

Examining the Modified Utaut to Predict Factors of Islamic Fintech Usage Among Millennials in Malaysia

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EXAMINING THE MODIFIED UTAUT TO PREDICT FACTORS OF ISLAMIC FINTECH USAGE AMONG MILLENNIALS IN MALAYSIA

ABSTRACT

Islamic digital economy is revolutionizing how we do our financial transaction digitally. This economy is a profitable sector due to growing population of Muslims, the rise of digital natives and the financial awareness. Islamic Fintech as part of digital economy, thrive Malaysia to become one of the strongest Islamic Fintech hub. However, the market size of Islamic Fintech in Malaysia is still small compared to Saudi Arabia and Indonesia. Furthermore, Islamic Fintech products and services are prone to failure due to easy entry and exit from the market. Thus, it is imperative to study the factors that influence the Islamic Fintech adoption among millennials in Malaysia. This study is pure quantitative, using millennials in Malaysia as respondents. The study use the Unified Theory of Acceptance and Use of Technology (UTAUT) as the main framework and embedding another constructs; financial intelligence (FQ) and spiritual intelligence(SQ). Data was analyzed using SEM AMOS. The results indicate that all exogeneous variables have significant relationship with behavioral intention (BI) except effort expectancy (EE) and spiritual intelligence (SQ). This research not only contribute theoretically but also in practical where the Islamic Fintech start-ups and provider able to comprehend the trends of potential user and retain consumer.

Keywords: *Islamic Fintech, Millennials, SEM AMOS, UTAUT*

JEL Classification: G4, D11

I. INTRODUCTION

1.1 Background of the Study

Islamic digital economy is growing as part of digital economy revolution. Islamic digital economy is focusing on three main sectors: Islamic finance, Halal industries and lifestyle. The report from Malaysia Digital Economy Corporation Sdn Bhd (MDEC) in 2023 has indicate that Malaysia is dominating the Islamic digital economy (MDEC, 2023).

In Malaysia, the government has gear up the digital economy to its highest potential with the establishment of Malaysia Digital Economy Corporation Sdn.

Bhd. (MDEC) and supported by Bank Negara Malaysia (BNM) and agencies such as Association of Islamic Banking and Financial Institutions Malaysia (AIBIM) and Malaysia International Islamic Finance Centre (MIFC). This is due to the competitive advantage by Malaysia as the pioneer and champion in Islamic Finance, Halal industry and Halal lifestyle Malaysia has been recognized at 9th consecutive years as the top ranked in Islamic digital economy by Dinar Standards (Dinar Standard, 2022).

One of the accelerators in the Islamic digital economy in Malaysia is Islamic Fintech. The Fintech sector development in Malaysia is currently developing and positioning itself in the financial world, but Islamic Fintech, already reaching maturity in Malaysia (MDEC, 2023). The Muslim millennials with information-loaded and technology-savvy accelerate the growth of Islamic Fintech. In the Global Islamic Fintech Report 2021, Malaysia is top ranked in the Global Islamic Fintech Index Score (GIFT), followed by Saudi Arabia and United Arab Emirates. The categories included in the calculation of the GIFT are talent, regulation, infrastructure, Islamic fintech market and ecosystem, and capital (Dinar Standard, 2022). The compliancy of Islamic Fintech to Shariah principles makes it more attractive to the financial provider. Islamic Fintech studies is considered vital as it complements the robust Islamic finance industry in Malaysia. The report from Thomson Reuters and Dinar Standards (2022) has confirmed that Malaysia has a thriving market of Islamic finance and the digitalization of banking system make the industry catching up fast. sources.

As the Islamic Fintech is growing and thriving, there are some areas need to be explored. According to Tan (2022), the failure of fintech start-ups is high, and Islamic Fintech faces a similar problem. The question remains on how the Islamic Fintech providers ensure that the user adoption is at its highest rate. This proves that Islamic Fintech start-ups need to gear up their game and study the consumers' perspective in providing and offering Islamic Fintech products. According to the report by MDEC and 1337 Ventures (2023), the gap in Islamic Fintech in Malaysia is low awareness of its value proposition, which has affected the demand for Islamic Fintech. For example, in the study by Bakri et al., (2023), the usage of Islamic Fintech especially Islamic e-wallet is somehow lag. Niswah et al., (2022) also vouched that very few studies explore the millennials usage of

Islamic Fintech, although they are the age group that exposed to Islamic Fintech in the earliest stage.

Furthermore, the academic literature shows that the Islamic Fintech study is slightly behind the Islamic finance industry (Oseni and Nazim Ali, 2019). The study on the Islamic Fintech is growing but the factors that contribute to the adoption is limited (Rahim, et al., 2023). Therefore, this study aims to examine the factors influencing the behavioural intention and adoption of Islamic Fintech among millennials in Malaysia. This study uses UTAUT as the main theoretical framework to predict the factors and modified by embedding two other variables: financial intelligence (FQ) and spiritual intelligence (SQ) to predict the intention and adoption of Islamic Fintech in Malaysia. This also to close the gaps in the digital financial inclusion in Malaysia, where Central Bank Malaysia (BNM) has the Financial Inclusion Framework 2023-2026 (BNM, 2023). One of the strategies in the financial inclusion framework is the empowerment of Islamic Fintech to accelerate the financial digital services adoption.

1.2 Research Objective

Generally, this study intends to examine the factors that influence the Islamic Fintech adoption among millennials in Malaysia. Specifically, the objectives are to investigate the factors that influence the usage of Islamic Fintech among millennials in central region of Malaysia and to examine the relationship of the variables studied.

II. LITERATURE REVIEW

2.1 Islamic Fintech in Malaysia

Fintech News Malaysia (2023) reported that Malaysia total internet and mobile banking transaction valued at RM 12.8 trillion, and the cashless is become a norm in the country. Islamic finance and digital economy is identified as Key Economic Growth Activities (KEGA) to position the country as Islamic Finance Hub 2.0 in the Shared Prosperity Vision 2030 (SPV 2030). Malaysia Islamic market size is amounting up to USD 4.8 billion in year 2021, and compound annual growth rate (CAGR) for Malaysia Islamic capital market is at 6 percent in year 2025. (Fintech News Malaysia, 2023).

2.2 UTAUT

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a widely recognized model in the field of technology acceptance and adoption. Developed by Venkatesh et al. in 2003, the UTAUT model seeks to explain and predict users' acceptance and use of technology by integrating various existing models, theories, and empirical studies. The model is designed to be applicable across different technologies and user populations, providing a unified perspective on technology adoption.

The UTAUT model identifies four core constructs and includes moderators that influence users' behavioral intentions and actual usage. The four key constructs are: Performance Expectancy (PE): This refers to the degree to which an individual believes that using a particular technology will help enhance their job performance. In simpler terms, users are more likely to adopt a technology if they believe it will improve their effectiveness or productivity. There are a huge literature on the nexus between performance expectancy (PE) and behavioral intention (BI) in technology usage, especially in financial technology. For example, Xie et al., (2021), Senyo & Osabutey (2020), Mansyur & Ali (2022) found that performance expectancy (PE) is positively associated with behavioral intention (BI) in the financial technology.

Effort Expectancy (EE): This construct relates to the perceived ease of use associated with a technology. If users believe that a technology is easy to use, they are more likely to adopt it. Factors such as the complexity of the system and the required learning curve are considered under this construct. The effort expectancy (EE) will shape the behavioral intention (BI) to use certain technology. Prior studies like Bajunaied et al., (2023) in Jeddah Saudi Arabia, Senyo & Osabutey (2020) in Ghana, and Kilani et al. (2023) in Jordan has proven that effort expectancy (EE) is vital in behavioral intention (BI) of technology use.

