population comprises all administrators and members of Islamic economic communities who meet the study criteria. Sampling uses purposive sampling, namely respondents who have previously performed cash waqf using the Quick Response Code Indonesian Standard (Benitez et al., 2020)). Sample adequacy (n = 133). This size is adequate for partial least squares structural equation modeling because it (i) satisfies the 10-times rule—at least ten times the largest number of indicators or the highest number of arrows pointing to an endogenous construct—and (ii) aligns with recommendations for relatively complex models and potentially non-normal data (J. Hair & Alamer, 2022). Given the structure of this model, n = 133 exceeds the minimum rule-of-thumb threshold. Due to purposive sampling, generalization primarily applies to similar communities (Islamic economic communities with comparable characteristics). Broader generalization to Indonesia's Muslim population warrants follow-up studies using probability sampling.

Instrument and Measurement

Data were collected using an online questionnaire with a five-point Likert scale for all indicators: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree (Likert, 1932). The instrument captures respondents' perceptions of each construct through multiple indicators adapted from established measures and then contextualized to QRIS-enabled cash waqf transactions within the Islamic Economic Community.

Table 2 reports the study constructs, measurement items, and their sources. All items were adapted from validated UTAUT measures (Venkatesh et al., 2003; Venkatesh et al., 2012)

and tailored to the cash waqf setting. Performance Expectancy is operationalized with five items (PE1–PE5), Effort Expectancy with six items (EE1–EE6), Social Influence with five items (SI1–SI5), and Facilitating Conditions with seven items (FC1–FC7). Behavioral Intention is measured using four items (BI1–BI4), while User Adoption is captured using five usage-oriented items (UA1–UA5) adapted from prior technology use measures (Yamin & Abdalatif, 2024). Two indicators are reverse-coded to reduce acquiescence bias and improve response consistency (EE6(R) and FC6(R)).

Table 2. Measurement Items, Indicators, and Sources

Construct (variable)	Indicator	Questionnaire item (statement)	Source
Performance Expectancy (PE)	(X2.2)	Using QRIS makes cash waqf transactions easier in the Islamic economic community/organization I participate in.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Performance Expectancy (PE)	(X2.5)	Using QRIS for cash waqf improves the effectiveness of cash waqf collection in Islamic economic communities.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Performance Expectancy (PE)	(X2.6)	Using QRIS for cash waqf accelerates the distribution of waqf funds for social programs and community economic empowerment.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Performance Expectancy (PE)	(X2.1)	Using QRIS for cash waqf increases transparency and accountability in waqf fund management within the community.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Performance Expectancy (PE)	(X2.3)	QRIS is relevant and beneficial for optimizing the role of Islamic economic communities in collecting cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Effort Expectancy (EE)	(X2.4)	Learning to use QRIS for cash waqf is easy for me.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Effort Expectancy (EE)	(X1.1)	QRIS has a user-friendly interface for cash waqf transactions.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Effort Expectancy (EE)	(X1.2)	Using QRIS makes cash waqf transactions easier without requiring complicated procedures.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Effort Expectancy (EE)	(X1.3)	I can use QRIS for cash waqf flexibly, anytime and anywhere.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Effort Expectancy (EE)	(X1.4)	I do not have difficulty understanding QRIS instructions/how it works for cash waqf payments.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Effort Expectancy (EE)	(X1.5)	It is difficult for community members who are not familiar with technology to use QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Social Influence (SI)	(X3.1)	People around me (e.g., community administrators/members) support the use of QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Social Influence (SI)	(X3.2)	Recommendations from religious leaders/ulama/academics influence my decision to use QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Social Influence (SI)	(X3.3)	Social media influence and community digital campaigns encourage me to use QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Social Influence (SI)	(X3.4)	I feel more confident using QRIS for cash waqf if many people in my community do so.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Social Influence (SI)	(X3.5)	Support from the Islamic economic community/organization increases my confidence in using QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)

