

Rasida, Ahmad Mujahid Mat; Bakria, Mohammed Hariri; Mello, Geraldine\$cd; Ismaila, Albert Feisal Muhd Feisal; Mohamad Idham Md Razak

## Article

# Measurement and structural modelling on factors of Islamic payment gateway system among millennial generation in Malaysia

Global Business & Finance Review (GBFR)

## Provided in Cooperation with:

People & Global Business Association (P&GBA), Seoul

*Suggested Citation:* Rasida, Ahmad Mujahid Mat; Bakria, Mohammed Hariri; Mello, Geraldine\$cd; Ismaila, Albert Feisal Muhd Feisal; Mohamad Idham Md Razak (2023) : Measurement and structural modelling on factors of Islamic payment gateway system among millennial generation in Malaysia, Global Business & Finance Review (GBFR), ISSN 2384-1648, People & Global Business Association (P&GBA), Seoul, Vol. 28, Iss. 6, pp. 72-94, <https://doi.org/10.17549/gbfr.2023.28.6.72>

This Version is available at:

<https://hdl.handle.net/10419/305928>

## Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

## Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by-nc/4.0/>

## Measurement and Structural Modelling on Factors of Islamic Payment Gateway System Among Millennial Generation in Malaysia

Ahmad Mujahid Mat Rasid<sup>a</sup>, Mohammed Hariri Bakri<sup>a†</sup>,  
Geraldine d/o John Philip De Mello<sup>b</sup>, Albert Feisal Muhd Feisal Ismail<sup>a</sup>,  
Mohamad Idham Md Razak<sup>c</sup>

<sup>a</sup>Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka, Malaysia

<sup>b</sup>Jabatan Bahasa Inggeris, Akademi Pengajian Bahasa, UITM Cawangan Melaka, Malaysia

<sup>c</sup>Faculty of Business Management, Universiti Teknologi MARA, Campus Alor Gajah, Melaka, Malaysia

### ABSTRACT

**Purpose:** This study aims to develop a conceptual model and validate the model using a unified theory of acceptance and use of technology to determine the Determinants of Intention to Use the Islamic Payment Gateway System among the Millennial Generation in Malaysia via a Structural Model. Based on past research, the UTAUT hypothesises four variable constructs: performance expectancy, effort expectancy, social Influence, and facilitating factors. These characteristics are predictive of behavioural intent. In terms of the study, the author added a religiosity variable instead of the four recommended moderators.

**Design/methodology/approach:** A total of 303 field tests have been obtained from Malaysian millennial citizens using Islamic Fintech. Before the data is analysed into exploratory factor analysis, preliminary analysis such as normality and multicollinearity test has been conducted.

**Findings:** All constructs, which are performance expectancy, effort expectancy, social Influence, facilitating condition, and behavioural intention with religiosity as the moderating, have no factor reduction, but all constructs identified two components under exploratory factor analysis. Moreover, all construct KMO tests more than 0.50. All constructs met unidimensionality, validity, reliability, and model fitness in CFA. All the requirements for model fit in this study have been achieved.

**Research limitations/implications:** This study has significant consequences, particularly for the existing payment gateway system, which is already entering every area of human lifestyle with the millennial generation being targeted as the native user.

**Originality/value:** This study fills the apparent gap in the existing payment gateway system literature by assessing religiosity as moderating through exploratory factor analysis.

*Keywords:* Islamic payment gateway, Millennial, Structural modelling, Malaysia, UTAUT

## I. Introduction

Received: Jun. 11, 2023; Revised: Aug. 5, 2023; Accepted: Aug. 21, 2023

† Corresponding author: Mohammed Hariri Bakri

E-mail: [hariri@utem.edu.my](mailto:hariri@utem.edu.my)

Recently, the internet has become a very large and almost borderless virtual world. Almost all

physical activities are being held online nowadays. Since the pandemic Corona Virus Disease 2019 (Covid-19), the activities held online is rapidly increasing day by day. Activities held online such as doing business (e-commerce) to the extent of lecture sessions (e-classroom) are being held online as well. In terms of online business (e-commerce), there are several sites that we refer to as a Payment Gateway System. Namely, Shopee, Lazada, Alibaba, Prestomall, Lelong.my and so on. This system has a pivotal role in e-commerce nowadays. Since Payment Gateway System has its marketplace, people tend to use Payment Gateway System most of the time rather than doing online business on other platforms. According to (Kumar and Anjaly, 2017) customers want speed and convenience in their online shopping experiences. Thus, people tend to use the Payment Gateway System because some of the special features of this system are the self-chat system between retailers and consumers. Also, they provide flexibility in the delivery process.

According to an article in Berita Harian (Berita Harian, 2020), e-commerce sales would climb by 28.9% in April 2020. According to data, the use of the Payment Gateway System will expand substantially each year. People utilising the Payment Gateway System are always related to issues like trust, contentment, and transparency. Consumers will undoubtedly repurchase with the same retailer if there is trust and pleasure with the service provided by the retailer (Micu et al., 2019). However, several traditional issues exist with Payment Gateway System transactions from an Islamic standpoint. Riba' (usury), gharar (fraud and uncertainty), and Maisir (gambling) are the key barriers (Amboala et al., 2015).

Riba' usually happens in credit card transactions. If possible, Muslims should try to avoid getting involved with this payment method (Zainul, Osman, and Mazlan, 2004). Users in Payment Gateway may have options to choose from other than the non-usury payment method, such as debit card or cash on delivery (Jusop et al., 2017). However, from the gharar perspective, it is more on transparency of the transaction itself. In Islam, it refers to any transaction

involving possible objects, the existence or description of which is uncertain due to a lack of information and understanding about the contract's result or the type and quality of the subject matter (Kambol, 2018).

According to Investopedia (2020), gharar means sales or financial transactions that were judged relative to the level of misunderstanding that might exist between parties and the level of uncertainty that the goods or payment can be delivered. Finally, maisir; happens if consumers buy products with inadequate information that results in frustration when the product arrives, and loss of money spent because the product received become wasteful and unusable. Maisir, has two meanings as mentioned in Kambol (2018). To begin, Maisir refers to the easy accumulation of money by luck, regardless of whether it deprives the rights of others. Qimar is the other. Qimar is a chance game in which one will profit at the expense of others. In a nutshell, it is an incident in which just one party suffers a loss. Maisir and Qimar are both banned in Islam and seen as completely inequitable.

As the Quran mentions, "Woe to the defrauders!" is a verse from Surah Al-Mutaffifin, verse 1. This signifies that God (Allah) has issued a warning and forbids people who engage in business deception. In an Islamic economic deal, the transaction must be honest and transparent, and both parties must be satisfied. There are numerous incidents of user pleasure documented in e-commerce today. Some customers complained that the products they received did not meet their expectations regarding performance, size, colour, and design (Kumar and Anjaly, 2017). As a result, customers will be maisir and retailers will be gharar. As a result, the Payment Gateway System will need to improve in several areas in order to comply with the Islamic paradigm.

## II. Literature Reviews

Some of the previous studies have been widely using UTAUT as a method in their research. (Alaeddin

et al., 2018) have used UTAUT in their study to examine switching attitudes and intentions from physical to digital wallets. Moreover, a study by Sivathanu, (2019) UTAUT to find innovation-resistant effects on the usage of digital payment systems. In a study by (Fianto, Hendratmi and Aziz, 2020), they use UTAUT to study the understanding of influential factors for behavioural intention towards Islamic FinTech services. In addition to that, a study by Alalwan, Dwivedi, and Rana, (2017) also utilized UTAUT2 to investigate trust as a significant factor in customers' intention to adopt mobile banking. And finally, researcher Alkhawaiter, (2020) also applied UTAUT as a model to explore the adoption of digital payment and banking methods.

In another literature study, as stated by Patil, et al. (2018), the authors have resolved decisions from 75 studies concerning adopting digital payments. A conclusion from some of the studies found that a total of six studies have examined the role of different independent variables (IV) on consumer attitude towards digital payment methods. These independent variables include Compatibility, Confidence and Facility of Use, Individual Mobility, Perceived Ease of Use, Perceived Security, Personal Innovativeness and Subjective Norm. 22 studies utilised perceived Usefulness from TAM to determine Behavioural Intention (BI). The role of the Perceived Ease of Use (PEOU) has also been tested on Behavioral Intention (BI) by 15 studies, which include 11 studies with significant effects and four studies with non-significant effects. The study also stated that only four studies had examined the usage behaviour of digital payment methods. These four studies examined the role of several independent variables: risk, behavioural intention, perceived ease of use, perceived usefulness, fee or cost, and knowledge.

Only two studies have tested the role of some previous circumstances in explaining satisfaction gained from using the digital payment methods and two studies remaining examined history of continuance intention. The author concluded that several studies test TAM. But TAM is less suitable for examining complex domains such as consumer adoption of

Digital Payment Methods, where issues are not limited to usefulness but other concerns such as trust, security, privacy, risks, anxiety, and self-efficacy. Therefore, applying a more comprehensive theory in this domain is important.