Social Influence (SI): This involves the impact of societal factors and social influences on an individual's decision to adopt a technology. It includes subjective norms, which reflect the degree to which an individual perceives that important others believe they should use the technology. Studies from Almashhadani et al., (2023), Casaló & Flavián (2019), Yeh et al., (2023), and Arora et al., (2023) has shown

that in the intention of using financial technology, social influence (SI) and social norms is positively associated with.

Facilitating Conditions (FC): This construct deals with the external factors that facilitate or hinder the use of a technology. It considers the support and resources available to users, such as technical support, training, and infrastructure. In the original model, facilitating conditions directly affect the use of technology (Venkatesh, et al., 2012). FC is about the users' ability to control the technology, the knowledge, and the fitness of the technology in their daily lives and jobs. There are a lot of studies that confirmed the relationship between facilitating condition (FC) and user adoption (UA) or actual use such as Khashan et al., (2023), Alkhwalidi et al., (2022), Al Rubaiai & Pria (2022), and Yohanes et al., (2020). All these studies are examining the Fintech adoption at Egypt, Jordan, Oman and Indonesia respectively.

Most literature reviews disregard the discussion on behavioral intention (BI) and user adoption (UA). This is because these constructs are complex in nature and the specific measurements are long-debated (Agudo-Peregrina et al., 2014). According to Fishbein and Ajzen (1975), *"a behavioral intention measure will predict the performance of any voluntary act, unless intent changes prior to performance or unless the intention measure does not correspond to the behavioral criterion in terms of action, target, context, time-frame and/or specificity"* (p. 380). Intention have four elements; the behavior, the target object a which the behavior is directed, the situation in which the behavior is to be performed, and the time at which the behavior is to be performed (Fishbein & Ajzen, 1975). In the context of this study, the target object which the behavior is directed is Islamic Fintech products and services, the situation in which the behavior is to be performed is the intention to use the Islamic Fintech products and services, and the time such as frequent, seldom, rarely or exact time.

However, Sheppard et al., (1988) has argued that the behavior model by Fishbein and Ajzen (1975) have limitations because the behavioral intention (BI) in the model only under volitional. Sheppard argued that the intention have two frames; behavioral intention and goals behaviors, but the intention model by Fishbein and Ajzen (1975) only explains behavioral intention (BI). This means that the intention is intention without consideration of other estimation. Thus, the goal direction of the behavior is the actual use.

The prediction of actual behavior contributed by behavioral intention (BI) has been discussed extensively and proven empirically. One of the popular theories is Theory of Reasoned Action by Fishbein & Ajzen (1975; 1980). This theory has predicted that the behavioral intention (BI) is contributed by attitude and subjective norms. The behavioral intention (BI) is pre-requisite for the actual behavior. The UTAUT model has also have the same relationship where the behavioral intention (BI) is the predictor of user actual use. In the context of Islamic Fintech, this study hypothesized that behavioral intention (BI) have positive relationship with the technology adoption. One of the dichotomies of behavioral intention (BI) and technology adoption is dependent on the time, as stated in Fishbein & Ajzen (1975), where the actual use of the technology is the frequency of the technology use. This scale also used by Venkatesh et. al., (2003).

2.3 Financial Intelligence (FQ)

The term FQ and financial literacy mostly been used interchangeably (Sun, 2021; Omoregie, 2019). Most researchers who studied financial intelligence (FQ) agreed that the financial intelligence (FQ) is underresearched and have no specific measurement although it is a vital thing in ensuring the good financial well – being (Sun, 2021; Omoregie; 2019). Furthermore, the financial intelligence (FQ) mostly studied under organizational setting rather than individual setting (Berman & Knight, 2013; Omerogie, 2019; Antara et al., 2017). Other terms used by other researchers in explaining FQ is Financial KAB (Financial Knowledge, Attitude and Behavior).

According to OECD International Network on Financial Education (INFE), financial literacy is *“a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing”* (Atkinson and Messy, 2012, pg. 14). This definition has combined not only awareness and knowledge, but also attitude and behavior which makes the attributes of FQ definition as also defined by Kiyosaki (2008), also Berman & Knight (2013) and Suryanto et al., (2018). In most of previous studies, the term financial knowledge, financial literacy, financial education, financial skills and financial attitude has been used synonymously (Yong, et al., 2018; Dewi, et al., 2020). The synonymity of the terms have the same connotations and same scale of measurement. It all pointing to one intelligence – financial intelligence (FQ).

Atkinson and Messy (2012) has divided financial literacy into three categories; financial knowledge, financial behavior and financial attitudes. The same dimensions also used by Kadoya & Khan (2020) for studying the FQ among Gen Y financial literacy in Japan. The measurement is used in previous studies in measuring financial literacy, financial education and also financial intelligence (FQ). OECD/INFE, (2018).

FQ is apparently related to the behavior of consumer to the use of digital product such as Fintech. This is proven by the study by Morgan & Trinh (2019) that proved that higher financial intelligence have strong relationship with the awareness of Fintech product adoption in Lao People's Democratic Republic (PDR), Yoshino et al. (2020) in Japan and Jünger & Mietzner (2020) in Germany. However, the study by Setiawan et al., (2021) and Al Rubaiai & Pria (2022) empirically shows that financial intelligence (FQ) is the least contributing factor for the Fintech adoption. This means that the financial intelligence (FQ) is not required to use Fintech in Indonesia. This maybe contradictory to compare with Fujiki (2019) in the ownership of crypto-asset, which finds that the Japanese crypto-asset owner are mostly have higher FQ. The same result is found in Foster et. al., (2022) which proved that FQ have positive significant on intenton in using chip-based electronic money by 14.6 percent and FQ has a significant positive effect on practicality in the use of chip-based electronic money by 51.8 percent. Kakinuma (2022) has merge the FQ and digitalization to adopt Fintech efficiently for better quality of life.

In the area of Islamic Fintech, the study that associate FQ with Islamic Fintech usage is not that much. However, one notable study from Benjamin et al., (2024) shows that FQ and the use of Fintech product relates to the usage of Islamic banking product. Alfarizi & Ngatindriatun (2022) has indicated in their study that Islamic Fintech literacy is reflected to the financial inclusion in Indonesia through digitalization. Mansyur & Ali (2022) in their study has shown the FQ as moderator in between the UTAUT2 variables and Islamic Fintech in Indonesia. So far there is no study is found to correlate the FQ and behavioral intention (BI) of Islamic Fintech usage among millennials in Malaysia.

2.4 Spiritual Intelligence (SQ)

Spiritual intelligence (SQ) is the intelligence that revolving on the deep meaning of life and a sense of purpose and values. This meaning, value and purpose shaping our life by our belief system playing role in action we take (Zohar and Marshall, 2004). According to Zohar and Marshall (2004), the spiritual intelligence (SQ) is defined as a sense of connection to a wider view, which the individual solves problem by using this intelligence in their actions and life and consequently provide meaningful of being.

