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Editor-in-Chief's Note

I am indeed delighted to bring to you the eighth issue of the Journal of Wealth Management & Financial Planning (JWMFP). This issue features some very interesting reads encompassing how the psychological parameters of an individual affect or impact their financial decision. As you may know, even the regulators in Malaysia have formed behavioural units within their division as personal finance has a lot to do with psychological traits. As such, it is in the editorial board's view that this article will provide you some perspectives in dealing with your clients or potential clients.

As usual, section 2 of the Journal features a current issue, which, in this issue, is cryptocurrency. Our book review column in this issue also features the most prominent cryptocurrency - Bitcoin. We feel users should have sufficient knowledge of what is termed as a new asset class and be careful if they decide to invest in such platforms.

My sincere appreciation to members of the editorial board, the MFPC Secretariat team, the blind reviewers and the MFPC National Council for supporting the publication of the Journal of Wealth Management & Financial Planning. Together we will take this publication to greater heights.

I am sure you will derive value from this publication and, as ever, I welcome your feedback. Till the next issue, enjoy this issue!

Prof. Dr Mohamad Fazli Sabri
Editor-in-Chief

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BOOK REVIEWS

Malaysian Undergraduate Students' Expectation of Life Satisfaction After Retirement: The Role of Parental Influence and Financial Knowledge

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Abstract

Malaysians recording increased life expectancy is also translated into an increased dependency ratio. The concerns over the increased dependency ratio arises from many aspects, especially financial preparedness for retirement. The expected quality of life in retirement has been found to be positively predicted by parental influence, retirement planning and financial knowledge. Yet, financial literacy and retirement planning practices are low among undergraduate students in Malaysia. This study intends to examine the factors influencing expected life satisfaction after retirement among undergraduate students in Malaysia. We used Structural Equation Modeling (SEM) to analyse data collected from 427 university students. The SEM estimation results revealed that parental influence and retirement planning expectation were significant predictors of expected life satisfaction after retirement. On the other hand, financial knowledge had no influence on expected life satisfaction after retirement. This study contributes to the theory and application of existing literature on retirement planning and financial literacy. From a theoretical perspective, the findings suggest the importance of the informal information channel through role modeling from parents to the younger generation in nurturing retirement preparedness in the younger generation. From an applied perspective, these findings should motivate educators, professionals and policy makers to create intervention programmes in financial literacy for undergraduate students.

Keywords: retirement, life satisfaction, parental influence, financial literacy, structural equation modeling

Introduction

The life expectancy of Malaysians has increased significantly over the past few decades, with a two to three

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years' increase for every decade. It is anticipated that the life expectancy rate will increase further in the future (Selene, 2005). With Malaysians now living longer, the number of senior citizens has seen a rapid growth. It is projected that the percentage of the aged population (65 years and above) will increase from 5% (1.43 million) to 14.5% (6 million) from 2010 to 2040 (Department of Statistics Malaysia, 2016), which is a more than four-fold increase in the proportion of the aged population. As a result, there is a projected increase of old age dependency ratio from 7.4 to 21.7, contributing to an increase to 49.5 from 47.8 in the total dependency ratio. Accordingly, the burden of an increasing ageing population will be borne by the working age population. A longer lifespan translates into a longer retirement span. Although the minimum retirement age in Malaysia for civil servants has increased from 55 years to 58 years and to 60 years for private sector employees, Malaysians are spending more years in the post-retirement period (OECD, 2007; Hunt, 2009). In 2017, a typical Malaysian had a life expectancy of 74.8 years. Therefore, retirees aged 60 years are expected to spend 15 years in their post-retirement years.

Besides the loss of income from employment, the depreciation in the value of the Ringgit will also gradually reduce the purchasing power of retirees and hence their living standard (HSBC, 2010). In fact, the longer post-retirement period coupled with inflation will augur a hard time for old-age pensioners. Unless post-retirement is prepared for adequately, people have to assume the risk and the responsibility not only to carefully preserve their life savings but also to wisely use them for generating extra resources for their extended post-retirement period. Furthermore, the recent shift of the emphasis in retirement plans from Defined Benefit (DB) to Defined Contribution (DC) has also placed a greater financial burden on employees. The two major retirement schemes currently are the government pension which comprises a DB retirement plan and the Employees Provident Fund (EPF) which is a DC retirement plan. By the same token, this shift of retirement plans from DB to DC has transferred much of the financial burden from the government to civil servants.

Briefly, a civil service pensioner under the DB retirement plan will be entitled to a monthly pension which is half of their last drawn salary for the rest of their retirement years and, under certain conditions, these pension payments could also be extended to family members of the deceased for a certain period of time. Under the DC retirement plan, upon retirement, the employee concerned will be entitled to a lump-sum EPF payment (calculated by reference to their total contributions plus accumulated dividends minus pre-retirement withdrawals, if any), and they will have to decide how to wisely make use of the retirement savings over the rest of their life. In this regard, research has revealed that, from the psychological perspective, people who are more inclined to think that they are personally responsible for securing investment income are expected to have greater financial preparations (Abel & Hayslip, 1987; Taylor-Carter & Cook, 1995). Unfortunately, many people are generally ill-equipped or have no financial knowledge to manage their retirement savings with the result that the savings are exhausted within a few years after retirement, as not everybody will be knowledgeable enough to make well-informed and highly rational financial decisions (Gustman & Steinmeier, 2002) or not everybody will value savings for the future (Schor, 1998).

Due to the low level of retirement saving by Malaysians, studies on retirement planning and saving behaviour of Malaysians have become of great concern to many researchers. Sabri and MacDonald (2010) revealed that due to the lack of financial literacy, university students in Malaysia are not likely to save upon receiving their student loans and spend aggressively for non-academic purposes. As a result, many of them encounter financial problems. Williams (2008) has explained the importance of financial planning and literacy for college students. The study found that the most common mistakes made by the majority of students who lack financial knowledge includes delay in repayment of student loans, accumulation of unnecessary debt, high credit card debts and failure to save. Based on recent trends, it is safe to assume that university and college students are financially at risk of becoming financially unprepared for retirement and with low retirement income in the future. Thus, the ideal age to start retirement planning should be before they enter the workforce so they avoid falling into financial traps and unnecessary debts later in life.

Undergraduate students are the primary focus of the present study since they will be part of the future workforce. Furthermore, low savings and experiencing financial problems during college life will have a significant effect on their present and future family and working lives. Their current financial knowledge, financial planning and attitude towards saving will determine their future and life satisfaction anticipation. Thus, this study focuses on university and college students aged between 18 to 24 as the ideal group to identify the determinants for expected life satisfaction after retirement among undergraduate students in Malaysia. Malaysia's population was 32.7 million in 2020, of which youths between the ages of 15 to 24 comprised approximately 6 million, or about 18.3% of the total population. Young adults (aged between 15 - 34 years) made up 51.8% of the labour force in 2019 (Department of Statistics, Malaysia, 2020). Undergraduate students are expected to be among the 6 million retirees in 2040. They stand on the threshold of entering the workforce once they graduate when they will be required to make important pragmatic retirement saving decisions, and most will have set in place a pattern of saving practices that could extend decades into the future.

Not much is known about the retirement planning expectations of undergraduate students in Malaysia and their expected life satisfaction after retirement in particular. Most of the previous studies have been more focused on the retirement expectations of households and middle-aged or older employees (Brougham & Walsh, 2009). This study proposes that there is a need to cultivate the understanding of retirement planning as early as possible and also expose undergraduate students to the idea of post- retirement life satisfaction. Furthermore, while much emphasis has been put on formal financial education, we should not neglect informal education, with regard to the role of parents. The role of parents is crucial in the financial socialization of their children. Young adults generally learn their financial skills from their parents. Some studies have been conducted regarding the importance of parents in children's financial knowledge and behaviours (Koposko & Hershey, 2014; Bucciol & Veronesi, 2014; Campenhout, 2015; Tang 2016; Ergun, 2019). Children learn lessons from observing their parents, which could have a lifetime impact on their financial behaviour and decision-making ability (Jorgensen, 2010; Heckman & Grable, 2011). Evidence shows that adults who manage their financial situation well learned effective financial habits in their childhood (Metcalf & Atance, 2011; Friedline, Elliote & Chowa, 2013; Sirsch et al., 2020).

Given the importance of planning for retirement and a previous lack of empirical research in determining the impact of parental influence on retirement planning and satisfaction with life after retirement among university students in Malaysia, this study aims to close this gap by examining the role of parental influence and financial knowledge on the expectation of life satisfaction after retirement among undergraduate students representing the younger generation in Malaysia.

Review of Theories

Life Course Theory

The life course theory which is an extensive meta-theoretical perspective of adult development (Crosnoe & Elder, 2002; Elder, 1998a; Elder, 1998b; Umberson, Crosnoe & Reczek, 2010) serves as the theoretical groundwork for this research. According to the theory, experiences from past life and anticipations about the future play a role in affecting a person's choice. That said, early positive experiences shaped by parents, and anticipations about the future, possibly impact a person's thinking on retirement planning and saving. The rigid concept of various future selves that individuals contain has been supported by research done by Cinnirella (1998), Hoyle and Sherill (2006), and Leondari (2007). In other words, both past experiences and anticipations of the future impact the thoughts a person has regarding the future. As a result, when a person makes their choice as an effort concerning retirement planning, they are implicitly affected by their anticipations of their future identity (Markus & Nurius, 1986). The life course theory serves as an empirical underlying principle for the adapted research model that looks into future retirement planning expectations and expected retirement life satisfaction.

Image Theory

The Image Theory (Beach, 1998; Beach & Mitchell, 1987) states that in terms of retirement planning, a person comes to a decision based on a few considerations instead of following a strict systematic process. The first consideration is the effectiveness of a plan of action in achieving one's goal, which in this case is to make savings contribution. The second consideration is the consistency of the plan with the person's principles, standards, and viewpoints. Lastly, it is the rationality and efficiency of the nature of the strategy in line with the action plan.

Development of Hypotheses

Parental Influence on Saving

The character of parents has been acknowledged as the key to developing their children's financial behaviour (Sohn et al., 2012; Cude et al., 2006; Clarke et al., 2005; John, 1999; Ergun, 2019; Schuab, Franca, & Amorim, 2019). As role models, parents have greater impact than other role models (Rickwood & White, 2009; Shim et al., 2010). Thus, it is important for parents to become good role models to their children, particularly in terms of financial management. The opinions of parents related to savings for retirement are regarded as a highly respectable personal source of information. Conversing about financial matters with parents increase the odds of youth practising retirement planning and saving (Hancock, Jorgensen & Swanson, 2013; Mandell, 2009; Sabri et al., 2010; Zhao & Zhang, 2020; LeBarons, Marks, & Rosa 2020; Robertson-Rose, 2019).

Parents can encourage the advancement of abilities vital for saving to children (Otto, 2009). Early parental influence on planning and saving for retirement was found to significantly affect financial knowledge (Koposko & Hershey, 2014; Heckman & Grable, 2011), retirement goal clarity (Hershey, Henkens & van Dalen, 2010), economic decision-making (Webley & Nyhus, 2006), and formation of financial conducts, values, and mind-set (Jorgensen, 2010; Lusardi et al., 2011). It has been found one's income is predicted by children who have parents that prepared their own retirement (Dan, 2004). Consecutively, income has a significant effect on savings contributions (Hira, Rock & Loibi, 2009; Lunt & Livingstone, 1991). Through explicit instruction, partaking, and practice, and self-observations, children gain knowledge of finance matters from parents (Clarke et al., 2005; John, 1999; Moschis, 1987). Moreover, the progress of a youth's saving behaviour and attitude is associated with closeness to parents (Otto, 2009). A study by Koposko and Hershey (2014) found that parental influence on saving was an important predictor of satisfaction with life in retirement scores (SWLRS) for the young group members, which could be due to the financial lessons learnt and were still fresh in the young respondents' minds. Based on the findings of past literature, the following hypotheses were proposed:

H1: Parental influence on saving will be positively related to expected satisfaction with life in retirement.

H2: Parental influence on saving will be positively related to financial knowledge.

Retirement Goal Clarity

Retirement goal clarity has been shown to be predictive of a successful pattern of retirement planning and saving (Hershey, Mowen & Jacob-Lawson, 2003; Neukam & Hershey, 2003; Zhu & Chou, 2018). It is essential to set clear and specific retirement goals because clear goals are needed to further plan. Having clear goals helps individuals to prepare themselves mentally and financially (Stawski, Hershey & Jacob-Lawson, 2007), and also to be able to provide a yardstick to check whether they have achieved their goals (Gollwitzer, 1993). Retirement goal clarity means clear financial aims about the living standard and quality in retirement have been set. It is a motivational force that prompts those who have set their goals to start planning (Beach, 1998), and planning behaviour enables one to identify the amount within one's means to save for retirement savings. Clear goals are able to induce preparation for financial behaviour (Noone, Stephen & Alpass, 2010; Neukam & Hershey, 2003).

Through retirement planning efforts, retirement goal clarity affects retirement savings indirectly (Hershey et al., 2007; Stawski et al., 20077). Retirement goal clarity is predictive of financial planning knowledge (Hershey & Mowen, 2000; Jacobs-Lawson & Hershey, 2005; Mowen et al., 2000). The act of thinking about retirement and setting clear goals for retirement motivates the wish to further find out about how to accomplish a satisfactory quality of life in terms of finances. Individuals who have set clear financial goals participate in more financial preparation efforts, and this effect is bigger for individuals with higher financial knowledge (Hershey, Mowen & Jacob-Lawson, 2003).

It is helpful to calculate for retirement saving needs early in one's life. However, this is not always the case as individuals think the effort is not worth the time because they fail to see the importance (Mayer, Zick & Marsden, 2011). Taken together, the studies cited above indicate that retirement goal clarity plays a critical role in the retirement planning process. Based on the above discussion, the following hypothesis was proposed:

H3: Retirement goal clarity will be positively related to financial knowledge.

Financial Knowledge

Financial knowledge can be defined as the ability to comprehend important monetary terms and concepts required to function every day (Bowen, 2002). Some other definitions of financial literacy in the literature include "the ability to read, analyse, manage and communicate about the personal financial conditions that affect material well-being" (Vitt, Anderson, Kent, Siegenthaler & Ward, 2000, p.2); "a basic knowledge that people need in order to survive in a modern society" (Kim, 2001, p.1); "a person's ability to understand and make use of financial concepts" (Servon & Kaestner, 2008, p.273); and "sufficient knowledge of personal finance facts and terms for successful personal financial management" (Garman & Forgue, 1997). In this paper, financial literacy and financial knowledge were used interchangeably despite the minor differences between the two terms.

Theoretical analyses on financial literacy are sparse because the microeconomic theories of saving presume that savers possess the necessary financial knowledge (Modigliani & Brumberg, 1954). According to the standard economic theory, consumers are fully informed and able to make rational choices in long-term financial planning to maximize their utilities over life cycle stages. However, empirical research indicates that consumers are not fully informed and cannot make rational choices even when the information is available (Campbell et al., 2011; De Meza, Irlenbusch & Reyniers, 2008).

Much of past research has found financial knowledge to be an excellent predictor of financial planning activity (Hershey, Mowen and Jacobs-Lawson, 2003; Ali, Abd Rahman & Bakar, 2015; Shaharuddin, Zain & Ahmad, 2021; Hauff et al., 2020). The rationale is that an extent of knowledge concerning financial matters will be linked with an understanding of the range of preparation activities that are significant to carry out. Individuals are frequently unsuccessful at planning for later life due to the lack of ample domain-specific knowledge. An individual who is classified as a "planner" tends to have higher financial literacy than a non-planner (Lusardi & Mitchell, 2009). High-knowledge individuals have consistently been shown to plan and save more than their low-knowledge counterparts (Ekerdt & Hackney, 2002; Chan & Stevens, 2003). Individuals who are financially illiterate do not plan and are less likely to invest in high risk investments such as stocks. Other studies have also emerged indicating that the least literate is also the least likely to plan and save for retirement, while those who cannot do simple and compound interest calculations are less likely to be able to calculate their retirement needs (Lusardi & Mitchell, 2008). Therefore, we proposed that:

H4: Financial knowledge will be positively related to expectations of financial planning for retirement.