Attitude has been examined by several studies and found significant, which means it is a relevant construct but guiding theories such as TAM, UTAUT, and UTAUT2 don't have this construct. However, a recent modification of UTAUT by (Dwivedi et al., 2019) has demonstrated that attitude plays a central in the UTAUT model. According to the former author, future studies recommended adopting a simpler yet comprehensive UTAUT.

And lastly, another study by Soomro, (2019) also used the UTAUT model with Islamic religiosity as a moderator to understand the adoption of newly payment system by Saudi banking customers. Soomro, (2019) found that Islamic religiosity affects the behavior and choices of people. Overall, the study reveals that religiosity moderates the positive effect of BI on usage behavior (UB). The author found no effect for those with low scores on religiosity values. However, consumers with high scores of religiosities find that the new system is a better option. Thus, according to the author, those who scored low on religious principles had no effect on the outcome. For religious consumers, the newly implemented method appears to be a superior alternative compared to the previous system. Overall, the study's findings indicate that religiosity moderates the favourable effect of BI on using behaviour (UB).

To conclude, there are numerous studies on banking and digital payment, but only a limited number of them have been published to investigate the payment gateway system from an Islamic perspective. Since we believe this study will significantly impact the support and expansion of Islamic payment gateway systems, we have added the religiosity variable as a moderating component. So, this study will continue to investigate and expand the relevance of Malaysian citizens' use of Islamic payment gateways using the suggested UTAUT model and the implications of such adoption.

## A. Religiosity (R)

Religiosity is defined as, something that is very important in human life. It is personified in various sides of human life. Religious activity occurs not only when a person commits ritual behaviour, but also when doing any other activity driven by supernatural forces. Not only concerning the activities that looked and could see the eyes but also activities that do not appear to occur in one's heart (Nora, et al. 2016). Moreover, from the Muslim perspective, religiosity strongly influences all types of management decisions and practices. It is expressed in praying at work, being honest, respecting confidence, and working toward each other's welfare (Kashif, et al. 2017).

Based on the statements from the research above, it can be concluded that religiosity is very closely related to daily human activities. In other words, the higher the value of one's religiosity, the higher the value of his integrity. A person will also be stronger in following his religiosity due to the factor of his belief in religion. It coincides with the study by Wu et al., (2020) which stated that the main motivating factor for religious followers to carry out their religious guidance is the factor of faith or religiosity.

Once a person finds integrity in his daily life driven by his religious values, all his actions will be judged with trust and confidence. If retailers have a high value of religiosity, they will conduct business transactions with transparency and trust. Trust is a very common issue in an online adoption provider ecosystem. A study by (Hussein and Kais, 2020) proposed developing advanced mobile shopping applications to cater needs of younger and more educated customers. The study's suggested idea has been significantly supported by previous study by (Ramadan and Aita, 2018) that stated about trust and satisfaction issues regarding digital natives.

It is a significance of the relationship between religiosity and the acceptance of payment gateways, due to its close relationship with issues of integrity and trust. A study (Soomro, 2019) found that there was significant positive moderation of religious

beliefs in the relationship between performance expectancy and behavioural intention. Therefore, this study will combine the UTAUT model with religiosity as a moderating factor between Performance Expectancy and Behaviour Intention of the Millennial Generation to adopt the Islamic Payment Gateway model.

This study will use The Unified Theory of Acceptance and Use of Technology (UTAUT) method proposed by (Viswanath Venkatesh, Michael G. Morris, 2003). Organizations and researchers usually use the UTAUT method to find acceptance among individuals introduced to new technology. The standard UTAUT model emphasized of four independent variables, as per (Viswanath et al., 2003) that can help us in predicting respondents' interests which are Behavioural Intention (BI) is defined as the extent to which the customer tends to use the self-service technology, Performance Expectancy (PE), where an individual believes that using the system can ease existing work, Effort Expectancy (EE), where individuals expect the ease level associated with systems usage, Social Influence (SI), is trust level for individuals think that others are important for believe that they must use a new system, and Facilitating Conditions (FC), where it believed the organization and infrastructure of technical exist to assist in the systems usage (Yohanes et al., 2020).

## B. The Influence of Religiosity

Based on a previous study, the UTAUT model design by (Soomro, 2019) hypothesizes four variables: performance expectancy, effort expectancy, social Influence, and facilitating conditions. These variables act as predictors of behavioural intention. As for the study, the author added a religiosity variable in place of the proposed four moderators.

According to the author, they included the Religiosity variables because they found that Influence religiosity is a dominant cultural value in many societies and can significantly influence consumer behaviour accordingly. They also found significant positive moderation of religious beliefs in the relationship between performance expectancy and

behavioural intention from previous studies. This statement has been supported by (Rahim, Bakri and Yahaya, 2023), who stated that spirituality or religiosity in human behaviour plays a vital role in the consumption approach, opinion, quality, and adoption of innovative products.

Thus, religiosity will be included in the UTAUT model because we discovered that religiosity is a dominating cultural value in many civilizations and that it can have a major impact on consumer behaviour in many of these societies. Previously, it was suggested that performance expectancy, effort expectancy, social Influence, and conducive factors are all indicators of a person's desire to behave.

### C. Conceptual Framework of The Study

In this study, we will add one moderating variable in standard UTAUT model which is Religiosity (R). The variables constructed will be define as follows: -

**Performance Expectancy (PE):** Performance expectancy is the "degree to which an individual believes that using mobile banking will provide benefits in performing banking activities" (Viswanath Venkatesh, Michael G. Morris, 2003). According to Alkhowaiter, (2020), performance expectancy significantly affects behavioural intention to use mobile payment devices. It was also found that service awareness directly affects performance and effort expectancy. (Kumar et al., 2017) also supported that usefulness of (PE) is the most significant determinant of consumer's behavioral intention. Thus, (PE) will be defined as the value to find if users gain some increase in trading and business performance by using the Islamic payment gateway system.

**H1:** Performance expectancy (PE) has a positive relation to behavioral intention (BI)

**Effort Expectancy (EE):** "Effort expectancy is defined as the degree of ease associated with the use of the system" (Viswanath Venkatesh, Michael G. Morris, 2003). It is also defined

as the level of convenience associated with using the system (Fianto, Hendratni and Aziz, 2020). According to (Baabdullah et al., 2019) the study found that consumer effort expectancy resembles easiness of use. By all that, we will define (EE) as the value to find if users expected to use the Islamic payment gateway system easily. Or if they find the system user-friendly, they will increase their intent to use the system.

**H2:** Effort expectancy (EE) has a positive relation to behavioural intention (BI)

**Social Influence (SI):** is defined as "the degree to which an individual perceives that important others believe he or she should use the new system" (Viswanath et al., 2003). As stated in a study (Soomro, 2019), social Influence refers to when a person feels that their social circle thinks they must use mobile banking or e-payments system. According to (Yohanes et al., 2020) social Influence is defined by the trust level for an individual's thinking or believe that others are important to believe that they must use a new system. Thus, in this study, we will define (SI) as the value to discover if other people convince users to use the system or vice versa. As for the hypothesis as below.

**H3:** Social Influence (SI) has a positive relation to behavioural intention (BI).

**Facilitating Conditions (FC):** Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Viswanath Venkatesh, Michael G. Morris, 2003). According to (Yohanes et al., 2020) facilitating conditions were defined on how the systems can provide user's confidence to determine whether to run the systems or not. Another definition the systems can support users in everyday life activities. Thus, we will define Facilitating conditions in this study as the value to find that, if users believe there is technical infrastructure from providers of the Islamic payment gateway

systems to shows its need to be the best provider compared to the conventional one, for users that support their daily activities and significantly affect their behavioural intention.

**H4:** Facilitating conditions (FC) has a positive effect on behavioural intention (BI).

#### D. Religiosity as Moderating Variable

UTAUT model as presented by (Viswanath et al., 2003) proposed four core variables namely performance expectancy, effort expectancy, social Influence, and facilitating conditions. All four core variables presented will be tested with moderating variables that significantly affect core variables. According to the study, the moderating variables were namely age, gender, voluntariness of use, and experience. In this study, we will exclude all the moderating variables and use only religiosity as the moderating variable.

According to (Tran and Nguyen, 2021) The impact of religiosity on the Unified Theory of Acceptance and Use of Technology highlights the role of authority, such as the clerics, and how Islamic law might prevent the acceptance and adoption of new technology. According to the researchers, the level of religiosity also impacts how a person is willing to adopt a critical view of their religion and how open they are to new changes. The authors used the UTAUT model, which shows that religiosity moderates the PE and SI outcomes. This study has integrated the model to put religiosity

as moderating variable as per Figure 1 below.