SQ talks about the source of spirituality such as patented rituals which indirectly or directly implies religiosity. Does this mean that spirituality and religiosity carry the same notion? According to Van Niekerk (2018), it is difficult to define both spirituality and religiosity. Apparently, spirituality is part of religiosity but not necessarily the other way around. Furthermore, spirituality is hard to define as it not associated with institution or organization as religiosity. Van Niekerk (2018) argued that spirituality encompassed the ritual practice and geography factors, but it transcends to higher consciousness and meaning beyond life. It also encompassed all aspects of life such as environmentalism, politics, social construct and said to diminish the barriers that imposed by religion and religiosity. It is argued to be more holistic approach toward a better judgement and perspective although it is criticized not having the core value and definition like religiosity.

For this study, the researchers follow the similar notion of spirituality. The researcher believes that spirituality is encompassed all aspects of life. SQ measurement of SISRI-24 by King and DeCicco (2009) is considered as the most holistic one and the most recent to measure SQ.

SQ dimensions had been proposed and validated by King and DeCicco (2009) which named Spiritual Intelligence Self-Report Inventory (SISRI-24). After year 2009, SISRI-24 has been used as a basis to measure SQ as the dimensions encompassed religions and belief systems. SISRI-24 is covering four dimensions, critical existential thinking, personal meaning production, transcendental awareness and conscious state expansion.

Critical existential thinking is happening when an individual able to think deeply on his existence in this world, combining the scientific knowledge and individual experience on the philosophies of the existence. This aspect dealing

with the matter of life, death, metaphysics, universe, time or space. Personal meaning production is happening when one can find the true purpose of life and life meaning. This make the person able to live according to his/her true purpose and the sources of this might come from leisure activities, work, remembering something or dreams. Transcendental awareness is the capacity to perceive transcendent dimension of the self, of others and of the physical world in complete consciousness. It is also defined as the ability to comprehend and understanding the difference aspects of life of himself/herself and life of the others from the various viewpoint beyond surface. Conscious state expansion, as its terms implies, is happening when one can achieve the state of union with the spiritual state of consciousness either in pure consciousness, cosmic consciousness and oneness. This can be achieved by mediation and high vibrational consciousness, and personal spiritual experience. In Islamic practice, this oneness can be achieved by the ritual of worshipping such as prayer (*solat*) five times a day, remembrance of God, reciting *zikir* (praises to God) and *solawat* (praises to Prophet Muhammad), doing *muhasabah* (self-reflection) and many more.

In the context of financial technology, there are some explorations on the relationship, such as in Rama et al., (2022) that found that the religiosity affect the success of crowdfunding, through the LaunchGood platform. Muflih et al. (2024) and Suhartanto et al., (2022) empirically proved that religiosity have significant relationship to the intention of mobile banking and artificial intelligence-banking in Indonesia, respectively. In other part of the world, Elsotouhy et al., (2023) and Al-Malkawi et al., (2023) had demonstrated that religiosity is one of contributing factors in doing charity (*Sadaqah*) by mobile payment in Egypt and choosing banking product in United Arab Emirates, respectively.

However, not all have the same perspective. Rosmarin et al., (2023) has suggested through their empirical analysis that spirituality may affect economic decision, but refined that religion have a greater association of behavioral responding. This maybe a bit contradictory with the study from Klein et al. (2017) in Malaysia which found religiosity is contributing factor of investment behavior, and spirituality increased in the stocks returns and Islamic bond (*sukuk*) during *Ramadan* (fasting month).

In the area of Fintech and Islamic Fintech, there is not much discussion going on between SQ and user usage (UA) or adoption, in fact the correlation

between religiosity and innovation is very limited (Alfawzan et al., 2024; Buyukyazici & Serti, 2024). However, few studies tries to find the correlation between these two such as in Yeni et al., (2023) on spiritual intelligence (SQ) in public interest of Islamic banking service. The study from Rahim et al., (2019) has conceptualized the relationship between spiritual intelligence (SQ) and Islamic Fintech usage of millennials in Malaysia. Pardiansyah et al., (2022) has found that religiosity is positively correlated with Islamic Fintech in Bandung and Jabodetabek, Indonesia whereas Alsmadi (2024) found that the role of religiosity as moderator in Islamic Fintech usage among Jordanian. To the best of knowledge of researcher, there is no study performed of SQ and Islamic Fintech adoption. Thus, this study tries to examine the spiritual intelligence (SQ) using SISRI-24 as the measurement to the behavioral intention of Islamic Fintech usage.

2.5 Conceptual Framework

The final conceptual framework is presented in Figure 1. The spine of the framework is the UTAUT model by Venkatesh et al., (2003) which have four main constructs; performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating condition (FC). There are two other second order constructs embedded in the model which are financial intelligence (FQ) consists of financial knowledge (FK), financial behavior (FB), and financial attitude (FA). The other construct is spiritual intelligence (SQ) which consists of critical existential thinking (CET), personal meaning production (PMP), transcendental awareness (TA) and conscious state expansion (CSE).

All of these constructs except facilitating condition (FC) are proposed to affect the behavioral intention (BI) which also act as mediating variable. The endogenous construct is Islamic Fintech adoption (UA). The behavioral intention (BI) and facilitating condition (FC) is hypothesized to have positive and significant impact to user adoption (UA). This following the original UTAUT model.

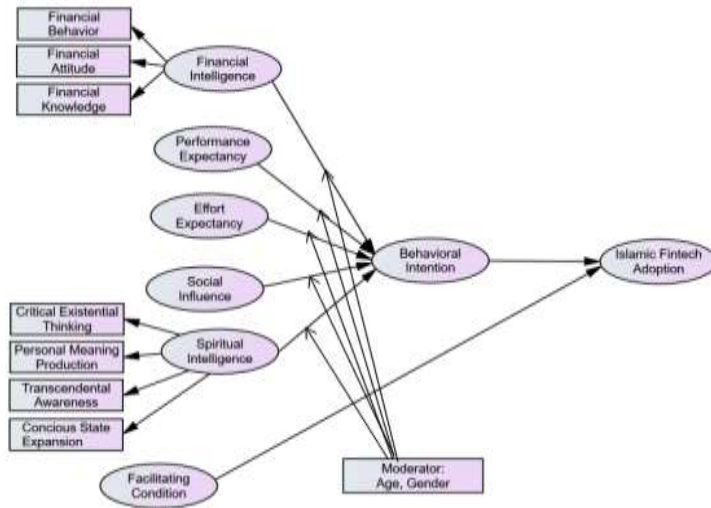


Figure 1. Conceptual Framework

III. METHODOLOGY

3.1 Sampling

The target population for this study is the millennials in Malaysia. Malaysia is a country located in Southeast Asia and the whole population is up to 33.5 million, where the population in the age group 0 to 14 is 7.6 million, 15-64 is 23.4 million, and 65 and above is 2.5 million (DOSM, 2023). The report from MCMC (2020) stated that percentage of internet users in Malaysia in the year 2020 is 88.7 percent. The internet users who use smartphone is has reached the saturation level. More than half of the users use mobile to do financial transaction (54.2 percent). (MCMC, 2020). The report of MCMC has confirm the discussion by academicians and practitioners in Fintech industry, that millennials are the most user of internet. The 20's make up 30 percent of the Internet user, while 30's make up around 25.9 percent. Thus, it become the target population of the study. However, the exact number population of millennials cannot be withdrawn from the available data, thus, the sampling method must be designed.

Multistage cluster sampling is the complex form of cluster sampling where it involves by segmenting the population into groups. Multistage cluster

sampling is appropriate when the study involve large geographical areas such as the whole country (Muda et al., 2018). This type of sampling method is very suitable for this study since the unit analysis for this study is whole Malaysia, thus this method will be implemented. It's not only to ensure representativeness but also will produce normal distribution and non-biased data.