Financial knowledge has also been found to reinforce financial satisfaction (Joo & Grable, 2004; Koposko & Hershey, 2014; Xiao & Porto, 2017). Individuals with a higher level of financial literacy are more likely to plan for retirement than those whose literacy levels are lacking, and involvement in planning activities is likely to leave individuals better positioned for old age (Lusardi & Mitchell, 2011). Thus, the following hypothesis was proposed:

H5: Financial knowledge will be positively related to expected satisfaction with life in retirement.

Expectations of Financial Planning for Retirement

Retirement planning has been found to have a positive impact on actual or anticipated retirement satisfaction (MacEwen et al., 1995; Gall, Evans & Howard, 1997; Elder & Rudolph, 1999). Personal planning reduces retirement anxiety, increased retirement adjustment, and improved satisfaction with life (e.g., Glass & Flynn, 2000; Reitzes & Mutran, 2004). Financial planning activities increase investor knowledge (Bernheim, 1998), stimulate savings practices (Gustman & Steinmeier, 2001), stimulate an internal locus of control and positive attitudes toward investing (Lynch, Ogg, & Christensen, 1975), and simultaneously enhance anticipated levels of retirement satisfaction (Taylor-Carter, Cook & Weinberg, 1997; Quick & Moen, 1998). Hence, the following hypothesis was proposed:

H6: Expectations of financial planning for retirement will be positively related to expected satisfaction with life in retirement.

Method and Data

The sample population of our study comprised undergraduate students in the Klang Valley, Malaysia. This study utilized non-probability sampling with convenience sampling techniques and deductive research design. In applying the quantitative research approach, a self-administered survey questionnaire with four sections (A, B, C and D) was used to collect primary quantitative data from respondents. The questionnaires were adapted from Koposko and Hershey (2014) as their scales have shown successes in predicting the motivational forces that underlie retirement planning practices.

The study received 689 total responses with a 68.9% returned rate. However, only 427 responses were useable after data cleaning by discarding incomplete or unattended responses - those with straight line or zigzag answers in Sections C and D. All the data were gathered and processed using SPSS version 23 and AMOS version 23. Descriptive Analysis and Compare Means in SPSS was used to analyse the questions in Section A, B, and C, and Structural Equation Modeling (SEM) in AMOS version 23 was used to analyse the scales in Section D.

The distribution of respondents (N = 427) is tabulated in Table 1. The mean age of the sample was 20.32 years (SD

= 1.59). Fifty-five percent of the sample was aged 19 to 20, followed by those aged 21 to 22 (27.2%), those aged 23 and above (10.3%), and those aged 18 and below (7.5%). Females made up 56.4% of the total respondents. Only

The list of items in each construct were:

Parental Influence on Saving

My parents had a strong influence on my current opinions about saving.

Growing up, my parents helped me to imagine situations when I might need extra money to fall back on.

My parents made sure that I understood the value of money and that money is a limited resource.

Saving money for the future was an important lesson I learned as a child.

My parents suggested to me concrete ways to save money on my own.

Retirement Goal Clarity

I have set clear goals for gaining information about retirement.

I have thought a great deal about my quality of life in retirement.

I set specific goals for how much I will need to save for retirement.

I have a clear vision of how life will be in retirement.

I have discussed retirement plans with a family member, friend, or significant other.

Financial Knowledge

I know a great deal about financial planning for retirement.

I know more than most people about retirement planning.

I have informed myself about financial preparation for retirement.

I have a clear understanding of financial issues for retired people.

I know the amount of money I will need for retirement.

Expectation of Financial Planning for Retirement

I expect to meet my financial goals in terms of planning and saving for the future.

I think I will do a good job of planning and saving for retirement.

Success at financial planning for retirement will be something that will come easily to me.

For me, planning and saving for retirement is difficult.

Expected Satisfaction with Life in Retirement

I expect that in retirement, my life will be close to ideal.

Once I enter retirement, the conditions of my life will be excellent.

After I retire, I will be satisfied with life.

After I retire, I will have got the important things I wanted in life.

1.6% of the respondents were married while the rest (98.4%) were single. The respondents self-identified as being Malay or Bumiputra (65.1%), Chinese (24.6%), Indian (7.7%), and others (2.6%). The respondents were enrolled in the following four categories of study: Science (50.6%), Arts and Social Science (26.2%), Business, Economics, Management, and Law (19%), and others (4.2%). Full time students comprised 93.9% of the participants.

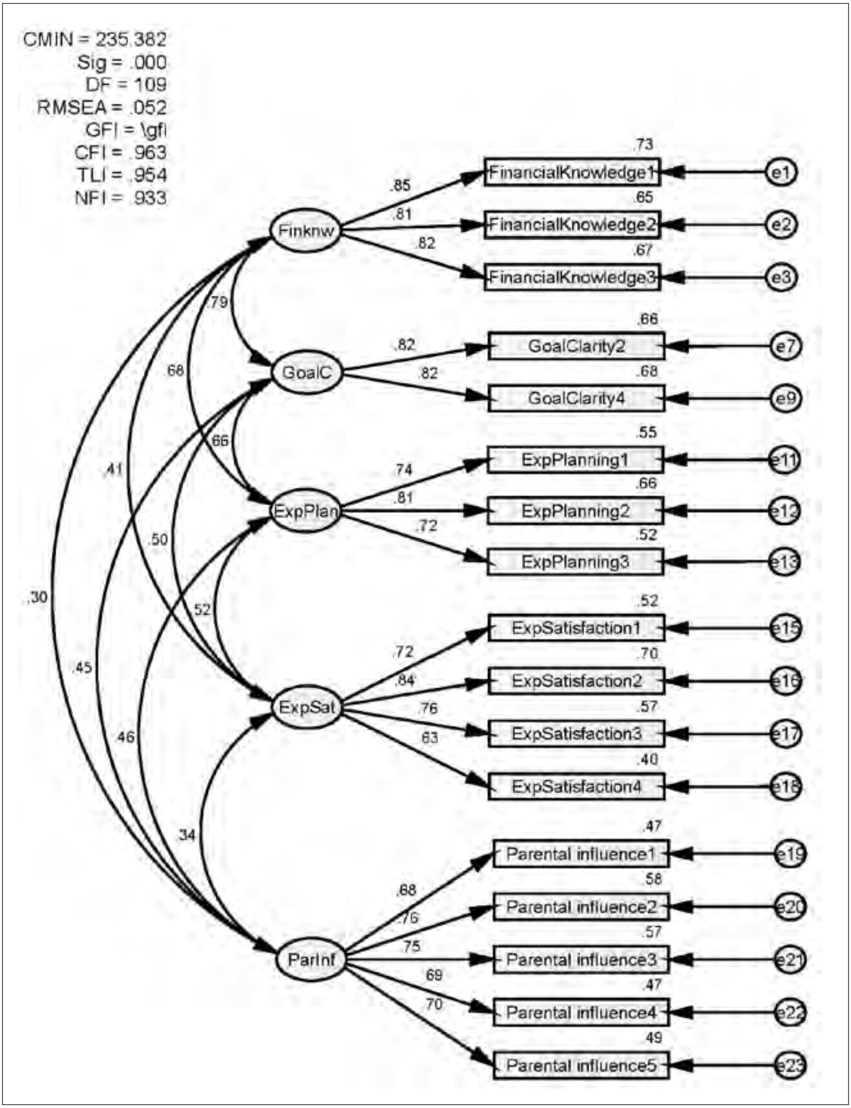
Prior to the estimation, Exploratory Factor Analysis (EFA) was conducted. A principal axis factoring extraction with Varimax rotation was used. The Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy and Bartlett's Test of Sphericity serve as a minimum standard to be passed before conducting a factor analysis. The KMO test varies between 0 and 1, and the suggested minimum value is 0.6. The null hypothesis that the correlation matrix is an identity matrix is tested by Bartlett's Test of Sphericity.

Table 1
Demographic Profile of Respondents

Items	Category	Frequency (n)	Percentage (%)
Gender	Female	186	43.56
	Male	241	56.44
Age	18 and below	32	7.5
	19 to 20	235	55.0
	21 to 22	116	27.2
	23 and above	44	10.3
Marital Status	Single	420	98.4
	Married	7	1.6
Ethnicity	Malay and Bumiputra	278	65.1
	Chinese	105	24.6
	Indian	33	7.7
	Others	11	2.6
Field of study	Business/Economics/ Management/Law	81	18.97
	Science	216	50.59
	Arts and Social Science	112	26.23
	Others	18	4.21
Household Income	Less than RM 1000	77	18.03
	RM1000 ≤ RM3000	121	29.75
	RM3001 ≤ RM8000	155	36.3
	RM8001 ≤ RM15,000	55	12.88
	More than RM15,000	13	3.04

All of the diagonal elements were 1 and all off diagonal elements were 0 in an identity matrix. The KMO was .934 and the Bartlett's test suggested the null hypothesis be rejected. These tests showed that the sample had patterned relationships amongst the variables ($p < .001$) and was suitable for EFA.

Figure 1
Confirmatory factor analysis

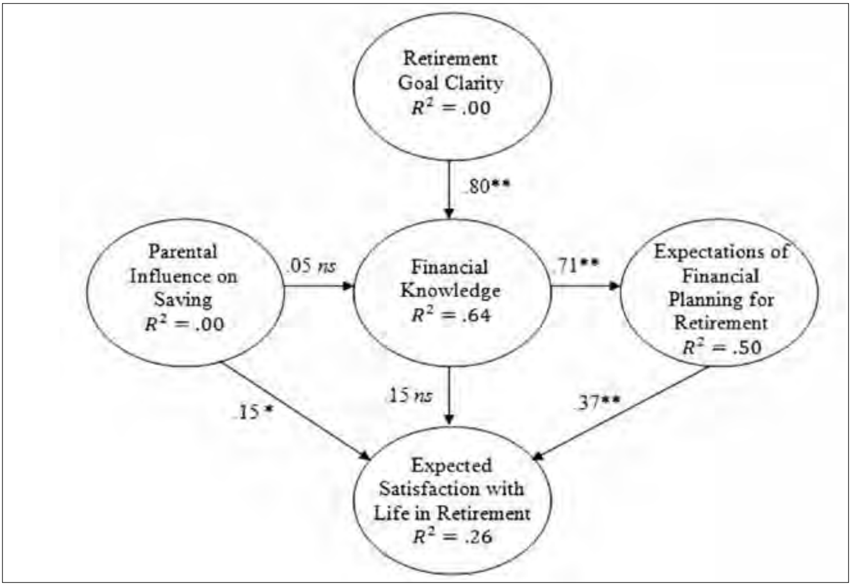


Following the suggestions of Anderson and Gerbing (1988), Confirmatory Factor Analysis (CFA) of the items of each scale (parental influence, retirement goal clarity, financial knowledge, expectations of retirement planning, and expected retirement life satisfaction) was performed with AMOS in SPSS. Model fit indices were analysed following the criteria recognized by Hu and Bentler (1999). The validity result is as shown in Table 4.5. The final CFA revealed satisfactory fit statistics, X^2 (109)=235.382, p<.001, TLI=.954, CFI=.963, RMSEA=.052, as shown in Figure 1.

Results and Discussion

The model was estimated using SEM maximum likelihood estimation. The resulting measurement suggested an excellent fit to the sample data, X^2 (113)=340.993, p<.001, TLI=.919, CFI=.933, GFI=.912, RMSEA=.069. The path model in Figure 2 contains R^2 values for each variable and standardized regression weights for each path. Out of the six path values, only four path coefficients were found to be statistically significant. The squared multiple correlations (R^2) revealed that the research model accounted for 64% of the variance in financial knowledge, 50% of the variance in retirement planning expectations, and 26% of the variance in expected retirement life satisfaction.

Figure 2
Path analysis



Following the criteria suggested by Keith (1993) for the standardized path values' size and influence, .05 to .10 is considered meaningful although small influence, .11 to .25 is moderate, and about .25 is large. Table 2 summarizes the standardized path values and the size and influence.

Parental influence on saving had a significant and moderate influence ($p<.05$) on expected satisfaction with life in retirement but did not have an impact on self-rated financial knowledge. Supporting Hypothesis 1, respondents who assumed that they were knowledgeable in planning financially for retirement also anticipated that they would make better preparation. Retirement goal clarity had a significant influence ($p<.01$) on financial knowledge, supporting Hypothesis 3. On the other hand, the path coefficients revealed that self-rated financial knowledge was unrelated to the expectations of financial planning for retirement.

Hence, students who had higher perceived financial knowledge did not have a significant higher expectation of satisfaction with life in retirement (does not support Hypothesis 5). Financial knowledge, however, significantly predicted ($p<.01$) the expectations of financial planning for retirement, which in turn significantly explained ($p<.01$) the expected retirement life satisfaction, supporting hypothesis 4 and hypothesis 6.

Individuals who have set clear retirement goals would be encouraged to obtain more information about ways to financially achieve a satisfying life, and to analyse financial needs in retirement life, thus making it essential to undertake proper retirement planning actions. This is parallel to the findings by Hershey, Mowen, and Jacobs-Lawson (2003) who revealed that

Table 2
Path Parameters for the Conceptual Mode

Predictor	Criterion	Path coefficient	Size and influence
Parental influence on saving	Expected satisfaction with life in retirement	.15*	Moderate
Parental influence on saving	Financial knowledge	.05 ns	-
Retirement goal clarity	Financial knowledge	.80**	Large
Financial knowledge	Expectations of financial planning for retirement	.71**	Large
Financial knowledge	Expected satisfaction with life in retirement	.15 ns	-
Expectations of financial planning for retirement	Expected satisfaction with life in retirement	.37 **	Large

Note: ns - non-significant paths. *$p<.05$. ** $p<.01$.

retirement seminars with goal-founded content affected planning behaviours. To dig further in terms of retirement goal and retirement planning, we also collected information on respondents' perceived ideal age to start planning for retirement and also their actual preparation to ensure financial security after their retirement. The majority of the respondents thought that the ideal age to initiate plans for retirement was the age of 40, with almost 45% of them agreeing that it was ideal to plan before the age of 30. Accordingly, 35% of the respondents claimed that they were serious planners in terms of making the effort to calculate the savings needed for their life after retirement. These findings suggest that quite a large proportion of the respondents had a clear goal in terms of how much to save for their retirement.

Yet, more than half of the sample had never attempted the retirement saving calculation, nor developed a saving plan. It is quite distressing to see that one in ten respondents perceived that it was still ideal to start retirement planning between the ages of 41 and 60. Studying the profile of those who had no interest in planning for retirement or were most likely to delay the planning should be able to help any relevant agencies to have better targeted programmes to increase their awareness of the importance of having proper planning specially related to financial matters to support better life satisfaction after retirement.

We also asked the respondents to list the types of informal financial lessons that they had learned at home. Most common were saving (87%) and budgeting (68%). A lower percentage of respondents said that they had been exposed to other financial decisions and behaviour such as life insurance (40%), keeping records of financial transactions (39.3%), investment (34.4%), loan/debt (33.3%), taxes (25%), and interest rate (19.4%). Family members, especially parents, play an imperative role in influencing their children's retirement planning as talking to family or relatives was the most preferred source of advice for the respondents. The positive influence of respondents' experience with their parents with regard to financial matters as found in this study serves as a support to the prediction of the life course theory. The theory posits that surroundings and past events shape an individual's decision. The early exposure to savings from their closest social agent, namely their parents, had clearly shaped the behaviour of respondents, and left a positive impact on their expected satisfaction of life in retirement. On the other hand, the image theory suggests that an individual's decision is shaped by their pursuit to achieve some specified desired outcome. In our study, this was reflected in the significant contribution of retirement goal clarity in explaining financial knowledge. This was as quite a large proportion of the respondents had a clear goal in terms of how much to save and when to plan for their retirement. This then translated into effort to gain financial knowledge.