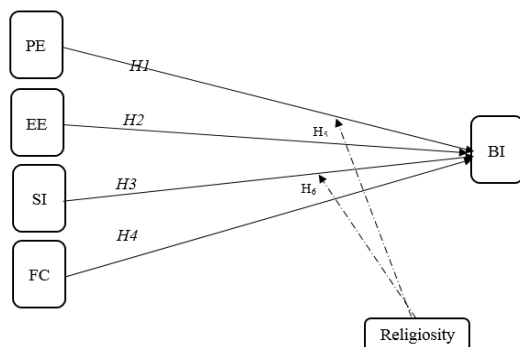
#### E. Religiosity

According to (Soomro, 2019) Religion is a term mostly used in sociology to describe the various components of religion and the impact that religion has on the actions and mindsets of those who practise it. Individuals' religious beliefs are guided by their faith, which directs them to pursue a path prescribed by God and by religious belief. In addition to that, the author added that religiosity also acts as a fundamental cultural factor to study because it forms the region's social constitution.

Religiosity significantly influences the attitudes, values, and behaviors of individuals and society. Scholars are uncomfortable investigating the Influence of religiosity because it is a dominant cultural value in many societies and can influence consumer behavior. The author proposed from previous studies that religious beliefs may be included as the primary moderator variable in the UTAUT model of mobile banking services.

In another study by (Kusuma &Wibowo, 2020) the author found that to discover if a person is religious, you must measure his religiosity by checking his piety and spirit in religion. Religiosity may be assessed in terms of the level of belief, understanding of the teachings, regular worship and actions, and spiritual experience. The most pious do their duty thoroughly and live according to all the precepts of Islamic law (Sharia). Based on Sharia compliance in financial transactions, the author concluded that only a minority of Muslims follow Sharia principles while transacting. In contrast, most prefer Islamic banks since they view bank interest as usury.

As part of their research, the writers proposed numerous ideas. In addition, two conclusions about Religiosity towards Performance Expectations and Social Influence may be obtained from the research. The hypothesis is: "Religiosity practices (RP) will significantly influence respondents' decision in using Islamic bank services" and "One's belief will



**Figure 1.** Moderating variable in UTAUT acceptance of Islamic payment gateway system among Malaysian

significantly moderate the relationship between social influence and respondents' decision in using fintech services". To help with that, we will include and integrate the hypothesis in this research and show how religion is linked to both Performance Expectation and Social Influence. Thus, the following is how we will combine our hypotheses in this study:

- H5:** Religiosity will significantly moderate the relationship between Performance Expectancy and respondents' Behaviour Intention to adopt the Islamic Payment Gateway system.
- H6:** Religiosity will significantly moderate the relationship between social Influence and respondents' Behaviour Intention to adopt the Islamic Payment Gateway system.

#### F. Religiosity as Moderating Variable

Thus, from these several works of literature, we can conclude that religiosity does affect behavioural intention towards attitude and is driven by social Influence when it comes to halal food or Islamic appeal in product promotion. This product promotion shows that behaviour intention will significantly affect religiosity, attitude, and Islamic appeal product. Thus, the author suggests creating a framework from this literature that signifies Islamic religiosity affects the user's intentions to use the Islamic Payment gateway system. The author believed that UTAUT is a superior predictive model for technology adoption than other competing models. Conforming to (Kholoud Ibrahim Al-Qeisi, 2009), the integrated acceptance model, which is UTAUT proven as an explanatory powerful model for adoption behaviour towards new technology. While many studies utilized the technology acceptance models (TAM) in investigating various systems' adoption in different contexts, very few have utilized the UTAUT model. Thus, in this research, the author utilizes the UTAUT model and proposes an extension to the model that joins in a construct to add religiosity as a variable to study acceptance by Malaysian towards the proposed Islamic payment gateway system framework.

### III. Materials and Methodology

This study is divided into four stages: pretest, development test, validating test, and hypothesis testing. The first phase, the pretest, includes developing and refining the questionnaire items, followed by a content validity test (CVT). The second phase, the pilot study, focuses on establishing the scale. In this step, 100 responses were collected from Malaysian millennials who use the existing payment gateway system in their daily activities by utilising developed questionnaire items in the first phase, and the scale is defined using exploratory factor analysis (EFA). In the third step, confirmatory factor analysis (CFA) is used to validate the measurement scale that was previously defined.

To conduct the confirmatory factor analysis (Validating test), 303 responses were collected from the same sources as the pilot study responses but from different respondents. This study used two sets of data (pilot study [100] and field study [303]). The sample size for the pilot study was established using the minimum sampling requirement for pilot studies (Awang, 2015), while the sample size for the field research was determined using that quoted from (Hair et al., 2010) minimum sampling requirement for scale validation (Awang, 2015). The random sampling technique was used in both investigations.

Most researchers believe pretesting is essential to collect responses to their questionnaires or if the questions used in their research are obtained from another study. However, several issues with questions can only be found by pretesting them (Nanda et al., 2013). In addition, the author summarised the purpose of the pretesting process to see if: 1. Respondents comprehend all the terms and concepts in the questionnaire. 2. Closed questions include at least one response option for all respondents. 3. All respondents read the questions in the same way. 4. Correct answer selections must be chosen. 5. Every survey question is designed to measure what it is supposed to measure. 6. The questionnaire makes an excellent first impression to encourage people to react to the inquiry. 7. Finally, whether any questionnaire component indicates the



researcher's bias.

Another study by Willis (2016) concluded that to improve survey data quality during the last 20 years, researchers and survey experts have increased their use of an evolving set of questionnaire pretesting approaches, such as expert review, cognitive interviewing, behaviour scoring, and respondent's feedback. As for this study, all items after the content, face validity, and translation procedures are included in the pretest of this study. The questionnaire's language must be straightforward. The instructions and explanations provided for each section and item of the questionnaire must be simple and to the point.

The theoretical foundation of the scale provided in this study is based on the fundamental principles of Islamic muamalat. Understanding these concepts is critical for Malaysian providers of Islamic payment systems. The abovementioned principles include (a) the prohibition of usury, uncertainty, gharar, maisir, fraud, and doing business with prohibited goods in Islam.

According to Balbinotti, Benetti and Terra (2007), the content validity evaluation sheet must encompass three criteria to make the instrument as clear as possible. The three criteria are as follows:

- 1) Clarity of language: Examines the questionnaire's phrasing in the context of the target audience of monetary knowledge. As a result, the panellist was asked, "Do you believe the questions are straightforward and so understandable?"
- 2) Practical pertinence: Assesses the question's relevance to the typical user's day-to-day activities. This is especially true when the population comprises tiny, unlisted, and owned businesses. "Do you believe this item is relevant to this population?" the panellists were asked. "How far?" you might wonder.
- 3) Theoretical dimension: Assesses the question's relevance to one of the four topic matter categories covered by the questionnaire. "Which theoretical dimension do you think this question belongs to?" the panellists were asked. Please only check the box next to the option that best describes the item."

The 10-point interval scale utilised for the items, directions, and comments will all be provided in the content rating review form. On the questions that were initially generated, altered, and customised for the study, the experts will be asked to rate each item on the construct's relevance on a four-point scale: 1=not relevant, 2=somewhat relevant, 3=quite relevant, 4=highly important.

The Pilot study consists of Exploratory Factor Analysis and reliability analysis.

## A. Exploratory Factor Analysis

According to Williams, Onsmann, and Brown (2010), there are eight EFA objectives, which are as follows: 1) To cut down on the number of variables and 2) Investigate the structure or interrelation of variables. 3) Detection and assessment of a theoretical construct's unidimensionality; 4) Assesses the construct validity of a scale, test, or instrument. 5) Creation of easy (parsimonious) analysis and interpretation. 6) Addresses multicollinearity (two or more linked variables). 7) Used in the development of theoretical constructions. 8) Used to support or refute presented theories. The exploratory factor analysis was carried out in three stages: (1) the sampling adequacy test, (2) the factor extraction test, and (3) the rotated component matrix test.

### 1. Sampling adequacy test

Hair (2014) and (Field, 2009) stated that the KMO statistics in the table labelled KMO and Bartlett's Test should be more significant than 0.5 as a bare minimum as can see in Table 1. If it was less than 0.5, the researcher needed to collect more data, meaning the data gathered for the EFA was insufficient. The former author also stated that Bartlett's sphericity test should be significant (the value of Sig. should be less than .05).

### 2. Factor extraction test

The factor extraction test determines the number

of dimensions or components that comprise the concept and the variation explained by each dimension or detail. The outcomes in Table 2 show two components or dimensions of the EFA technique based on the computed Eigenvalue of more than 1.0 for each construct. The eigenvalue is 2.009, 1.854, 1.618, 1.709, 1.635, and 1.453 for PE, EE, SI, FC, R, and BI, respectively. The total variance for estimating each construct is between 61.324% and 78.423%. The total variance explained is acceptable

**Table 1.** KMO and Bartlett's test

No.	Constructs	KMO (> 0.50)	Bartlett's Test of Sphericity
1	Performance Expectancy	0.762	0.000
2	Effort Expectancy	0.870	0.000
3	Social Influence	0.690	0.000
4	Facilitating Condition	0.785	0.000
5	Religiosity	0.908	0.000
6	Behaviour Intention	0.859	0.000

Source: Prepared by the authors (2023)

since it surpassed the base 60% (Awang, 2012; Hoque et al., 2018; Yahaya et al., 2018). The outcomes in Table 2 indicate two components extracted from the EFA technique against Eigenvalue of more than 1.0.