For the first stage unit (FSUs) of clustered sampling, the millennials from central region will be chosen. For second stage unit (SSUs) of clustered sampling, millennials in the urban areas of the central region will be used as the final sample. This is based on the report by MCMC (2022) and DOSM (2019) that stated that urban population make up around 70 percent of the internet user. The urban areas as stated in the following diagram are based on the density of the population based on the metropolitan area of Greater Kuala Lumpur (Klang Valley). The sampling and the population are homogenous. Final sample size for this study is 606 (Westlan, 2010 and Soper, 2023). The survey is distributed to all, but only 371 respondents use the Islamic Fintech products. Their responses are evaluated for the further analysis. This cross-sectional study is easier to conduct, inexpensive and suitable for generating hypothesis (Wang & Cheng, 2020).

3.2 Item Validity and Construct Validity

The item measurements are taken from UTAUT (Venkatesh et al., 2003), SQ from SISRI-24 by King & DeCicco (2009) and FQ from OECD/INFE (2018). These items, especially from UTAUT are modified and adapted to suit with the setting of Islamic Fintech products and services, such as the word 'technology' or 'system' are replaced with Islamic Fintech. The three experts has been appointed to conduct item validity. The value of content validity shows a good result and few modifications has been implemented based on the experts recommendations. Most of the adjustments are done for UTAUT items.

The construct validity test is implemented through Exploratory Factor Analysis (EFA). In this case, the researcher uses factor analysis to take a confirmatory approach, that is to assess the degree to which the data meet the expected return (Hair et al., 2017). According to Hair et al., (2017), if the researcher adapted instruments from previous study and modified accordingly to suit current study, then the researcher needs to conduct both pre-test and pilot-test for these "modified items" in order to validate them before it can be employed in the real study.

The results from KMO Bartlett's Test shows that p-value for all constructs are less than .05, which give the value of 0.91 for UTAUT constructs, .874 for FQ constructs and .933 for SQ constructs. All value exceeds .6. The value of Cronbach Alpha for reliability test shows that all constructs are good, which is more than 0.6. For rotated component matrix, it shows that the factor loading for UTAUT constructs are fall into six, which follow the original model. Same goes to FQ constructs. However, for SQ constructs, some of the items need deletion because the factor loading is less than .5. Thus, the constructs are to be relabelled into three; (1) self-awareness (2) transcendence (3) life philosophy. The deletion process and the final construct is showed at Appendix 1.

3.3 Confirmatory Factor Analysis (CFA)

According to Byrne (2020), the structural equation modelling brings two important elements; (i) the causal relationship is reflected by a series of regression equation (structural) and (ii) the modelling can be visualized accordingly so it gives better comprehension. This study will confirm the theory of UTAUT within the context of Islamic Fintech adoption. The advantage of using structural equation modeling (SEM) is it can compute the multiple equations of inter-relationship in a model simultaneously (Ascarya & Masrifah, 2022)

The confirmatory factor analysis (CFA) is needed to test the goodness-of-fit. CFA is also important before the modelling procedure. Goodness-of-fit is indication of how well the model fit the observed data. Achieving four fitness indices in the three category is considered sufficient (Hair, et al., 2017). Root Mean Square of Error Estimation (RMSEA) is the tendency of the χ^2 goodness-of-fit (GOF) test statistic to reject models with a large sample or large number of observed variables is the root means square error of approximation. The acceptable value of RMSEA is between 0.03 and 0.08 (Hair, et al., 2017). Goodness-of-fit Index (GFI) is an attempt to produce a fit statistic that was less sensitive to sample size fie to the effect of N on sampling distribution. Most literature reviews stated that GFI more than 0.90 is considerably good. An adjusted goodness of fit index (AGFI) is looking into the different degrees of model complexity by adjusting GFI by a ration of the degrees of freedom used in a model to the total degrees of freedom available. Meanwhile, Tucker-Lewis Index (TLI) is a comparison of the normed chi-square values for the null and specified model and depends on the model complexity. The value approaching 1 is considered fit.

Normed-fit Index (NFI) is the ratio of the difference in χ^2 value for the fitted model and a null model divided by the χ^2 value for the null model. Value approaching 1 reflect the model is fit.

In CFA, the assessment for unidimensionality, validity, and reliability for measurement models are required prior to modelling the structural model. In unidimensionality, the factor loading for item must be positive. Unidimensionality is to ensure that the hypothesized constructs are distinct from each other. The process must be performed to investigate the convergent validity, construct validity, and discriminant validity. For reliability purposes, the average variance extracted (AVE) and composite reliability (CR) must be tested from the model. AVE value must achieve more than 0.50 and CR must achieve more than 0.60.

IV. RESULTS

4.1 Respondents' demography

For respondents aged 19 to 20, there is 29.4 percent, while respondents aged 21-25 are 64.7 percent. Of the respondents, those aged 26 to 30 are 3 percent, those aged 31 to 35 are 1.3 percent, and those aged 36 to 40 are 1.6 percent. In this study, the respondents who are the biggest users of Islamic Fintech are aged 19 to 25.

Age	Frequency	Percent
19-20	109	29.4
21-25	240	64.7
26-30	11	3
31-35	5	1.3
36-40	6	1.6
Total	371	100

4.2 Assessment of SEM Assumptions

Before the data can be proceeded for SEM analysis, the assumptions must be met. There are normality test, multivariate outliers test, multicollinearity test, homoscedasticity test, and common method bias. The normality assumption can

be assessed by skewness and kurtosis value. The skewness and kurtosis value must with range ± 1 (Awang, 2015) and within range ± 2 (Garson, 2012). According to O'Brien (2007) value more than 3 is problematic. Based from the value of skewness and kurtosis in this data, it falls within the normal range.

Multivariate outliers can be detected via Mahalanobis Distance (D2). The value of Mahalanobis Distance for each of the 376 is conducted via Microsoft Excel (Gaskin, 2019). Any value that is less than the 0.001 are considered outliers and need to be eliminated from the data (Bryne, 2016). Based from the Mahalanobis Distance (D2), there is no multivariate outliers detected.

One of the easiest ways to check the multicollinearity is through variance inflation factor (VIF) values. The values should be below 10, and the best case if these values are below 5. Anything higher than that means predictors are strongly correlated. Based on the value of VIF, there are no problems of multicollinearity in this pilot data. The data also shows signs of homoscedasticity, where the data are distributed evenly.

One of the important assessment is Common Method Bias. This can be assessed by common marker technique. Most researchers used the Harman Single Factor Test in factor analysis. Nevertheless, most of the literature review on CMB has stated its criticism of the nature of the test: to detect the CMB rather than remedy it. The other test, such as Common Latent Factor (CLF), is used in AMOS when all the latent and observed variables are constrained into one factor, CLF. The differences between the items in the one-factor and proposed models can detect the bias. However, most of the researchers in CMB, such as Simmering, et. al., (2014) stated that these tests could not trace the source of bias, thus suggesting on the marker variable as among the best method although it also has its limitation (Podsakoff et al., 2012). The CFA marker variable is proposed by Lindell and Whitney (2001) for CMB bias and remedy. The CFA marker technique requires the assumption that the marker latent variable is uncorrelated with the proposed latent variables, consistent with the definition of an ideal marker proposed by Simmering et al. (2014). For this purpose, the marker variable is financial knowledge (FK), which all of the items are regressed into the common latent factor (CLF) and the latent factor, i.e. FK is convaried with other variable. The CLF value is 1.53 for all variables and its t-value indicates significance. The common variance is the square of that value, $1.53^2 = 2.3409$. This means the calculated variance is

23.4% (which is below 50%). Therefore, the common marker technique suggests that there is no significant CMB in this data.