Another finding worth highlighting is insignificance of financial knowledge in explaining the expected satisfaction with life in retirement, in contrast to previous findings that reported the importance of financial knowledge in determining financial satisfaction (Joo & Grable, 2004; Koposko & Hershey, 2014; Xiao & Porto, 2017). Xiao and Porto (2017), for instance, argue that better financial knowledge is often associated with better knowledge acquisition, confidence and action taking, which contribute to the enhancement of financial well-being. In their model, Koposko and Hershey (2014) deemed financial knowledge represented plans to achieve the goals set. In our case, the score for financial knowledge of the respondents was low, which could explain the smaller contribution of financial knowledge on expected life satisfaction.

In sum, parental influence and retirement planning expectations are significant predictors of expected retirement life satisfaction. An undergraduate student who is positively influenced by parents or has higher retirement planning expectations has higher expected retirement life satisfaction. In understanding the required financial practices for retirement planning, sufficient fundamental knowledge concerning financial issues is imperative. Positive financial behaviours such as better planning and saving, translate into greater life satisfaction, and these experiences bring very significant impact on expectations of retirement life satisfaction.

Conclusion

This study aimed to examine the factors influencing expected retirement life satisfaction. The study employed SEM maximum likelihood estimation to estimate the research model. The study found that: 1) Expected satisfaction with life in retirement is significantly influenced by expectations of financial planning for retirement and the role of parental influence on saving; 2) Retirement goal clarity is found to have a significant influence on financial knowledge; and 3) financial knowledge significantly impacts expectations of financial planning for retirement. However, parental influence does not influence financial knowledge. Financial knowledge also does not significantly impact expected satisfaction with life in retirement. This is due to the reason that consumers may not be fully informed and cannot make rational choices even when the information is available. Thus, the theory that assumes an individual will be able to make rational choices when they have complete information regarding long-term financial planning to maximize their utility throughout the life cycle stage is rare in reality.

The study has a few limitations. It would be clearly beneficial to include these factors in an expanded model in a future empirical investigation. Despite the two non-significant paths between parental influence, financial knowledge and expected satisfaction with life in retirement, parental influence and setting clear retirement goals should be taken seriously, given their crucial roles in developing an individual's development ■

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Exploring the Behaviour of Retail Investors Regarding Choice of Unit Trust Funds Using Prospect Theory

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Abstract

This study aims to explore the behaviour of retail investors in the states of Kelantan, Terengganu, Penang and the Federal Territory of Kuala Lumpur in Malaysia regarding their choice of unit trust funds, using the Prospect Theory. The respondents, who were unit trust fund investors were selected using purposive sampling. A total of 600 adapted questionnaires were distributed to the selected states for data collection purposes and analysed using SPSS software to provide results to meet the research objectives. The findings revealed that the Prospect Theory could explain the behaviour of investors based on subjective reference point. The significance of this paper lies in the application of the Prospect Theory as the leading theory to explain retail investors' behaviour Unquestionably, the originality of this paper is in the focus on the behaviour of retail investors and the application of the Prospect Theory. Future research will need to focus on more respondents from other states and other fields of investment.

Keywords: choice, unit trust fund, behavioural finance, prospect theory

Introduction

Unit Trust Funds are structured shared investments with investors that have the same objective of contributing to the funds to invest in a portfolio of securities or assets (Gan, 2008). The funds are managed by professional fund managers and invested in a portfolio of funds that may include cash, bonds and deposits, shares, properties and commodities. In Malaysia, the right to the fund is according to the units owned as the fund is broken down into units (Gan, 2008). The whole portfolio is not owned by the investors; they only own the amount of units they have invested in according to the price of the day. If a fund increases or decreases in value, the value of each unit is affected accordingly. The Federation of Investment Managers Malaysia reported that Malaysia had 42 unit trust management companies, 56,202 unit trust consultants, together with 441 conventional funds and 190

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Syariah funds to choose from as at December 2015. The Net Asset Value for conventional funds was RM 294,454 billion and for Islamic-based funds, it was RM52,124 billion or 20.45% of the nett asset value of Bursa Saham Malaysia as at 31 December 2015 (Federation of Investment Managers Malaysia, 2016). The projected penetration rate for unit trust funds according to the Securities Commission Malaysia (2014) is likely to be a double-digit growth from 18% in 2010 to 34% in 2020, which is almost the same as the rate observed in developed countries.

Choosing the right fund that suits our financial objective is not as easy as a retail investor may think. With the number of the options continuing to increase, going through the choices is very taxing, time-consuming and requires mathematical and analytical skills.

The problem with choosing, according to Iyengar, is that to determine a choice means to turn ourselves to the future while the future is invariably uncertain. So, to choose means to assert some control over the unknown, no matter how modest and ephemeral it may be (Portnoy, 2014) due to lack of knowledge or behavioural problems faced by investors. With inaccurate information, insufficient or incorrect analysis, and a slew of cognitive and emotional biases, humans are prone to errors. These are signs of behavioural problems faced by investors as acknowledged by Portnoy (2014).

Bogel (1993) discovered that nobody has problems with investment. Instead, there are always issues with people and this happens because people are the ones who create the funds and it is people who invest in them. This is because the economic environment investors face today has become dramatically more perilous than before (Boshara, 2010) and most of the research done is on the fund (Ramasamy, 2003; Jamaludin et al., 2012) and not on the investors.

Many studies in developed countries such as that by Eric Kutchukian (2013) and Shleifer & Vishny (1997) have investigated behavioural influence on unit trust fund investment. Most research on unit trust fund investment such as that by Bailey (2010) and Portnoy (2014) has been based on behavioural factors and using secondary data available in a particular country, and have focused on fund managers and institutional investors. Studies that have been carried out have been at the market level and rarely at the individual level.

According to Lu (2010), compared to institutional investors, retail investors face trying issues to make rational decisions regarding their investment. Institutional investors have more resources to obtain crucial information to process and to come to a logical decision rapidly. Lu (2010), in his study, found that retail investors not only face problems with the information, but they also "chase return". He discovered that between 1992 and 2000, the fund holding period in the US declined from 3.75 years to 2.4 years. The findings of Voon (2012) reveal that a retail investor could lose up to 30% of their investment if they choose the wrong fund. Many were asked to dispose of the fund but preferred to wait for the fund to rebound. This study thus focused on retail investors.

It was not a surprise when Pengarang (2006) released a shocking report of a RM600 million loss in Employees Provident Fund (EPF) savings invested in unit trust funds. In response to this, President of Federation of Malaysian Unit Trust Managers, YM Tunku Dato' Yaacob Tunku Abdullah, stated in a press release on 8 August 2006 that as Standard and Poors reported on 28 July 2006, the average return from Malaysia's unit trust funds for 7 years was 24%, for 5 years it was 56% and for 3 years it was 26%. He further said that it was a clear sign of investing in the wrong fund. With this in mind, clearly, the choice of fund is very critical in unit trust fund investment.

Therefore, the present study aimed to bridge the gap by exploring the behavioural factors (independent variables) of retail investors influencing the choice of fund (dependent variables) using the quantitative method and using the Prospect Theory to explain this. The significance of this study is behavioural as behavioural factors play an intricate role in the choice of fund.

Secondly, Jamaludin (2012) found that studies focusing on investors' behaviour in investment in unit trust funds is still very insufficient and this research will enrich and advance the literature in this field. It is interesting as Malaysia is a multi-racial and multi-cultural nation, and different races behave according to differing sets of beliefs and norms (Albaity & Rahman, 2012). The critical contribution of this study is that the findings will show whether behavioural factors influence the choice of funds in unit trust fund investment.

Thirdly, investment in unit trust funds is for the medium to long-term, and studying this together with behavioural factors will contribute to a better understanding of investment choice decision in unit trust funds. The findings of this research may help to conclude whether the rationality assumption holds for current unit trust fund investment. If the rationality assumption does not hold in this case, the study may provide evidence whether the Expected Utility Theory is still applicable in investment choice of the fund in unit trust fund investment.

This study will also help to conclude whether psychology is able to explain the behaviour of investors in investing in unit trust funds as behavioural finance is an interdisciplinary subject which includes psychology, sociology and finance, and whether the Prospect Theory can explain the behaviour of retail investors. This will help the government to provide better legislation to protect the retail investor and also help the fund management company to promote their funds.

Literature Review

Prospect Theory

The Expected Utility Theory discusses how people should act, while the Prospect Theory is about how people act as claimed by Ackert and Deaves (2010). The work of two psychologists, Daniel Kahneman and Amos Tversky who contributed to psychology literature in 1970, resulted in the Prospect Theory. It is a positive theory based on what people do and observe. The theory has become a first substitute for the Expected Utility Theory as a theory of decision under risk. It is the best alternative to conventional wisdom. Baker (2011) said that the possible explanation to Prospect Theory-like behaviour is the role of imperfect and asymmetric information.

Tversky (1981) employs it to understand human decision making better, and it is used to measure what they believe to be the degree of inaccuracy in judgment. Altman (2011) stated that the Prospect Theory is a theory of average behaviour, and it assumes, on average, how humans, either an individual or a group, behave in a world with a risky and uncertain environment. Thus, there will be a deviation from the mean. The Prospect Theory points to the probability that individuals' sub-optimal behaviour is smart and thus rational, given the limitations facing the individual.

The Prospect Theory is capable of explaining better the biases of cognitive false belief in human choice behaviour where biases are the result of the heuristics used. The Prospect Theory is the base for a variety of descriptive hypotheses about so-called persistent biased decision-making under risk and uncertainty (Altman, 2011). The introduction of a short-term emotive factor as a determinant of choice behaviour and profit and loss in the short term is another substantial essential component of the Prospect Theory (Kahnman, 2003).

The inherent capability of the Prospect Theory to explain behaviour in financial markets lies upon three unique features of the Prospect Theory, as follows:

1. Choice decision-making depends on a subjective reference point, which is autonomous to the decision maker's state of resources.
2. The forming of framing is due to a prospect's subjective reference point, which affects the choice behaviour.
3. At a reference point of the Prospect Theory's value function, a kink exists, believing individuals weigh losses at above twice as gains.

Assumptions of Prospect Theory

The biases and cognitive false belief approach to choice behaviour by Kahneman (1979) has now become conventional knowledge among a significant number of behavioural economists. This theory assumes that an individual is risk-averse. There

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[1]**Expected utility theory states that the decision maker chooses between uncertain prospects by comparing their utility value.**

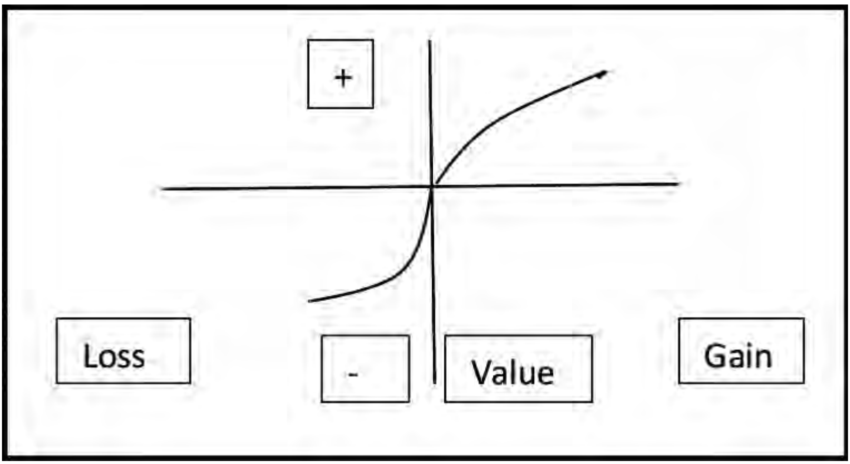
are three critical aspects of observed decision-making that provide the basis for this theory and are incorporated in this study.

Exhibiting Risk Aversion or Risk-seeking Depends on the Nature of Prospect. The Prospect Theory allows for changes in risk attitude depending on the nature of the prospect. In the positive domain, people exhibit risk aversion and risk-seeking in the negative domain, which means the value function is concave in the positive domain and convex in the negative domain. The value function is drawn to reflect changes in states of wealth from some subjective reference point and serves to frame the decision parameter (Altman, 2011). Thus, profits and losses are separately treated. When they join, we obtain an S-shaped function of the type as displayed in Figure 1.

The appraisal of a prospect depends on profit and losses relative to a reference point. Profit and loss of the prospect are the criteria when making a decision, which means that the argument is not wealth but a change in wealth. It illustrates that risk attitude is not the same across gains and losses, implying that it is the change in wealth, and evaluation is based on a reference point.

People are averse to losses looming larger than gains. Investors dislike losses, so the value function is steeper for losses than for gains. The term "loss aversion" is used to describe the observation that most people's losses loom larger than gains. Fisher (2015) said that the Prospect Theory amounts to investors feeling the pain of loss about two and a half times as much as they appreciate an equivalent gain. The loss is more painful as the

Figure 1
A hypothetical value function of prospect theory



Source: (Kahneman, 1979)

feeling is more real compared to profit (Fisher, 2015).

As defined by Mallouk (2014), "loss aversion" is the bias where humans tend to avoid a loss rather than to make a gain. Humans fear losing more than enjoy winning. Losses hurt more than the pleasure we get from gains (Mallouk, 2014). Loss aversion comes in all forms; perhaps it causes more damage to investors than any other groups. The main reason why investors keep cash despite knowing well that they are purposely losing the purchasing power of their money is that they are afraid of losing. The average money market returns have been well below the inflation rate for years. Despite that fact, investors willingly lose a little each day to avoid potential losses with real investment (Mallouk, 2014).

Kahneman (1979) discovered that usually, the value function is concave for gains and commonly convex for losses, and it is steeper for losses than for gains. This pattern demonstrates that the reaction towards good news should be different from the reaction towards bad news.

The Prospect Theory is a theory about choice. The choice among risky prospects will exhibit the different behaviour of investors. Therefore, it is appropriate to test this theory on unit trust fund investors as there are many funds in the market.

Choice

A choice is an act of selecting or making a decision when faced with two or more alternatives (Schwartz, 2004). The study by Iyengar (2011) has shown that the power of choice stems from its promise of almost infinite possibility, but what is possible is also what is unknown. According to Iyengar, we use the choices that we have decided to shape our lives; despite those choices we have, uncertainty still exists. Choice has the power of possibility. To face the future and only be equipped with the complicated tools of choice can be scary and exciting at the same time. We are the sum of our choices. Perhaps all three, our destiny, chance and opportunity are attributable to where and how we end up being. However, choice alone gives us some measure of control and allows us to participate in our decision-making actively. It also provides us with the opportunity to make the most of whatever destiny and choice that set the way. When things do not go as planned, the choice enables us to recover, survive and even thrive (Iyengar, 2011).

Paradox of Choice

A survey carried out by MFS[2] Investing Sentiment in 2012 found that 40% of investors thought that investment products were too complicated to understand and 34% felt that they were unable to make decisions on investment choices available for them. There have been some studies by psychologists and economists on the issue of having too many choices (e.g. Iyengar (2001); Schwartz (2004); Iyengar (2006)). Iyengar (2011) concluded that having too many opportunities is likely to render people incapable of making decisions or lead them into making decisions that are against their best interest. In theory, the presence of many choices may seem appealing, but in reality, people may feel depressed when faced with more than one opportunity to take. It also shows that an excess of choice often leads us to be less, not more, satisfied once we have made a decision. Along the same line, Schwartz (2004) clarified that it is not clear if more choice gives you more freedom to select.