### 3. Rotated component matrix

Table 3 shows the one component extracted from EFA and its respective items. The factor loading for every item is supposed to be more than 0.6 to be retained (Awang, 2012; Yahaya et al., 2018; Shkeer and Awang, 2019). Nine items were at first chosen to measure the Performance Expectancy of the Intention of using Islamic Payment Gateway. All nine items were retained after the exploratory factor analysis (EFA) with a factor loading higher than 0.60 (Awang, 2012; Hoque et al., 2018; Yahaya et al., 2018). The study has identified two components for each construct with no item reduction. The components will then be modelled and analysed in Confirmatory Factor Analysis using AMOS.

**Table 2.** Total variance explained

Construct		Total Variance Explained					
Performance Expectancy	Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	1	4.138	45.98	45.98	4.138	45.98	45.98
	2	2.009	22.318	68.298	2.009	22.318	68.298
Expectancy Effort	Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	1	4.795	53.272	53.272	4.795	53.272	53.272
	2	1.854	20.603	73.875	1.854	20.603	73.875
Social Influence	Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	1	3.288	41.1	41.1	3.288	41.1	41.1
	2	1.618	20.225	61.324	1.618	20.225	61.324
Facilitating Conditions	Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	1	3.455	49.351	49.351	3.455	49.351	49.351
	2	1.709	24.419	73.77	1.709	24.419	73.77
Religiosity	Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	1	6.208	62.075	62.075	6.208	62.075	62.075
	2	1.635	16.347	78.423	1.635	16.347	78.423
Behaviour Intention	Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	1	4.628	57.849	57.849	4.628	57.849	57.849
	2	1.453	18.165	76.015	1.453	18.165	76.015

Source: Prepared by the authors (2023)

**Table 3.** Rotated component matrix extracted

Item	Component		Item	Component		Item	Component	
	1	2		1	2		1	2
PE1		0.794	EE1	0.873		SI1	0.85	
PE2		0.74	EE2		0.782	SI2	0.606	
PE3	0.84		EE3	0.8		SI3	0.63	
PE4	0.732		EE4		0.863	SI4		0.895
PE5	0.886		EE5		0.757	SI5		0.917
PE6		0.804	EE6	0.87		SI6	0.76	
PE7		0.613	EE7	0.905		SI7	0.705	
PE8	0.861		EE8	0.917		SI8	0.683	
PE9	0.886		EE9	0.859				
Item	Component		Item	Component		Item	Component	
	1	2		1	2		1	2
FC1	0.899		R1	0.897		BI1		0.815
FC2	0.886		R2	0.855		BI2	0.852	
FC3	0.843		R3		0.822	BI3	0.723	
FC4	0.895		R4		0.78	BI4	0.927	
FC5		0.815	R5	0.875		BI5		0.835
FC6		0.823	R6	0.889		BI6		0.789
FC7		0.741	R7	0.865		BI7	0.88	
			R8	0.822		BI8	0.831	
			R9	0.858				
			R10		0.877			

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a. Rotation converged in 3 iterations.

Source: Prepared by the authors (2023)

**Table 4.** Reliability results

Reliability Statistics		
Construct	Number of items	Cronbach's Alpha
Performance Expectancy	9	0.838
Effort Expectancy	9	0.874
Social Influence	8	0.775
Facilitating Conditions	7	0.815
Religiosity	10	0.930
Behaviour Intention	8	0.892
For All Total Constructs	51	0.854

Source: Prepared by the authors (2023)

#### 4. Reliability test

According to Sekaran (2003), the degree to which a measure is bias-free (error-free) and thus ensures consistent measurement over time and across the instrument's various items is determined by its reliability. To put it another way, a measure's reliability is an indicator of the instrument's stability and consistency in measuring a concept, and it facilitates determining a measure's "goodness". Cronbach's coefficient alpha (Cronbach, 1946, as cited in (Sekaran, 2003)) is the most widely used inter-item consistency reliability for multipoint-scaled items.

Thus, according to the Table 4 above, all constructs

of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Behaviour Intention show an alpha value between 0.775 and 0.930, which means the construct's internal consistency is excellent. Nunnally (1978, as cited in (Peterson, 1994)), first proposed in 1967 that the minimum acceptable reliability Cronbach Alpha for preliminary research be in the range of 0.5 to 0.6. But, in his 1978 edition of Psychometric Theory, Nunnally (1978) later changed his reliability recommendations from the 1967 edition and increased the recommended level to 0.7.

#### 5. Stage three: Validation test

Confirmatory factor analysis (CFA) is a statistical method for confirming the factor structure of a set of observed data. CFA examines a construct's unidimensionality, validity, and reliability. Researchers use the CFA approach to validate the measurement model by analysing the item's value in measuring constructs; items with a low factor loading (less than 0.6) indicate that the item is not contributing or has no meaning to the measurement of the construct. As a result, the item must be eliminated from the measurement model. A factor loading of less than 0.6 results in the fitness indexes not being obtained since the item does not contribute to the construct. However, the deletion of things in the CFA cannot exceed 20% of the initial item amount in the build. If the item is removed in excess of 20%, the construct fails to achieve validity (Awang, Wan Afthanorhan and Asri, 2015a).

Overall, performing the CFA approach early in the field data analysis allows researchers to assess the fitness of the measurement model. The validation technique in CFA must meet three criteria: unidimensionality, validity, reliability, and measurement model fitness (Awang, 2015). To begin, the factor loading of each item in the measurement model must be more than 0.6. Next, the correlation between constructs cannot exceed 0.85 (Awang, Afthanorhan and Mohamad, 2015b). Finally, before going to the structural model, the suggested measurement model

must acquire acceptable fitness indexes.

The study must test the hypothesized structural relationships among the constructs, such as Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavior Intention, and Religiosity at the structural model stage. Five direct hypotheses and two moderating hypotheses were developed in this investigation, as discussed in Chapter Two. The determinant impact of hypotheses H1, H2, H3, and H4 is tested, while the moderating effect of hypotheses H5 and H6 is tested.

## IV. Results and Discussion

### A. Pooled-CFA for all Measurement Model of Construct

Because of the model's complexity in this study, the researcher performed Confirmatory Factor Analysis for each measurement model separately. Once the CFA for each measurement model, in this case, five (performance expectancy, effort expectancy, social Influence, facilitating conditions, and behaviour intention), has achieved the required fitness indexes for model fit. A pooled-CFA model (Awang, 2015; Asnawi et al., 2019; Bahkia et al., 2019) combines all five constructs and their final items into a single model, and the CFA procedure is then executed all at once. Following the pooled-CFA procedure, the discriminant validity of all constructs understudied is determined.

To evaluate the measurement model fit, numerous goodness-of-fit metrics are available. There are three types of goodness-of-fit measurements in general: absolute fit indexes, incremental fit indexes, and parsimony fit indexes (Hair, 2014; Awang, 2015, 2018). (Hair et al., 2013) and (Holmes-Smith, Coote, and Cunningham, 2006) emphasised the need to report at least one fitness index from each of the three categories of goodness-of-fit measurement.

Hair et al.'s (2013) study on the fundamental explanation of the three types of goodness-of-fit is

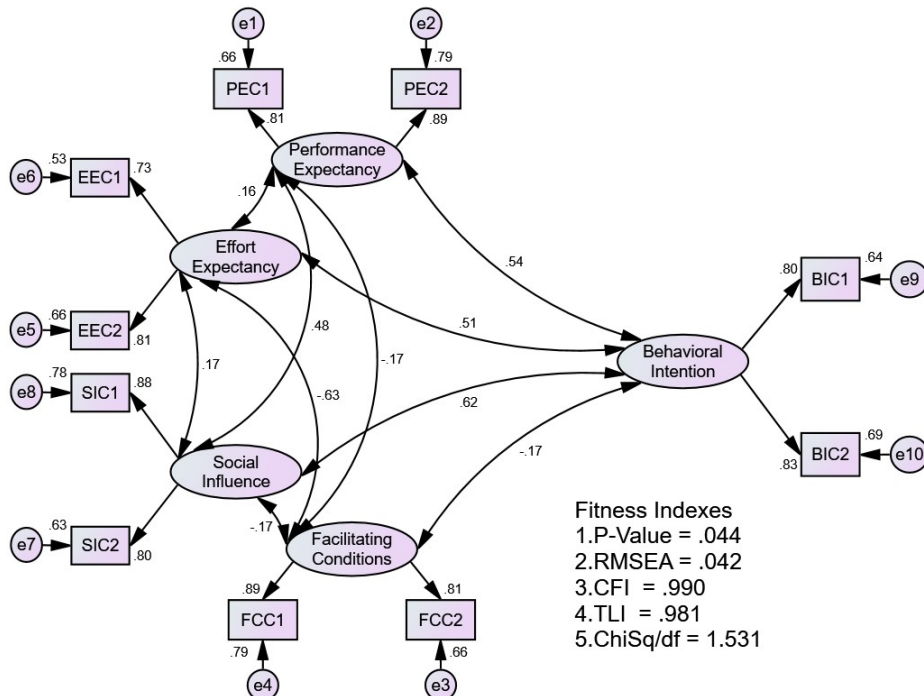
informed below:

1. Absolute fit indexes determines how well the model matches the observed data. Chi-square ( $\chi^2$ ), Goodness-of-Fit (GFI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMSR), and Normed Chi-Square ( $\chi^2/df$ ) are grouped under the category of absolute fit indexes;
2. Incremental fit indices compare the estimated model's fit to a specific alternative baseline model. The baseline model is assumed to be a null model. Adjusted Goodness of Fit Index (AGFI), Normed fit Index (NFI), Tucker-Lewis Index (TLI), and Comparative Fit Index (CFI) are grouped under the category of incremental appropriate indexes; and
3. The parsimonious fit index was established to convey which model is the best among competing models. The lower the number of estimated parameters employed in the model, the more

parsimonious the model. The value of Chi-Square/df determines parsimonious fit index.