4.3. Confirmatory Factor Analysis

The researcher conducted the Confirmatory Factor Analysis (CFA) for every construct separately due to the complexity of the model. The CFA for each measurement model namely Performance Expectancy (PE), Effort Efficiency (EE), Social Influence (SI), Facilitating Condition (FC), Financial Intelligence (FQ), Spiritual Intelligence (SQ), Behavioral Intention (BI) and User Adoption (UA) had achieved the required fitness for model fit. To get the measurement model, the pooled-CFA gathered all these eight (8) constructs in a single model where the CFA is performed simultaneously.

Based on Figure 2, the image shows the pooled-CFA. The financial knowledge (FK) is relabeled as FinK and financial behavior (FB) is relabeled as FinB. Same goes for spiritual intelligence (SQ) where only the latent variables is computed in the pooled-CFA together with other constructs. The constructs are correlated to each other.

All the loadings are more than .60 and there is no problem in goodness-of-fitness in the model, since RMSEA $0.074 < 0.08$, CFI $0.934 > 0.90$, TLI $0.921 > 0.90$ and Chisq/df is $3.044 < 5$. This means that all fitness are achieved (Hair, et al., 2021).

However, upon checking the correlation value, there is a problem of multicollinearity despite the issue having been addressed upfront in data screening. The multicollinearity happen Performance expectancy (PE) - Effort expectancy (EE) $\rightarrow 0.913$, Facilitating condition (FC) - Social influence (SI) $\rightarrow 0.915$, Performance expectancy (PE) - Social influence (SI) $\rightarrow 0.860$, Effort expectancy (EE) - Social influence (SI) $\rightarrow 0.863$ and Effort expectancy (EE) - Facilitating Condition (FC) $\rightarrow 0.866$. These correlations suffer from multicollinearity because the correlations estimates is more than 0.85. Few items need to be deleted to remedy this problem and it still in the threshold of not more than 20 percent from the whole model. This remedy has improved the goodness-of-fit test and the model no longer suffer from multicollinearity.

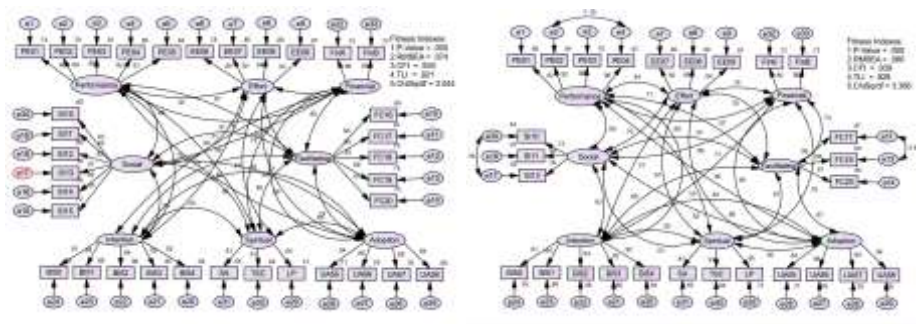


Figure 2: Initial Pool-CFA and Final Model for Pooled-CFA

Assessment of model fit

Based on the model respecification for pooled-CFA in Figure 2 computed by IBSS SPSS-AMOS, the goodness-of-fitness indices shows the value of each required index. For absolute fit index, the RMSEA value is 0.08 which meet the required one ($RMSEA < 0.08$). For incremental fit, the CFI and TLI shows value more than required, 0.939 and 0.928 respectively. For parsimonious fit, ChiSq/df is 3.366 ($ChiSq/df = 3.366 < 5.0$). All the indices have been met and the model achieve goodness-of-fitness (Hair et al., 2021).

Assessment of Composite Reliability and Convergent Validity

Performance expectancy (PE) construct in pooled-CFA consists of four (4) items after model respecification, which item PE 05 is deleted, the computation of composite reliability (CR) and average variance extracted (AVE) has found that the value is 0.946 and 0.816, respectively, as presented in Table 1. These values exceed the cut-off value by Fornell & Larcker (1981) for composite reliability (CR) of more than 0.60 and average variance extracted (AVE) of more than 0.5.

Table 1: CR and AVE for constructs

Construct	CR	AVE
PE	.946	.816
EE	.955	.876
SI	.955	.876
FQ	.652	.483
SQ	.893	.737
FC	.940	.841

BI	.968	.856
UA	.937	.789

Financial intelligence (FQ) construct in pooled-CFA consists of two (2) sub-constructs after model respecification. The computation of composite reliability (CR) and average variance extracted (AVE) has found that the value is 0.652 and 0.483, respectively. These values do not meet the cut-off value by Fornell & Larcker (1981) for composite reliability (CR) of more than 0.60 and average variance extracted (AVE) of more than 0.5.

However, this construct is acceptable due to these justifications.

- a) The $AVE < 0.5$ is acceptable if the composite reliability is > 0.6 , because the convergent validity of the construct is still adequate (Fornell & Larcker, 1981, pg. 46)
- b) Cheung et al., (2023) argued that AVE for second order factor must be at least 24 percent as evidence of convergent validity for a second-order factor. However, this suggestion applies to Fornell and Larcker’s (1981) recommendation of AVE not less than 0.5 by including the group-specific error in the variance explained by the second-order factor. (Cheung et al., 2023).
- c) Credé & Harms (2015) recommended the researchers not only apply the strict cut-off in AVE, but rather accompany AVE with other statistical test to indicate the validity the higher-order model.

In this study, the financial intelligence (FQ) is the second-order factor and undergone the similar test in the individual CFA. Furthermore, the factor loading met the requirement by Hair et al., (2010). Additionally, the composite reliability is more than 0.6 which is considered sufficient by Fornell & Larcker (1981).

Assessment of Discriminant Validity

Discriminant validity is established when each hypothesized construct is distinct from others; therefore, is not measuring the same thing (Hair, et al., 2013). Discriminant validity occurs when each indicator loads exclusively in one construct. In other words, if one indicator measures two constructs, it is against the rule of unidimensionality (Sarstedt et al., 2022). Jöreskog (1971) proposed a

statistical test to analyze the discriminant validity by evaluating whether a correlation between two constructs is statistically significant less than unity. Table 2 shows the square root of AVE where it is manually calculated and written in italic diagonally. The table shows that there is no validity concern and all the construct achieve unidimensionality (Gaskin, 2019).

Table 2: Discriminant Validity for Constructs.

	CR	AVE	MSV	MaxR(H)	SQ	PE	EE	FC	SI	BI	UA	FQ
SQ	.893	.737	.632	.906	.858							
PE	.946	.816	.712	.976	.547	.903						
EE	.955	.876	.712	.956	.605	.844	.936					
FC	.940	.841	.627	.977	.614	.709	.792	.917				
SI	.871	.697	.489	.972	.534	.679	.699	.696	.835			
BI	.968	.856	.687	.968	.618	.691	.717	.657	.617	.925		
UA	.937	.789	.687	.944	.646	.652	.676	.669	.621	.829	.888	
FQ	.841	.725	.632	.841	.795	.667	.761	.732	.659	.713	.688	.852
No validity concern (Gaskin, 2019)												

4.4 Structural Equation Modelling

This model is running through the structural equation modelling after met the requirement of the measurement model. Based on the figure 3, it shows the structural model of the study which achieved the three categories of model fit and is suffieccient to proceed with the causal relationship. The standardised path coefficient between constructs in the structural model is considered well to assess the model fit.