As posited by Iyengar (2006), it is undeniable that choice will improve the quality of our life. With choice, we can manage our objectives and draw ourselves closer to our destination. It is also necessary for our independence and fundamental to our well-being. Furthermore, a rational human being will always want to have control of their life, many needs are universal, and many preferences are customised and highly individualised. Iyengar (2006) further elaborated that by that, choice gives us the authority to precisely pursue what we want and gratify our preferences that are confined to our wealth. Iyengar (2006) affirmed that in regulating our choice in some manner, along the way, there are surely humans who feel rundown of the prospect to pursue something of personal value.

According to Iyengar (2006), freedom has significant value. It is the choice that enables us to inform the world what we want, what we care about, and who are we. The choice we make reflects our independence, and since the time of Plato, philosophers in all fields have always appreciated such freedom. Schwartz (2008) explained that the new additional choice creates a new opening to state our independence and thus present our character. Nobody will be able to recognise us if we give up our collective social life.

Research by Goldberg (2002) on dissonance theory found that dissonance can arise if a decision is voluntary i.e. a free choice has been made from at least two alternatives. If we were asked to carry out a particular activity, then there is no question of commitment, and there is no emotional attachment to the decision. The boss will be responsible if the outcome is not as expected. Responsibility is minimal if the boss orders for everyone souvenirs in advance for a year-end dinner. In financial markets, accountability is very high, as usually nobody is compelled to invest. Instead, the decision to invest is voluntary. The trader who merely executes an order for his clients will not experience dissonance.

The paradox of choice infuses the process of picking one's retirement choice. Iyengar (2004) examined 401(k) participation rates among clients of an investment firm called Vanguard,

[2]MFS is a premier global money management firm with investment offices in Boston, London, Mexico City, Singapore, Sydney, and Tokyo. The firm's history dates back to March 21, 1924, and the establishment of the first U.S. "open-end" mutual fund. MFS manages $237.1 billion in assets on behalf of individual and institutional investors worldwide, as of July 31, 2011

across more than 600 plans covering more than 800,000 employees. She discovered that the more funds offered, the lower the rate of participation. For every ten additional funds included in a plan, there was a 1.5% to 2.00% decline in participation rate. The low participation rate was due to difficult choices available and investors reacting to side-line the plan.

Choices and Reasons

We need to justify when we make choices, and we feel that there is a need to articulate to ourselves why we make such a decision. It is beneficial to know why such judgment has been established as it enables us to improve the quality of our picks in the future. Every choice we make needs to be justified as a study by Weiner (1985) suggests that the decision-making model that is simple and straightforward is not always accurate. Two groups of participants involved in the research were asked to taste and rank five different kinds of jam. For the first group, the participants did not need to give reasons for their choice, but reasons were necessary for the second group. After their tasting session, comparing took place with rankings of experts published in consumer reports. The group which had freedom produced a ranking closer to that of the experts, indicating that thinking about reason can change our decision, and implying that people do not always think first and decide later (Weiner, 1985).

Choice and Opportunity Cost

The quality of any choice cannot be determined in isolation. It is necessary to compare with other choices available due to the cost involved. According to economists, this is the opportunity cost. If we forgo a choice and choose the other, an opportunity cost is involved. In decision- making, there is an opportunity cost attached to every choice we make. The opportunity cost considered is the one associated with the next best alternative.

This advice is not easy to follow as, according to Iyengar (2006), today's products have different features. Some features may rank higher than the others in various products. According to Iyengar (2006), even though there may be a single, second best choice overall, each of the choices may have highly recommended features compared to the others. The higher our experience on the opportunity cost, the less satisfaction we will obtain from our chosen alternative. Both Brenner (1999) and Schwartz (2008) agree with this form of dissatisfaction.

Choice and Decision-Making

Lepper (2000) reported that the decision-making process with extensive choice is more complicated than with limited choice as it can be very

[3]Dissonance Theory by Leon Festinger (1957) states that there is a tendency for individuals to seek consistency among the cognitions (beliefs & opinions). If there is a conflict between behaviour and attitude, something must change to eliminate the dissonance.

frustrating. Nevertheless, for some people, selecting from many choices can be enjoyable and overwhelming. Lepper (2000) found that having more choices might appear to be pleasing and desirable; however, sometimes, it can be detrimental due to human motivation. Satisfying the heuristic tends to be useful in this circumstance. He also found that people with extensive choices enjoy the process of choice-making only because of the ease they can afford. They will feel accountable for their actions. It may result in dissatisfaction with the choice-making process and later cause discontent with their selection. Gilovich (1995) found that frustration and unhappiness are the results of the initial failure to disengage from the choice-making process. It results in the choosers' inability to use the psychological operations for the enrichment of the attractiveness of their own choice (Gilovich, 1995).

Lepper (2000) viewed that people are unsure about which one to choose when faced with many choices but happy with the decisions they make. They carry a heavy responsibility to distinguish between good and bad decisions. What Lepper (2000) discovered is that the offer of too many choices is relatively trivial in the choice-making context, but it can have significantly demotivating effects because of the cost associated with creating "wrong" decisions, or even beliefs. Besides, it requires substantial time and effort to create a genuinely informed comparison among the alternatives available. One crucial paradox confronting the modern world, according to Schwartz (1994), is that as the freedom of individuals expands, so does our reliance on other institutions and people.

Methodology

According to the Federation of Investment Managers Malaysia (2014) and Securities Commission Malaysia (2014), the population of unit trust accounts was around 16,000,000 in Malaysia. Thus, non-probability purposive sampling was appropriate to use in this research due to the large population. However, the researcher did not have a list of the respondents. As such, the researcher was unable to contact the investors. All the respondents were chosen from those who met the following criteria: (a) Malaysian retail investors in unit trust funds (b) Volunteers for this survey (c) Retail investors residing in Kelantan, Terengganu, Kuala Lumpur and Penang.

Questionnaire Design

The principal instrument used in this study was an adapted questionnaire. It is in line with (Luong, 2011); Jamaludin, Smith, and Gerrans (2012). The questionnaire was written in two languages, English and Bahasa Malaysia. For respondents' responses to the items, a categorical scale for demographic variables and the five-point Likert scale ranging from 1= Strongly Disagree to 5= Strongly Agree were used to elicit individuals' dependent and independent variables responses. The questionnaire was in two main parts. Section A concerned the background of the respondents while Section B concerned the behavioural factors influencing the choice of fund. The funnel approach was adopted in designing the questionnaire, which started with broad and general questions such as getting to know the investors and progressively narrowed down to specific questions about the variables in this study. It started by providing the general information and objective of the study as well as the right to confidentiality. The development of the questionnaire is shown in Table 1.

Process of Data Collection

Three of the 13 states in Malaysia (Kelantan, Terengganu, and Penang) and one of the three federal territories (Kuala Lumpur) were selected for the study. 600 sets of questionnaires were distributed to the offices of fund management companies, enumerators and retail investors in the four states of interest to enable factor analysis to be carried out and to reduce the effect of defective questionnaires. Questionnaires were distributed to investors through the intermediary at the launch of new funds and to investors who gathered at the fund management office. These gatherings were carried out at the state level by the intermediary to create awareness, sales and information. The researcher cooperated with all intermediaries from CIMB Principal Asset Management Company, Public Mutual, Prudential, RHB Asset Management Company and Maybank Asset Management Company.

The researcher appointed enumerators in each state to distribute the questionnaires. The enumerator had to be an intermediary. Five enumerators were appointed for Penang, five for Kuala Lumpur, five for Terengganu and five for Kelantan. They helped in contacting the respondents and assisting the respondents in answering the questionnaire. Six hundred questionnaires were distributed to fulfil the needs of the statistical tools used. The questionnaires were analysed using SPSS for preliminary analysis, followed by testing to answer all research questions developed for the study.

Statistical Tools

The Statistical Package for Social Sciences (SPSS) was used as it is in line with Gözbaşı & Çıtak, (2010), Jamaludin (2012). SPSS helps to facilitate data

Table 1
Sources for Questionnaire

Section	Items	Sources
Understanding the investor	7	Adapted from Wang (2012); Awan (2012)
Choice of fund	8	Adapted from Nurasyikin (2012); Awan (2012); Capon (1996); Teoh (2012)

Table 2
Descriptive Statistics of Profile of Respondents and Choice of Fund

Items	Descriptive Statistic
Demographic Variables	Frequency And Percentages
Choice of fund	Mean and Standard Deviations

screening, cleaning and checking for logical inconsistencies. In addition, it was to be used to analyse the data for this quantitative study.

Data Analysis

Descriptive statistics were employed to check for any logical errors and discrepancies. These were also employed to analyse the backgrounds of the respondents. Table 2 provides the descriptive statistics regarding the respondents' profiles and choice of fund, and the mean and standard deviation.

The measurement scale used in this particular study was a five-point Likert Scale. For ease of interpretation, the range of the 5-point Likert scale was ranked into three groups. A score of between 1.00 to 2.33 (4/3 + lowest value (1) was considered low in importance; 2.34 to 3.66 was considered moderately important, and 3.67 to 5.00 was considered high in importance. Values of 5 – 4/3 and above were considered highly important (Boon, 2018).

Next, factor analysis was used to confirm the findings of the descriptive statistics. The primary objective of using factor analysis was to identify a small set of factors that represented the underlying relationship between the group of related variables (Pallant, 2005). Thus, factor analysis was used to identify the items which measured the essential underlying variables. According to Fern (2016), factor analysis and reliability measures such as Cronbach's Alpha are used to assess the extent to which the separate items are assessing a single attitude dimension.

The factor analysis involved some steps. The sample size had to be looked into. According to Pallant (2005), factors obtained from small data sets do not generalise as well as those derived from more extensive data sets. Tabachnick (2001) agreed that it is comforting to have at least 300 samples for factor analysis. In this study, the recommendation of Tabachnick (2001) was followed.

In order is to determine factorability of the data, Measure of Sampling Adequacy (MSA) with a value of more than 0.6, Kaiser-Meyer-Olkin (KMO) with a value of more than 0.5 and Bartlett's test of sphericity (BTS) which is significant (Pallant, 2005) were applied. The number of factors to be used depends on the extraction factor, and the scree plot helps to determine the eigenvalue by looking at the natural bend in the data as the curve flattens out (Osborne, 2005). To ensure meaningful factors are selected, only eigenvalue over one is selected (Pallant, 2005). Osborne (2005) acknowledged that the goal of the rotation is to simplify and clarify the data structure. It cannot

Table 3
Response Rate

States	Questionnaires Distributed	Collected	Defects	Useable
Penang	150	110	7	103
Kuala Lumpur	150	100	33	67
Kelantan	150	110	6	104
Terengganu	150	70	11	59

improve the fundamental aspects of the analysis, such as the amount of variance extracted from the items. Rotation, according to Vogt (1993), is in factor analysis by which the researcher attempts to relate the calculated factors to theoretical entities. It is done differently depending on whether the factors are believed to be correlated (oblique) or uncorrelated (orthogonal). More helpful is Yaremko (1986), who defines factor rotation as follows: "In factor or principal-components analysis, rotation of factor axes identified in the initial extraction of factors, to obtain simple and interpretable factors".

Tabachnick and Fiddell (2007) stated that "Perhaps the best way to decide between orthogonal and oblique rotation is to request rotation (e.g. direct oblimin or promax from SPSS) with the desired number of factors (see Brown, 2009) and look at the correlation among factors. If the data do not drive factor correlations, the solution remains nearly orthogonal. If correlation exceeds 0.32, then there is 10% (or more) overlap in variance among factors, enough variance to warrant oblique rotation unless there are compelling reasons for orthogonal rotation." Osborne (2005), stated that varimax rotation is by far the most common choice and according to Leandre (1999), there is no widely preferred method of rotation; all tend to produce similar results. The final step was the definition of the factors. An item with loading higher than 0.6 was chosen to represent a factor (Tabachnick, 2001).

Findings

Out of 600 questionnaires distributed, only 390 were returned, and 333 questionnaires were found usable.

Demographic Characteristics

Section A of the questionnaire generated information based on selected demographic characteristics of the respondents. The items were gender, occupation, region in Malaysia which the respondents were residing in, state in Malaysia the respondents were residing in, age, educational level and income per month. A summary of the profiles of the respondents is shown in Table 4.

Table 4
Demographic Variables

Demographic Variables	Frequency	Percentages
Gender		
Male	156	46.8
Female	177	53.2
Age		
20-30 years	53	15.9
31-40 years	95	28.5
41-50 years	123	36.9
51 years and above	62	18.6
Education		
Primary School	27	8.1
MCE/SPM	54	16.2
HSC/STPM	116	34.8
Diploma	87	26.1
Degree	44	13.2
Postgraduate	5	1.5
Occupation		
Public Sector (Executive Level)	154	46.2
Public Sector (Support Level)	47	14.1
Private Sector (Executive Level)	86	25.8
Private Sector (Support Level)	46	13.8
Income per month		
RM2000-RM3000	38	11.4
RM3001-RM4000	102	30.6
RM4001-RM5000	100	30
RM5001 and above	93	27.9
Region		
East Peninsular Malaysia	165	49.5
West Peninsular Malaysia	168	50.5
States		
Kelantan	104	31.2
Terengganu	59	17.7
Penang	103	30.9
Kuala Lumpur	67	20.1

Table 5
Choice of Fund

Items	N	Mean	Category	Std. Deviation
A fund that makes a profit every year	333	3.43	Moderately Important	1.59
Funds that meet my long-term financial objective	333	3.75	Highly Important	0.87
A fund that diversifies my investment	333	3.91	Highly Important	0.71
Based on advice from intermediary	333	2.55	Moderately Important	1.25
Through extra reading	333	3.55	Moderately Important	0.95
Popular funds among investors	333	2.67	Moderately Important	0.98
Funds from a highly reputable company	333	3.71	Highly Important	0.898
Choice of fund provided by the intermediary	333	3.60	Moderately Important	1.04

Choice of Fund

Table 5 displays the choice of fund for unit trust investment by retail investors using descriptive statistics.

The descriptive statistics employed evaluated the choice of the fund among retail investors in Malaysia. All the eight items of fund choices were found to be important from descriptive statistics. Only three items were categorised as Highly Important, five items were categorised as Moderately Important and none were categorised as Low in Importance. This indicated that retail investors paid attention to specific criteria which would bring them benefits.

Items that were categorised as Highly Important were "a fund that meets my long-term objectives (M=3.75; SD = 0.87); a fund that is capable of diversifying my investment (M=3.91; SD=0.71) and a fund issued by a highly reputable company (M=3.71; SD=0.898)". This indicated that retail investors were careful with their investment as they chose their fund by looking at the reputation of the company and also at a fund capable of diversifying their investment, which brings them to face less risk in achieving their long-term financial objectives.

Retail investors did pay attention to other items which were considered Moderately Important in this study. Among the items were funds that profited every year (M=3.43; SD-1.59); advice from an intermediary (M=2.55;

SD=1.25); through extra reading (M=3.55; SD=0.95); popular funds among investors (M=2.67; SD=0.98); and choice of fund from the intermediary (M=3.60; SD=1.04). These findings displayed that retail investors were careful with their money, and there was influence from the unit trust consultant. Chasing profit, popular funds and advice from the intermediary were only treated as Moderately Important items while the choice of the fund from the intermediary was the highest in this category because intermediaries are treated as experts or have the "white coat effect". The white coat effect symbolises an authoritative figure. It indicates that the intermediary symbolises authority and the investor prefers to invest with someone who has the knowledge and training in investing.

Factor Analysis

Eight items were used to measure the choice of fund. The MSA was more than 0.5, KMO was 0.559 with a BTS chi-square of 262.184 (p<0.000), allowing a factor analysis. Factor analysis was used to confirm the results of the descriptive analysis. Two items (diversification of investment, and a choice from intermediary) were dropped as they did not fulfil the factor loading of more than 0.6 (Pallant, 2005) Three factors were extracted with an igenvalue of more than using KMO. (See Figure 2, Figure 3 and Table 6).

