

EMPOWERING STUDENT ENGAGEMENT: A PRACTICAL APPROACH TO ZAKAT E-PAYMENT SYSTEMS FOR MALAYSIAN UNIVERSITY STUDENTS

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Abstract:

This study explores the acceptance of Zakat E-payment among undergraduate students in Malaysia. The Technology Acceptance Model (TAM) framework was used to identify the variables that influence an individual's intention to use e-payment. The study collected data through a self-administered survey questionnaire, which was distributed to 210 undergraduate students in Malaysia. The results of the study indicate that the providers of Zakat E-payment should create highly usable applications to attract more users. Financial literacy, perceived usefulness, perceived ease of use, and enjoyment have a direct positive effect on users' attitudes towards e-zakat payment, while financial literacy, perceived usefulness, perceived ease of use, enjoyment, and attitude have indirect positive effects on users' behavioural intention of e-zakat payment. These findings suggest that marketing initiatives should focus on promoting the user-friendly characteristics of Zakat E-payment. Additionally, user interactions should be maintained as easy and enjoyable to increase customer excitement. Therefore, this study provides comprehensive information on the determining factors that can assist the Malaysian zakat e-payment system in drawing in more clients.

Keywords: Zakat E-payment, Technology Acceptance Model, financial literacy, perceived usefulness, perceived ease of use.

Introduction:

Zakat, a fundamental Islamic pillar, is an obligatory charity payment made by Muslims who meet certain criteria. With the advent of technology, the traditional method of paying zakat through cash to charitable organizations is being replaced rapidly by Zakat E-payment. Despite the advantages of Zakat E-payment in terms of convenience and efficiency, its adoption poses challenges. Therefore, this study aimed to better understand the factors that influence an individual's intention to use Zakat E-payment. The Technology Acceptance Model (TAM) framework was used in this study, as it provides a comprehensive understanding of the various factors influencing technology adoption. The framework consists of six constructs, namely financial literacy, perceived usefulness, perceived ease of use, enjoyment, attitude, and behavioural intention. This study will contribute to increasing the convenience and efficiency of Zakat payments in Malaysia, and more broadly, the Islamic world. It will also provide useful insights into the possible factors that influence the adoption of other Islamic financial products.

2. Literature Review

2.1 The Extension of the Technology Acceptance Model

This study was based on Davis's (1989) Technology Acceptance Model (TAM) framework in examining the determinants of behaviour intention on e-payment among the low-income group in Malaysia. TAM provides a single-platform e-payment architecture and consumer security for its single-platform e-payment system. Luarn and Lin (2005) suggested that TAM could be utilised to clarify the influence of customers' intent to utilise new technological innovations, including e-payment. Even though TAM was initially developed to foresee the use of information technology systems for work purposes, many studies used this model to anticipate consumers' intentions (Schierz et al., 2010). The primary constructs in the basic TAM framework are perceived usefulness and perceived ease of use. It is suggested that the perceived ease of use of e-payment encourages perceived usefulness since customers are likely to assume that the e-payment platform is efficient when they can use the system effortlessly. Thus, low-income customers consider these constructs the essential determinants of behavioural intention usage and technology acceptance (Widyanto et al., 2021).

The TAM is expanded by combining the platform with other information system models or defining third-party variables to facilitate e-payment usage. It is argued that risks should be considered an essential consideration in examining the influence of accepting e-payment services (Kim et al., 2008). A high level of risk may deter the customers' desire to utilise a solitary e-payment system (Lai, 2017). Due to perceived risk or uncertainty in using e-payment, customers are uncertain about the outcome of the usage, consequently influencing their intention to adopt the system. This uncertainty indicates that the perceived risks and customer acceptance against the e-payment platform should be considered. An extended TAM framework could be adopted to check customer behaviours and explore the e-payment system's acceptance by low-income customers. Thus, following Lai (2017), this research adopted the extended TAM framework among the low-income customers that have the intention to use the e-payment platform while, in the same manner, exploring the theory of potential risks raised by different complexities in Malaysia's e-payment platform.