Facilitating Conditions (FC)	(X4.1)	I have adequate access to devices and internet connectivity to use QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Facilitating Conditions (FC)	(X4.2)	I have sufficient knowledge and skills to use QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Facilitating Conditions (FC)	(X4.3)	Support from the Islamic economic community/organization makes it easier for me to use QRIS for cash waqf transactions.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Facilitating Conditions (FC)	(X4.4)	The infrastructure and payment system provided by the community/organization support the use of QRIS well.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Facilitating Conditions (FC)	(X4.5)	I know where to seek help if I face problems using QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Facilitating Conditions (FC)	(X4.6)	Limited digital literacy is a barrier for the community to adopt QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Facilitating Conditions (FC)	(X4.7)	Technical support and infrastructure in the community/organization are sufficient to help members use QRIS for cash waqf.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Behavioral Intention (BI)	(Y1)	I plan to use QRIS for cash waqf within the next month.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Behavioral Intention (BI)	(Y2)	I intend to use QRIS for cash waqf continuously/regularly.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Behavioral Intention (BI)	(Y3)	I will recommend QRIS-enabled cash waqf payments to other community members.	Venkatesh et al. (2003); Venkatesh et al. (2012)
Behavioral Intention (BI)	(Y4)	If additional convenience and incentives are available, I will be more motivated to perform cash waqf via QRIS.	Venkatesh et al. (2003); Venkatesh et al. (2012)
User Adoption (UA)	(Y5)	I frequently use QRIS for transactions, including cash waqf.	Venkatesh et al. (2003); Zhou et al. (2010)
User Adoption (UA)	(Z1.1)	My use of QRIS for cash waqf has increased over time.	Venkatesh et al. (2003); Zhou et al. (2010)
User Adoption (UA)	(Z1.2)	I prefer using QRIS over other payment methods when conducting cash waqf within the community/organization.	Venkatesh et al. (2003); Zhou et al. (2010)
User Adoption (UA)	(Z1.3)	I am increasingly familiar and comfortable using QRIS as a payment method for cash waqf.	Venkatesh et al. (2003); Zhou et al. (2010)
User Adoption (UA)	(Z1.4)	I regularly follow updates or improvements to the QRIS system used by the community/organization for cash waqf collection.	Venkatesh et al. (2003); Zhou et al. (2010)

Respondent criteria:

(a) Active administrators of the Islamic Economic Community (central, provincial, district/city, local),

(b) Members of communities affiliated with the Islamic Economic Community,

(c) Know about and have previously performed waqf,

(d) Have used the Quick Response Code Indonesian Standard through digital applications (e.g., BSI Mobile, GoPay, ShopeePay).

Analysis Technique

The study employs Partial Least Squares–Structural Equation Modeling using SmartPLS 4.0 because it tests causal relationships among latent constructs simultaneously, performs well with relatively small samples, and is robust to non-normal data (Hair Jr. et al., 2014; Ravand, 2016).

Measurement (Outer) Model and Structural (Inner) Model

PLS-SEM was conducted by evaluating the measurement (outer) model and the structural (inner) model. The measurement model assessed convergent validity (outer loadings ≥ 0.70; AVE ≥ 0.50), discriminant validity (cross-loadings and Fornell–Larcker), and reliability (CR ≥ 0.70 and Cronbach's alpha) (J. Hair & Alamer, 2022; Ravand, 2016). The structural model was evaluated using R^2 and path coefficients, with hypotheses tested via bootstrapping; paths were deemed significant when $t > 1.96$ (J. Hair & Alamer, 2022).

RESULTS AND DISCUSSIONS

Study this involves 133 respondents from administrators, members, and affiliates of the community sharia economy, which has used QRIS in transaction casf waqf. Data processing is carried out using SmartPLS 4.0 with stages testing the outer model (validity and reliability) and the inner model (hypothesis testing).