This combined verification factor analysis (pooled CFA) is required in the Discriminant Validity procedure to assess the correlation between constructs. If the correlation value between the constructs is more significant than 0.85, the two constructs are said to be redundant (Awang, 2015; Asnawi et al., 2019; Shkeer and Awang, 2019).

The Figure 2 above illustrates the results of the pooled-CFA that accumulates all of the constructs and their sub-constructs of this study. After all individual construct measurement models have been validated, the researcher must combine all constructs involved to conduct a simultaneous factor verification analysis (Pooled CFA). Since religiosity constructs play a moderating role in this study, it was not analysed in pooled CFA analysis.



Source: Prepare by Author (2023)

Figure 2. Pooled-CFA for all construct

## B. Unidimensionality

Before analysing validity and reliability, the unidimensionality must be assessed. Items with low factor loading (less than 0.6) should be dropped out during the unidimensionality determination procedure, and redundant items should be eliminated or limited (Awang, 2015; Afthanorhan et al., 2018). CFA is regarded as a more powerful and adaptable technique when examining unidimensionality than EFA (Hair et al., 2013). The measurement model is deemed unidimensional in CFA if all items result in factor loadings of 0.50 or above (Hair et al., 2013). Furthermore, Awang (2018) stated that unidimensionality is satisfied for an established item if the factor loads less than 0.6. Once the measuring model is unidimensional, the constructs' reliability and validity are evaluated. Figure 2. 25 confirms that unidimensionality was attained because the sub-constructs composite means factor loadings are greater than 0.5 (Hair et al., 2013) and greater than 0.6. (Awang, 2015, 2018).

## C. Construct Validity Assessment of Pooled-CFA

Construct validity evaluation ensures that item measures gathered from a sample represent the actual score in the population (Hair et al., 2014; Awang, 2018; Asnawi et al., 2019). The fitness scores findings

from the pooled-CFA are used to evaluate construct validity.

The values of the fitness indexes produced by the pooled-CFA (Table 5) confirmed that the conditions for construct validity is achieved ( $\text{Chisq}/df < 3.0$ ,  $\text{RMSEA} < 0.10$ ,  $\text{CFI} > 0.90$ , and  $\text{TLI} > 0.9$ ). All factor loadings for the sub-constructs are above 0.6. Besides, the construct correlations are also satisfied since all correlations between the constructs understudied are less than 0.85.

## D. Convergent Validity and Composite Validity Assessment of Pooled-CFA

Convergent validity is attained when the standardised factor loadings reach 0.50 with statistical significance and the AVE equals or exceeds 0.50 (Hair et al., 2013; Afthanorhan et al., 2018). Furthermore, it is critical to evaluate the composite reliability (CR), which assesses the internal consistency of a construct. To achieve composite dependability, the CR values must be greater than 0.6. (Hair et al., 2013; Awang, 2015, 2018).

The pooled-CFA of this research involves five constructs and ten sub-constructs. The results in Table 6 show the AVE and CR values for the constructs and their sub-constructs.

The results of AVE for the understudied five constructs ranged from 0.595 to 0.724, supporting convergent validity ( $\text{AVE} > 0.5$ ) of the pooled-CFA.

**Table 5.** Fitness model results

Index	Level f Acceptance	Initial Measurement Model					
		PE	EE	SI	FC	R	BI
Chi-Square	p-value > 0.05 (not applicable if sample size is greater than 200)	0.00 (N=548)	0.00 (N=548)	0.00 (N=548)	0.00 (N=548)	0.00 (N=548)	0.00 (N=548)
RMSEA	< .05 good; .05 -.10 moderate; >.10 bad	0.067	0.066	0.093	0.083	0.073	0.051
TLI	> 0.90	0.955	0.961	0.924	0.943	0.96	0.983
CFI	>.95 great; >.90 traditional; >.85 permissible for complex model	0.965	0.971	0.94	0.962	0.968	0.987
Chisquare/df	< 3.00 good; <5 sometimes permissible	2.363	2.324	3.638	3.085	2.591	1.795

Source: Prepared by the authors (2023)

Then again, the results of CR for the five constructs are above 0.6, demonstrating other evidence to verify the convergent validity of the pooled-CFA. Therefore, the pooled-CFA had achieved concurrent validity.

### E. Discriminant Validity Assessment between Constructs

When each hypothesised construct is distinct from others and thus does not measure the same thing, discriminant validity is established (Hair et al., 2013). There are two procedures for determining the discriminant validity of constructs. Awang (2018) explained that the estimated correlation of the inter-constructs should not be greater than 0.85. Next, Fornell and Larcker (1981), Awang (2015), and A. S. M. M. Hoque et al. (2018) satisfied themselves with ensuring that the square root of the AVE for

each construct was more significant than the levels of inter-construct correlations. To carry out the steps, a table is created in which the square root of AVE is manually calculated and then written in bold on the table's diagonal.

As demonstrated in Table 8, the results confirmed that all the square roots of AVE (the values are in bold) are greater than the correlations between the constructs. In addition, the results of the inter-construct correlations ranged from -0.634 to 0.618; the values are all below 0.85. The analysis implies that all five constructs for Determinants of Intention to Use the Islamic Payment Gateway System among the Millennial Generation in Malaysia have achieved discriminant validity.

**Table 6.** AVE and CR for all constructs

Construct	Component	Factor Loading	AVE (Above 0.50)	CR (Above 0.6)
Performance Expectancy	PEC1	0.81	0.724	0.84
	PEC2	0.89		
Effort Expectancy	EEC1	0.73	0.595	0.745
	EEC2	0.81		
Social Influence	SIC1	0.88	0.707	0.828
	SIC2	0.80		
Facilitating Conditions	FCC1	0.89	0.724	0.84
	FCC2	0.81		
Behaviour Intention	BIC1	0.80	0.664	0.798
	BIC2	0.83		

Source : Prepared by the authors (2023)

**Table 7.** Discriminant validity test

	Performance Expectancy	Effort Expectancy	Social Influence	Facilitating Conditions	Behaviour Intention
Performance Expectancy	<b>0.851</b>				
Effort Expectancy	0.159	<b>0.771</b>			
Social Influence	0.481	0.168	<b>0.841</b>		
Facilitating Conditions	-0.172	-0.634	-0.174	<b>0.851</b>	
Behaviour Intention	0.542	0.510	0.618	-0.175	<b>0.815</b>

Source : Prepared by the authors (2023)

**Table 8.** Measurement model's reliability evaluation

Construct	Item Label	Factor Loading	AVE (Above 0.50)	CR (Above 0.6)
Performance Expectancy	PE3	0.87	0.722	0.948
	PE4	0.78		
	PE5	0.91		
	PE8	0.92		
	PE9	0.9		
	PE1	0.81		
	PE6	0.74		
Effort Expectancy	EE1	0.89	0.778	0.965
	EE3	0.89		
	EE6	0.92		
	EE7	0.92		
	EE8	0.92		
	EE9	0.9		
	EE2	0.72		
Social Influence	EE4	0.88	0.637	0.91
	SI1	0.76		
	SI2	0.64		
	SI3	0.69		
	SI6	0.68		
	SI7	0.74		
Facilitating Condition	SI8	0.7	0.74	0.944
	FC1	0.91		
	FC2	0.91		
	FC3	0.91		
	FC4	0.91		
	FC5	0.77		
Religiosity	FC6	0.73	0.793	0.972
	R1	0.93		
	R2	0.93		
	R5	0.92		
	R6	0.9		
	R7	0.93		
	R8	0.86		
	R9	0.92		
	R3	0.86		
Behaviour Intention	R4	0.75	0.738	0.951
	BI2	0.91		
	BI3	0.8		
	BI4	0.94		
	BI7	0.92		
	BI8	0.9		
	BI1	0.75		
	BI6	0.76		

Source : Prepared by the authors (2023)



## F. Reliability

The degree of consistency of a measure in measuring the suggested latent concept is defined as its reliability. The measurement model's reliability evaluation is demonstrated by composite reliability (CR) and average variance extracted (AVE). According to (Awang, Wan Afthanorhan and Asri, 2015a) and (Awang, 2018), a construct attained convergent validity if the AVE value surpasses the threshold of above 0.5. On the other hand, to determine the Composite Reliability (CR), this study ought to compute the CR value for the construct of Performance Expectancy. The CR values must exceed the limit of 0.6 for achieving the said reliability (Hair et al., 2013; Awang, 2015, 2018).

