The dilemma of millennial Muslims towards financial management: an Islamic financial literacy perspective

Abstract

Purpose – The current study empirically investigated the pathway to financial management behavioural intentions from Islamic perspectives, through dimensions of Islamic financial literacy (Islamic Financial Knowledge, Financial Skills, Self-efficacy) based on an extension to the Theory of Planned Behaviour (TPB) model.

Design/methodology/approach – Data was collected via a self-administered questionnaire by 300 millennials (Muslims) working in Malaysia. Structural Equation Modelling (SEM) was employed for data analysis purposes by using SmartPLS.

Findings – The results present the positive and significant influence of Islamic financial knowledge on financial attitude, financial skills on the elements of financial attitude, subjective norm, perceived behavioural control, and perceived moral obligation, self-efficacy on financial attitude, financial skills on the elements of financial attitude, subjective norm, and perceived behavioural control. Furthermore, perceived behavioural control and perceived moral obligation were strong predictors of financial management behavioural intentions from an Islamic standpoint.

Originality/value – The findings successfully contribute to the theoretical extension of the TPB model via dimensions of Islamic financial literacy (Islamic Financial Knowledge, Financial Skills, Self-efficacy) as predictors of financial attitude, subjective norms, perceived behavioural control, and perceived moral obligation. Besides, the study provides some new insights of millennials' Muslims concerning Islamic financial literacy and financial management from Islamic beliefs.

Keywords: Theory of Planned Behaviour, Islamic financial literacy, Millennials, and financial management behaviour.
1. Introduction

Financial literacy is regarded as one of the essential components of economic growth in many nations across the globe. Financial literacy is necessary for many countries where individuals’ responsibility and self-sufficiency are valued. Individuals need to exhibit sound understanding of financial knowledge due to the complexity of financial instruments and the financial decisions in their everyday lives (Goyal and Kumar, 2021). Lusardi and Mitchell (2014) present a rational framework theory in which financial knowledge is an investment in human capital with financial decision-making implications. Attributing religiosity with financial literacy and financial management behaviour attracted the attention of scholarly work, such as enhancing Islamic financial literacy (IFL) through community awareness (Dewi and Ferdian, 2021) and determinants of IFL (Kevser and Doğan, 2021).

Accordingly, Islamic financial literacy (IFL) is a religious obligation for every Muslim to realise true success in this world and the hereafter (Ayub, 2017). 'Abdullah (b. Mas'ud) (Allah be pleased with him) said: *Allah's Messenger (may peace be upon him) cursed the one who accepted interest and the one who paid it I asked about the one who recorded it and two witnesses to it. He (the narrator) said: We narrate what we have heard* (Sahih Muslim: Book 10, Number 3880). Hence, religious beliefs are significant for behavioural intentions (Ali et al., 2017). However, believing alone might not help; knowing the truth of Islamic values, skills, self-efficacy while financial management would provide a holistic view towards Islamic financial behaviour among Muslim millennials.

The role of financial literacy in promoting wellbeing is also being studied with millennials (Cwynar, 2020). However, there is still a gap in understanding how Islamic financial knowledge, skills and self-efficacy help develop attitudes, subjective norms, perceived behavioural control and moral obligations accordingly. Historically, the theory of planned behaviour (TPB) was utilised as a theoretical framework for numerous studies within Islamic financial management literature (Ali et al., 2017; Al Balushi et al., 2018; Raut, 2020). Interestingly, TPB has been widely utilised and conceptualised to predict behavioural intentions. It is an extended version of the Theory of Reasoned Action (TRA) (Ajzen, 1985, 1991; Ajzen and Madden, 1986; Fielding et al., 2008). Islamic financial literacy has been discussed, which embrace the theory of planned behaviour where perceived behavioural control, attitude and subjective norms of the Islamic banking depositors are supportively inclined by their intention to understand Islamic banking (Ganesan et
Specifically, Raut (2020) has examined financial literacy and proven its role as a strong predictor for financial investment-related decision-making processes. Despite the TPB's general utility, some research has attempted to improve its explanatory power by incorporating new elements into the model (Kaiser and Scheuthle, 2003). The personal sense of moral obligation should be included while assessing individual desire to engage in specific actions (Gorsuch and Orberg, 1983). It has been claimed that perceived moral responsibility should consider some moral concerns to improve the TPB's predictive potential (Ajzen, 1991; Beck and Ajzen, 1991). Additionally, Kaiser (2006) pointed out that a model predicting consumers’ conservation behavioural intention may have a moral dimension positively associated with consumers' conservation behavioural intention in the pro-environmental setting. Similarly, within the financial education context, it is essential to understand the virtues of moral responsibility towards financial management behavioural intentions (FMBI), especially to assure the accountability and efficient management of financial problems (Maman and Rosenhek, 2019). This is especially true, particularly for the younger generation (millennials, born between 1982 and 2002) growing up in a society with a complex financial landscape who indubitably encounter financial pressure (Khan et al., 2019).