Measurement (Outer) Model

Outer loading reflects the strength of each indicator–construct association. The ideal threshold for convergent validity is ≥ 0.70 (J. Hair & Alamer, 2022) In economic and social research, however, indicators with loadings of 0.60–0.70 may be retained when construct-level quality remains sound—that is, composite reliability (CR) ≥ 0.70, average variance extracted (AVE) ≥ 0.50, and discriminant validity is satisfied (Fornell–Larcker/cross-loadings). We retained several indicators with outer loadings between 0.40 and 0.70 because (i) they are content-relevant to the construct domain (content validity), (ii) construct metrics remained reliable and valid—CR ≥ 0.70 and AVE ≥ 0.50, and (iii) sensitivity checks showed that dropping those indicators did not materially improve reliability or validity. This approach is consistent with PLS-SEM guidance in social research, where construct-level quality (CR, AVE) takes precedence over a single indicator threshold in isolation (J. Hair & Alamer, 2022)

Tabel 3. Outer Loadings and Measurement Items

Variabel	Indicator	Outer Loading	Description
Effort Expectancy	(X2.2)	0.88	Valid
Effort Expectancy	(X2.5)	0.83	Valid
Effort Expectancy	(X2.6)	0.79	Valid
Effort Expectancy	(X2.1)	0.77	Valid
Effort Expectancy	(X2.3)	0.71	Valid
Effort Expectancy	(X2.4)	0.69	Valid
Performance Expectancy	(X1.1)	0.78	Valid
Performance Expectancy	(X1.2)	0.81	Valid
Performance Expectancy	(X1.3)	0.87	Valid
Performance Expectancy	(X1.4)	0.87	Valid
Performance Expectancy	(X1.5)	0.82	Valid
Social Influence	(X3.1)	0.83	Valid
Social Influence	(X3.2)	0.71	Valid
Social Influence	(X3.3)	0.83	Valid
Social Influence	(X3.4)	0.88	Valid
Social Influence	(X3.5)	0.83	Valid
Facilitating Conditions	(X4.1)	0.88	Valid
Facilitating Conditions	(X4.2)	0.93	Valid
Facilitating Conditions	(X4.3)	0.91	Valid
Facilitating Conditions	(X4.4)	0.93	Valid
Facilitating Conditions	(X4.5)	0.88	Valid
Facilitating Conditions	(X4.6)	0.97	Valid
Facilitating Conditions	(X4.7)	0.90	Valid
User Adoption	(Y1)	0.81	Valid
User Adoption	(Y2)	0.84	Valid
User Adoption	(Y3)	0.92	Valid
User Adoption	(Y4)	0.83	Valid
User Adoption	(Y5)	0.79	Valid
Behavior Intention	(Z1.1)	0.68	Valid
Behavior Intention	(Z1.2)	0.82	Valid
Behavior Intention	(Z1.3)	0.70	Valid
Behavior Intention	(Z1.4)	0.77	Valid

Table 3 reports the indicator outer loadings for each construct. Most indicators exceed the recommended threshold of 0.70; for example, X2.2 (Effort Expectancy) has an outer loading of 0.874. Several indicators are slightly below 0.70 (around 0.66–0.69), but they remain acceptable when conceptually relevant and supported by adequate construct reliability and convergent validity. Convergent validity was further confirmed using AVE, where values should exceed 0.50 (J. Hair & Alamer, 2022; J. F. Hair et al., 2019; Shmueli et al., 2019). All constructs achieved AVE above 0.50, ranging from 0.554 (Behavioral Intention) to 0.836 (Facilitating Conditions), indicating that each construct explains more than half of the variance of its indicators and thus demonstrates satisfactory convergent validity.

Table 4 summarizes internal consistency reliability and convergent validity using Cronbach's Alpha, rho_A, Composite Reliability, and AVE. The results indicate adequate

measurement quality, with reliability estimates meeting accepted thresholds and AVE values exceeding the minimum criterion for convergent validity. Moreover, AVE values for Effort Expectancy (0.60), Performance Expectancy (0.68), Social Influence (0.66), and User Adoption (0.70) are relatively high, supporting the representativeness of the indicators and providing a solid basis for subsequent structural and hypothesis testing.