The statement was: My Choice of fund is:

Figure 2
Measure of sampling adequacy for choice of fund

Profit every year	**0.733**					
Long term investment	-0.373	**0.842**				
Advice from intermediary	0.071	-0.094	**0.761**			
Through extra reading	0.009	0.05	-0.367	**0.774**		
Popular fund	-0.028	-0.084	-0.014	-0.172	**0.868**	
Reputable Company	-0.05	-0.014	-0.049	0.005	-0.531	**0.762**

Figure 3
Scree plot for choice of fund

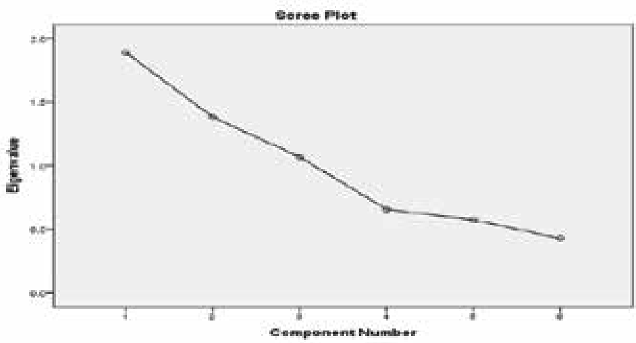


Table 6
Summary of Factor Loading for Choice of Fund

Section	Factor		
	1	2	3
Profit every year			.824
Long-term investment			.831
Advice from intermediary		.845	
Extra reading		.804	
Popular fund	.859		
Reputable Company	.884		
Eigenvalue		1.068	
Percentage of variance explained		72.350%	
KMO = .559			
Barlett's Test of Sphericity Approx. Chi-Square = 262.184,			
df = 15, sig = 0.00			

Discussion

This study explored the behaviour of retail investors in Kelantan, Terengganu, Penang and Kuala Lumpur in Malaysia regarding the choice of fund using the Prospect Theory. The descriptive statistics revealed that only three items were categorized as Highly Important, five items were categorised as Moderately Important, and none were categorised as of Low Importance. Confirmatory Factor analysis using SPSS confirmed six items as shown in table 7:

Table 7
Summary of Findings

Items	Highly Important	Moderately Important	Confirmatory Factor Analysis
Funds that meet my long-term financial objective	M=3.75; SD=0.87		0.831
Reputable companies	M=3.71; SD=0.89		0.884
A fund that makes a profit every year		M=3.43; SD=1.59	0.824
Advice from intermediary		M=2.55; SD=1.25	0.845
Through extra reading		M=3.55; SD=0.95	0.804
Popular funds among investors		M=2.67; SD=0.98	0.859

It was found that retail investors from the four states were educated and they knew what unit trust fund investment was because they were working adults. They invested for the long term as their choice and looked for companies whose funds had performed well. This particular choice reflected highly on the investors as investors considered the past performance of the fund and also the company as a whole. Investors placed this as their priority in deciding their choice of fund. This is positive behaviour, but it requires information and knowledge.

The Prospect Theory is capable of explaining the behaviour of unit trust fund investors. It is based on a subjective reference point-the choice of the investors. An investor reacts based on their individual subjective reference point. The investor selects a reference point, and whether the result is perceived as gains or loss will depend on the reference point selected (Ackert & Deaves, 2010). These reference points are the positive trait of the companies and the fund. It is the decisive point where the investors decide as investors are risk-averse. Investors also go for popular funds- another reference point. It is because the reference point is subjective. When everyone invests in a particular fund, investors will follow the crowd. When losses occur, the pain of suffering is less as everyone suffers too.

The demand for information and knowledge in the choice of fund is essential. Advice from the intermediary and extra reading by investors play a role in their choice of fund as investors decide on their choice of fund. It will decide the subjective reference point as an entry point to their investment. This reference point can move, and this movement depends highly on the information and their reading. This is because of the existence of many funds in the market.

The choice of investors making profit every year was to fulfil their investment objective. It is because according to the Prospect Theory, the appraisal of investment depends on profit and loss of the investment. Profit and loss of an investment are the sole criteria in decision-making. So, it is not the wealth of the investor but the change of wealth of the investor. Loss is more painful than gain, and Fisher (2015) said that the Prospect Theory amounts to investors feeling the pain of loss about two and a half times as much as they appreciate an equivalent gain. The loss is more painful as the feeling is more real compared to profit (Fisher, 2015). It is this reason why investors always look for profit.

The findings revealed that the investors were loss averse. Their choice of fund was based on funds that make a profit and meet their financial objectives. They also selected a fund that was popular, and they sought information from intermediaries and by reading. They also selected a fund offered by popular companies. Humans fear to lose and will take steps to avoid it happening.

Choice is part of life. When making a decision, the choice we make is reflected through the Prospect Theory. Humans make choices in managing and improving their lives. This study reveals that the Prospect Theory is capable of explaining the behaviour of retail unit trust fund investors. The Prospect Theory is capable of demonstrating how retail investors behave in an uncertain investment environment where the investment is for the long term. It establishes that the Prospect Theory is a positive theory- a theory that demonstrates it is also a theory of choice.

Implications and Future Research

The findings have many implications for the unit trust fund industry. The retail investor must realise that human behaviour influences their investment decision. It is this that causes them to create a subjective reference point (choice) to invest. Retail investors must also realise that past performance does not reflect future performance. Popular funds and a company with a good reputation are all related to the performance of the fund. The performance of the fund is highly correlated with the underlying assets of the portfolio. It is advisable to rebalance the portfolio once in six months to achieve financial goals.

The intermediary must realise that they play a role in creating the subjective reference point (choice) by providing information and knowledge. It is here that investing begins. The role of the intermediary is not only to promote and sell the fund, but they must help retail investors to achieve their financial objectives. By helping the retail investors to achieve their financial objectives, the intermediary will be able to promote and sell more funds to retail investors.

Unit trust fund companies must provide their intermediaries with up-to-date information and knowledge to guide them in their essential role. With proper guidance, the intermediaries will be more effective in creating a subjective reference point. This will help the intermediary to effectively promote their funds and sell them to prospective investors. At the same time, the fund management company should realise that plentiful choices will not help investors. It will put investors in a challenging position when making decisions. It can be detrimental for retail investors if they make the wrong decision.

The government should draw up regulations to oversee the whole industry and protect retail investors. It will help the industry to grow and provide a healthy competitive environment for all the players involved. The regulations must be enforced to ensure that the companies abide by them and retail investors must be made fully aware of their rights.

The Prospect Theory has proved that it is capable of explaining the behaviour of retail investors in unit trust fund investment. This positive theory, although second to the Expected Utility Theory, is performing better than expected. Although the Prospect Theory is a relatively new one, it is gaining popularity because of its practicality.

In terms of future research, the Prospect Theory can cover other areas of investment such as gold, shares, derivatives and property investment. The respondents can come from all walks of life and different states in Malaysia. This will help researchers understand whether the Prospect Theory applies to other investment areas and have a clearer picture of the capability of this theory.

Conclusion

This study explored, using the Prospect Theory, the behaviour of retail investors in Kelantan, Terengganu, Penang and Kuala Lumpur with regard to the choice of the unit trust to invest in. This study fulfilled its objective and concludes that the Prospect Theory is able to illustrate the behaviour of investors in the context of unit trust funds ■

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A Modified UTAUT Model M-Payment Use Intention: A Comparative Analysis Between Malaysians and Foreigners in Malaysia

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Abstract

Compared to China, India and Indonesia, the current rate of use of mobile payment in Malaysia is relatively low. Mobile payment reduces transaction costs for financial institutions. It could also help governments improve transparency and security, improve accountability and tracking capabilities, and reduce theft and corruption. Given the benefits and success of m-payment in other countries, it is necessary to identify the different drivers of m-payment use intention of Malaysians and foreigners in Malaysia. It is hoped that the findings of this study will help the government and policymakers to promote the widespread use of m-payment. This study revised the UTAUT (Unified Theory of Acceptance and Use of Technology) model and added trust and convenience to the existing conceptual model. We compared the influence of different predictors on the m-payment use intention of Malaysians and foreigners in Malaysia. In addition, this study also explored the mediating role of trust and performance expectation. A total of 393 datasets were collected and were grouped into 3 different datasets, namely pooled sample, Malaysian sample, and foreigner sample, and these were analysed using Structural Equation Modeling (SEM) technique. The findings show that in the pooled sample, convenience, trust, effort expectancy, and performance expectancy were the significant predictors in determining m-payment use intention. Likewise, social influence was consistent with the pooled sample and did not affect Malaysians and foreigners' intention to use m-payment. The findings also indicate that convenience was not one of the factors affecting Malaysians in relation to m-payment use intention. This study also reveals that both trust and performance expectancy had a partial mediating effect between effort expectancy and m-payment use intention. The study's findings are useful to policymakers, industry, and m-payment developers because they provide insight into consumer expectations, m-payment strategies, and the strengths and weaknesses in infrastructure and application development that must be addressed.

Keywords: behaviour intention, effort expectancy, mobile payment, performance expectancy, trust

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Introduction

Malaysia's mobile phone penetration is expected to reach 96.89% in 2021 and 97.4% by 2025 (Statista, 2020). The high penetration of mobile phones and their applications in Malaysia has promoted the development of financial technology. Various financial institutions and service providers have launched mobile banking (m-banking) and mobile payment (m-payment) (Zhou, 2013) to the public. M-payment makes it very easy for consumers to conduct transactions (Andre et al., 2019). M-payment also brings convenience in paying for goods and services. However, consumers' use of m-payment in Malaysia is considered very low (Ooi & Tan, 2016); only 7% of online shopping transactions were completed by m-payment (E-commerce Payment Trends Report: Malaysia, 2019).

M-payment is expected to replace conventional payment in the payment industry (Lin et al., 2018). However, in Malaysia, bank transfer payment is still the dominant payment method, accounting for 46%, followed by credit card payment accounting for 29% (E-commerce Payment Trends Report: Malaysia, 2019). In comparison, the usage rate of m-payment in China, India, and Indonesia was higher, accounting for 35.2%, 29.5%, and 15.9%, respectively (Buchholz, 2019). Despite the fact that Malaysia had reached 78% of smartphone usage penetration, (Malaysia Communications and Multimedia Commission, 2018) it only managed to achieve a 7% m-payment usage in 2019 (E-commerce Payment Trends Report: Malaysia, 2019).

The statistics above show that Malaysians' usage rate of m-payment is lagging far behind other developing countries. Furthermore, a single m-payment design for diverse user groups may be the key factor in low usage intentions. Given the limited studies on m-payment use intention of different groups of m-payment users, it is crucial to examine the different factors influencing the intention of Malaysians' and foreigners in Malaysia's to use m-payment.

The aims of this study are two-fold. First, it attempts to identify and compare the different drivers affecting Malaysians' and foreigners' m-payment use intention. Second, it attempts to validate the mediating role of trust and performance expectancy in the conceptual model. Therefore, a full understanding of the different perceptions of Malaysians and foreigners in Malaysia about m-payment use intention is crucial to close the research gap. Ahmad (2014) found that although UTAUT could compensate for the shortcomings of other theories and models, researchers often do not fully use UTAUT to test users' intention to use the technology. We also considered that facilitating conditions and moderator of UTAUT may not apply to m-payment. Therefore, we attempted to revise the existing UTAUT to verify the conceptual model of this study.

Behavioural intention is crucial for businesses and marketers to develop and deliver relevant products and services to new consumers, and ultimately to retain existing consumers. Behavioural intention is also a significant predictor to determine an individual's use of technology. Various studies have conducted empirical studies on m-payment use intention, but the findings do not seem to be conclusive (Askool et al., 2019; Williams, 2018; Wu et al., 2019; Yuan et al., 2020). With the increase in consumers' acceptance and use of m-commerce, m-payment is facing challenges of trust, convenience and ease of use (Goi, 2016). Despite that, most studies neglect mediator factors such as trust and performance expectancy in the formation of technology use intention, especially in the formation of m-payment use intention. Notably, trust is critical in business transactions and affects consumers' m-payment use intention (Manaf & Ariyanti, 2016). Thus, it is crucial to study and understand trust perception among Malaysians and foreigners in Malaysia towards m-payment use intention.

The provision of m-payment is of great significance to e-commerce and m-commerce to gain competitive advantages (Yeow et al., 2017). Understanding consumers' intention to use m-payments will give policymakers a more in-depth insight on how to improve and develop more sustainable m-payment strategies. As for application developers, they can pay more attention to the needs of consumers and develop a more comprehensive mobile payment ecosystem. Lastly, the findings will add to the contribution of theoretical knowledge regarding m-payment and provide a comparative study to understand better the different perceptions among Malaysian and foreign consumers.

Literature Review

At present, there are two contemporary studies of m-payment. The first type of study focuses on mobile payment technologies. The second type of study involves examining m-payment from consumers' perspective (Dahlberg et al., 2008). Given the advantages of m-payment, this study takes the second approach. The rationale for researching consumers' perspectives on m-payment is that low user acceptance may impede widespread adoption of m-payments. M-payment is a payment method in which consumers use smartphones and other mobile devices to pay bills, goods, and services through m-payment apps (Zhou, 2013). In other words, it is a payment transaction that uses a mobile device to transfer money from the payer to the recipient (Heng et al., 2019). In this study, we define "m-payment" as an emerging application of financial technology, an alternative payment method for cash, debit or credit card and online fund transfer.

Underlying Theories and Models

The Technology of Acceptance Model (TAM) and Unified Technology Acceptance and Use of Technology (UTAUT) are both frequently adopted to explain the intention and use of technology. In addition, UTAUT is the extension of Technology Acceptance Model (TAM) and other models (Al-Mamary et al., 2016). With reference to TAM, the extent of actual use is determined by behavioural intention. Perceived usefulness is the predictor that directly affects attitude and behavioural intention. Notably, perceived ease of use affects only behavioural intention. In the context of technology usage study, "perceived usefulness" is defined as the belief that the use of a particular technology can improve performance. Meanwhile, perceived ease of use means that a given technology is easy to use. When consumers find that the given technology is easy to use and useful, they tend to form a supportive attitude and use the technology, thus influencing their intention and actual use. However, TAM has been criticised for not considering other significant predictors such as social influence and voluntary technology use. Therefore, Venkatesh et al., (2003) revised TAM and introduced UTAUT to overcome its weaknesses.

UTAUT has four key predictors to examine the behavioural intention and use of technology, namely performance expectancy, effort expectancy, social influence, and facilitating condition. Performance expectancy and effort expectancy in UTAUT are equivalent, respectively, to perceived usefulness and perceived ease of use in TAM (Mensah & Adams, 2020). Meanwhile, facilitating conditions is the new predictor added into UTAUT. Facilitating conditions refer to a user's belief in the institutional setup and infrastructure support for the use of a particular technology. Social influence, based on UTAUT, refers to the user's belief that a particular person is important to him/her, thinks he/she should use the technology. In addition, UTAUT also includes four moderators, namely gender, age, experience and voluntary use. The attitude was dropped as a predictor of the model because the impact of attitude towards behavioural intention was significantly affected when performance expectancy and effort expectancy are present simultaneously (Ahmad, 2014).

Ahmad (2014) claimed that although UTAUT can make up for the deficiency of other theories and models, only a few researchers made full use of the model to examine technology use intention. According to him, a modified version of UTAUT is usually deployed (Ahmad, 2014). In the same vein, this study excluded moderators such as facilitating conditions, gender, age, experience, and voluntary use. The rationale behind this exclusion is that facilitating conditions were the least significant predictors (Chong, 2013). This is due to the fact that most applications are designed for general users, the features are easy to use, and the knowledge required to use the application is compatible without special adaptation. At the same time, due to high technology literacy, issues such as the digital divide, age and gender differences are no longer significant factors. Therefore, this study re-examined the existing UTAUT model and added trust and convenience as additional predictors of m-payment use intention.