2.2 Financial Literacy

Since few empirical studies still expressly explore the connection between TPB variables and zakat literacy, this study applies a theory relevant to zakat literacy, namely financial literacy. The knowledge component in financial literacy is split into two categories: fundamental knowledge and advanced knowledge. Both deal with how people use the idea of changing their behaviour. (Castro-González et al., 2020; Fujiki, 2020; Muñoz-Murillo et al., 2020). Within certain studies, the degree to which literacy is owned and used depends on one's attitude (personal traits). (Ameliawati & Setiyani, 2018; Grohmann, 2018; Ibrahim et al., 2009; Mindra et al., 2017).

H1: Financial literacy has direct positive effects on users' attitudes toward e-zakat payment.

H6: Financial literacy has indirect positive effects on users' behavioural intention of e-zakat payment.

2.3 Perceived Usefulness

Perceived usefulness refers to those who believe a specific device would improve their effort efficiency (Davis, 1989; Redzuan et al., 2016). Thus, in this research, perceived usefulness relates to the low-level income group customers' expectations about the usefulness of using e-payment in some financial and daily transactions. Customers are preferred to use e-payment if they perceive the platform is beneficial (Tarhini et al., 2016). It is argued that e-payment may improve payment-related productivity and efficiency (Yeow et al., 2018), enhance customer services and information about the products (Aji & Dharmmesta, 2019), and offer flexibility. Perceived usefulness may enhance the willingness to use the system due to the digital infrastructure contributing to the information dissemination system. Customers from the low-income group who have perceived the usefulness of e-payment would use the system to their advantage. It implies that if the invention is not deemed reasonably useful, e-payment would probably not be adopted regardless of its diligent application, though perceived usefulness would lead to different results. Hence, perceived usefulness is more likely to influence customers to adopt an e-payment system (Davis et al., 1989).

H2: Perceived usefulness has direct positive effects on users' attitudes toward e-zakat payment.

H7: Perceived usefulness has indirect positive effects on users' behavioural intention of e-zakat payment.

2.4 Perceived Ease of Use

Literature suggests that perceived ease of use is a critical facet of implementing modern technologies that need to be considered in customers' intention to adopt emerging technology. For a customer to view a product as being easy to use, it must be structurally convenient (Davis et al., 1989) due to its chronological categories (Lim et al., 2018). Davis et al. (1989) described customers' ease of use to the point that they view the system as uncomplicated, easy, or quick to be used. The perceived ease of use indicators include transparent and understandable (Manjunath & Nagabhushanam, 2017), step-by-step installation service and device learning facilities (Priyono, 2017), and a quick comparison of cash payment systems to e-payment methods used by third parties. The e-payment application is regarded as simple and straightforward, without any problems in finding out more about the service (Yeow et al., 2018). Previous studies proposed that when a customer considers the device free from mental and physical effort, the usage is considered significant (Tahar et al., 2020). This research extended this concept to the social viewpoint on e-payment usage to increase the interactions and results in electronic commerce.

H3: Perceived ease of use has direct positive effects on users' attitudes toward e-zakat payment.

H8: Perceived ease of use has indirect positive effects on users' behavioural intention of e-zakat payment.

2.5 Enjoyment

Consumers should employ new technology to improve performance and enjoyment. It has been found that perceived enjoyment substantially impacts how consumers view technology. Perceived enjoyment is defined as "*the fun, pleasure, entertainment, or playfulness received from utilising a technology*" (Venkatesh et al., 2012). This study defines perceived enjoyment as the enjoyment experienced by a person when utilising an e-payment system. The perception of happiness is inversely correlated with anxiety or concern. Perceived enjoyment has been empirically added to the TAM to explain user acceptance in previous studies

about mobile commerce or online purchasing, and these studies have accepted that this construct positively influences behavioural intention. (Childers et al., 2001). Perceived enjoyment can positively impact perceived ease of use and usability because people see pleasurable technology as being easier to use and more valuable (Agarwal & Karahanna, 2000). Furthermore, a stronger perception of enjoyment from using new technology may reduce worry and increase trust (Koenig-Lewis et al., 2015).

H4: Enjoyment has direct positive effects on users' attitudes toward e-zakat payment.

H9: Enjoyment has indirect positive effects on the user's behavioural intention of e-zakat payment.