Table 4. Composite Realibilty, Cronbach Alpha, dan AVE

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Behavioral Intention	0.73	0.75	0.83	0.55
Effort Expectancy	0.87	0.91	0.90	0.60
Facilitating Condition	0.97	1.60	0.97	0.83
Performance Expectancy	0.88	0.91	0.91	0.68
Social Influence	0.87	0.88	0.91	0.66
User Adaption	0.90	1.16	0.92	0.70

Fornell-Lacker (Root value of AVE)

Table 5 reports discriminant validity using the Fornell–Larcker criterion, where each construct's √AVE (diagonal) should exceed its correlations with other constructs (off-diagonal). All diagonal values—Behavioral Intention (0.74), Effort Expectancy (0.780), Facilitating Conditions (0.91), Performance Expectancy (0.83), Social Influence (0.81), and User Adoption (0.84)—are higher than the corresponding inter-construct correlations, indicating adequate discriminant validity.

Table 5. Fornell-Lacker (Root value of AVE)

	Behavioral Intention	Effort Expectancy	Facilitating Condition	Performance Expectancy	Social Influence	User Adoption
Behavioral Intention	0.74					
Effort Expectancy	0.27	0.78				
Facilitating Condition	0.18	0.11	0.91			
Performance Expectancy	0.19	-0.02	-0.05	0.83		
Social Influence	0.25	0.02	-0.08	0.13	0.81	
User Adoption	-0.12	0.05	-0.06	-0.03	0.05	0.84

Reliability Test and Structural (Inner) Model

Composite reliability (CR) values for all constructs range from 0.83 (Behavioral Intention) to 0.97 (Facilitating Conditions), while Cronbach's alpha ranges from 0.73 (Behavioral Intention) to 0.97 (Facilitating Conditions), indicating good internal consistency

and meeting the commonly accepted reliability threshold (≥ 0.70). After confirming the measurement model's reliability and validity, the structural (inner) model was evaluated using bootstrapping in SmartPLS 4.0, as reported in **Table 6** (Path Coefficient Test). The hypothesis testing results show that performance expectancy (T = 2.11; p = 0.03), effort expectancy (T = 3.78; p = 0.00), and social influence (T = 3.25; p = 0.00) have positive and significant effects on behavioral intention to use QRIS for cash waqf, implying that higher perceived benefits, ease of use, and social encouragement are associated with stronger intention to donate cash waqf via QRIS.

Table 6. Path Coefficient Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Behavioral Intention	-0.11	-0.10	0.11	1.03	0.30
Effort Expectancy	0.27	0.30	0.07	3.78	0.00
Facilitating Condition	-0.04	0.00	0.13	0.32	0.74
Performance Expectancy	0.17	0.19	0.08	2.11	0.035
Social Influence	0.22	0.23	0.07	3.25	0.00

From **Table 6**, the structural (inner) model estimation results for QRIS-enabled cash waqf adoption (bootstrapping output) show that facilitating conditions (T = 0.32; p = 0.74) and behavioral intention (T = 1.03; p = 0.30) do not have a significant effect on actual user adoption of QRIS. In other words, even when infrastructure and technical support are perceived as adequate and users report an intention to use QRIS, these factors are not yet sufficient to translate into real adoption behavior for cash waqf in practice. This pattern points to a potential intention–behavior gap in QRIS-enabled cash waqf adoption, where favorable perceptions and stated intentions do not necessarily convert into actual usage.