Behavioural Intention

Behavioural intention is a predictor for evaluating the use of technology (Liébana-Cabanillas et al., 2018). The behavioural intention has been used to empirically predict the corresponding intention on the use of technology under voluntary situations (Islam et al., 2013). Davis, Bagozzi & Warshaw (1989) argued that there is a difference between the time of intention measurement and behavioural performance. According to them, one would expect the intention-behaviour correlation to decrease over time. Meanwhile, Milano (2012) refers to technology use intention as situations where an individual may delay their decision, an intention to use technology, the intention of using technology in the near future, and the move to start using technology. It was evident that behavioural intention will influence the actual use of m-payment (Oliveira et al., 2014). Hence, Nie and Amarayoun (2019) argued that use intention is critical in determining the intention to use m-payment.

Convenience

Convenience is one of the critical characteristics of mobile phone usage (Irani, 2019; Karsen et al., 2019). It has become an evitable tool in human daily life including communication, entertainment, banking and payment activities (Osman & Leng, 2020). The seamless integration of mobile phones, mobile applications, mobile network providers and financial institutions enable consumers to quickly and conveniently make m-payment and transfer money. As compared to conventional payment methods, consumers can complete a transaction quickly. Kavak & Anwar (2019) defined "convenience" as time-saving processes and transactions. Meanwhile, Liu & Tai (2016) referred to convenience as the agility, accessibility, and availability of services with flexibility in time and place. However, the impact of convenience, a driving factor on consumers' m-payment use intention has not been thoroughly studied (Boden et al., 2020).

Respondents' perception of m-payment is time-saving, easy to use, availability and flexibility (Abrahão et al., 2016; Nie & Amarayoun, 2019; Zhao, 2019). Humbani & Wiese (2018) argued that the convenience of a single m-payment method encourages users toward m-payment use intention. Wong (2018) surveyed the acceptance of m-payment among Hong Kong consumers and confirmed that convenience had a positive impact on the intention to use m-payment. Chamnankit (2019) investigated Alipay m-payment use in Thailand's tourism industry and claimed that convenience is the primary driver in m-payment use intention. The findings of Chamnankit (2019) are consistent with those of Sobti (2019), Chen & Chowdhury (2018), who found that convenience was the most critical factor in influencing m-payment intention. Feng et al., (2019), however, stated that convenience had no significant impact on m-payment intention.

On the other hand, there is limited research on the association between convenience and behavioural intention in the context of Malaysia. The majority of the studies investigated the impact of convenience on consumers' purchase decisions (Nizam et al., 2019) or performance expectancy (Yap & Ng, 2019). Hence, from the above discussion, further investigation is needed to determine whether the impact of convenience may differ between Malaysians and foreigners.

Here, we have drawn the following hypotheses:

H1a: Convenience has a positive effect on m-payment use intention.

H1b: Convenience has a positive effect on Malaysian's m-payment use intention.

H1c: Convenience has a positive effect on foreigners' m-payment use intention.

Social Influence

Social influence is the users' perception that their peers think they should use a technology (Venkatesh et al., 2003). In the m-payment context, social influence is the perceived pressure from the opinion of peers felt by the user in their intention towards m-payment (Feng et al., 2019). Yang et al., (2017) & Khalilzadeh et al., (2017) believed that social influence in a collective environment is the perception of how other members of consumers' social groups think and act. As regards technology use intention, this study expects that social influence is positively associated with the intention to use m-payment. Therefore, social influence exerts pressure on an individual's intention to use m-payment (Yang et al., 2017). A research carried out by Abrahão et al., (2016) in south-eastern Brazil reported a positive correlation between social influence and m-payment use intention. This finding is in line with the findings of Bailey et al., (2019) in the United States and (Oliveira et al., 2016) in Portugal. However, Oliveira et al., (2014) found that the extent of social influence on behaviour was not significant. Oliveira et al., (2014) explained that users always want to maintain the confidentiality of personal and financial transaction and the security of financial data, so they will not show off or leave an impression on use. Meanwhile, the findings of Teo, Tan, Ooi & Lin (2015), Teo, Tan, Ooi & Hew (2015) also discovered that the social influence of young undergraduate students in Malaysia had no significant effect on the use of m-payment.

Thus, the following hypotheses are proposed based on these inconclusive findings:

H2a: Social influence has a positive effect on m-payment use intention.

H2b: Social influence has a positive effect on Malaysians' m-payment use intention.

H2c: Social influence has a positive effect on foreigners' m-payment use intention.

Trust

In the research on information systems usage, trust has always been a key factor influencing users' intention to use (Chong et al., 2012; Maureen Nelloh et al., 2019). Raza et al., (2019) defined trust as an individual's ability to succeed in a given technological environment. Meanwhile, the trust established by Sinha & Mukherjee (2016) is the combination of trust over the other individual and trust in the transaction's successful control system Trust is the fundamental requirement of m-payment use intention (Tossy, 2014). This is because trust is crucial in reducing uncertainty, which is always a concern among users (Lu et al., 2011). In addition, Nguyen & Lu (2018) claimed that trust is essential at the initial stage of introducing new technology. When consumers lack trust, they will be affected by uncertainty, which will affect consumers' intentions and decisions. According to Humbani and Wiese (2018), the success of m-payment depends on consumers' trust in new payment methods. Therefore, to facilitate this study, trust refers to trust in m-payment service providers, banks and other users, and the m-payment application (Wang et al., 2018). Tossy (2014) found in a study in Dar es Salaam city, Tanzania, that trust is by far the most substantial factor in influencing users' intention to use m-payment, coupled with social influence and performance expectancy. Similarly, trust does have a major impact on Malaysians' intention to use m-payment in the case of young undergraduate students (Teo et al., 2015).

Hence, the following hypotheses are provided:

H3a: Trust has a positive effect on m-payment use intention.

H3b: Trust has a positive effect on Malaysians' m-payment use intention.

H3c: Trust has a positive effect on foreigners' m-payment use intention.

Performance Expectancy

Performance Expectancy is often referred to as perceived usefulness (Mensah & Adams, 2020; Rampersad et al., 2012). Therefore, perceived usefulness and performance expectancy are interchangeable. In UTAUT, Venkatesh et al., (2012) established that effort expectancy is anchored on the expectancy theory. Performance expectancy refers to the perceived performance benefits gained by users from the adopted technology (Hasan et al., 2019; Hung et al., 2019). In this study, performance expectancy is defined as the magnitude to which m-payment can enhance payment performance. Zalessky & Hasan (2018) asserted that performance expectancy is the key predictor of behavioural intention. Oliveira et al., (2016) and

Madan & Yadav (2016) confirmed that performance expectancy significantly predicted the m-payment adoption in Portugal and Delhi National Capital Region in India. A related study by Teo et al., (2015) on 319 university students of one of Malaysia's largest private universities revealed that performance expectancy also had a significant influence on m-payment usage. However, another study by Teo et al., (2015) found inconsistent results, where performance expectancy had no substantial effect on young Malaysian university students' intention to use m-payment. These findings do not seem to be conclusive; therefore, verification of the role of performance expectancy on m-payment intention among Malaysians and foreigners is crucial.

From what has been discussed above, we posit the following hypotheses:

H4a: Performance expectancy has a positive effect on m-payment use intention.

H4b: Performance expectancy has a positive effect on Malaysians' m-payment use intention.

H4c: Performance expectancy has a positive effect on foreigners' m-payment use intention.

Effort Expectancy

Effort expectation has a strong influence on behavioural intention (Boonsiritomachai & Pitchayadejanant, 2017; Sobti, 2019). Raza et al., (2019) defined "effort expectancy" as the ease of use of technology. In other words, effort expectancy, when applied to m-payment, refers to effort-free usage (Su et al., 2018). Effort expectancy and perceived ease of use are interchangeable (Lai, 2017). Therefore, effort expectancy also refers to the simplicity and the easiness of learning and using a system (Teo et al., 2015). Baptista & Oliveira (2016) conducted a meta-analysis of 57 articles, and the results suggested that effort expectancy positively correlated with m-banking intention. Morosan & DeFranco (2016) reported a positive relationship between effort expectancy and NFC m-payment intention in the context of m-payment. Besides, the results obtained by Feng et al., (2019) & Alalwan et al., (2018) also validated the association between effort expectancy and m-payment use intention empirically. These results are in line with Oliveira et al.,'s (2014) research on m-banking in Portugal, which has the largest population of mobile phone users in the European Union (EU). Similarly, in Malaysia, Fadzil (2018) and Teo et al., (2015) supported the significant impact of effort expectancy on mobile application use intention. On the contrary, Slade et al., (2015) obtained different results, in which effort expectancy did not affect the non-users' m-payment intention. Likewise, Tossy (2014) also found that effort expectancy did not affect Tanzanians' m-payment use intention.

Hence, we posited the following hypotheses to verify the impact of effort expectancy on m-payment use intention:

H5a: Effort expectancy has a positive effect on m-payment use intention.

H5b: Effort expectancy has a positive effect on Malaysians' m-payment use intention.

H5c: Effort expectancy has a positive effect on foreigners' m-payment use intention.

Trust as the Mediator

Yan & Yang (2015) believed that when m-payment is easy to use and has good interface design and navigation features, it reflects the ability and benevolence of service providers, thus affecting the trust of users. Similarly, Gu et al., (2009) argued that when an m-banking system is easy to use, its users will perceive that m-banking is trustworthy. They surveyed 910 respondents, but the results suggested that users' effort expectancy had no substantial impact on trust. Gu et al., (2009) explained that the reason might be due to lack of product knowledge and understanding instead of ease of use. In the context of m-banking, where existing banks provide m-banking services, trust has always been established already. This also applies to m-payment as most m-payment providers are well-established financial institutions. Therefore, effort expectancy influences users' trust in the service.

Hence, this study proposed the following hypotheses:

H6a: Effort expectancy has a positive effect on trust.

H6b: Effort expectancy has a positive effect on Malaysians' trust.

H6c: Effort expectancy has a positive effect on foreigners' trust.

Giovannini & Ferreira (2015) examined the mediating effect of trust between effort expectancy and mobile commerce (m-commerce) intention. The result revealed that there is a partial mediating effect on the relationship. The result indicated that effort expectancy is correlated with trust, and trust is positively correlated with m-commerce intention. Furthermore, effort expectancy is positively correlated with m-commerce intention. This study is in line with Yan & Yang's (2015) results. They surveyed 193 university students in cities in central China, and the result shows that effort expectancy significantly influences trust; subsequently, trust influences the m-payment use intention. Yan & Yang (2015) explained that the ability of m-payment service providers to provide easy access to use m-payment would affect user evaluation and benevolence. Likewise, if users do not trust m-payment providers, they would not have positive expectations of using m-payment.

Hence, this study posited the following hypotheses:

H7a: Trust mediates the relationship between effort expectancy and m-payment use intention.

H7b: Trust mediates the relationship between effort expectancy and Malaysians' m-payment use intention.

H7c: Trust mediates the relationship between effort expectancy and foreigners' m-payment use intention.

Performance Expectancy as the Mediator

The research by Alalwan et al., (2018) on the use of internet banking by Jordanian customers showed that effort expectancy had a substantial effect on performance expectancy. Similarly, Abrahão et al., (2016) confirmed that effort expectancy is associated with m-payment use intention. With regard to m-payment, Andre et al., (2019) argued that effort expectancy (or ease of use) might reduce the effort of users when making payments. When consumers have high effort expectancy (easy to use), they would believe that m-payment is of higher performance expectancy (more useful) (Hung et al., 2019). Various studies also supported this rationale.

Hence, the following are the proposed hypotheses:

H8a: Effort expectancy has a positive effect on performance expectation.

H8b: Effort expectancy has a positive effect on Malaysians' performance expectation.

H8c: Effort expectancy has a positive effect on foreigners' performance expectation.

The finding of Al-Qeisi et al., (2014) revealed that performance expectancy mediates the relationship between effort expectancy and use intention. Similarly, Tan & Lau (2016), Shaw & Kesharwani (2019) also supported this finding. Tan & Lau (2016) further explained that when a user perceived that the technology is easy to learn and use (effort expectancy), he/she would have high-performance expectancy. Tan & Lau (2016) added that effort expectancy has an indirect effect on use intention via performance expectancy. Besides, Yan & Yang (2015) argued that the ease of use (or performance expectancy) of m-payment would dramatically reduce the effort taken by users to learn how to use m-payment. They would then utilise m-payment methods for their primary transaction activities.

Hence, the following hypotheses were proposed:

H9a: Performance expectancy mediates the relationship between effort expectancy and m-payment use intention.

H9b: Performance expectancy mediates the relationship between effort expectancy and Malaysians' m-payment use intention.

H9c: Performance expectancy mediates the relationship between effort expectancy and foreigners' m-payment use intention.

Methodology

The measurement was adopted and modified from previous literature to suit the need of this study. The target population was mobile device users who had never used m-payment. Due to the large population and as there was no sampling frame, convenience sampling was used. This sampling technique also allows researchers to collect data from large populations. According to Saunders, Lewis & Thornhill (2016), a sample size of 384 is required if the target population exceeds 1,000,000. The survey was distributed online, and participants were invited to respond through Facebook. Malaysians and foreigners residing in Malaysia were among those who took part in this study. Meanwhile, invitations were sent to Facebook groups such as Expatriates in Malaysia, Expats – Malaysia, Malaysia Expatriate Community, and others to obtain a representative sample of foreigners. After the data screening and removal of outliers, a total of 393 valid cases were used for data analysis. For further examination, the data collected was grouped into a pooled sample; one sample consisted of Malaysians and another sample comprised foreigners.

Table 1
Sociodemographic Characteristics of Participants (N=393)

Participant characteristics	Pooled Sample	(N=393)	Malaysian (N=222)	Sample	Foreigner (N=171)	Sample
	Freq.	Per cent	Freq.	Per cent	Freq.	Per cent
Gender						
Male	222	56.5	136	61.3	86	49.7
Female	171	43.5	86	38.7	85	50.3
Age						
19 – 25 years	8	2.04	3	1.4	5	2.9
26 – 35 years	197	50.13	138	62.2	59	34.5
36 – 45 years	129	32.82	60	27.0	69	40.4
Above 46 years	59	15.01	21	9.4	38	22.2
Education Level						
Secondary school	22	5.6	13	5.9	9	5.3
Diploma	23	5.9	18	8.1	5	2.9
Undergraduate	240	61.1	139	62.6	101	59.1
Postgraduate	89	22.6	43	19.4	46	26.9
Others	19	4.8	9	4.1	10	5.8
Employment Status						
Student	160	40.7	108	48.6	52	30.4
Employed	197	50.1	91	41.0	106	62.0
Self-employed	19	4.8	13	5.9	6	3.5
Unemployed	10	2.5	9	4.1	1	0.6
Retired	7	1.8	1	0.5	6	3.5

Data Analysis and Hypothesis Testing

SPSS and Structural Equation Modeling (SEM) technique were used to analyse the data for descriptive and inferential analysis. Based on the pooled sample, half of the respondents were aged between 26 to 35 years (50.13%) and were employed (50.1%) (refer to Table 1). In addition, a majority of the respondents had completed or were then pursuing undergraduate or postgraduate degrees, comprising 61.1% and 22.6%, respectively. It can be seen that for both the Malaysian sample and foreigner sample, the respondents were mostly from the younger generation. Overall, the respondents were highly educated, and most foreigners were self-employed.