Indeed, millennials need to efficiently manage their financial resources for financial stability (Dewi et al., 2021). Also termed Gen-Y, the generation faces many financial challenges instantly post-graduation or inevitably becoming dropouts. Therefore, the present outlook on millennials, financial health is seemingly hazy despite their continuous efforts for transforming the current technological revolution and, comparably, more knowledgeable and skilful attributes than the older generations (Allison, 2013). The study aims to determine Islamic financial literacy and its influence on financial attitude, subjective norms, and perceived behaviour control using the expanded TPB model. A new construct based on perceived moral obligation is added to the framework to recognize its influence on perceived behavioural intention. Second, the components of Islamic financial literacy (IFL) are explored to determine their influence on attitude towards competent Islamic financial management, subjective norms, perceived behavioural control, and perceived moral obligation. The enhanced TPB model's result in this study is based on millennial Muslims of Islamic financial management behavioural intention. Hence, an empirical study is conducted based on Islamic financial literacy's pathway and its modelling components.
Therefore, it is important to conceptualise IFL more broadly to connect with the TPB model; we used three dimensions of IFL as presented by Warmath and Zimmerman (2019), including Islamic Financial Knowledge (IFK), Financial Skills (FS), and Financial Self-Efficacy (FSE). It will serve as a comprehensive model to improve the understanding of Islamic financial literacy on financial decision-making, through an extended theory of planned behaviour, in recognition of the vast knowledge gap that exists. To the best of our knowledge, although IFL has been extensively studied, nevertheless, conceptualisation with TPB for FMBI from Islamic perspectives of millennial Muslims has yet to be investigated, to comprehensively extend the Islamic financial management literature. Additionally, incorporating perceived moral obligation towards FMBI is another contribution of the current study.

The present work is organised as follows: Firstly, the literature review outlines the extended theory of planned behaviour and hypothesis development. Next, research methodology describes the data collection procedures, followed by the data analysis results. Lastly, the final section summarises the study's implications and suggests future study directions.

2. Literature review and hypothesis development

2.1 Towards extended theory of planned behaviour model

The development of TPB is rooted deeply in the TRA (Fishbein, 1967; Fishbein and Ajzen, 1975); the model dictates those consumers formulate their intentions based on belief-oriented consequences because of favourable or unfavourable attitudes. Here, the role played by the referral groups is pertinent in the formation of a subjective norm (SN), otherwise known as the perceived social pressure towards a behaviour. The belief attached to the behaviour will lead to perceived behavioural control (PBC) (Ajzen and Fishbein, 1980). Accordingly, the relative importance of attitude, SN, and PBC in predicting intention are expected to vary across behaviours and situations, consequently identified via regression analysis (Ajzen, 1991). Nevertheless, the current study adopts Raut’s (2020) viewpoint, underlining certain effects of financial literacy wielded on Muslims’ financial management behavioural intentions. In addition, the present study opens the dimensions of IFL and introduces PMO as an additional predictor for FMBI.

Consumer financial behaviour is an important construct that can be evaluated through saving patterns (Brüggen et al., 2017) and understanding price fluctuations for goods and services (Hampson et al., 2018). Di Paula and Campbell (2002) found that people with high self-esteem
accomplished more goals, participated in more goal-seeking activities, expressed greater satisfaction with goal success, and deliberated less about unsuccessful plans than people with low self-esteem. Moreover, Islamic financial management has become more important than ever before, specifically as the banning of interest and other prohibitions within the ecosystem should encourage Muslims to be more innovative in establishing its social, financial system (Sevriana et al., 2022).

2.2 Hypotheses development

Attitude is an evaluation of beliefs about one’s positive or negative feelings, if necessary, to perform a certain behaviour. According to Ajzen (1991), an optimistic attitude towards a certain action would amplify their intention to act. Regardless, financial attitudes are unlikely to guarantee protection from compulsive purchases, since an individual needs to understand Islamic financial services, in particular, and how it influences their attitude towards using them in their financial matters (Chowdhury and Hoque, 2017). Yusfiarto et al. (2022) asserted that Islamic financial awareness, attitude, and knowledge positively impact the Islamic financial investment. Moreover, Al-Awlaqi & Aamer (2022) highlighted that Islamic financial behaviour positively influenced by Islamic financial literacy. As a result, financial attitudes are important to handle money concerns (Aydin and Sycuk, 2019). Islamic depositors’ mentality will influence their purpose to learn more about Islamic banking standards (Ganesan et al., 2020). As a result, we conjecture the following link between millennials’ attitude of sound Islamic financial management and behaviour based on this premise:

**H1**: Attitude of a sound Islamic financial management influences the behavioural intention of financial management from Islamic perspectives.

Subjective norms are linked to the forces motivating an individual to conduct or not perform a given behaviour (Ajzen, 1991). Recently, Widyastuti et al. (2022) found that higher level of Islamic financial literacy positively drives financial decision-making behaviour. Therefore, these norms magnify the social pressure exerted on decision-makers to perform specific behaviours, which, in turn, convert the behaviours into intentions (Yusfiarto et al., 2022). Their notable social impact on student financial management is rooted in the support mechanism established (Xiao et al., 2014), causing young consumers to observe to all parental guidelines, as to be more vigilant.
and responsible regarding their financial management strategies (Xiao et al., 2014). This is especially true for millennial Muslims as they tend to be influenced by their peers, especially in personal finance (Wibowo et al., 2022). Apparently, students’ financial awareness, knowledge, abilities, attitudes, and behaviours were impacted by their familial socialization and contemporary environment, including their study conditions, living arrangements, interactions with classmates, and relationship cohesion (Md.Shafik and Wan Ahmad, 2020). Hence:

**H2:** Subjective norms of a sound Islamic financial management influences the behavioural intention of financial management from Islamic perspectives.