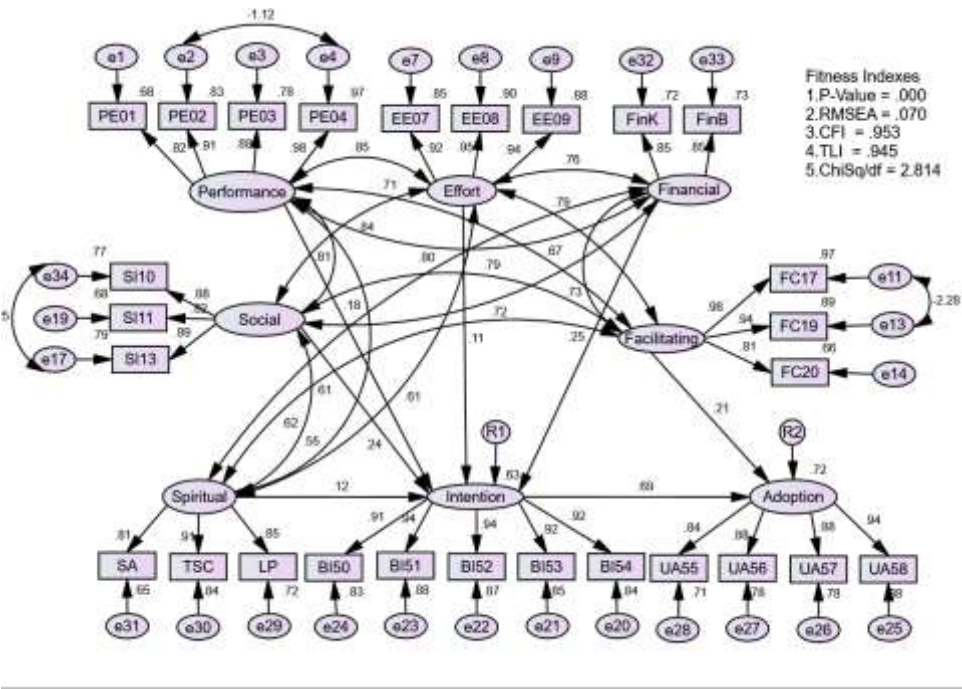


Figure 3: The Standardised Path Coefficients between Constructs in the Model

The final model proposed for the structural equation modelling has met the model fitness requirement (Hair et al., 2021) (RMSEA = 0.070 < 0.08, CFI = 0.953 > 0.90, TLI = 0.945 > 0.90, Chisq/df = 2.814 < 5.00). Therefore, the proposed model will be proceeded for hypothesis testing.

Based on the figure 3, it also shows the standardized result and squared multiple correlation (R²) of the structural model . The value of R² shows the behavioral intention (BI) constrct was explained by performance expectancy (PE), effort expectancy (EE), social influence (SI), financial intelligence (FQ), and spiritual intelligence (SQ) by 63 percents (0.63). The R² in the same figure also shows that 72 percent (0.72) of the contributions by the facilitation condition (FC) and behavioral intention (BI) explaining the user adoption (UA) of Islamic Fintech. This means that there are 28 percents of the total variance that can be explained by other unknown constructs.

The table 3 shows that all exogenous variable and its relationship with endogeneous variable are all significant except effort expectancy (EE) and spiritual intelligence (SQ).

Table 3: Result for direct effects

Construct	Path	Construct	Beta Estimates	Standard Error	Critical Region	p-value	Results
BI	←	PE	.176	.071	2.467	.014	Significant
BI	←	EE	.097	.084	1.166	.243	Not significant
BI	←	SI	.240	.082	2.932	.003	Significant
BI	←	FQ	.287	.112	2.558	.011	Significant
BI	←	SQ	.112	.069	1.621	.105	Not Significant
UA	←	FC	.209	.0.309	5.300	***	Significant
UA	←	BI	.777	.051	15.238	***	Significant

The result has shown that the performance expectancy (PE) has a positive effect on behavioral intention (BI) of the Islamic Fintech adoption among millennials in Malaysia. This finding supports the original UTAUT model, where the performance expectancy (PE) does have effect to the behavioral intention (BI) (Venkatesh, et al, 2003). Other studies also argued the similar for example like in Su & Chao (2022) and Akinnuwesi et al., (2022) and this study prove the same notion in the lights of Islamic Fintech behavioral intention (BI). This means that the respondents believe that Islamic Fintech increase their performance in financial transaction, and they gain much benefit from the technology (Venkatesh et al., 2003; Sewandono et al., 2023).

The result has indicated that the effort expectancy (EE) have no significant relationship with the behavioral intention (BI). Despite the earlier expectation, the findings contradict the original UTAUT model by Venkatesh et al., (2003). The effort expectancy (EE) in this case not contributing a significant effect to the behavioral intention (BI) to use Islamic Fintech. Some of the previous studies have the similar effect such as in Ayaz & Yanartaş (2020) in electronic database management system, Isaias et al., (2017) in interactive technology and smart education and as in Verkijika (2018) in mobile commerce application and the latest one is from Chen et al. (2021) in fresh food e-commerce platform. Shaw & Sergueeva (2019) in their studies of Fintech with Canadian consumers indicating

the same. This construct is one of the important one as it shows the Islamic Fintech services is not free of effort and maybe require high digital skills to use it. The user does not need to attain certain tutorial or time-consuming learning to use the services or technology. This way the Islamic Fintech provider must ensure that the UI/UX experience is top notch and user centric.

The result has indicated that the social influence (SI) have a positive significant relationship with the behavioral intention (BI). The findings does not contravene with the original UTAUT model by Venkatesh, et al., (2003), and also other studies like Joa & Conrad (2022), Xie et al., (2021), Aytekin et al., (2022), and Menon & Shilpa (2023). Social influence make technology adoption easier because the word-of-mouth or the influencer review may amplify the technology use (Menon & Shilpa, 2023).

The result has indicated that the financial intelligence (FQ) have a positive significant relationship with the behavioral intention (BI). This is congruent with the studies from Wahyuni et al., (2023). Wahyuni et al., (2023) also found that financial attitude (FA) is not significantly affect the behavioral intention (BI), which also kind of similar with this study where the financial attitude (FA) needs to be dropped in confirmatory factor analysis (CFA) process for model fitness. It may be due to similarity on the sampling where the respondents of this study and Wahyuni et al., (2023) study are the millennials and avid user of mobile and internet, hence the similar findings.

The result has indicated that spiritual intelligence (SQ) have an insignificant relationship with behavioral intention (BI). Despite numerous studies that proves the role of spiritual intelligence (SQ) to the behavioral intention (BI), this study have contradicted evidence. This may be contributed by the spirituality degree among millennials that does not have contribute to the usage of digital financial product, which also means the role of spirituality may be significant in other cognitive behavior such as the attitude and perception or in other areas of life such as parental education or food intake. According to Lehmann (2019), spirituality may affect the attitudinal and normative perception, but not the behavioral control. Another factor is the weak association between SQ and financial digitalization. Although the literature had found numerous associations of SQ and digitalization and how SQ affect the use of digital product, apparently SQ is strongly associated with digitalization in other subjects such as belief, ritual,

spiritual connection and life meaning such as application for zikr (remembrance of God), adzan (calling for prayer) or searching for Halal (permitted) food and restaurants like MuslimPro or Zabiha. The SQ and financial digital product is still having a big gap where the consumers do not see its relationship to be important in the intention to use, especially in Islamic Fintech product and services.