Table 2
Descriptive Statistics

Construct		N	Mean	Std. Deviation
Performance Expectancy	Pooled sample	393	3.8658	0.97085
	Malaysian	222	3.8776	0.95631
	Foreigner	171	3.9284	0.98872
Effort Expectancy	Pooled sample	393	3.9847	0.98850
	Malaysian	222	3.8998	0.93984
	Foreigner	171	4.0950	1.04077
Social Influence	Pooled sample	393	3.2120	1.00720
	Malaysian	222	3.3438	0.80558
	Foreigner	171	3.0409	1.20142
Trust	Pooled sample	393	3.4830	0.86858
	Malaysian	222	3.3793	0.78868
	Foreigner	171	3.6175	0.94802
Convenience	Pooled sample	393	3.9237	0.95058
	Malaysian	222	3.9065	0.93783
	Foreigner	171	3.9459	0.96919
Behavioural Intention	Pooled sample	393	4.0059	0.94714
	Malaysian	222	3.9505	0.94337
	Foreigner	171	4.0780	0.94994

The dataset was analysed using the structural equation modelling technique. First, a Confirmatory Factor Analysis (CFA) of the goodness-of-fit was performed on 393 data sets (pooled data) and multigroup sample (refer to Table 3). The Construct Reliability (CR) for convergent validity and Average Variance Extracted (AVE) were calculated for discriminant validity

Table 3
Goodness-of-Fit Statistics for the CFA Model

Construct	χ^2/df	GFI	CFI	TLI	NFI	RMSEA
Criterion for goodness of fit	<5	≥ 0.9	>=0.90	≥ 0.90	≥ 0.90	≤ 0.08
Model performance of pooled sample	2.351	0.898	0.973	0.969	0.955	0.059
Model performance of multigroup	2.075	0.834	0.786	0.956	0.944	0.052

(refer to Table 4). Lastly, the structural model of this study was assessed.

Table 3 shows the major goodness-of-fit requirement for SEM analysis. The measurement model of the pooled sample was tested, and most of the fit indices met the requirements of 0.9 or above. Except for the GFI, the threshold value was close to 0.9, but the value was within the acceptable range (Baumgartner & Homburg, 2015). Meanwhile, the RMSEA value was 0.059, indicating high goodness of fit. Therefore, we concluded that the measurement model had high goodness of fit for the data.

Table 4 shows the result of the confirmatory factor analysis (CFA). Referring to Table 4, except for item TR5 (loading = 0.669), the factor loadings of other items were above the value of 0.8. Chin (1998), however, proposed that the threshold for factor loading should be at least 0.6. Therefore, a factor loading of 0.669 on TR5 was acceptable. Construct validity was checked by measuring the convergent and discriminant validity. As shown in Table 4, the statistical results indicate that Cronbach's alpha (α) of the latent constructs was higher than 0.9, and the Composite Reliability (CR) value was greater than the threshold value of 0.7, as well as the Average Variance Extracted (AVE) threshold value of 0.5. Therefore, all the predictors in this study had high reliability and convergent validity. For discriminant validity, the Maximum Share Variance (MSV) value was less than AVE, while the square root of AVE of each construct of the pooled sample was higher than its corresponding correlation coefficients. This indicates that there was no discriminant validity issue in this study.

For the overall model fit, the proposed structural model was tested. The results showed χ^2/df=2.878, GFI=0.874, CFI=0.962, TLI=0.956, NFI=0.944 and lastly RMSEA=0.069. This indicated that the model fit the data well. Table 6(a) shows the result of the structural model's regression coefficient of the pooled sample. The results obtained showed that hypotheses H1a, H3a, H4a, and H5a were significant, that is, convenience, performance expectancy, effort performance expectancy and trust accord with expectations and were significantly correlated with m-payment use intention. It also indicated that the strongest predictor of m-payment use

Table 4
Factor Loading, Average Variance Extracted and Construct Reliability of Pooled Sample

Construct	Items/ Indicators	Cronbach's Alpha	Factor Loading	CR	AVE
Performance Expectancy	PE1	0.946	0.930	0.945	0.813
	PE2		0.847		
	PE3		0.930		
	PE4		0.897		
Effort Expectancy	EE1	0.956	0.915	0.956	0.846
	EE2		0.913		
	EE3		0.936		
	EE4		0.915		
Social Influence	SI1	0.961	0.936	0.962	0.893
	SI2		0.973		
	SI3		0.925		
Trust	TR1	0.929	0.848	0.932	0.735
	TR2		0.876		
	TR3		0.948		
	TR4		0.916		
	TR5		0.669		
Convenience	CV1	0.955	0.893	0.955	0.841
	CV2		0.887		
	CV3		0.939		
	CV4		0.948		
Use Intention	BI1	0.921	0.950	0.924	0.803
	BI2		0.846		
	BI3		0.889		

Note. CR: composite reliability. AV: average variance extracted.

Table 5a
Average Variance Extracted and Squared Correlation Coefficient – Pooled Sample

Construct	CR	AVE	MSV	PE	EE	SI	TR	CV	BI
Performance Expectancy (PE)	0.945	0.813	0.751	**0.902**					
Effort Expectancy (EE)	0.956	0.846	0.701	0.801	**0.920**				
Social Influence (SI)	0.962	0.893	0.011	0.135	0.019	**0.945**			
Trust (TR)	0.932	0.735	0.453	0.607	0.626	0.037	**0.857**		
Convenience (CV)	0.955	0.841	0.746	0.864	0.836	0.107	0.584	**0.917**	
Use Intention (BI)	0.924	0.802	0.753	0.868	0.837	0.106	0.673	0.829	**0.896**

Note. CR: composite reliability. AV: average variance extracted. Bold values indicate the square root of the AVE of each construct.

Table 5b
Average Variance Extracted and Squared Correlation Coefficient – Malaysian Sample

Construct	CR	AVE	MSV	PE	EE	SI	TR	CV	BI
Performance Expectancy (PE)	0.870	0.771	0.748	**0.878**					
Effort Expectancy (EE)	0.949	0.822	0.724	0.814	**0.907**				
Social Influence (SI)	0.928	0.811	0.113	0.368	0.295	**0.901**			
Trust (TR)	0.912	0.679	0.501	0.637	0.645	0.336	**0.824**		
Convenience (CV)	0.959	0.853	0.748	0.865	0.851	0.318	0.630	**0.924**	
Use Intention (BI)	0.908	0.768	0.738	0.859	0.839	0.305	0.708	0.813	**0.876**

Note. CR: composite reliability. AV: average variance extracted. Bold values indicate the square root of the AVE of each construct.

Table 5c
Average Variance Extracted and Squared Correlation Coefficient – Foreign Sample

Construct	CR	AVE	MSV	PE	EE	SI	TR	CV	BI
Performance Expectancy (PE)	0.896	0.812	0.781	**0.901**					
Effort Expectancy (EE)	0.965	0.874	0.686	0.785	**0.935**				
Social Influence (SI)	0.981	0.946	0.028	-0.039	-0.167	**0.973**			
Trust (TR)	0.949	0.789	0.403	0.577	0.593	-0.145	**0.888**		
Convenience (CV)	0.951	0.828	0.745	0.863	0.828	-0.066	0.546	**0.910**	
Use Intention (BI)	0.944	0.849	0.781	0.884	0.827	-0.024	0.635	0.855	**0.922**

Note. CR: composite reliability. AV: average variance extracted. Bold values indicate the square root of the AVE of each construct.

Table 6(a)
Results of SEM on Effect of Predictors on M-Payment Use Intention – Pooled Sample

Construct	B	SE	Beta	CR	p
H1a: Convenience	0.136	0.058	0.134	**2.327**	0.020
H2a: Social Influence	0.027	0.026	0.028	1.047	**0.295**
H3a: Trust	0.183	0.040	0.162	4.530	0.000
H4a: Performance Expectancy	0.394	0.049	0.418	7.993	0.000
H5a: Effort Expectancy	0.295	0.079	0.298	3.707	0.000

Note. : Standardised Regression Weight; SE: Standardised Error, CR: Critical Ratio

Table 6(b)
Results of SEM on Effect of Predictors on M-Payment Use Intention – Malaysian

Construct	B	SE	Beta	CR	p
H1b: Convenience	0.050	0.088	0.049	**0.568**	0.570
H2b: Social Influence	-0.042	0.052	-0.031	-0.800	**0.424**
H3b: Trust	0.256	0.068	0.200	3.751	0.000
H4b: Performance Expectancy	0.405	0.077	0.418	5.285	0.000
H5b: Effort Expectancy	0.346	0.127	0.342	2.728	0.006

Note. β: Standardised Regression Weight; SE: Standardised Error, CR: Critical Ratio

Table 6(c)
Results of SEM on Effect of Predictors on M-Payment Use Intention – Foreigner

Construct	B	SE	Beta	CR	p
H1b: Convenience	0.235	0.073	0.236	**3.224**	0.001
H2b: Social Influence	0.054	0.028	0.070	1.947	**0.051**
H3b: Trust	0.144	0.046	0.144	3.156	0.002
H4b: Performance Expectancy	0.400	0.059	0.441	6.754	0.000
H5b: Effort Expectancy	0.221	0.095	0.229	2.337	0.019

Note. β: Standardised Regression Weight; SE: Standardised Error, CR: Critical Ratio

intention was performance expectancy (β=0.418, p<0.001), followed by effort expectancy (β=0.298, p<0.001), trust (β=0.162, p<0.001) and convenience (β=0.134, p<0.05). The hypothesis H2a on the impact of social influence (β=0.028, p>0.05) on m-payment use intention was not significant.

Compared to the Malaysian sample, the regression coefficient of the structural model showed that convenience (H1b, β=0.049, p=0.570) and social influence (H2b, β=-0.031, p=0.424) did not positively affect Malaysians' m-payment use intention (refer to Table 6(b)). Other hypotheses such as H1b, H3b, H4b and H5b were significant. Similarly, for the foreigner sample, H1c, H3c, H4c and H5c were found significant. Meanwhile, social influence (H2c, β=0.070, p=0.051) of the foreigner sample was also found to have no impact on foreigners' intention to use m-payment (Refer to Table 6(c)).

Referring to Table 7 and Table 8, the results show that for the pooled sample, Malaysian sample, and foreigner sample, the relationship between effort expectancy and trust and effort expectancy and performance expectancy were both significant. Therefore, we concluded that hypotheses H6a, H6b, H6c, H8a, H8b, and H8c were supported.

This study further analysed the mediating effect of three different samples on trust and performance expectancy. As shown in Table 9, the pooled sample of effort expectancy (β=0.681, p<0.001) had a direct effect on m-payment use intention. We

Table 7
Results of SEM on Effect of Effort Expectancy on Trust – (a)Pooled Sample, (b) Malaysian and (c) Foreigner

Construct	B	SE	Beta	CR	p
H6a: Effort Expectancy	0.562	0.042	0.642	**13.307**	0.000
H6b: Effort Expectancy	0.531	0.053	0.670	10.099	**0.000**
H6c: Effort Expectancy	0.583	0.069	0.604	8.398	0.000

Note. β: Standardised Regression Weight; SE: Standardised Error, CR: Critical Ratio

Table 8
Results of SEM on Effect of Effort Expectancy on Performance Expectancy – (a) Pooled Sample, (b) Malaysian, and (c) Foreigner

Construct	B	SE	Beta	CR	p
H8a: Effort Expectancy	0.866	0.042	0.827	**20.816**	0.000
H8b: Effort Expectancy	0.883	0.053	0.604	16.524	**0.000**
H8c: Effort Expectancy	0.857	0.067	0.804	12.868	0.000

Note. β: Standardised Regression Weight; SE: Standardised Error, CR: Critical Ratio

Table 9
Result of Mediation Effect of Trust and Performance Expectancy on Relationship between Effort Expectancy and M-Payment Use Intention

Construct	Beta	p
Pooled sample		
Trust:		
Direct Model		
Effort expectancy → Use Intention	0.836	0.000
Mediation Model		
Effort expectancy → Trust	0.626	0.000
Trust → Use Intention	0.245	0.000
Effort expectancy → Use Intention	0.681	0.000
Performance Expectancy:		
Direct Model		
Effort expectancy → Use Intention	0.831	0.000
Mediation Model		
Effort expectancy → Performance expectancy	0.800	0.000
Performance expectancy → Use Intention	0.551	0.000
Effort expectancy → Use Intention	0.396	0.000

Table 9
Result of Mediation Effect of Trust and Performance Expectancy on Relationship between Effort Expectancy and M-Payment Use Intention

Construct	Beta	p
Malaysian Sample		
Trust:		
Direct Model		
Effort expectancy → Use Intention	0.662	0.000
Mediation Model		
Effort expectancy → Trust	0.645	0.000
Trust → Use Intention	0.282	0.000
Effort expectancy → Use Intention	0.655	0.000
Performance Expectancy:		
Direct Model		
Effort expectancy → Use Intention	0.413	0.000
Mediation Model		
Effort expectancy → Performance expectancy	0.813	0.000
Performance expectancy → Use Intention	0.523	0.000
Effort expectancy → Use Intention	0.413	0.000
Foreigner Sample		
Trust:		
Direct Model		
Effort expectancy → Use Intention	0.682	0.000
Mediation Model		
Effort expectancy → Trust	0.593	0.000
Trust → Use Intention	0.223	0.000
Effort expectancy → Use Intention	0.696	0.000
Performance Expectancy:		
Direct Model		
Effort expectancy → Use Intention	0.343	0.000
Mediation Model		
Effort expectancy → Performance expectancy	0.784	0.000
Performance expectancy → Use Intention	0.610	0.000
Effort expectancy → Use Intention	0.350	0.000

further examined the relationship between effort expectancy and trust, and between trust, and m-payment use intention. The results showed that effort expectation had a significant positive relationship with trust (β=0.626, p<0.001), and trust had a significant positive relationship with use intention (β=0.245, p<0.001). This suggested that in the pooled sample, trust played a partial mediation role in the relationship. Similarly, the mediating effect of performance expectancy showed that effort expectancy had a direct impact on m-payment use intention (β=0.396, p<0.001). Meanwhile, the relationship between effort expectancy and performance expectancy (β=0.800, p<0.001), and performance expectancy and m-payment use intention (β=0.551, p<0.001) were both significant. Thus, performance expectancy in the pooled sample acted as a partial mediator.

When evaluating the Malaysian sample and foreigner sample, compared with the pooled sample, trust and performance expectancy played a mediation role in both samples. As seen in Table 9 of the Malaysian sample, the relationship between effort expectancy and trust (β=0.645, p<0.001), trust and m-payment use intention (β=0.282, p<0.001) and effort expectancy and m-payment use intention (β=0.655, p<0.001) were significant. It also suggested that performance expectancy acted as a mediator and had an indirect effect. The results showed that the relationship between effort expectancy and m-payment use intention (β=0.813, p<0.001), performance expectancy, and m-payment use intention (β=0.523, p<0.001), and effort expectancy and m-payment use intention (β=0.413, p<0.001) were also significant. Performance expectancy played a mediating role in this relationship and had an indirect effect. Similar to the foreigner sample, the relationship between effort expectancy and trust (β=0.593, p<0.001), trust and m-payment use intention (β=0223., p<0.001), and effort expectancy and m-payment use intention (β=0.696, p<0.001). Meanwhile, the relationship between effort expectancy and m-payment use intention (β=0.784, p<0.001), performance expectancy and m-payment use intention (β=0.610, p<0.001), and effort expectancy and m-payment use intention (β=0.350, p<0.001) were significant. Therefore, we can conclude that trust and performance expectancy play a mediating role and have an indirect effect on foreigners' sample.

Finally, a multigroup analysis was conducted to investigate the significant differences between the Malaysian sample and the foreigner sample. The AMOS plugin provided by Gaskin was used for multigroup analysis. Referring to Table 10, the chi-square difference test p-value (p-value=1.00) was not significant. This indicated that there was no difference between the two samples. As can be seen from Table 11, there were differences between Malaysians and foreigners in the relationship between convenience and behavioural intention, as well as social influence and behavioural intention.