2.6 Attitude

The majority of earlier investigations demonstrated that a person's attitude significantly influences their behaviour intention. (Venkatesh & Davis, 2000). Potential users' behavioural intentions are determined by subjective norms, while the behavioural intentions of current users are determined by their actions and attitudes.

A consumer's "attitude toward using" and "willingness to use" e-payment system should have a positive relationship. Consumers will be more inclined to use e - payments if they perceive favourable reviews, leading them to assume that using them is a pleasurable experience. Additionally, when customers view utilising e-payment as a practical and convenient tool, they will encourage doing so, which will influence and improve the attitudes of other consumers toward using e-payment. As a result, there is a good correlation between attitude and behavioural intention to use.

H5: Attitude has direct positive effects on users' behavioural intention of e-zakat payment.

2.7 Behavioral Intention of E-payment Usage

Through digital wallets or e-payment linked to individuals' bank accounts, consumers can purchase many items online using a computer or a smartphone. Amoroso and Watanabe (2012) cited that the electronic payment category of digital technology covers all payment devices, including plastic cards, direct payments, electronic money transactions, and digital money payment technologies. Mobile carriers usually take the shape of a built-in microchip or mobile application (Apps). Literature suggests that mobile users have optimistic views about using mobile application facilities, including e-payment (Oliveira et al., 2016; Pham & Ho, 2015). E-payment is a cashless extension that enhances the technology's capacity to deliver customer service in an appropriate position and time. Hence, e-payment offers several benefits, such as the security of transactions, appropriate micropayments, convenience, and universal applications (Bhattacharjee, 2001; Van der Heijden et al., 2003). Since intention can influence actions, behavioural intent is observed to evaluate technology use during the TAM evolution (Davis, 1989). The low-level income group, generally associated with inaccessible areas, insufficient infrastructure, and mobility restrictions, may gain an advantage from e-payment (Dakduk et al., 2020). However, due to the profit maximisation motive of digital finance services, low-income customers may not persistently use e-payment due to a less-aggressive marketing strategy targeting this group (Ozili, 2018).

2.8 Conceptual Framework

The conceptual framework for the study is shown in Figure 1, which includes six variables or constructs: financial literacy (FL), perceived usefulness (PU), perceived ease of use (PEU), enjoyment (ENJ), attitude (ATT), and behavioural intention (BI):

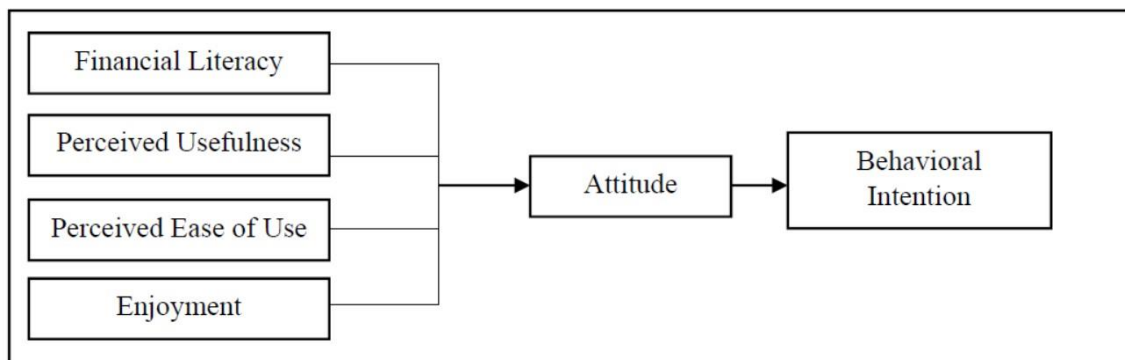


Figure 1. Conceptual framework

3. Methodology

For the current study, a cross-sectional design and positivist methodology were considered, with a robust emphasis on creating and logically constructing and applying quantitative techniques to test hypotheses empirically.