Another factor that does not contribute the insignificant relationship between SQ and behavioral intention of Islamic Fintech usage is that most millennials respondents in this study comes from younger millennials which is generation Y. McMurray & Simmers (2020) argued that spirituality level among generations is different. Thus, the result give the different prediction where the millennials SQ is not influencing factor for behavioral intention in Islamic Fintech usage

The result has indicated that the facilitating condition (FC) have a significant relationship with user adoption (UA). This finding is consistent with the original UTAUT model by Venkatesh et al., (2003), Sultana et al., (2023) and Islamic Fintech usage by Nik Azman & Md Zabri (2022). This significant result maybe contributed by the government agencies support like MDEC and the regulators intervention in the Islamic Fintech services in Malaysia such as Bank Negara Malaysia (BNM) and Securities Commission (SC).

The result has indicated that the behavioral intention (BI) have a significant relationship with user adoption (UA). The study by Sultana et al., (2023) also established the same evidence to Fintech adoption in Bangladesh. The result from Yahaya et al., (2022), Diéguez et al., (2023) and Patil et al., (2020) also exhibit the same evidence.

V. CONCLUSION AND RECOMMENDATION

In conclusion, all exogeneous variables have significant relationship with behavioral intention (BI) except effort expectancy (EE) and spiritual intelligence (SQ). Facilitating condition (FC) and behavioral intention (BI) have a significant relationship with user adoption (UA) of Islamic Fintech among millennials in Malaysia.

Conceptually, this study has clarified the concept of Islamic Fintech, financial intelligence (FQ) and spiritual intelligence (SQ). For replication, this study followed the operational definition of terms from IFN (2018), and same goes

to the constructs for the factors that influence the Islamic Fintech adoption among millennials. Additionally, this study extends the UTAUT model by embedding another two constructs, financial intelligence (FQ) and spiritual intelligence (SQ) as a framework. These two constructs have new set of variables after going through validation testing. This new set of variables is fit for the proposed framework.

This study also verified the validity and reliability of the measurements items from UTAUT, financial intelligence (FQ) KAB (knowledge, attitude and behaviour) and spiritual intelligence (SQ) SISRI-24. For extension, this whole new set of models was tested for model fitness and discriminant validity and assessed through structural equation modelling (SEM) via IBM SPSS AMOS. From this part, several measurement items have been dropped to achieve the requirement of model fitness and to eliminate the multicollinearity issues.

Empirically, this study has confirmed the theory by Venkatesh et al. (2003) of UTAUT, on the technology adoption. This study extends the parameter by integrating other two constructs, achieve the model fitness and assessed via structural equation modelling (SEM) for examining the causal relationship. From the researcher's knowledge, there are no other studies that have the same model and tested empirically.

For managerial part, this study replicates the technology adoption theory for new setting, Islamic Fintech among millennials in Malaysia. The extension is the new whole model where the financial intelligence (FQ) and spiritual intelligence (SQ) are combined with the technology adoption theory (UTAUT) and it is hoped beneficial for the Islamic Fintech start-ups or providers to managing the consumers data.

In Islamic finance sector, Islamic Fintech has broaden the inclusivity of financial product to every layer of societies. Both sectors are no different, rather the extension of Islamic finance and combination with digitalization. This study shows that the behaviour of consumers in adopting Islamic Fintech product are quite similar especially in the FQ and SQ variables to the intention and the only difference is that the theoretical framework is infused in technology-wise adoption and behaviour phenomena. The product range in Islamic Fintech extend the products in Islamic Finance, such as blockchain waqf, initial coin offering (ICO), and Islamic digital bank such as AEON Bank in Malaysia.

In Malaysia, the concern of data privacy in using Islamic Fintech product is protected under Personal Data Protection Act 2010 (PDPA) (Kow & Siaw, 2024). The legal basis for the PDPA is to ensure information security, network reliability and integrity through the regulation of processing of personal data by a data user in any commercial transaction and protection of personal data.

In order to promote the larger group adoption of Islamic Fintech, the government of Malaysia via MDEC has come out with Shared Prosperity Vision (SPV2030) which promoting the Islamic finance and digitalization in financial as the main catalyst. There is an initiative by United Nation Development Capital Fund (UNDCF) together with Bank Negara Malaysia and MDEC called Financial Innovation Lab to improve financial health of B40 groups and improve financial inclusion via fintech product.

5.2 Future Works

For future works, the researcher suggests the exploration of factors of Islamic Fintech adoption in other methodologies, qualitative and mixed method. This will give solid and robust result, as the method complementing each other. The research design may also be widened such as focus group, interview, case study research, or observation. This will improve the ecosystem Islamic Fintech *modus operandi* and mechanism to its full potential.

Other researchers may also explore other theories in technology adoption such as Technology Acceptance Model (TAM), IS-LM De-Lone, or UTAUT2 as suggested by Venkatesh et al., (2012). UTAUT2 is the extension of UTAUT where the setting and variables are more consumer centric. So instead of seeing the Islamic Fintech adoption in the perspective of technology, we can see it in the perspective of consumerism.

Other studies may also try to investigate the Islamic Fintech adoption from other generations such as boomers and older generations. From this we can see their pattern and trends in choosing the services of Islamic Fintech. Researcher expecting the retirement planning, wealth planning, comparison of old folks' home access and budgeting for older people services may go in hand, considering their focus in their age.

Limitation

This study is only limited to the millennials as avid users of the Internet and mobile banking. Therefore, those who are boomers or above 40 years old have their data excluded. Additionally, the millennials in this study are the ones who use Islamic Fintech, while the data on millennials who do not use Islamic Fintech will be excluded. The selection of millennials is also from urban locations, which means the millennials from non-urban areas or rural areas are excluded.

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DECLARATIONS

Ethics approval

All procedures performed in this study involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Declaration of Helsinki and its later amendments. Ethical approval for this study was granted by the Research Ethics Committee of Universiti Teknikal Malaysia Melaka (UTeM), Hang Tuah Jaya, 76100 Durian Tunggal, Melaka, Malaysia (Reference Number: REAA/2026/08-01), issued by the Centre for Research and Innovation Management (CRIM), UTeM. The research was carried out in accordance with the relevant guidelines and regulations, namely the Declaration of Helsinki, the Malaysian Code of Responsible Conduct in Research (MCRCR), the Research Ethics Guidelines of Universiti Teknikal Malaysia Melaka, and the Personal Data Protection Act 2010 (Act 709) of Malaysia. The approval is valid for a period of three (3) years from the date of issuance, and the research was conducted in accordance with the approved proposal and the terms and conditions stipulated by the Committee. A copy of the ethics approval letter has been submitted together with this manuscript.

Informed consent

Informed consent was obtained from all individual participants included in the study. Before responding to the questionnaire, all respondents were provided with a participant information statement explaining the purpose of the research, the voluntary nature of participation, the anonymity and confidentiality of their responses, their right to withdraw at any time without penalty, and the exclusive use of the data for academic purposes. Respondents indicated their consent by agreeing to the consent statement on the first page of the questionnaire before proceeding to the survey items; only respondents who provided consent were permitted to continue. All participants were adults aged 18 years and above; no minors were recruited, and consent from parents or legal guardians was therefore not applicable. No personally identifiable information, such as names, identity

card numbers or contact details, was collected at any stage, and all responses were analysed in aggregate form.