The perception of ease or difficulty in executing a behaviour is commonly termed perceived behavioural control (PBC), which supposedly relies upon a person's previous experience (Hampson et al., 2018). This causes them to act according to a certain belief about factors that facilitate such behaviour or otherwise, as this element may hinder the execution of certain behaviours. Furthermore, it denotes their ability to predict the actions involved, which are somehow related to the skills, resources, knowledge, emotions, and opportunities they receive and receive to conduct a certain behaviour (Mafabi et al., 2017). Perceived behavioural control reinforces a person's goal before subsequent engagements, while simultaneously, perceptions shape behavioural intention. Thus, perceived behavioural control indicates an individual's ability to attain a given outcome (Akhtar and Das, 2019), which is very pertinent in financial management (Raut and Das, 2017). Based on this premise, we hypothesize a relationship between perceived behavioural control and Shariah-based financial management:

**H3:** Perceived behavioural control over Islamic financial management influences the behavioural intention of financial management from Islamic perspectives.

Financial literacy and education are defined and communicate the attributes that make a person safely perform in financial markets. A collection of knowledge, abilities, motives and behavioural dispositions that are assumed to underpin people's right financial behaviour have been referred to as “financial literacy” since the late 1990s (Maman and Rozenhek, 2019). Prudential measures, entrepreneurship, and risk management generally emphasize financial responsibility. Individual accountability requires a morally competent individual who can make informed decisions (Pitchay, 2022). Consequently, the Islamic concept is that humans are guided by higher impulses for
righteousness that their Creator has placed inside them; when such instincts are properly guided and overseen, it can lead to a fair and just system of production, exchange, and distribution, which becomes the basis of social welfare. Recognising the moral dilemma demands making a moral judgment about what conduct is proper or inappropriate in each situation. Therefore, moral obligation predicts ethical intention (Beck and Ajzen, 1991; Leonard et al., 2004). Islamic financial management embraces personal morality; specifically, in the context of millennial Muslims. Eventually, it is expected that millennial Muslims will have a higher sense of moral obligation towards Islam while managing financials. Eventually:

**H4: Perceived moral obligation over Islamic financial management influences the behavioural intention of financial management from Islamic perspectives.**

### 2.3 Islamic financial literacy as an antecedent of the extended TPB model

Financial literacy plays an important and long-lasting role in making financial decisions (Kawamura et al., 2021). For example, the self-efficacy theory says that improving financial literacy can give college students more financial confidence and self-control, which keeps them from engaging in risky credit behaviour (Liu and Zhang, 2021), higher financial literacy is linked to lower debt anxiety and higher risk tolerance (Noviarini et al., 2021), financial literacy has gauged implications for both financial inclusion and savings in Laos (Morgan and Long, 2020). It also means understanding basic financial ideas like interest, inflation, and the value of money over time (Lusardi and Mitchell, 2014), which is often linked to better financial health (Lee et al., 2020; Limbu and Sato, 2019).

### 2.4 Dimensions of financial literacy from Islamic perspectives

This research incorporates the study that has been conducted by Warmath and Zimmerman (2019), where they have elaborated financial literacy into three components: knowledge, skills and self-efficacy. Warmath and Zimmerman (2019) argued that financial literacy is the ability to gather the necessary advice and information for a financial decision (psychomotor), the confidence to make that decision (affective), and the ability to build useful financial knowledge (cognitive) from experience that can be applied to future decisions (psychomotor). Individuals with a higher degree of financial expertise generally exhibit a favourable attitude (Aydin and Selcuk, 2019). In brief, Islamic financial knowledge extensively addresses how business or any transactions involving
wealth or money is to be conducted, particularly because of the need for these activities to be aligned with the principles of Islam (Rahim et al., 2016), especially the prohibition of gambling, interest and uncertainty. Consequently, it is projected that the higher the degree of financial knowledge from Islamic perspectives, the more the desire to utilise Islamic financial institutions' goods and services. Apparently:

**H5a:** *If an individual is knowledgeable about Islamic finance, they are more likely to have a positive attitude towards a sound Islamic financial management.*

Muslims need to know Islamic financial management principles when dealing with their banking needs (Yusfiarto et al., 2022), particularly for high-valued Islamic customers, as they should prefer Islamic banking goods and services (Gunardi et al., 2021). Some Muslims have diverse Islamic values because they practice Shariah; they have different attitudes and religious commitment to Islamic law. As more problems related to financial management issues continue to surface, understanding whether one’s exposure to Islamic financial knowledge could lead to better comprehension and implementation of specific and related behaviours should be emphasised accordingly (Widyastuti et al., 2022). Besides, it further drives the attempts to convince people to engage towards better financial management behaviour. In fact, the more a person fears divine punishment or Allah's judgement, the more he uses Islamic banking, (Souiden and Rani, 2015) and by some means, is influenced by their surroundings, especially their peers and parents. Hence:

**H5b:** *If an individual is positively knowledgeable about Islamic finance, they will be more likely to have a positive subjective norms of a sound Islamic financial management.*

Previously, many were equipped with minimal understanding of finances, credit, and possible effects on one's financial wellbeing (Chu et al., 2017). Thus, the lack of financial knowledge and understanding is one of the major factors behind people's struggles with saving and investing. Therefore, financial literacy should be embedded for the sake of a better future, which has significant influence with financial decision making (Al-Awlaqi & Aamer, 2022). Financial literacy increases wealth for various reasons; thus, financially literate people are more inclined to plan for retirement, perhaps because they understand the power of compound interest and calculations (Lusardi, 2019). Due to its clear-cut distinction, Islamic financial knowledge is seen as a religious requirement for every Muslim. Millennial Muslims learn about Islamic financial
knowledge through a series of learning opportunities to make better financial decision making, and to comply within the Islamic principles (Yusfiarto et al., 2022). According to Islamic perspectives, these elements are certainly to be addressed in the context of financial literacy. Thus, 

