

Behavioral Determinants of Students' Participation in Digital Cash Waqf for Sustainable Higher Education

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ABSTRACT

Sustainable financing has become an increasingly important concern for higher education institutions as rising operational costs and constrained public funding challenge long-term institutional sustainability. In response, digital cash waqf has emerged as an innovative educational philanthropy mechanism with the potential to support scholarships, research, and broader university development within Muslim-majority societies. This study investigates the behavioural determinants influencing students' participation in digital cash waqf for sustainable higher education. A quantitative cross-sectional survey was conducted among 280 university students in Malaysia, and the data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results reveal that religiosity, financial readiness, trust in waqf institutions, knowledge of digital cash waqf, and digital platform accessibility all exert significant positive effects on students' participation intention, with religiosity and institutional trust emerging as the strongest predictors. By integrating behavioural, institutional, and technological determinants within a unified explanatory framework, this study extends the Theory of Planned Behaviour and reconceptualises digital cash waqf as an educational philanthropy mechanism that supports sustainable higher education rather than solely an instrument of Islamic social finance. The findings provide practical implications for universities, waqf institutions, and policymakers seeking to strengthen alternative university financing through digitally enabled philanthropic initiatives.

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1. INTRODUCTION

The financial sustainability of higher education is increasingly challenged by rising operational costs, expanding enrolment, technological change, and constrained public funding [1], [2]. Universities therefore require alternative financing mechanisms to support scholarships, research, infrastructure, and institutional development [3], [4]. Educational philanthropy offers an avenue for financial diversification [5]–[7], while cash waqf provides a sustainable Islamic philanthropic mechanism for educational development [8]–[11]. Digital technology further facilitates participation through online banking, mobile applications, and digital payment platforms [12]–[14].

Despite this potential, participation in digital cash waqf remains limited [15], [16]. Existing studies have identified religiosity, trust, financial capability, knowledge, and technology adoption as important determinants of waqf participation [16]–[23]. However, these determinants are generally examined separately and predominantly within Islamic social finance, leaving limited understanding of digital cash waqf as an educational philanthropy mechanism for sustainable higher education [9], [11]. Few studies also integrate behavioural, institutional, and technological factors in explaining students' participation [13], [16]. This gap is important because students represent both beneficiaries of higher education and potential future contributors to university philanthropy [5]–[7].

Accordingly, this study develops and empirically tests a behavioural model of students' participation in digital cash waqf for sustainable higher education. Drawing on the Theory of Planned Behaviour [24] and Prosocial Behaviour Theory [25], it examines the effects of religiosity, financial readiness, institutional trust, knowledge, and digital platform accessibility on participation intention. The study contributes by positioning digital cash waqf as an educational philanthropy

mechanism and integrating these determinants within a unified behavioural framework.

2. LITERATURE REVIEW

Financial sustainability has increased interest in educational philanthropy as an alternative source of support for scholarships, research, infrastructure, and institutional development [3], [4], [6]. In Islamic philanthropy, cash waqf provides a sustainable mechanism for educational financing [8], [11], while digital platforms improve accessibility and convenience of waqf participation [12]–[14]. However, evidence on students' participation remains fragmented across behavioural, institutional, and technological factors [13], [16], [22], [23].

2.1 Educational Philanthropy and Digital Cash Waqf

Cash waqf can support sustained educational development, while digitalisation facilitates wider participation through accessible payment technologies [8], [11]–[14]. In Malaysia, waqf has increasingly been explored as an alternative mechanism for expanding educational opportunities [9], [11]. Nevertheless, limited empirical research examines digital cash waqf specifically as an educational philanthropy mechanism for sustainable higher education [9], [11].

2.2 Theoretical Foundation

This study integrates the Theory of Planned Behaviour (TPB) [24] and Prosocial Behaviour Theory [25]. TPB explains behavioural intention through attitudes, subjective norms, and perceived behavioural control [24], whereas Prosocial Behaviour Theory explains voluntary actions intended to benefit others [25]. Their integration provides a basis for examining students' participation through behavioural, institutional, and technological determinants [13], [16].

2.3 Conceptual Framework and Hypotheses Development

The proposed framework integrates behavioural (religiosity and financial readiness), institutional (trust), and technological (knowledge and digital platform accessibility) determinants of students' participation intention in digital cash waqf.

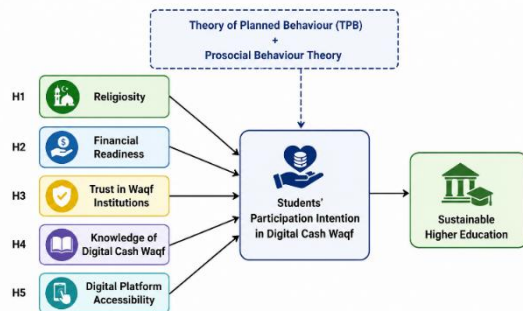


Figure 1. Proposed conceptual framework of students' participation in digital cash waqf for sustainable higher education.