Local ethical approval

The ethical approval for this study was obtained from an approval body located in the local area in which the research was conducted. All data collection was carried out entirely within Malaysia, and all respondents were Malaysian millennials residing in the urban areas of the central region (Greater Kuala Lumpur/Klang Valley). The approving body, the Research Ethics Committee of Universiti Teknikal Malaysia Melaka, is a Malaysian institutional ethics committee based in Melaka, Malaysia. The study was not conducted in more than one country, and no data were collected outside Malaysia; accordingly, no additional ethical approval from an approval body in any other jurisdiction was required.

Consent for publication

Not applicable. This manuscript does not contain any individual person's identifiable data, images or videos in any form.

Competing interests

The authors declare no competing interests.

Data Availability

-Data File

-Variable Detail Coding Screening and Descriptive

-Pool CFA Final-Amos Output

-Structural Modelling -Amos Output

-Survey Item

APPENDIX 1

Based on the EFA and reliability analysis, these are the final measures in the final questionnaire for the field study.

Final measurement of the study

Construct	Variable Label	Item	New Variable Label	Sources
Performance Expectancy (PE)	PE01	I find Islamic Fintech is useful in my daily life.	PE01	Adapted from Venkatesh et al., (2012)
	PE02	Using Islamic Fintech enables me to perform my financial transactions more quickly.	PE02	
	PE03	Using Islamic Fintech will increase my overall productivity.	PE03	
	PE04	Using Islamic Fintech would improve my performance in many of my daily activities.	PE04	
	PE05	Islamic Fintech would bring me greater convenience.	PE05	
Effort Expectancy (EE)	EE06	Using Islamic Fintech is easy for me.	EE06	Adapted from Venkatesh et al., (2012)
	EE07	It is easy for me to learn how to use Islamic Fintech.	EE07	
	EE08	My interaction with Islamic Fintech would be clear and easy to understand.	EE08	
	EE09	It would be easy for me to develop the skills to use Islamic Fintech.	EE09	
Social Influence (SI)	SI10	My peers and close friends support the idea of me using Islamic Fintech.	SI10	Adapted from Venkatesh et. al., (2012)
	SI11	Most people I admire and am influenced by are using Islamic Fintech.	SI11	
	SI12	People who are important to me could assist me in the use of Islamic Fintech.	SI12	
	SI13	Using Islamic Fintech makes me look more intelligent and modern.	SI13	
	SI14	Using Islamic Fintech makes me look more modern.	SI14	

	SI15	In the future, companies that offer Islamic Fintech services will guarantee its proper functioning.	SI15	
Facilitating Condition (FC)	FC16	I have the knowledge to use Islamic Fintech.	FC16	Adapted from Venkatesh et al., (2012)
	FC17	I have the capabilities to use Islamic Fintech.	FC17	
	FC18	Islamic Fintech product is compatible with all of my computing devices, mobile and gadgets.	FC18	
	FC19	I can always get help when I have any difficulty using or dealing with Islamic Fintech.	FC19	
	FC20	I have sufficient experience to comfortably use Islamic Fintech.	FC20	
Financial Intelligence (FQ)	FK21	I know the concept of the time value of money.	FK21	OECD/INF (2018)
	FK22	I know the concept of interest paid on a loan.	FK22	
	FK23	I know the concept of interest plus principles.	FK23	
	FK24	I know about the compound interest.	FK24	
	FK25	I know the concept of risk and return.	FK25	
	FK26	I know about risk diversification.	FK26	
	FB27	Before I buy something, I carefully consider whether I can afford it.	FB27	
	FB28	I pay my bills on time.	FB28	
	FB29	I keep a close personal watch on my family affairs.	FB29	
	FB30	I set long-term financial goals and strive to achieve them.	FB30	
	FB31	I sought information or advice when choosing a product.	FB31	
	FB32	I borrow/make loans to make ends meet.	FB32	
	FA33	I tend to live for today and let tomorrow take of itself.	FA33	

	FA34	I find it more satisfying to spend more money than to save it for the long term.	FA34	
	FA35	Money is there to be spent.	FA35	
Spiritual Intelligence (SQ)	SQ36	I have often questioned or pondered the nature of reality.	Deleted	King & DeCicco (2009)
	SQ37	I recognize aspects of myself that are deeper than my physical body.	SQ36	
	SQ38	I have spent time contemplating the purpose or reason for my existence.	SQ37	
	SQ39	I am able to enter higher states of consciousness or awareness.	SQ38	
	SQ40	I am able to deeply contemplate what happens after death.	SQ39	
	SQ41	It is difficult for me to sense anything other than the physical and material.	Deleted	
	SQ42	My ability to find meaning and purpose in life helps me adapt to stressful situations.	Deleted	
	SQ43	I can control when I enter higher states of consciousness or awareness.	Deleted	
	SQ44	I have developed my own theories about such things as life, death, reality, and existence.	SQ40	
	SQ45	I am aware of a deeper connection between myself and other people.	SQ41	
	SQ46	I am able to define a purpose or reason for my life.	SQ42	
	SQ47	I am able to move freely between levels of consciousness or awareness.	SQ43	
	SQ48	I frequently contemplate the meaning of events in my life.	SQ44	
	SQ49	I define myself by my deeper, non-physical self.	Deleted	
	SQ50	When I experience a failure, I am still able to find meaning in it.	SQ45	

	SQ51	I often see issues and choices more clearly while in higher states of consciousness/awareness.	Deleted	
	SQ52	I have often contemplated the relationship between human beings and the rest of the universe.	Deleted	
	SQ53	I am highly aware of the nonmaterial aspects of life.	Deleted	
	SQ54	I am able to make decisions according to my purpose in life.	Deleted	
	SQ55	I recognize qualities in people that are more meaningful than their body, personality, or emotions.	SQ46	
	SQ56	I have deeply contemplated whether or not there is some greater power or force (e.g., God, goddess, divine being, higher energy).	SQ47	
	SQ57	Recognizing the nonmaterial aspects of life helps me feel centered.	Deleted	
	SQ58	I am able to find meaning and purpose in	SQ48	
	SQ59	I have developed my own techniques for entering higher states of consciousness or awareness.	SQ49	
Behavioral Intention (BI)	BI60	I intend to use Islamic Fintech in the future.	BI50	Adapted from Venkatesh et al., (2012)
	BI61	I will continue to use Islamic Fintech.	BI51	
	BI62	I will always choose to use Islamic Fintech in my daily life.	BI52	
	BI63	If I had access to Islamic Fintech services, I would have the intention of using them.	BI53	
	BI64	I think it will be worth it for me to adopt Islamic Fintech when it's available.	BI54	
	UA65	My use of Islamic Fintech continues to increase.	UA55	

User Adoption (UA)	UA66	I use Islamic Fintech more than my other apps.	UA56	Adapted from: Venkatesh et al., (2003), Gupta & Arora (2020).
	UA67	I always update my Islamic Fintech product with the latest version.	UA57	
	UA68	I use Islamic Fintech as the main medium of financial transactions.	UA58	

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [2.Data377AdoptionofIslamicFintechCodingScreeningandDescriptive.sav](#)
- [1.Data377AdoptionofIslamicFintechCodingandScreening.sav](#)
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- [4.StructuralModelling12July2023.amosoutput](#)