**H5c:** *If an individual is knowledgeable about Islamic finance, they will be more likely to develop a positive perceived behavioural control towards a sound Islamic financial management.*

The impact of product knowledge on purchase intent has been extensively studied in new and foreign products (Wang *et al.*, 2018). Scholars proposed numerous techniques to educate Muslim consumers specifically on Islamic banking and financial products, including teaching the market at an early stage through a marketing campaign for school-age children and teenagers, as well as an emotionally appealing advertising campaign (Setyobudi *et al.*, 2015). Subsequently, Mansour *et al.* (2015) stated that *maqasid al-shari'a* (the purposes of Islamic law) of Islamic financial products and services attempt to integrate a set of moral values for individuals and society, promoting such rules to achieve justice and social welfare, which may lead towards achieving *falah* (success in the world and the hereafter). Thus, individual Muslims or non-Muslims should have the moral obligation to subscribe to Islamic financial products and services, especially when they know those products. Therefore:

**H5d:** *If an individual is knowledgeable about Islamic finance, they will be more likely to develop a positive perceived moral obligation towards a sound Islamic financial management.*

Next, the second component of Islamic financial literacy deals with financial skills, as deliberated by Warmath and Zimmerman (2019), a learned behaviour encompassing an individual’s ability to evaluate their groundwork and then engage with their surroundings to achieve what is lacking. Students with stronger money management abilities come from households that address financial matters and provide more financial guidance (Xiao *et al.*, 2014). Significantly, through financial skills, people can develop positive attitudes toward financial management, which leads to the financial wellbeing of individuals. Moreover, when it comes to financial choices, those who learn from family, friends, and personal experiences tend to participate in more beneficial financial behaviours (Kim *et al.*, 2003). Nevertheless, individuals who are financially skilful, are more likely to develop positive subjective norms of good Islamic financial management. Hence:
**H6a:** If an individual is financially skilful, they are more likely to have a positive attitude towards a sound Islamic financial management.

**H6b:** If an individual is financially skilful, they are more likely to develop a positive subjective norms of a sound Islamic financial management.

Being financially savvy in Islam is vital for Islamic financial management. Economically, proficient Muslim people are more likely to feel a moral obligation to practice Islamic financial management. Simultaneously, it can help achieve a balanced existence. If someone is financially savvy, they're more likely to thrive in other areas. Financially savvy people worry less about money, thus, they can focus on other things. Financially capable people may have a moral obligation to practice sound Islamic financial management. As Muslims, we can be cognizant of the hazards and opportunities of money accumulation. We can consider how our actions will influence us and others as Muslims. Our faith helps us shift how we think about money and use our skills for good within our ideals. Correspondingly:

**H6c:** If an individual is financially skilful, they are more likely to develop a positive perceived behavioural control towards a sound Islamic financial management

**H6d:** If an individual is financially skilful, they are more likely to create a positive perceived moral obligation towards a sound Islamic financial management

Self-efficacy in Islamic finance is the idea that an individual can master Shariah-compliant skills. Many Islamic financial scholars believe an individual can develop the skills to accomplish their desired result within Shariah rules. Only if the person believes they understand the process and can conduct it well. Those with these skills must develop a favorable attitude toward Islamic financial management, to perform it adequately (Amin et al., 2017). Emerging adults with high financial self-efficiency are confident in their ability to absorb information, make sensible judgments, and manage money well (Hadar et al., 2013). Parents teach their children about money to ensure long-term financial success. Studies show that guardians who allow their offspring to make financial decisions are financially self-sufficient (Khawar and Sarwar, 2021). Thus, environment, parents, and colleagues may help children grasp Islamic financial management. Subsequently:
**H7a:** If an individual develops self-efficacy, they are more likely to develop a positive attitude towards a sound Islamic financial management.

**H7b:** If an individual develops self-efficacy, they are more likely to develop a positive subjective norms of a sound Islamic financial management.

Self-efficacy is a psychological construct that reflects an individual's estimation of personal capabilities to organise, plan, and execute behaviours that lead to desired outcomes. Individuals may rely on external perceptions such as trusted peers or advisors as ratings of their abilities or skills (Aziz and Afaq, 2018). Thus, individuals with a greater sense of personal control have strong intentions to act in a certain way (Ajzen, 1991). Hence, we believe that individuals confident in their financial skills, specifically within the boundaries of Shariah values, are likely to use Islamic banking products and services. Therefore:

**H7c:** If an individual develops self-efficacy, they are more likely to develop perceived behavioural control towards a sound Islamic financial management.

To provide a holistic approach of a 'sound' Islamic finance in its practices, specifically for compliance and alignment with Islamic principles, there must be sufficient evidence that people have the necessary attributes for comprehensive practices in broad areas, including ethical sense and strategic thinking (Alhammadi et al., 2020). Muslims must have the sense that they must know if the instrument they use in an Islamic financial institution complies with Islamic law. Eventually, conforming to personal standards which boosts self-esteem or security (Di Paula, 2002). There are two indicators that transfer subjective standards into behaviour: knowledge of action, and accountability for the consequences (Xiao et al., 2014). Hence, we believe that being Muslims, they have an obligation towards adopting Islamic financial products or services, in which it has been illustrated that self-efficacy positively correlated with the moral obligation of paying zakat (alms). Accordingly:

**H7d:** If an individual develops self-efficacy, they are more likely to develop a perceived moral obligation towards a sound Islamic financial management.
3. Research methods