The influence of performance expectancy on Behavioral Intention

The results show that performance expectancy positively and significantly affects behavioral intention to use QRIS for cash waqf among MES members (β = 0.173; t = 2.110; p = 0.035), supporting H1. Consistent with UTAUT, perceived benefits are a central driver of intention, as also evidenced in mobile payment and digital banking studies (Alalwan et al., 2017; Oliveira et al., 2016). In the MES context, usefulness becomes salient when QRIS-based waqf is perceived as faster, simpler, and more reliable than cash donations and when it provides confirmation and traceability that strengthen confidence (Talwar et al., 2020; Tarhini et al., 2016; Verkijika, 2020). Research in developing-country settings further suggests that

benefit perceptions often interact with security cues, implying that communicating both utility and safeguards can strengthen intention (Malaquias & Hwang, 2016; Verkijika, 2020).

Managerially, MES and waqf operators should translate “benefits” into verifiable proof points, such as completion time, transparent fees, and clear service commitments, supported by instant confirmation and e-receipts (Talwar et al., 2020; Verkijika, 2020). They should also strengthen impact transparency through traceable links to projects/naẓir and simple outcome metrics, which is important in philanthropic and online waqf contexts where credibility shapes participation (Kasri & Chaerunnisa, 2022). Clarifying and consistently communicating these user-salient benefits can reinforce the intention-building role of performance expectancy and encourage sustained QRIS-based waqf engagement (Oliveira et al., 2016; Venkatesh et al., 2003, 2012).

The Influence of Effort Expectancy on Behavioral Intention

The results indicate that effort expectancy significantly and positively affects behavioral intention to use QRIS for cash waqf ($\beta = 0.278$; $t = 3.789$; $p < 0.001$), supporting H2. Consistent with UTAUT/UTAUT2 and the Technology Acceptance Model, perceived ease of use reduces non-monetary adoption costs (time, cognitive effort, and process complexity), thereby strengthening intention and potentially reinforcing perceived usefulness (Venkatesh et al., 2003, 2012). In the QRIS-enabled waqf context, intuitive access through mobile banking or e-wallets—quick scanning, minimal steps, and immediate confirmation—likely lowers friction for first-time donors and users with varied digital literacy, aligning with evidence from mobile banking and payment adoption studies (Malaquias & Hwang, 2016; Oliveira et al., 2016; Talwar et al., 2020).

Practically, MES and related institutions can strengthen effort expectancy through hands-on simulations in community activities and micro-tutorials that reduce learning burdens. Streamlining the donation flow by minimizing steps, pre-filling common amounts/purposes, and providing clear system feedback (e.g., e-receipts and traceable confirmation) can increase perceived control and reduce uncertainty in QR-based payments (Verkijika, 2020). Overall, the findings suggest that reducing procedural complexity is a direct lever for increasing intention to use QRIS for cash waqf within the MES community (Tarhini et al., 2016; Venkatesh et al., 2003, 2012).

The Influence of Social Influence on Behavioral Intention

The findings show that social influence positively and significantly affects behavioral intention ($\beta = 0.229$; $t = 3.251$; $p = 0.001$), supporting H3. This aligns with UTAUT/UTAUT2,

where normative pressure and expectations from salient others are especially influential in early diffusion and high-uncertainty contexts, as individuals rely on social cues to reduce perceived risk (Venkatesh et al., 2003, 2012). In community-oriented settings such as MES, religious-social ties and network dynamics can further amplify this effect. Prior evidence in payment services and digital waqf also suggests that peer recommendations, opinion leaders, and community norms can strengthen intention to use digital channels (Kasri & Chaerunnisa, 2022; Musahidah & Sobari, 2021; Rahma et al., 2021; Talwar et al., 2020). Managerially, increasing QRIS-based cash waqf adoption should leverage community networks and credible endorsers. MES can mobilize mosques, study circles, and affiliated institutions, supported by demonstrations and endorsements from religious leaders and naẓir to form stronger descriptive and injunctive norms (Kasri & Chaerunnisa, 2022; Venkatesh et al., 2003, 2012). Concise social proof (e.g., testimonials and visible participation cues at events) combined with clear benefit messaging and a simple donation flow can further reinforce intention (Talwar et al., 2020; Verkijika, 2020).