The Table 8 above indicates the results of the AVE and the CR for the construct of Performance Expectancy. The AVE and CR values for the construct were above the threshold values of 0.5 and 0.6, respectively. Hence, it could be concluded that the convergent validity and composite reliability for the Performance expectancy construct have been accomplished accordingly.

## G. Structural Equation Modelling

Once all of the requirements for the data's validity, reliability, and normality have been met, the researcher can move on to the following procedure, which is to model all of the constructs into a structural model (structural model) to carry out the following procedure, Structural Equation Modeling (SEM), for hypotheses and answering the research questions. Behaviour Intention (BI) has an R<sup>2</sup> of 0.68. This demonstrates that Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) contribute up to 68% of a millennial Malaysian user's Behaviour Intention (BI) toward an Islamic payment Gateway System. The correlation value between Performance Expectancy (PE) and Social Influence (SI) is 0.48. This means that if a user's Performance Expectancy (PE) is high, then Social

Influence (SI) is also high. These two constructs are discriminant because the correlation value (Pearson Correlation Coefficient) is below the limit of 0.85 (Awang, 2015; Awang et al., 2015).

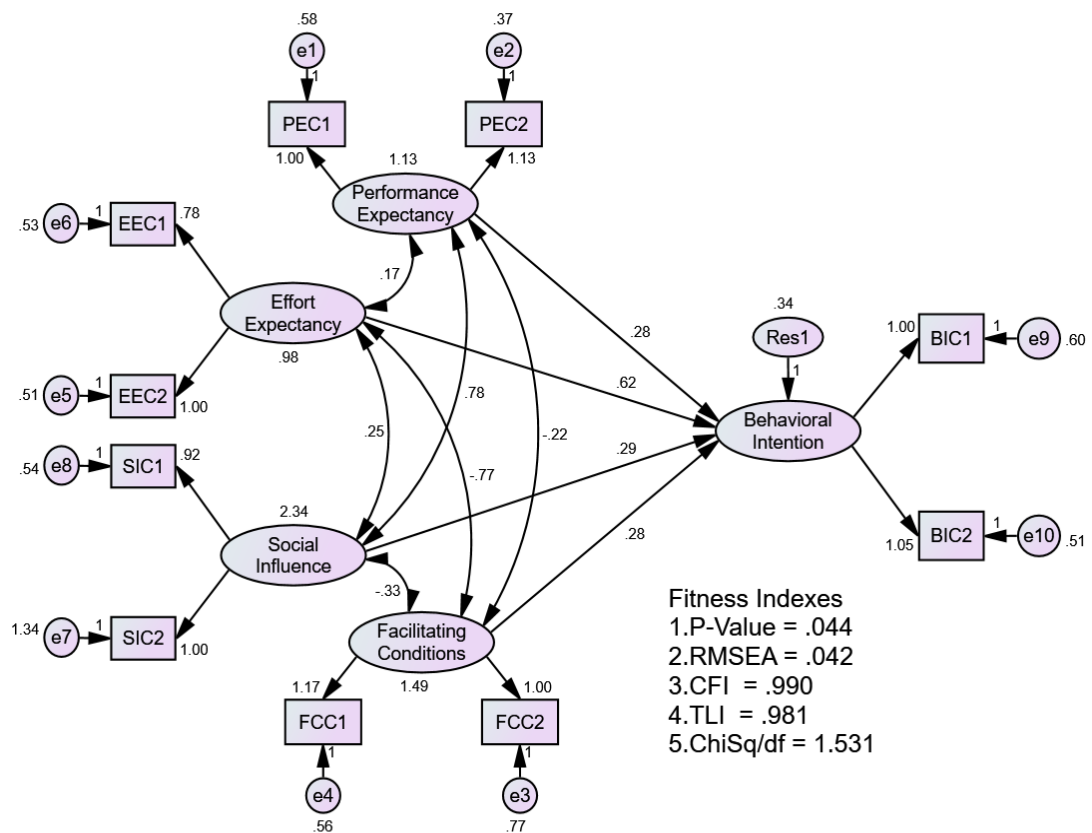
Findings for the regression coefficients of this research model are displayed in Figure 3.

$$\begin{aligned}\text{Behaviour Intention (BI)} &= 0.28 \text{ PE} + 0.62 \text{ EE} \\ &+ 0.29 \text{ SI} + 0.28 \text{ FC}\end{aligned}$$

## H. Hypothesis Testing of the Model Constructs

The significance value of a regression coefficient above is displayed in Table 9. Next, hypothesis testing is done in Table 10.

According to the study's findings, Behaviour Intention (BI) will rise by 0.29 for every increment in Performance Expectancy (PE), assuming that Behaviour Intention (BI) remains constant at a reading of 4.328. Performance Expectancy (PE) and Behaviour Intention (BI) have a positive correlation, according to the study's findings. This correlation is significant. Thus, the user's Performance Expectancy (PE) against the Islamic payment gateway system is proportion to their intention to use (BI). In addition to that, Behaviour Intention (BI) also will rise by 0.28 for every increment in Effort Expectancy (EE), assuming that Behaviour Intention (BI) remains constant at a reading of 3.79. According to the study's findings, Effort Expectancy (PE) and Behaviour Intention (BI) have a positive correlation, which is significant. Thus, the user's Effort Expectancy (PE) against the Islamic payment gateway system is in accordance with their intention to use (BI). Moreover, Behaviour Intention (BI) will rise by 0.29 for every unit increase in Social Influence (SI), assuming that Behaviour Intention (BI) remains constant at a reading of 6.05. According to the study's findings, Social Influence (SI) and Behaviour Intention (BI) correlate positively and significantly. To conclude, the user's Social Influence (SI) against the Islamic payment gateway system is proportional to their intention to use (BI).



**Figure 3.** Structural models - regression coefficients between constructs

**Table 9.** Regression weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Result
Behavioral_Intention	<---	Performance_Expectancy	.284	.066	4.328	***	Significant
Behavioral_Intention	<---	Facilitating_Conditions	.278	.073	3.788	***	Significant
Behavioral_Intention	<---	Social_Influence	.289	.048	6.051	***	Significant
Behavioral_Intention	<---	Effort_Expectancy	.620	.106	5.848	***	Significant
PEC1	<---	Performance_Expectancy	1.000				
PEC2	<---	Performance_Expectancy	1.126	.104	10.813	***	Significant
FCC2	<---	Facilitating_Conditions	1.000				
FCC1	<---	Facilitating_Conditions	1.172	.103	11.365	***	Significant
EEC2	<---	Effort_Expectancy	1.000				
EEC1	<---	Effort_Expectancy	.777	.075	10.404	***	Significant
SIC2	<---	Social_Influence	1.000				
SIC1	<---	Social_Influence	.915	.080	11.439	***	Significant
BIC1	<---	Behavioral_Intention	1.000				
BIC2	<---	Behavioral_Intention	1.051	.082	12.765	***	Significant

Last but not least, Behaviour Intention (BI) also will rise by 0.62 as proportional to Facilitating Conditions (FC), assuming that Behaviour Intention (BI) remains constant at a reading of 5.85. According to the above findings Facilitating Conditions (FC) and Behaviour Intention (BI) have a positive and significant correlation. It means that, the user's Facilitating Conditions (FC) against the Islamic payment gateway system positively affect their intention to use (BI).

The conclusion result of the hypothesis testing between the constructs are illustrates in Table 10.

According to (Mokhlis, 2009), significant differences in shopping orientation exist among consumers of various levels of religiosity. Both intrapersonal and interpersonal religiosity may be important predictors of certain aspects of shopping orientation. In addition, a study by (Mortimer et al., 2020) indicates that a consumer's religiosity is a crucial, yet generally disregarded, aspect that affects their intentions of using or purchasing services. Moreover, as stated (Baazeem, 2018), people who fiercely adhere to a religion, such as Muslims, are said to disregard rules and regulations that contradict their religious teaching. Religion significantly impacts people's behaviour and relationships within families, groups, organisations, and communities when they

act on their religious views and deny anything that contradicts their values, even if it is a compulsive policy. It helps shape individuals' opinions, beliefs, decision-making, socialisation, and attitude.