3.1 Sample and data collection procedures

The sample frame of the current study denoted young Muslims residing in Shah Alam, a city in Malaysia. Millennial Muslims (born between 1981 and 1996, aged between 26 to 41 years old) were chosen since this study attempts to understand IFM using G*Power 3 (Faul et al., 2009). A sample of 300 millennial Muslim professionals were approached, demographics are detailed in table 1. Subsequently, Shah Alam was denoted to be transformed into “Islamic City” (The Star, 2012), since it has favourable characteristics, such as embracing Islamic culture and peaceful surroundings. Furthermore, a purposive sample may be sufficient because the goal of the study is to verify the validity of the hypothesized theoretical effect (Hulland et al., 2017). According to Hair et al. (2017), sample size should be based on the power of analysis, which is the minimum number of samples based on the model complexity, as the study uses structural equation modeling with Smart PLS version 3.2.7 (Hair et al., 2017) to test the hypothesis developed in this study.
Table 1
Sample profile

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Attribute</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>111</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>189</td>
<td>63%</td>
</tr>
<tr>
<td>Age</td>
<td>18-25</td>
<td>142</td>
<td>47%</td>
</tr>
<tr>
<td></td>
<td>26-33</td>
<td>136</td>
<td>45%</td>
</tr>
<tr>
<td></td>
<td>34-39</td>
<td>22</td>
<td>8%</td>
</tr>
<tr>
<td>Education</td>
<td>Diploma</td>
<td>89</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Bachelor</td>
<td>158</td>
<td>53%</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>51</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>PhD</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>*Household income</td>
<td>Less than RM1500</td>
<td>59</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Between RM1500 to RM3500</td>
<td>106</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>More than RM3500</td>
<td>135</td>
<td>45%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: *Amount is in RM = Malaysian Ringgit and monthly.

3.2 Measures

The questionnaire implemented was self-administered in nature and included two parts. Part 1 focused on the demographic variables, including gender, age, education, and monthly household income. Meanwhile, Part 2 emphasised six constructs tested using a 5-point Likert scale (1 = Strongly Disagree and 5 = Strongly Agree). The included items encompassed the following: Islamic financial literacy as adopted from Nawi et al. (2018) and Rahim et al. (2016); financial attitude as adopted from Potrich et al. (2018); subjective norms and adopted from Wang et al. (2018), Ferdous and Polonsky (2013); perceived behavioural control (Satsios and Hadjidakis, 2018), and financial management behavioural intentions as adopted from Madden et al. (1992), Chen (2007) and Raut (2020). Additionally, constructs of financial skills and self-efficacy are adopted from Warmath and Zimmerman (2019). More importantly, measures of perceived moral obligation are adopted from Chen and Tung (2014), by focusing on the context of financial wellbeing from Islamic perspectives, although in the study they have used these items on the context of predicting consumers’ intention to visit green hotels.

3.3. Data analysis

There are two structural equation modeling (SME) methods; 1) covariance-based SME, which is primarily employed to confirm the established theories, and 2) prediction-based approach to SEM,
which is used to test and confirm extended models based on established theories (Hair et al., 2017). Given the purpose of the current study, where we aim to extend the TPB model through dimensions of Islamic financial literacy (Islamic Financial Knowledge, Financial Skills, Self-efficacy) and perceived moral obligation. Therefore, we employed a prediction-based approach to SEM, partial least squares structural equation modelling (PLS-SEM), to analyse all data collected in detail. According to Hair et al. (2017), the chosen approach would yield comprehensive measurement and structural models. The relationship pathways were then measured through the structural model to test the proposed hypotheses. In contrast, the model evaluation was completed by assessing the construct reliability and convergent validity.

4. Results

4.1 Measurement model

Theoretically, a measurement model displays a satisfactory level of internal consistency reliability when the composite reliability (CR) value of each tested construct exceeds the threshold value of 0.7 (Hair et al., 2017). Table 2 shows that each construct in this study obtains an acceptable range of CR (equal to or more than 0.7) spanning from 0.811 to 0.926, indicating their satisfactory internal consistency reliability. Furthermore, the outer loadings were assessed and revealed 12 item loadings below the acceptable value, which were thus removed. The values in Table 2 presents the remaining item loadings obtained from the model in detail.