3.1 Questionnaire Development

This study used a self-administered survey-based questionnaire, and the items were adapted from those used in earlier research. The pre-testing included experts' opinions to increase the conceptual qualities of the questionnaires' accuracy and clarity. There were two primary sections to the questionnaire for this study. Section 1 focused on the respondents' demographic, while section 2 contained items about perceived usefulness, perceived ease of use, financial literacy, enjoyment, and e-payment usage intention. The questionnaire used a five-point Likert scale ranging from 1 „strongly disagree“ to 5 „strongly agree“ to assess the respondents' behaviours. The data was analysed using the Smart-PLS. Multiple regression analysis was used to examine the relationship between financial literacy, perceived usefulness, perceived ease of use, enjoyment, and behavioural intention among Malaysians.

3.2 Sample and Respondents

Google Forms was used to collect the data for this analysis through self-administered survey questions. Considering convenience sampling is a flexible quantitative research technique, it was used to select respondents. There were two main sections to the questionnaire for this study. Section 1 focused on the respondents' demographics. Section 2 enquired about perceived usefulness, perceived ease of use, financial literacy, enjoyment, and desire to use electronic payments. The undergraduate students were chosen as respondents. This research used the G*Power programme analysis to decide the minimum sample size necessary, following other researchers (Faul et al., 2007; Kaplan & Haenlein, 2011; Sarstedt et al., 2021). Based on the programme, 119 respondents were sufficient to accomplish a statistical power of

95% for detecting the R^2 value of 0.73 with a 5% probability of error. This research obtained 210 usable responses.

3.3 Data Analysis

The study used structural equation modelling because it effectively determines behaviour in management- and marketing-related studies (SEM). Structural equation modelling (SEM) is an analytical strategy that reasonably assesses causal relationships between variables (Hair Jr. et al., 2014). Partial least squares modelling (PLS), one of the variance-based SEM techniques, is regarded as the most developed and complete method (Henseler 2017). PLS-SEM can operate in a much broader context with less constricting data assumptions, making it significantly more flexible than CB-SEM and effective in both small and big sample sizes (Hair Jr. et al., 2014). Anderson and Gerbing's (1988) measuring and structural model were used to create the research design. Factor analysis was firstly carried out using SPSS 23, and then the causal linkages between variables were determined using the SmartPLS-3.2.6 software.

4. Findings and Discussion

4.1 Demographic Profile

The demographic information from the survey (n=210), including age, gender, and educational attainment, is shown in Table 1. There were 210 responses, including 115 female and 95 male respondents (45.24 %) (54.76%). The ages of the interviewees ranged between 18 and 20 dominated the demography, where 69.05% received a study loan for their financial aid:

Table 1. Demographic characteristics of respondents

Demographic	N	%
Gender		
Male	95	45.24
Female	115	54.76
Age		
18 - 20 years old	145	69.05
21 – 23 years old	32	15.24
24 – 26 years old	28	13.33
27 years old and above	5	2.38
Financial Aid Received		
Scholarship	41	19.52
Study Loan	144	68.57
None	25	11.90

4.2 Measurement Model

Indicator reliability, construct reliability, convergent validity, and discriminant validity of the measurement model were all assessed. All items with factor loadings greater than 0.6 were deemed significant, as indicated in Table 2. The Kaiser-Meyer-Olkin value was also greater than the 0.7 criteria, at 0.870. The construct reliability was also determined by calculating composite reliability (CR) and Cronbach's alpha

value for every construct. The reliability of the constructs is suggested by the fact that all of them have CR and Cronbach's alpha values above 0.8. Convergence validity was also evaluated using the average variance extracted (AVE). Table 2 shows that the AVE is higher than the 0.50 minimum required criterion:

Table 2. Reliability and validity of constructs

	Scale Items	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Attitude	ATT1	0.864	0.909	0.933	0.735
	ATT2	0.832			
	ATT3	0.786			
	ATT4	0.895			
	ATT5	0.904			
Behavioural Intention	INT1	0.917	0.922	0.945	0.811
	INT2	0.916			
	INT3	0.934			
	INT4	0.832			
Enjoyment	ENJ1	0.915	0.914	0.946	0.853
	ENJ2	0.928			
	ENJ3	0.927			
Financial Literacy	FL1	0.805	0.865	0.895	0.552
	FL2	0.622			
	FL3	0.819			
	FL4	0.759			
	FL5	0.770			
	FL6	0.705			
	FL7	0.701			
Perceived Ease of Use	PEU1	0.848	0.882	0.914	0.683
	PEU2	0.825			
	PEU3	0.879			
	PEU4	0.685			
	PEU5	0.879			
Perceived Usefulness	PU1	0.728	0.826	0.877	0.566
	PU2	0.876			
	PU3	0.817			
	PU4	0.850			
	PU5	0.234			
	PU6	0.809			