Based on the theoretical and empirical literature, five hypotheses are proposed.

- Religiosity:** Religiosity is consistently associated with Islamic philanthropic participation, as stronger religious commitment encourages charitable behaviour [16], [18], [19]. H1 - Religiosity positively influences students' participation in digital cash waqf for sustainable higher education.
- Financial readiness.** Individuals' perceived financial capability can influence their willingness to make voluntary contributions, including cash waqf [15], [17], [30]. H2 - Financial readiness positively influences students' participation in digital cash waqf for sustainable higher education.
- Trust in waqf institutions.** Institutional trust is important because participation depends on confidence in the transparent and responsible management of waqf funds [16], [19], [29]. H3 - Trust in waqf institutions positively influences students' participation in digital cash waqf for sustainable higher education.
- Knowledge of digital cash waqf.** Knowledge of waqf principles and contribution mechanisms can reduce uncertainty and strengthen participation intention [20], [22], [23]. H4 -

Knowledge of digital cash waqf positively influences students' participation in digital cash waqf for sustainable higher education.

- Digital platform accessibility.** Convenient and accessible digital platforms can reduce participation barriers and facilitate online cash waqf contributions [12], [13], [21]. H5 - Digital platform accessibility positively influences students' participation in digital cash waqf for sustainable higher education.

3. METHOD

This study employed a quantitative cross-sectional design to examine the determinants of students' participation in digital cash waqf for sustainable higher education [26]. PLS-SEM was used to assess the relationships among the proposed latent constructs, as it is suitable for prediction-oriented models involving multiple constructs and complex relationships [27], [28].

3.1 Participants and Sampling

The study involved undergraduate and postgraduate students from public and private higher education institutions in Malaysia. Purposive sampling was employed, with eligible respondents required to be currently enrolled and familiar with digital financial platforms. Data were collected through an online self-administered questionnaire distributed via institutional networks and social media over three months. Of 296 responses received, 16 incomplete responses were excluded, yielding 280 valid responses for analysis. The sample size was considered adequate for PLS-SEM [27].

3.2 Research Instrument

The questionnaire comprised demographic information and measurement items for six constructs: religiosity, financial readiness, trust in waqf institutions, knowledge of digital cash waqf, digital platform accessibility, and students' participation intention. Items were adapted from validated measures of Islamic philanthropy, cash waqf, charitable behaviour, and technology adoption [13], [14], [16], [17], with contextual modifications. All items used a five-point Likert

scale from 1 (Strongly Disagree) to 5 (Strongly Agree). Content validity was established through expert review, followed by a pilot study to assess item clarity and reliability.

3.3 Data Analysis

Data were analysed using SmartPLS 4 following the recommended two-stage PLS-SEM procedure [27], [28]. The measurement model was assessed for indicator reliability, internal consistency, convergent validity, and discriminant validity. The structural model was then evaluated using collinearity (VIF), coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and bootstrapping with 5,000 resamples for hypothesis testing [27].

4. RESULTS AND DISCUSSION

A total of 296 questionnaires were received, of which 280 valid responses remained after excluding 16 incomplete responses. Most respondents were aged 21–25 years, female, and undergraduate students, with varied levels of monthly financial resources, providing an appropriate sample for examining students' intention to participate in digital cash waqf.

4.1 Measurement Model

The measurement model demonstrated satisfactory reliability and validity. All indicator loadings exceeded 0.70, Cronbach's alpha ranged from 0.87 to 0.93, composite reliability from 0.90 to 0.95, and AVE from 0.62 to 0.72, confirming indicator reliability, internal consistency, and convergent validity. Discriminant validity was also established, as the square root of AVE exceeded inter-construct correlations and all HTMT values were below 0.90 [27], [28]. Thus, the measurement model was adequate for structural analysis.

Construct	Cronbach's Alpha	Composite Reliability	AVE
Religiosity	0.91	0.93	0.67
Financial Readiness	0.88	0.91	0.64

Trust in Waqf Institutions	0.92	0.94	0.69
Knowledge of Digital Cash Waqf	0.89	0.92	0.65
Accessibility of Digital Platforms	0.87	0.90	0.62
Students' Participation Intention	0.93	0.95	0.72

Table 1. Reliability and Convergent Validity

4.2 Structural Model and Hypothesis Testing

The structural model showed no multicollinearity concerns, with VIF values ranging from 1.76 to 2.34. The model explained 61% of the variance in students' participation intention ($R^2 = 0.61$), while $Q^2 = 0.42$ confirmed predictive relevance. Religiosity ($f^2 = 0.18$) and institutional trust ($f^2 = 0.15$) demonstrated moderate effects, whereas financial readiness ($f^2 = 0.09$), knowledge ($f^2 = 0.07$), and platform accessibility ($f^2 = 0.05$) showed small effects [27].