According to Chin (1998), standardised loadings should be greater than 0.707, whereas Bryne (2016) believes that loading values equal to or greater than 0.5 are acceptable if their collective amount results in high loading scores. This would ultimately contribute to average variance extracted (AVE) scores greater than 0.5. Moreover, the convergent validity is typically deemed adequate when constructs display an AVE value of at least 0.5 or more (Hair et al., 2017). Table 2 depicts the AVE values obtained by all constructs, ranging from 0.514 to 0.787 and substantiates the measurement model’s adequate convergent validity, except Islamic Financial Knowledge (0.465).
<table>
<thead>
<tr>
<th>Construct</th>
<th>Item</th>
<th>Loading</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Islamic Financial Knowledge (IFK)</td>
<td>IFK2</td>
<td>0.684</td>
<td>0.811</td>
<td>0.465</td>
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<tr>
<td></td>
<td>IFK4</td>
<td>0.778</td>
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<td></td>
<td>IFK5</td>
<td>0.518</td>
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<td></td>
<td>IFK6</td>
<td>0.673</td>
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<td></td>
<td>IFK7</td>
<td>0.729</td>
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<tr>
<td>Financial Skills (FS)</td>
<td>FS1</td>
<td>0.541</td>
<td>0.869</td>
<td>0.528</td>
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<tr>
<td></td>
<td>FS2</td>
<td>0.692</td>
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<td></td>
<td>FS3</td>
<td>0.796</td>
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<td></td>
<td>FS4</td>
<td>0.791</td>
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<td></td>
<td>FS5</td>
<td>0.766</td>
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<td></td>
<td>FS6</td>
<td>0.741</td>
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<td>Self-efficacy (SE)</td>
<td>SE1</td>
<td>0.851</td>
<td>0.906</td>
<td>0.585</td>
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<tr>
<td></td>
<td>SE2</td>
<td>0.549</td>
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<tr>
<td></td>
<td>SE3</td>
<td>0.687</td>
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<tr>
<td></td>
<td>SE4</td>
<td>0.836</td>
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<td></td>
<td>SE5</td>
<td>0.831</td>
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<tr>
<td></td>
<td>SE6</td>
<td>0.877</td>
<td></td>
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<tr>
<td></td>
<td>SE7</td>
<td>0.659</td>
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<tr>
<td>Financial Attitude (FA)</td>
<td>FA1</td>
<td>0.652</td>
<td>0.926</td>
<td>0.679</td>
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<tr>
<td></td>
<td>FA2</td>
<td>0.853</td>
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<td>FA3</td>
<td>0.857</td>
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<td></td>
<td>FA4</td>
<td>0.874</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FA5</td>
<td>0.863</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FA6</td>
<td>0.823</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Norms (SN)</td>
<td>SN1</td>
<td>0.500</td>
<td>0.846</td>
<td>0.533</td>
</tr>
<tr>
<td></td>
<td>SN4</td>
<td>0.731</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SN5</td>
<td>0.612</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SN6</td>
<td>0.858</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SN7</td>
<td>0.877</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Behaviour Control (PBC)</td>
<td>PBC1</td>
<td>0.520</td>
<td>0.837</td>
<td>0.514</td>
</tr>
<tr>
<td></td>
<td>PBC5</td>
<td>0.649</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PBC6</td>
<td>0.817</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PBC7</td>
<td>0.718</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PBC8</td>
<td>0.833</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Moral Obligation (PMO)</td>
<td>PMO1</td>
<td>0.902</td>
<td>0.881</td>
<td>0.787</td>
</tr>
<tr>
<td></td>
<td>PMO2</td>
<td>0.872</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Management Behavioural Intentions (FMBI)</td>
<td>FMBI1</td>
<td>0.726</td>
<td>0.841</td>
<td>0.639</td>
</tr>
<tr>
<td></td>
<td>FMBI2</td>
<td>0.855</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>FMBI3</td>
<td>0.813</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: IFK1, IFK3, SN2, SN3, PBC2, PBC2, PBC3, PBC4 were removed for low loading
Subsequently, the discriminant validity was assessed using Fornell and Larcker’s criterion (Table 3). Determining the first assessment of the discriminant validity for the measurement model is commonly done by ensuring that its latent variable could explain the variance in its indicators better than the variance of other latent variables and the average variance shared between each construct (Fornell and Larcker, 1981). Eventually, Table 3 indicates that all constructs exhibit sufficient or satisfactory discriminant validity except perceived moral obligation, except financial management behavioural intentions with Islamic financial knowledge, -0.39, and -0.031, respectively. Moreover, there was an abnormal value for financial attitude and perceived moral obligation (-0.020). The square root of AVE (shaded diagonal) is larger than the correlations (off-diagonal) for all reflective constructs.

**Table 3**

Discriminant validity

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Islamic Financial Knowledge (1)</td>
<td>0.682</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Skills (2)</td>
<td>0.099</td>
<td>0.726</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Self-Efficacy (3)</td>
<td>0.466</td>
<td>0.094</td>
<td>0.765</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Attitude (4)</td>
<td>0.460</td>
<td>0.176</td>
<td>0.473</td>
<td>0.824</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Norms (5)</td>
<td>0.267</td>
<td>0.280</td>
<td>0.395</td>
<td>0.567</td>
<td>0.730</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Behaviour Control (6)</td>
<td>0.131</td>
<td>0.603</td>
<td>0.242</td>
<td>0.277</td>
<td>0.432</td>
<td>0.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Moral Obligation (7)</td>
<td>-0.039</td>
<td>0.602</td>
<td>0.065</td>
<td>-0.020</td>
<td>0.100</td>
<td>0.480</td>
<td>0.887</td>
<td></td>
</tr>
<tr>
<td>Financial Management Behavioural Intentions (8)</td>
<td>-0.031</td>
<td>0.683</td>
<td>0.123</td>
<td>0.004</td>
<td>0.133</td>
<td>0.508</td>
<td>0.765</td>
<td>0.800</td>
</tr>
</tbody>
</table>

*Note: Diagonal elements are the AVE's square root (the constructs' variance and measures).*