Table 3 illustrates discriminant validity. Every construct has discriminant validity, shown by the fact that the square root of its AVE values is higher than the correlations with other latent constructs. In short, the measurement model results indicate that the constructs' reliability and validity are adequate, and we continue to evaluate the structural model mentioned above. The estimated conceptualised causal routes were used to test structural linkages.

Table 3. Discriminant validity

	Attitude	Behavioural Intention	Enjoyment	Financial Literacy	Perceived Ease of Use	Perceived Usefulness
Attitude	0.857					
Behavioural Intention	0.857	0.901				
Enjoyment	0.835	0.761	0.924			
Financial Literacy	0.418	0.313	0.341	0.743		
Perceived Ease of Use	0.755	0.721	0.767	0.356	0.826	
Perceived Usefulness	0.758	0.731	0.737	0.42	0.749	0.752

4.3 Assessment of Structure Model

To test the hypothesis and determine the significance of the regression coefficient, a structural model was created using bootstrapping processes; however, a larger sample size of 5000 was employed than the 373 bootstrap instances (Hair Jr. et al., 2014). According to Hair Jr. et al. (2014), subsamples are randomly selected with replacements from the entire dataset to estimate the model. The procedure is repeated (usually more than 5000) until a sufficient number of random subsamples are obtained. These variables have been found to quantify the same construct, validating the constructions" lateral multicollinearity and the variables" vertical collinearity (Rahi & Ghani, 2019). VIF was not greater than 3.3, and tests of the statistical model revealed no difficulties with multicollinearity. Path coefficient (β), p-value (p), and t-statistics (t), along with their significance level, are used to evaluate the structural model.

Table 4 shows that FL had significant effects on attitude ($\beta = 0.093$, p-value = 0.009), which means the H1 hypothesis is accepted. Again, PU ($\beta = 0.213$, p-value = 0.001) is significant with ATT, thus supporting H2. PEU ($\beta = 0.163$, p-value = 0.022) is also discovered to be significant with ATT; hence the H3 hypothesis is accepted. Then, ENJ significantly impacted attitude ($\beta = 0.521$, p-value = 0.000), which is the H4 hypothesis accepted. Lastly, ATT is significant to BI ($\beta = 0.857$, p-value = 0.000), which validated hypothesis H4. The relationship between financial literacy levels and behavioural intention was confirmed ($\beta = 0.079$, p-value = 0.013). The established relationship between behavioural intention and perceived usefulness was supported ($\beta = 0.183$, p-value = 0.001). This finding is consistent with other research on technology uptake in other countries (Amoroso & Watanabe, 2012; Oliveira et al., 2016). The emphasis is on the importance of perceived usefulness as a determinant of user intention. Perceived ease of use of zakat e-payment also reached a high level of positive behavioural intention ($\beta = 0.139$, P-value = 0.031). The relationship between enjoyment between behavioural intention was supported ($\beta = 0.446$, p-value = 0.000). Aside from the fact that enjoyment considerably impacts a user"s behavioural intention, enjoyment may also mediate that impact.