According to (Awang, 2015), researchers need to know how to analyse moderators and prove that moderating construct is moderating the relationship between another construct. In this case, the moderating construct is religiosity, and to test the effect for performance Expectancy and Social Influence towards Behaviour Intention. The author intended to evaluate the impacts of the moderator factor, which is religiosity in the model shown in Figure 1 to address some of the following research questions:

In Table 11, researchers employed moderator variable effect testing methods described by (Awang, Wan Afthanorhan and Asri, 2015a) and (Awang, 2018). The author proposes categorising moderator data into two levels: high-level moderators and low-level moderators. These two levels of moderators must be investigated separately in two models: independent (unconstrained) and constrained (constrained model). To test the moderator effect hypothesis in the model, the difference in the value of the Chi squared between the constrained models (constrained model) and the independent model (constrained model) will be evaluated.

**Table 10.** Hypothesis test

	Hypothesis test between the main variables in the study P	P	Result
H1	Performance expectancy (PE) has a positive relation to behavioral intention (BI) to adopt Islamic Payment Gateway.	0.001	Supported
H2	Effort expectancy (EE) has a positive relation to behavioural intention (BI) to adopt Islamic Payment Gateway.	0.001	Supported
H3	Social Influence (SI) has a positive relation to behavioural intention (BI) to adopt Islamic Payment Gateway.	0.001	Supported
H4	Facilitating conditions (FC) has a positive effect on behavioural intention (BI) to adopt Islamic Payment Gateway.	0.001	Supported

**Table 11.** Hypotesis statement for religiosity

No	Hypothesis statements for Religiosity moderator
H5	Religiosity significantly Moderate the relationship between Performance Expectancy and respondents' intention in using Islamic Payment Gateway system.
H6	Religiosity significantly moderate the relationship between social Influence and respondents' intention in using Islamic Payment Gateway system.

As outlined by (Awang, Wan Afthanorhan and Asri, 2015b) and (Awang, 2018), to test a moderator's hypothesis, researchers need to divide the data into two levels based on the moderators they want to test. In this study, the moderator to be tested is religiosity. So the data was divided into two groups, namely the low Religiosity and the high Religiosity. In this study, the respondents' religiosity data was divided into two levels (low level religiosity below 8 and high level 8 and above).

#### I. Analysis Moderating Effect for Low Religiosity group

The findings from Table 12 can be used to test the impact of low-level group religiosity moderators.

The findings from Table 13 can be used to test the effects of low-level group religiosity moderators.

#### J. Analysis Moderating Effect for High Religiosity Group

The findings from Table 14 can be used to test the effects of low-level group religiosity moderators.

The findings from Table 15 can be used to test the effects of low-level group religiosity moderators.

The conclusion result of the hypothesis testing between the constructs are illustrates in Table 16 below :

**Table 12.** Moderating test between low group religiosity for path performance expectancy and behavioural intention

	Constrained Model	Unconstrained Model	Chi-Sq Difference	Moderating Result	Hypothesis Result
Chi-Square Value	73.922	53.772	20.15	Significant	Supported
DF	26	25	1		

Hypothesis statement :

Ha: Religiosity moderating between Performance Expectancy and Behaviour Intention

\*\*\* The above moderator test is significant because the difference in chi square values between the constrained model and the unconstrained model is more than 3.84

**Table 13.** Moderating test between low group religiosity for path social influence and behavioural intention

	Constrained Model	Unconstrained Model	Chi-Sq Difference	Moderating Result	Hypothesis Result
Chi-Square Value	75.532	53.772	21.76	Significant	Supported
DF	26	25	1		

Hypothesis statement :

Ha: Religiosity moderating between Social Influence and Behaviour Intention

\*\*\* The above moderator test is significant because the difference in chi square values between the constrained model and the unconstrained model is more than 3.84

**Table 14.** Moderating test between high group religiosity for path performance expectancy and behavioural intention

	Constrained Model	Unconstrained Model	Chi-Sq Difference	Moderating Result	Hypothesis Result
Chi-Square Value	64.945	27.405	37.54	Significant	Supported
DF	26	25	1		

Hypothesis statement :

Ha: Religiosity moderating between Performance Expectancy and Behaviour Intention

\*\*\* The above moderator test is significant because the difference in chi square values between the constrained model and the unconstrained model is more than 3.84

**Table 15.** Moderating test between high group religiosity for path social influence and behavioural intention

	Constrained Model	Unconstrained Model	Chi-Sq Difference	Moderating Result	Hypothesis Result
Chi-Square Value	65.298	27.405	37.893	Significant	Supported
DF	26	25	1		

Hypothesis statement :

Ha: Religiosity moderating between Social Influence and Behaviour Intention

\*\*\* The above moderator test is significant because the difference in chi square values between the constrained model and the unconstrained model is more than 3.84

**Table 16.** Summary of moderator hypothesis

	Hypothesis test between the main variables in the study	Moderating Result	Result
H5	Performance expectancy (PE) has a positive relation to behavioral intention (BI) to adopt Islamic Payment Gateway.	Significant	Supported
H6	Effort expectancy (EE) has a positive relation to behavioural intention (BI) to adopt Islamic Payment Gateway	Significant	Supported

## V. Conclusion

This study can provide a primary picture to people interested in participating and using the Islamic system, as there are too many frauds and uncertainties in online trading transactions in the existing system, for example, fraudulent reviews, fake purchases, and even purchasing things that are not advertised.

According to the literature, four UTAUT factors, PE, EE, SI, and FC, can positively and significantly influence Malaysian citizens to adopt Islamic Payment Gateway System. The researcher added behaviour intention as the fifth factor because he felt that because the system is being proposed, the using behaviour was ineligible for this study. To analyse adoption, the primary factor to analyse system expectation and people's intention to use must be consolidated.

All hypotheses statements have a significant and positive impact on Behaviour Intention. As a result, the first research objective of the investigation was to investigate the factors of Islamic Payment Gateway adoption, and this investigation discovered that this objective was met.

Religion will significantly influence respondents' Performance Expectancy in using the Islamic Payment

Gateway system. Religion will significantly moderate the relationship between social Influence and respondents' intention to use the Islamic Payment Gateway system. As a result, the second research objective of the investigation was to examine the moderating effect of performance Expectancy and Social Influence on Behaviour Intention, and this investigation discovered that this objective was achieved.

With the study's findings, the average user desires a more transparent system. Online buying has become a widespread trend in recent years. As a result, most of us want a more transparent system so that both the vendor and the buyer are satisfied with the purchasing and selling transactions, which is an Islamic legal system.

Consequently, with this intention to use research, we can conclude that the study's implications have considerably awakened Malaysian citizens, offering them attention and change in the online trading system. Shopping online can reduce or eliminate the chance of being scammed. The idea is that a new revolution is happening in which online transactions will likely be as satisfying as physical purchases.

There are some limitations in the study. For starters, while the poll was performed with the goal of adopting

it, most respondents could not see the exact state of this proposed Islamic paradigm. However, based on the existing conventional system, it is understandable for them to forecast the difference and improve the proposed Islamic system. Secondly, the studies were conducted during Covid-19, so the data collection journey was conducted online. Online data collection is good in terms of saving money for printing costs and ease of access to respondents. But it takes quite a while to collect data because not everyone is interested in filling out the online form voluntarily. This required a lot of time and effort to follow up with the respondents, and more time and platforms were used. Thirdly, the limitations of this study are more about Intention to use. In the future, if the Islamic platform is already developed, perhaps the study will be more accurate for the acceptance study to use the system.

## Acknowledgments

The corresponding authors (Mohammed Hariri Bakri) thanks the Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka, Malaysia. The authors also would like thanks to Centre of Technopreneurship Development (C-TeD) for the support.