**Table 4**

Path coefficients

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>β</th>
<th>t-value</th>
<th>p-value</th>
<th>Statistical Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: FA → FMBI</td>
<td>-0.039</td>
<td>1.002</td>
<td>0.1580</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2: SN → FMBI</td>
<td>0.003</td>
<td>0.081</td>
<td>0.4680</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3: PBC → FMBI</td>
<td>0.195</td>
<td>4.683</td>
<td>0.0000</td>
<td>Supported</td>
</tr>
<tr>
<td>H4: PMO → FMBI</td>
<td>0.670</td>
<td>17.738</td>
<td>0.0000</td>
<td>Supported</td>
</tr>
<tr>
<td>H5a: IFK → FA</td>
<td>0.298</td>
<td>4.594</td>
<td>0.0000</td>
<td>Supported</td>
</tr>
<tr>
<td>H5b: IFK → SN</td>
<td>0.089</td>
<td>1.432</td>
<td>0.0760</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H5c: IFK → PBC</td>
<td>-0.019</td>
<td>0.343</td>
<td>0.3660</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H5d: IFK → PMO</td>
<td>-0.131</td>
<td>2.389</td>
<td>0.0080</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H6a: FS → FA</td>
<td>0.116</td>
<td>2.251</td>
<td>0.0120</td>
<td>Supported</td>
</tr>
<tr>
<td>H6b: FS → SN</td>
<td>0.241</td>
<td>4.186</td>
<td>0.0000</td>
<td>Supported</td>
</tr>
</tbody>
</table>
The current study proposed and tested six direct hypotheses, whereby the t-statistics for all paths were generated using the SmartPLS bootstrapping function. Based on the path coefficients shown in Table 4 and figure 2, only five relationships yield the t-value equal to or greater than 1.645 at a 0.05 level of significance for ten out of sixteen hypotheses. Data significantly supported three constructs from four main predictors of financial management behavioural intentions. Notably, perceived moral obligation proved to be a stronger predictor where the beta value was recorded as 0.670.
5. Discussion

5.1 A holistic comparison of our findings with other studies

This study explores the relationship of the dimensions of Islamic financial literacy (Islamic financial knowledge, financial skills and self-efficacy) with financial attitude, subjective norms, perceived behaviour control, and perceived moral obligation. It further attempted to develop an extended TPB research model linking the elements with financial management behavioural intention, thereby identifying their respective impacts. Overall, ten out of sixteen hypotheses are supported significantly as conceptualised in the literature of the current study. Two main relationships support that perceived behaviour control (H3) and perceived moral obligation (H4) predict financial management behavioural intention. The results revealed that Islamic financial knowledge significantly predicted financial attitude (H5a). All relationships of financial skills with financial attitude (H6a), subjective norms (H6b), perceived behaviour control (H6c), and perceived moral obligation (H6d) are significantly supported, as shown in table 4. Additionally, results supported three relationships of self-efficacy with financial attitude (H7a), subjective norms (H7b), perceived behaviour control (H7c).

The discussion of the findings is elaborated and firstly, H1 (FA → FMBI) was not supported. Furthermore, it contravenes with the discovery offered by Zinser (2018) where they discovered that financial attitude positively influences financial management behavioural intention held by working people. Contrarily, the work of Sharif et al. (2020) has indicated a negative impact perceived between financial literacy and financial distress in consumers who were cancer patients. Consequently, this current study illustrated that those exhibiting a comparably negative attitude towards saving for their future might arguably show less inclination to undertake such behaviour. Correspondingly, if their priorities lie in short-term demands, they are unlikely to equip themselves with emergency savings or make longer-term financial plans.

Furthermore, unlike the outcomes of Ivković and Weisbenner (2007), H2 (SN → FMBI) was not supported. Possibly these findings come to exist given that the study sample consisted of millennial Muslims who are unknowingly relaying more on the web information, rather than peer influence or family, specifically when it comes to managing financials. Next, the factor of perceived behavioural control was also deemed an essential element leading to financial behavioural management, rendering H3 supported. This outcome is correlated with those of Satsios and Hadjidakis (2018), whereby financial literacy outcomes from an Islamic perspective
revealed a positive statistical effect on the factor. Moreover, its significant influence illustrated Millennials' apparent and extensive control over their financial situations. Thus, they are likely to be exposed to information related to financial wellbeing, which echoes the findings of Strömbäck et al. (2017). Indeed, Millennials, equipped with good self-control, is inclined to regularly save money out of their paychecks, suggesting better preparation for managing any unforeseeable expenses and having enough money for their retirement (Strömbäck et al., 2017).

Besides the key variables of the TPB model, a new construct was established in the current study to extend the model, namely IFL where H4 is supported and indicates that perceived moral obligation has an influence on behavioural intention of financial management of millennial Muslims. Moreover, IFL revealed a positive impact on sound financial management behaviour's attitude and subjective norms, underlining its aid for Millennials in structuring a robust thought process for their current and future undertakings. The factor also convinces this population to accomplish a balanced and determined judgment (Raut, 2020). Apparently, Millennials have greater knowledge and wisdom concerning the comprehensive notions of financial behavioural management, especially from Islamic perspectives. Based on the findings enumerated in Table 4, Islamic financial knowledge was a driving factor influencing an individual's positive attitude towards Islamic financial management. This outcome was in line with prior studies of Rahim et al. (2016) and Xiao et al. (2014), which indicated the significant positive association between financial knowledge and financial attitude towards making a good financial management decision. Thus, this result suggests that knowledgeable individual tends to develop a positive attitude towards sound Islamic financial management and support the statement of H5a. It shows that when a person has good knowledge about Islamic finance, it reflects their positive attitude to contribute to a better decision in financial management.

The insignificant results of subjective norms perceived behavioural and moral obligation indicated insufficient evidence to support the H5b, H5c, and H5d. Analysis showed that Islamic knowledge had no significant positive influence on subjective norms. The present study raises the possibility that knowledge about Islamic finance does not contribute to the individual’s perception of making good financial management related to Islamic finance, specifically through the influence of their community, peers, or family. Probably, millennials favour to have their own way of doing things, rather than being influenced by the people around them. Similarly, there was not enough
evidence to illustrate that knowledge influences the perceived behavioural control towards Islamic financial management in this study.