According to Cohen (2013), R² is defined as low if it is between 0.02 and 0.13, moderate if it is between 0.13 and 0.25, and high if it is beyond 0.26. Similarly, Chin (1998) states that values above 0.67 are significant, around 0.33 are moderate, and below 0.19 are low. Since the undergraduate acceptance of waqf digital payment may account for (75.8%) of the variance in attitude, the R² value for attitude in the current study is 0.758. Once more, the behavior-intention R² is 0.734, suggesting that attitude may be responsible for 73.4 percent of the variance in behavior-intention. All R² values are more than 0.26, showing the model's reliability (Fornell & Larcker, 1981; Hair Jr. et al., 2014). The significant level and a summary of all the results for values are shown in Table 4:

Table 4. Summary of hypothesis tests

Hypothesis	Direct Relationship	Path coefficient (β)	T Statistics (t)	p-Values (p)	Support
H1	Financial literacy -> Attitude	0.093	2.613	0.009	Accepted
H2	Perceived usefulness -> Attitude	0.213	3.297	0.001	Accepted
H3	Perceived Ease of Use -> Attitude	0.163	2.295	0.022	Accepted
H4	Enjoyment -> Attitude	0.521	8.799	0.000	Accepted
H5	Attitude -> Behavioral Intention	0.857	37.913	0.000	Accepted
Indirect Relationship					
H6	Financial Literacy ->Attitude > Behavioral Intention	0.079	2.496	0.013	Accepted
H7	Perceived Usefulness -> Attitude -> Behavioral Intention	0.183	3.312	0.001	Accepted
H8	Perceived of Ease use -> Attitude -> Behavioral Intention	0.139	2.16	0.031	Accepted
H9	Enjoyment -> Attitude -> Behavioral Intention	0.446	8.41	0.000	Accepted

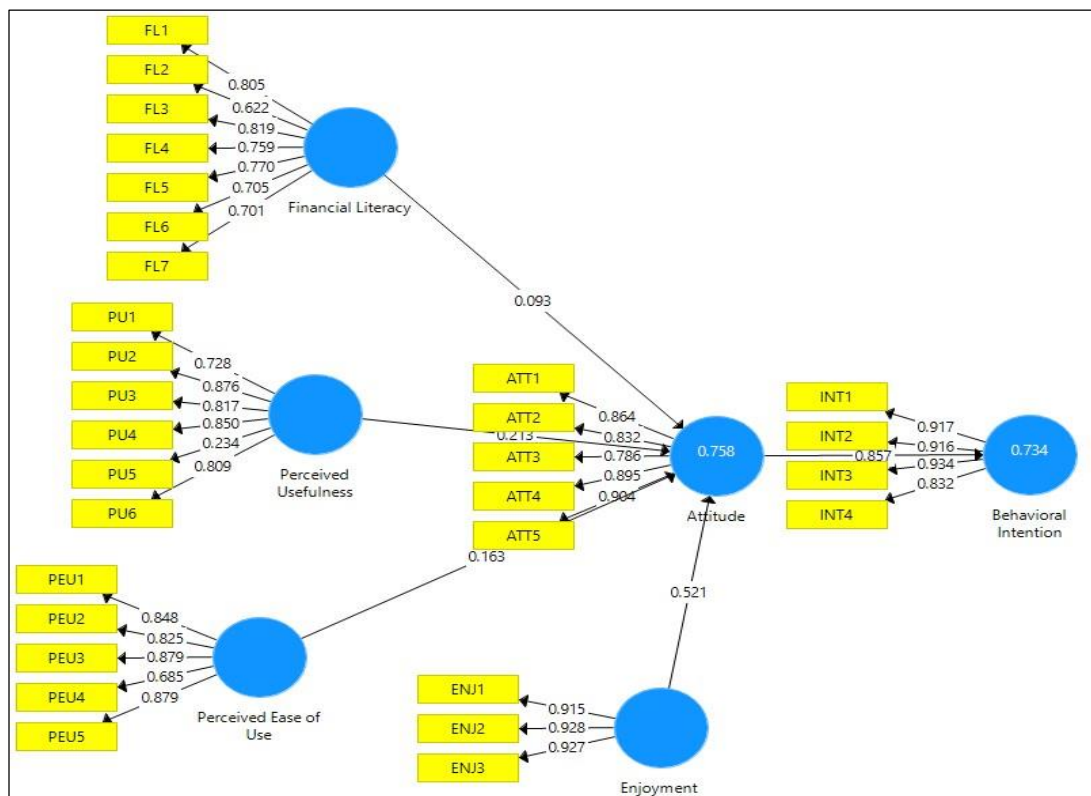


Figure 2. The co-efficient in the path analysis

5. Discussion

Our research empirically supports and confirms that all the Technology Acceptance Model (TAM) predictors influence the intention to use the zakat e-payment system. This study corroborates Liao and Landry's (2000) assertion that PEOU and PU are key factors in user adoption of information technology. These findings also contribute to the research on the TAM model's validation, which has been used in several studies. Additionally, it validates earlier empirical findings that claim TAM has high validity (Liao & Landry, 2000). TAM has been crucial in understanding how people accept, use, and utilise information technology (Iqbal & El-Gohary, 2014).