Bootstrapping with 5,000 resamples confirmed that all five hypotheses were supported (Table 2). Religiosity was the strongest predictor ($\beta = 0.29$, $p < 0.001$), followed by trust in waqf institutions ($\beta = 0.27$, $p < 0.001$), financial readiness ($\beta = 0.21$, $p < 0.001$), knowledge ($\beta = 0.18$, $p = 0.003$), and platform accessibility ($\beta = 0.16$, $p = 0.011$).

Hypothesis	Relationship	β	t-value	P-value	Decision
	Religiosity →				
H1	Students' Participation Intention	0.29	5.12	<0.001	Supported
H2	Financial Readiness	0.21	3.84	<0.001	Supported

	→					
	Students'					
	Participati					
	on					
	Intention					
	Trust in					
	Waqf					
	Institution					
H3	s →	0.2			<0.00	Support
	Students' 7	4.76	1			ed
	Participati					
	on					
	Intention					
	Knowledg					
	e of Digital					
	Cash Waqf					
H4	→	0.1				Support
	Students' 8	2.97	0.003			ed
	Participati					
	on					
	Intention					
	Accessibili					
	ty of					
	Digital					
	Platforms					
H5	→	0.1				Support
	Students' 6	2.54	0.011			ed
	Participati					
	on					
	Intention					

Table 2. Hypothesis Testing Results

The findings indicate that religiosity is the dominant determinant, reinforcing evidence that religious commitment remains central to cash waqf participation [16], [19]. Importantly, its strong effect in the educational context suggests that digitalisation does not replace religious motivation but provides an alternative channel for expressing it.

Institutional trust emerged as the second strongest predictor, consistent with previous evidence [16], [29]. Students are more likely to participate when waqf institutions are perceived as transparent, accountable, and capable of managing educational funds effectively. Thus,

digital convenience alone is insufficient without credible institutional governance.

Financial readiness also significantly influenced participation, indicating that students' perceived ability to contribute remains relevant despite their generally limited financial resources [15], [18], [20]. The availability of small and flexible digital contributions may reduce financial barriers and facilitate participation.

Similarly, knowledge of digital cash waqf positively influenced intention, supporting previous findings that awareness and literacy strengthen waqf participation [13], [22], [23]. This highlights the importance of incorporating digital Islamic philanthropy into university financial literacy and student development initiatives.

Finally, digital platform accessibility had the smallest but significant effect. This finding supports the view that technology primarily acts as an enabling mechanism rather than the main motivational driver [12]–[14]. User-friendly, accessible, secure, and familiar payment systems can therefore facilitate participation when supported by strong motivation and institutional trust.

Overall, the findings demonstrate that students' participation in digital cash waqf is driven by an interaction of behavioural, institutional, and technological determinants. The results extend TPB by incorporating institutional trust and digital accessibility, while supporting Prosocial Behaviour Theory by showing how religious motivation and institutional confidence can translate into voluntary contributions for educational sustainability [24], [25].

Practically, universities and waqf institutions should prioritise religious and philanthropic awareness, institutional transparency, financial literacy, and accessible digital platforms as an integrated strategy for strengthening educational cash waqf.

5. CONCLUSION

This study examined the determinants of students' participation intention in digital cash waqf for sustainable higher education using the

Theory of Planned Behaviour and Prosocial Behaviour Theory. The findings confirmed that religiosity, financial readiness, trust in waqf institutions, knowledge of digital cash waqf, and digital platform accessibility significantly and positively influence participation intention, with religiosity and institutional trust emerging as the strongest predictors. These results demonstrate that educational cash waqf participation depends on the interplay of individual motivation, institutional credibility, and digital accessibility.

The study contributes to sustainable higher education by positioning digital cash waqf as an educational philanthropy mechanism that can complement conventional university financing. Integrating behavioural, institutional, and technological determinants within a unified framework extends existing research on Islamic philanthropy and highlights the potential of digital transformation to support scholarships, research, academic development, and institutional sustainability. Practically, universities should strengthen philanthropic and digital waqf awareness, while waqf institutions should enhance transparency, accountability, and digital governance. Collaboration among universities, waqf institutions, Islamic financial organisations, and technology providers is also essential to

develop accessible and trustworthy platforms that encourage wider participation.

This study is limited by its cross-sectional design and focus on Malaysian higher education institutions, which may constrain causal interpretation and generalisability. Future research should employ longitudinal and cross-national approaches and consider additional determinants such as social influence, digital financial literacy, perceived usefulness, digital trust, and sustainable university governance. Such efforts may further strengthen the development of resilient, inclusive, and digitally enabled models of higher education financing.

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AUTHOR'S DECLARATION

The authors declare that they have no known financial or non-financial competing interests, personal relationships, or affiliations that could have appeared to influence the work reported in this paper.

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