Further, this study has been unable to demonstrate that a person with good Islamic financial knowledge will develop a positive perceived moral obligation in making wise financial decisions. It enumerates that an individual's understanding of the concept of permissible and unaccepted transactions appeared to be unaffected by the level of knowledge. This factor might be caused by the lack of specific information about the advantages of dealing with Islamic financial products and services even though they know Islamic transactions. Apparently, according to Souiden and Rani (2015), religious individuals challenge the compatibility of Islamic banks concerning their values. Therefore, lack of customer awareness about the services offered by Islamic banks was cited as the cause of their scepticism towards Islamic bank services. This finding appears to corroborate the notion that there is a significant gap between what is known and what is practiced in the Islamic banking business (Al-Baity and Rahman, 2019). Therefore, IFL is essential for enhancing the acceptance of Islamic banking services and products.

For hypothesis H6a, H6b, H6c and H6d, they are all supported. Firstly, those millennials who were skilful of Islamic financial management, undoubtedly will have a positive evaluation towards it. Financial well-being is significantly influenced by people's attitudes about money management, which can be positively influenced by financial skills. Additionally, those that gain financial knowledge from family, friends, and personal experiences typically engage in more valuable financial behaviours (Kim et al., 2003). However, those who are financially savvy are more likely to form favorable subjective standards of sound Islamic financial management.

Islamic financial management requires a person to have a sound financial judgment. Islamic financial management is more likely to be practiced by economically affluent Muslims who have a moral obligation to do so. Economic abilities include ethical behaviour in financial transactions and skillful money management (Godfrey, 2005). Together, these traits can help people lead balanced lives. A person is more likely to succeed in other areas if they are financially astute. People who are financially smart worry less about money and thus, can concentrate on other things. People who are financially secure may have a moral duty to undertake ethical Islamic money management. We can be aware of the risks and benefits of accumulating wealth as Muslims. As Muslims, we can think about how our behaviour will affect us and other people. Our faith enables us to change the way we view money and apply our abilities to further our values.
Findings of this study enumerated that self-efficacy was a predictor of financial attitude. There is a significant positive association between self-efficacy and financial attitude towards a sound financial management decision. Therefore, it recommends that having a strong and positive belief in specific skills inclines a person to develop a positive attitude on good Islamic financial management and hence, support the statement of H7a. It shows that when a person has a good confidence level and skills about Islamic finance, it reflects their positive attitude to contribute to a wise financial management decision. Thus, a person lacking self-efficacy on Islamic financial skills tends to develop difficulties in making themselves comfortable in making choices in Islamic financial transactions. Additionally, H7b in which self-efficacy tends to develop subjective norms tend to be supported.

5.2 Theoretical and practical implications

Given the contribution of the current study, the contextual understanding revealed that millennial Muslims from Malaysia do not consider financial attitude and subjective norms for financial management behaviours. Therefore, established relationships in the traditional literature might not be exactly applicable to the Islamic context. Similarly, such surprising findings are also due to individuals being financially literate concerning financial behavioural management, especially in Islamic principles. However, the lack of means for applying such perspectives prevails according to certain restrictions, including the absence of financial independence.

Given the above, it is critical for Malaysian policymakers for the financial industry to empower the community, especially Millennials. They must be directed towards being financially buoyant through customer-centric financial education, advisory, and debt management services. Therefore, Millennials are expected to be more exposed to financial risk than their predecessors, indicating the urgent requirement for behavioural changes in money management. More importantly, the agency is concerned with the high level of debts shouldered by this population following the number of individuals seeking professional advice in resolving their debt. These initiatives will also enable financial management industry professionals to enhance financial management portfolios through Islamic financial literacy for Millennials.

More importantly, this study also contributes to the body of knowledge as it embraces a discourse about financial literacy that has mostly stagnated within the context of knowledge, as indicated by Warmath and Zimmerman (2019). In addition, Collins and O'Rourke (2010) found
that the initiatives to promote financial well-being, via knowledge, have mixed results that are partly dependent on the rigor of the evaluation. Therefore, this study incorporates the three components of financial literacy as suggested by Warmath and Zimmerman (2019), where it is stated as the capacity to make sound financial decisions, and "capacity" explicitly refers to knowledge, skill and self-efficacy. Nonetheless, we integrated financial literacy from Islamic point of view on those three components, that are deemed significant.

5.3 Limitations and future research
The current study also has a few limitations. First, it conceptualised the TPB model in financial management by using the dimensions of Islamic financial literacy and perceived moral behaviour as model extensions. Thus, future research studies may opt to test the extended model across other cultural contexts, probably Saudi Arabia, which is a recommended option because of the growth of the Islamic financial industry. Second, the sample frame employed in this study consisted of young individuals (Millennials), whereby a comparison with older individuals (Generation X) may be beneficial in the future. Third, the current study's findings are contracted with some established theoretical relationships. Therefore, future researchers should explore the reasons behind these outcomes by examining the phenomenon using a qualitative research design.

5.4 Conclusion
The results of PLS-SEM path analysis revealed that firstly, only perceived behavioural control and moral obligation has an impact on financial management behavioural intention, while the other components related to theory of planned behaviour, attitude and subjective norms, found to be insignificant. Secondly, only those who have knowledge related to Islamic finance is likely to have a positive attitude towards a sound Islamic financial management, while knowledge of Islamic finance is not related to subjective norms, perceived behavioural control and moral obligation. Third, financial skills are found to have an influence on subjective norms, attitude, perceived behavioural control and moral obligation, while self-efficacy is found to have an impact on those three constructs, except for perceived moral obligation. With the diversity of the financial services industry, specifically on the elements of human behaviour, findings may have to be verified for applicability in its settings.
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