Overall, all the hypotheses developed were found to have significant relationships due to the emergence of e-waqf in Malaysia and the substantial annual rise in internet usage in Malaysia for the last five years (Statista, 2022). This study reinforces the findings by Ahmad et al. (2021), which claim that zakat payments can improve a Muslim's moral character and outlook. By sharing their fortune with others, zakat payers can keep themselves from being avaricious while also assisting the impoverished in meeting their basic necessities and enjoying a comfortable standard of living (Ahmad et al., 2021). Again, PU ($\beta = 0.213$, $p\text{-value} = 0.001$) is significant with

ATT, thus supporting H2. These findings are in line with research from Thaker et al. (2018) and Thaker et al. (2019), which found that perceived utility and perceived simplicity of use have a direct impact on crowd funders' intentions to employ the crowdfunding-waqf model (CWM) in Malaysia. People typically utilise

an app to the extent that they think it will help them do their jobs more effectively (Dakduk et al., 2020). This is aligned with the reasoning that e-payment may enhance customer services and information about products (Aji & Dharmmesta, 2019) and offer flexibility. Simultaneously, e-payment applications are regarded as simple and straightforward, so users can easily learn about the service (Yeow et al., 2018). Customers' favourable attitudes toward using e-payment services will rise if it enables them to conveniently, effectively, and promptly receive pertinent information or complete transactions whenever and wherever they choose (Tahar et al., 2020). Then, ENJ significantly impacted attitude ($\beta = 0.521$, $p\text{-value} = 0.000$), which is the H4 hypothesis accepted. These findings supported the conclusions of studies by Agarwal and Karahanna (2000), Van Der Heijden (2004), and Venkatesh et al. (2012), which contend that more reported enjoyment will increase acceptance, perceived ease of use, and perceived usefulness. The findings also indicate that the adoption of technology is influenced by its perceived simplicity (Thaker et al., 2019). In turn, when customer enjoy using new technology, it may reduce worry and increase trust (Koenig-Lewis et al., 2015). Hence, e-payment offers several benefits, such as the security of transactions, appropriate micropayments, convenience, and universal applications (Bhattacharjee, 2001; Van der Heijden et al., 2003).

Therefore, in order to improve the functionalities, adding value-added features to the present apps, or creating a new application is essential. In addition, e-payment system providers should conduct market research on the wants and habits of their target customers, especially the youth (Thaker et al., 2019).

6. Conclusion

To conclude, this study postulates modifying Davis's Technology Acceptance Model (TAM) to investigate Malaysia's adoption of the zakat e-payment system. In response to the fourth Industrial Revolution, researchers propose to improve and broaden cash zakat collection in Malaysia. Theoretically, this study's proposed model showed how variables, such as ease of use, perceived usefulness, financial literacy, enjoyment, attitude, and behavioural intention, could influence zakat e-payment. From a practical standpoint, the study provides comprehensive information on the determining factors that can assist the Malaysian zakat e-payment system in drawing in more clients. As mentioned earlier, this clearly demonstrates that perceptions of usefulness and usability are important predictors of behavioural intention to use. Consequently, the findings imply that zakat e-payment system providers should upgrade or create applications with high usability and more advantages to meet the preferences of undergraduate students. Therefore, marketing initiatives should focus on promoting these zakat e-payment system characteristics. Additionally, user interactions should be maintained as easy and enjoyable to heighten customer excitement.

For future research, a thorough investigation of consumer group behaviour is recommended to explore ways to provide individualized service to different groups of customers such as businessman, students, young working adults, and the elderly. This could be achieved by creating perceived usefulness, which is believed to benefit from the trust attained by the respective targeted groups.

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