The Influence of Facilitating Conditions on User Adoption

The results show that facilitating conditions do not significantly affect user adoption of QRIS for cash waqf (β = -0.042; t = 0.325; p = 0.746), so H4 is not supported. Although UTAUT posits that facilitating conditions should directly enable use behavior, their effect can weaken when baseline access (smartphones, internet, e-wallet/mobile banking) is already widespread and variance is low, making them more of a “hygiene factor” than a differentiating driver (Dwivedi et al., 2020; Venkatesh et al., 2003, 2012). This is consistent with evidence that in high-penetration environments, psychological and social factors often explain adoption better than basic access (Oliveira et al., 2016), and facilitating conditions can become an inconsistent predictor when benefits, ease of use, and social endorsement dominate the adoption process (Dwivedi et al., 2020; Namahoot & Jantasri, 2023). Accordingly, in the MES context, efforts should shift from infrastructure emphasis toward strengthening perceived value and usability, reinforcing trust and transparency, and activating community-based social mechanisms (Kasri & Chaerunnisa, 2022; Venkatesh et al., 2003, 2012).

Influence Behavioral Intention towards User Adoption (Intention– Behavior Gap)

The results indicate that behavioral intention does not significantly predict user adoption of QRIS for cash waqf (β = -0.118; t = 1.038; p = 0.300), so H5 is not supported. Although intention is central in UTAUT and the broader intention–behavior tradition, many studies note an intention–behavior gap when habits, contextual frictions, or execution

barriers persist (Sheeran & Webb, 2016; Venkatesh et al., 2003, 2012). In digital adoption, users may express willingness but fail to act due to competing priorities, lack of prompts at the moment of action, and comfort with established routines, which can be exacerbated by present bias and bounded rationality (Ferdana et al., 2022; Giarlotta & Petralia, 2024; Imai et al., 2021; Namahoot & Jantasri, 2023). For QRIS-enabled cash waqf in MES, this implies that raising intention alone is insufficient without interventions targeting the "moment of action," such as timely reminders tied to religious moments, implementation-intention prompts, and friction-reducing features (e.g., e-receipts, tracking, one-tap repeat, or opt-in auto-debit) (Karlan et al., 2016; Sheeran & Webb, 2016). Community commitments and credible social proof can further strengthen follow-through by increasing salience and normative support (Kasri & Chaerunnisa, 2022; Venkatesh et al., 2003, 2012)

CONCLUSION AND SUGGESTION

Hypothesis testing shows that performance expectancy, effort expectancy, and social influence significantly increase behavioral intention to donate cash waqf via QRIS, while facilitating conditions and behavioral intention do not significantly predict actual adoption. These findings support UTAUT/UTAUT2 in explaining intention formation but also indicate an intention–behavior gap in QRIS-based cash waqf, where follow-through may be constrained by execution frictions, present bias, or entrenched cash-donation habits.

Academically, this study extends UTAUT in Islamic digital philanthropy by separating intention from actual adoption in a community-based setting. Practically, the results suggest shifting emphasis from infrastructure to interventions that convert intention into action: strengthening perceived value through measurable service promises, simplifying the donation flow and feedback (e-receipts/tracking), and leveraging community norms via credible social proof and religious leader involvement. MES can coordinate these efforts through standardized messaging, periodic campaigns (e.g., "Waqf Digital Fridays"), and partnerships with QRIS operators, naẓir, and Islamic banks.

Policy support should focus on governance and trust infrastructure, including reliability/interoperability standards, clearer guidance on digital waqf reporting and transparency, and joint education to improve literacy and reduce execution barriers. Limitations include purposive, community-specific sampling, self-reported measures, and a cross-sectional design. Future studies should use broader samples, incorporate

behavioral/transaction data, and apply longitudinal designs to explain repeat adoption and test interventions that narrow the intention behavior gap.

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