## References

- Abd Rahman, N.H., Md Sahiq, A.N., Ismail, S., Bakri, M.H., & Husin, A. (2016). Antecedents of a successful business venture for young entrepreneurs. *Advanced Science Letters*, 22(12), 4485-4488.
- Al-Mahbubah, R. M., & Nurwakhidah, A. (2021). The Frame of Sharia Economic on Paylater Payment System. *Islamiconomic: Jurnal Ekonomi Islam*, 12(1), 93-107.
- Al Mansoori, K. K. M., & Bakri, M. H. (2023). Determinants of disruptive innovation that influences financial service performance. *Global Business & Finance Review*, 28(2), 69-92.
- Al Mansoori, K. K. M., Bakri, M. H., & Mohd Azlan, N. S. (2023). Determinants intention usage of Islamic E-Wallet Among Millennials. *Global Business & Finance Review*, 28(1), 11-32.
- Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, 37(3), 99-110.
- Afthanorhan, A., Awang, Z., Salleh, F., Ghazali, P., & Rashid, N. J. M. S. L. (2018). The effect of product quality, medical price and staff skills on patient loyalty via cultural impact in medical tourism. *Management Science Letters*, 8(12), 1421-1424.
- Amboala, T., Mokhtar, A. H. A., Muhammad, M. Z., bin Noordin, M. F., & Othman, R. (2015). Development method for shariah compliant e-commerce payment processing. *International Journal of Computer Theory and Engineering*, 7(5), 408-415.
- Ariffin, Z. Z., Isa, N., Lokman, M. Q., Jusoh, S., & Ibrahim, M. A. (2022). Consumer acceptance of renewable energy in Peninsular Malaysia. *Sustainability*, 14(21), 146.
- Asnawi, A. A., Awang, Z., Afthanorhan, A., Mohamad, M., & Karim, F. (2019). The influence of hospital image and service quality on patients' satisfaction and loyalty. *Management Science Letters*, 9(6), 911-920.
- Awang, P. (2018) *Pendekatan Mudah SEM (Structural Equation Modeling)*. MPWS Rich Resources.
- Awang, Z. (2012). *Research methodology and data analysis* (2nd ed.). UiTM Press.
- Awang, Z. (2015). *SEM made Simple: A gentle to learning structural equation modelling*. MPWS Rich Publication.
- Awang, Z., Afthanorhan, A., & Mohamad, M. (2015a). An evaluation of measurement model for medical tourism research: The confirmatory factor analysis approach Zainudin Awang \*, Asyraf Afthanorhan and Mahadzirah Mohamad. *International Journal of Tourism Policy*, 6(1), 29-45.
- Awang, Z., Wan Afthanorhan, W. M. A., & Asri, M. A. M. (2015b). Parametric and non parametric approach in structural equation modeling (SEM): The application of bootstrapping. *Modern Applied Science*, 9(9), 58-67.
- Bahkia, A. S., Awang, Z., Afthanorhan, A., Ghazali, P. L., & Foziah, H. (2019). Exploratory factor analysis on occupational stress in context of Malaysian sewerage operations. *AIP Conference Proceedings*, 2138(1). doi: 10.1063/1.5121111
- Bakri, M.H., Md Radzai, M.S., & Rasid, A.M.M. (2021). Technology acceptance in crowdfunding among retailers. *Estudios de Economia Aplicada*, 39(5), 1-12.
- Bakri, M.H., Sufian, F., Hamid, B.A., & Ismail, S. (2018). Determinant of securitization spread in Malaysia. *International Journal of Business and Society*, 19(3), 904-917.

- Bakri, M.H., Ali, R., & Ismail, S. (2015). The study of residential mortgage backed securities during subprime mortgage: Malaysian experience. *Advanced Science Letters*, 21(5), 1468-1472.
- Balbinotti, M. A. A., Benetti, C., & Terra, P. R. S. (2007). Translation and validation of the Graham-Harvey survey for the Brazilian context. *International Journal of Managerial Finance*, 3(1), 26-48.
- Balwant Singh, N. S., & Rajendran, B. (2020). To E-Shopping or Not: Factors Influencing the Purchasing Process of Malaysian Generation Y. *Sains Insani*, 5(1), 115-118.
- Berita Harian Online. (2020). *Jualan dalam talian meningkat 28.9 peratus pada April*. Retrieved 17 December, 2020, from <https://www.bharian.com.my/berita/nasional/2020/06/701902/jualandalam-talian-meningkat-289-peratus-pada-april>
- Field, A. (2009). *Discovering Statistics Using SPSS ISM (London, England) Introducing Statistical Methods Series*. SAGE Publications Ltd.
- Darmansyah, Fianto, B. A., Hendratni, A., & Aziz, P. F. (2020). Factors determining behavioral intentions to use Islamic financial technology: Three competing models. *Journal of Islamic Marketing*, 12(4), 794-812. doi: 10.1108/JIMA-12-2019-0252
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate data analysis: Pearson new international edition*. In *Pearson custom library* (7th ed.). London, England: Pearson Education.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis*. Harlow, Essex, UK: Pearson Education Limited.
- Hoque, A. S. M. M., Siddiqui, B. A., Awang, Z. B., & Baharu, S. M. A. T. (2018). Exploratory factor analysis of entrepreneurial orientation in the context of Bangladesh small and medium enterprises (SMES). *European Journal of Management and Marketing Studies*, 3(2), 81-94.
- Hyun, A. L. (2022). A study on earnings management of Zero-leverage firms from the perspective of financial constraints. *Global Business & Finance Review*, 27(1), 28-49.
- Izogo, E. E., Jayawardhena, C., & Izogo, E. E. (2018). Online shopping experience in an emerging e-retailing market. *Journal of Research in Interactive Marketing*, 12(2). doi:10.1108/JRIM-02-2017-0015
- Jin, C. (2018). *To Brush or Not to Brush: Product Rankings, Consumer Search, and Fake Orders* (FT 2016). pp. 1-105.
- Jusop, M., Mohamed Ismail, R., & Ismail, N. A. (2017). Halal e-commerce measure of success: A consideration of sharia compliance business practice. *World Journal of Islamic History and Civilization*, 7(4), 79-87.
- Kambol, R. (2018). E-commerce in the context of Islamic law of contract of sale. *Journal of Law & Governance*, 1(1), 36-48.
- Kumar, A., & Anjaly, B. (2017). How to measure post-purchase customer experience in online retailing? A scale development study. *International Journal of Retail and Distribution Management*, 45(12), 1277-1297.
- Kusuma, H., & Wibowo, D. (2020). The impact of service quality, technology acceptance and religiosity on the selection of Islamic bank and FinTech - Investigating the stagnation of Indonesian Islamic banking. In *Proceedings of the 1st International Conference on Islam, Science and Technology, ICONISTECH 2019, 11-12 July 2019*, Bandung, Indonesia.
- Micu, A. E., Bouzaabia, O., Bouzaabia, R., Micu, A., & Capatina, A. (2019). Online customer experience in e-retailing: Implications for web entrepreneurship. *International Entrepreneurship and Management Journal*, 15(2), 651-675.
- Nanda, T., Gupta, H., Kharub, M., & Singh, N. (2013). Diagnostics for pretesting questionnaires: A comparative analysis. *International Journal of Technology, Policy and Management*, 13(1), 67-79.
- Noor, N. H. H. M., Bakri, M. H., Yusof, W. Y. R. W., Noor, N. R. A. M., & Abdullah, H. (2020). The determinants of bank regulations and supervision on the efficiency of Islamic banks in MENA regions. *Journal of Asian Finance, Economics and Business*, 7(12), 245-254.
- Nursyirwan, V. I., & Ardaninggar, S. S. (2020). The factor analysis that influence the student purchase intention in shopee e-commerce. *Economics and Accounting Journal*, 3(2), 118-129.
- Peterson, R. A. (1994). A meta-analysis of Cronbach's coefficient alpha. *Journal of Consumer Research*, 21(2), 381-391.
- Rahim, N.F., Bakri, M.H., Fianto, B.A., Zainal, N., & Hussein Al Shami, S.A. (2023). Measurement and structural modelling on factors of Islamic Fintech adoption among millennials in Malaysia. *Journal of Islamic Marketing*, 14(6), 1463-1487.
- Rasid, A. M. M., Bakri, M. H., Razak, M. I. M., Ismail, A. F. M. F., & Nizam, N. Z. (2023). Overview of acceptance Islamic payment gateway system in Malaysia: A conceptual framework. *International Journal of Professional Business Review*, 8(5), 1-21.
- Sekaran, U. (2003). *Research Methodds For Business* (4th ed.). Wiley.
- Shkeer, A. S., & Awang, Z. (2019). Exploring the items for measuring the marketing information system construct: an exploratory factor analysis. *International Review of Management and Marketing*, 9(6), 87-97.
- Kumar, T. H. (2023). A Study on Role of Fintech Services Impact of Business Growth Selected a Public Sector Bank in Punjab. *International Journal of Professional Business Review*, 8(5), 1-15.

- Wang, H., Wang, S., & Han, Y. (2018). Identification of Fake Reviews Using Semantic and Behavioral Features. In *2018 4th International Conference on Information Management (ICIM)*, pp. 92-97.
- Williams, B., Onsmann, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Journal of Emergency Primary Health Care*, 8(3), pp. 1-13. doi: 10.33151/ajp.8.3.93.
- Willis, G. B. (2016). Questionnaire pretesting. In *The SAGE Handbook of Survey Methodology*, (December 2008) (pp. 359-381). Sage.
- Yahaya, T. A. B., Idris, K., Suandi, T., & Ismail, I. A. (2018). Adapting instruments and modifying statements: The confirmation method for the inventory and model for information sharing behavior using social media. *Management Science Letters*, 8(5), 271-282.
- Yu, C., Zui, Y., Feng, B., An, L., & Chen, B. (2018). An individual - group - merchant relation model for identifying fake online reviews: An empirical study on a Chinese e-commerce platform. *Information Technology and Management*, 20, 123-138. doi:10.1007/s10799-018-0288-1
- Zainul, N., Osman, F., & Mazlan, S. H. (2004). E-commerce from an Islamic perspective. *Electronic Commerce Research and Applications*, 3(3), 280-293. doi: 10.1016/j.eleap.2004.01.002
- Zongjun, L. (2019). Factors Study of LAZADA Consumer Shopping Effectiveness in Malaysia. *IOSR Journal of Business and Management*, 21(12), 19-27.
- Zulkefli, A., Rusmadi, H., & Abdul Aziz, A. (2019). Application of E-Wallet: A Preliminary Analysis from the Shariah Perspective. *International Journal of Fiqh and Usul al-Fiqh Studies*, 3(2), 98-105.