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Figure 1
Structural model (Pooled, Malaysia and foreigner sample)

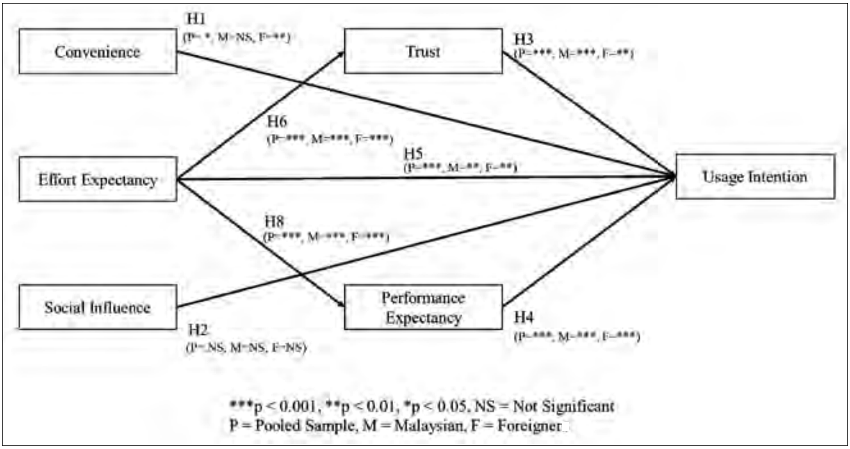

Table 10
Multigroup Analysis of Global Test

	χ^2	DF
Unconstrained	1022.139	438
Constrained	1022.139	438
Difference	0.000	0
P-value		1.00

Discussion

From the pooled sample, the Malaysian sample, and the foreigner sample, it can be concluded that increased social influence does not affect m-payment use intention (hypotheses H3a, H3b, and H3c). Social influence refers to the pressure on a user caused by the opinion of peers in influencing his or her behaviour in a particular way. According to Teo et al., (2015), Malaysia is a collective society; the influence of social influence is posited as a strong influence. The findings of this research, however, are inconsistent with previous studies conducted by Abrahão et al., (2016), Khalilzadeh et al., (2017) & Yang et al., (2012). Nevertheless, Sobti (2019) surveyed 880 Indian users' m-payment use intention, and the results showed that social influence did not influence their m-payment use intention. This can be interpreted as users paying more attention to m-payment's trust, effort expectancy, and performance expectancy of m-payment instead of acting collectively as part of their social group. Alalwan et al., (2018) added that inconsistent results found in the study of technology use intentions might be due to the various factors such as technology (mandatory or voluntary), country

Table 11
Multigroup Analysis of Local Tests

Path Name	Malaysia Beta	Foreigner Beta	Difference in Betas	P-Value for Difference	Interpretation
Effort Expectancy →Trust	0.670***	0.604***	0.066	1.000	There is no difference
Effort Expectancy →Performance Expectancy	0.846***	0.804***	0.042	1.000	There is no difference
Effort Expectancy → Behavioural Intention	0.342**	0.229*	0.113	1.000	There is no difference
Convenience → Behavioural Intention	0.049	0.236**	-0.187	1.000	The positive relationship between behavioural intention and convenience is only significant for the foreigner.
Social Influence → Behavioural Intention	-0.031	0.070†	-0.102	1.000	The positive relationship between behavioural intention and social influence is only significant for the foreigner.
Performance Expectancy → Behavioural Intention	0.418***	0.441***	-0.024	1.000	There is no difference
Trust → Behavioural Intention	0.200***	0.144**	0.056	1.000	There is no difference

Significance indicator: † $p < 0.100$, * $p < 0.050$, ** $p < 0.010$, *** $p < 0.001$

development (developing or developed country), nature of technology (personal or common technology) and individual perception, skills, and experience. In addition, Teo et al., (2015) explained that mobility was the more important factor for the respondents in their study in making an independent decision whether to use m-payment. Social peers did not influence their decisions.

Not surprisingly, users would start using m-payment because of its high-performance expectancy, minimum effort to learn and use it, convenience, and when the m-payment service could be trusted. This study empirically proves that the main factors influencing users' intention to use m-payment are performance expectancy and effort expectancy. Meanwhile, trust and convenience are secondary factors for the pooled sample. Performance expectancy, effort expectancy, and convenience have a significant effect on the users' m-payment use intention due to changes in urban lifestyle and demand for fast and convenient services (Kumar & Palanisamy, 2019). This study also reveals that the weight of the trust factor on the m-payment use intention is lower than performance expectancy and effort expectancy. This could be due to the fact that trust was already in existence among users as the m-payment service is usually provided by well-established banks or third-party service providers (Ntaukira et al., 2019).

In relation to the Malaysian sample, it was a surprise to find that convenience does not significantly affect Malaysians' m-payment use intention. The finding is inconsistent with other studies conducted by Kaitawarn (2015), Humbani & Wiese (2018). On the other hand, foreigners weighed performance expectancy (β=0.441) as the key factor in m-payment use intention, followed by convenience (β=0.236), effort expectancy (β=0.229) and trust (β=0.144). This is different from the Malaysian sample, in which Malaysians weighed performance expectancy (β=0.418) as the critical factor followed by effort expectancy (β=0.342) and trust (β=0.200).

Conclusions and Recommendations

In comparison to other nearby developing countries, although m-payment had been introduced in Malaysia for many years, the usage rate remains relatively low. This study attempts to revise the existing UTAUT to investigate the factors influencing Malaysians' and foreigners' use intention of m-payment in Malaysia. This study does not only enhance the theoretical model but also improves the consumers' cognitive understanding of m-payment use intention between Malaysians and foreigners in Malaysia. The findings concluded that convenience, trust, performance expectancy and effort expectancy are the predictors that significantly influence m-payment use intention in all three samples. This is consistent with previous studies.

On the contrary, social influence does not have a significant impact on all three samples. Interestingly, convenience is not significant in relation to the Malaysian sample. In conclusion, foreigners are more inclined to use m-payment if it is convenient, trusted entities are the ones providing the service, it is easy to use and can meet their performance expectations. On the other hand, Malaysians are more concerned with performance expectancy, effort expectancy and trust. Notably, the impact of social influence on the intention to use m-payment is getting less important due to the formation of mobile communities. In addition, policymakers and marketers need to understand the dynamics of behavioural beliefs and changes and generate more in-depth insight into how to facilitate the use of m-payment.

In this study, we studied general forms of m-payment, while future research shall focus on other successful types of mobile payment, such as contactless NFC or QR code payment methods. In this study, important predictors of UTAUT were retained, and trust and convenience predictors were added to the conceptual framework. There are undeniably other important predictors such as perceived risk, perceived value, and individual innovativeness. Therefore, future studies should include these predictors to gain more insight into m-payment use intention in Malaysia. In addition, the population of this study is based on a single country, and the cross-sectional approach is adopted. The future study shall consider a longitudinal study to seek a random sample of participation involving several countries instead of foreigners in Malaysia ■

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Financial Awareness and Retirement Preparedness of Self-Employed Youth in Malaysia

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Abstract

The increasing popularity of self-employment, especially among youths, presents a socioeconomic risk to the country as self-employed workers are not covered by any retirement saving schemes. Moreover, Malaysian youths lack financial awareness, making them unprepared for retirement. As such, this paper aimed to study the relationship of financial awareness level with retirement preparedness of self-employed youths in Malaysia and further relate the influence of demographic factors to retirement preparedness of self-employed youths to understand their level of preparedness for retirement. Surveys using the convenience sampling method were distributed. The responses were analysed using ANOVA and multiple linear regression. This study employed simple statistical tools as this study revolved around the behaviour of self-employed youths, which did not call for sophisticated statistical tools. The analysis showed that financial awareness does influence retirement preparedness and that both were found to be at healthy levels although some improvements such as in knowledge of the purpose of financial products and proper level of savings for retirement were needed for youths to be fully prepared for retirement. This finding will aid government agencies and NGOs to craft outreach programmes for youths to prepare them for retirement. Notwithstanding that, this finding will support ongoing research on the level of financial literacy among youths.

Keywords: financial attitude, financial awareness, retirement, self-employed, youth

JEL Classification: D01, J26

Introduction

Malaysia is seeing the rise of the gig economy where more people are choosing self-employment as their source of income, especially in urban areas due to strong penetration of the internet and adoption of technology. From 2010 to 2016, there was an 81% growth of number of self-employed workers. In 2016, the percentage of

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self-employed workers accounted for 16% of the total workforce (Idris, 2017). There have already been a few economic implications that can arise from this trend, such as the risk of bankruptcy among youths. As many as 1 in every 4 bankruptcy cases recorded in 2018 were by those aged below 34 years (Credit Counselling and Debt Management Agency (AKPK), 2018). Such a trend presents a socioeconomic risk to the country in the future as this mode of work is becoming popular among millennials. Many of this type of workers are not covered under any mandatory retirement saving scheme. In this case, they would need to prepare themselves financially for retirement on their own. If they are not fully prepared for their grey years, the government would have to bear the cost of caring for them.

In preparing the youths for their retirement, an overview of the level of financial literacy among them is imperative. The issues stated above reflect that financial awareness is rather low among self-employed youths in Malaysia. Financial literacy is an accurate measurement for this as a person becomes more prepared for financial shocks or uncertainties if they are financially literate. In a study by Lusardi and Mitchell (2011), financial literacy is positively linked to retirement preparedness. While financial education is a concern for all segments of society, self-employed youths should be given focus as self-employed workers are not protected under any mandatory retirement saving schemes and youths in general lack financial literacy.

The growth of self-employment heralds a new chapter for Malaysia as it brings a new set of challenges for the people and the government alike. The biggest growth in self-employment has been experienced in urban areas, largely contributed by the youth segment. One major challenge of this development is their low financial literacy (Malaysian Financial Planning Council [MFPC], 2018). This poses a socio-economic risk to this labour segment as this segment will not be prepared for their retirement. This trend of low financial literacy is seen despite many initiatives by government agencies to raise the level of financial awareness. In essence, youths in general lack financial literacy and this will render them ill-prepared for retirement. This is more pronounced for self-employed youths given that this mode of work requires them to save for retirement on their own.

Against this backdrop, the general objective of this research paper is to investigate the relationship between the level of retirement preparedness and the level of financial awareness as this will present the pressure points of financial literacy among youths. In relation to this, it will enhance the contents of financial literacy or outreach programmes for self-employed youths. To complement this, this study intends to understand the demographic factors that influence the level of retirement preparedness among self-employed Malaysians, such as gender, race, marital status, income level, education level and number of dependents.

The next section will be the literature review as a discussion of previous research covering factors that influence financial awareness and retirement preparedness, including a discussion on the role of demographic factors. This study then presents the framework and methodology of choice, followed by an analysis of the results and discussion. The final section presents the conclusion and implications of the study.

Literature Review

The literature review chapter in this study first discusses the level of financial literacy level and retirement preparedness among Malaysian youths in general. This is as financial awareness forms a main pillar of financial literacy and financial literacy is related to retirement preparedness. This is then followed by a discussion on the rise of self-employment among Malaysian youths and the impact of technology on the financial literacy and awareness of youths. Finally, the literature review ends with a discussion on the adopted methodology for this study and the gap.

Given the increased interest in the topic of financial literacy and retirement preparedness in general and the rise of the gig economy in tandem with increasing technology usage, this study will refer to publications and reports by government and private agencies. This implies the growing national interest among policy makers and private firms in understanding the level of financial literacy among the general population. Many academic sources are also referred to, given the rising interest in this field of knowledge. However, it must be noted that academic studies conducted on this target group of Malaysian self-employed youths remain limited.

Understanding Financial Literacy and its Relation to Retirement Preparedness among Malaysian Youths

"Financial literacy" is defined as the summation of financial awareness, financial capability, and financial knowledge in that a person who is financially literate is a person who is able to read, analyse, manage and communicate about financial conditions that affect material well-being (Jeyaram & Mustapha, 2015). Financial awareness is a measure of the amount of information a person holds while financial knowledge is the ability to put that information into practice.

In Malaysia, the level of financial literacy among youths is markedly low as evidenced by a finding of the Asian Institute of Finance in 2015. This low level of financial literacy is reflected in most Malaysians feeling that they face challenges related to high-cost borrowings, personal loans, and credit card borrowings. This also points to the relatively low financial awareness of Malaysians in general as evidenced by the report of the Malaysian Financial Planning Council which found that only 16.3% of respondents understood that expenses must always be lower than income (MFPC, 2018). Additionally, the report stated that more than half of the respondents (57%) were illiterate in risk management as they did not understand the purpose of obtaining an insurance policy.

Where income is concerned, lack of financial literacy also leads to lack of savings. In Malaysia, the current level of household savings is relatively low (Khazanah Research Institute, 2013). Understandably, lack of savings will render a person not financially equipped to meet their future financial obligations such as car loans and house mortgages. While car loans and house mortgages are a financial obligation mostly dealt with during early working years, a young adult also needs to be aware of the financial obligations during their retirement years. While Malaysians in general agree that having their own financial retirement plan is important, many are illiterate as to how to adopt proper strategies to prepare themselves financially for their retirement years (MFPC, 2018). In this case, awareness needs to be supported with knowledge and application as education is positively related to attitude and behaviour (Yong et al., 2018). This is also supported by the finding that the level of financial literacy is inextricably correlated with retirement preparedness (Lusardi & Mitchell, 2011).

The Rise of Self-Employment Among Malaysian Youths

The rise of the gig economy paints another spectrum to the effort towards a higher level of financial literacy and retirement preparedness in Malaysia. The gig economy typically refers to self-employed workers performing tasks for firms on a project basis (Bajwa et al., 2018). The increasing adoption of technology fuelled the growth of the gig economy which is now dominated by millennials as they are known to be more IT savvy than the previous generations of workers (Subramaniam, 2018). Self-employment is seen to be appealing due to its benefits such as schedule flexibility, diverse work experience and freedom to choose assignments (Subramaniam, 2018). The disbenefits of self-employment for this type of workers is that they are not covered under any mandatory pension saving schemes and would have to save up their own resources to cover for their medical costs and retirement years.

Due to a higher internet penetration rate in urban areas, it is intuitively understood that most self-employed youths are based in urban areas such as the Klang Valley, Penang, Ipoh and Johor Bharu. This is further supported by a finding of a survey by The Edge in 2018 on the gig economy which found that 66% of their urban respondents were self-employed youths aged 21 to 25 years.

Presently, the changing labour demographics would require the government to constantly update the existing regulations and laws pertaining to labour protection. This includes the protection of these workers once they reach their retirement years. While formally employed workers are mandated to save a portion of their monthly income into the Employees Provident Fund (EPF), the self-employed are not obligated to do the same. Instead, self-employed workers are given the option to save in numerous savings vehicles including in EPF's i-Saraan scheme. Other saving vehicles include the Private Retirement Schemes and various capital market products offered to retail investors.

To incentivise savings for retirement, an income tax incentive amounting to a maximum of RM3,000 was introduced for self-employed Malaysians who declare their annual income tax. However, a more robust education drive could enhance the growth of retirement savings, especially among self-employed youths. This is as not only are the self-employed youths not mandated to save for their retirement, they are also lacking in terms of financial awareness.

Retirement Preparedness Among Self-Employed Youths

Studies have found that demographic factors such as gender, race, income, number of dependents and level of education do influence the level of financial literacy (Jeyaram & Mustapha, 2015). The conceptual framework relates these demographic factors to financial literacy. This study narrows the concept to financial awareness which is a subset of financial literacy and then extends it to retirement preparedness. This is echoed in a paper by Githui & Ngare in 2014 which found that retirement preparedness is also influenced by financial literacy among demographical factors. This complements an earlier finding by Lusardi & Mitchell in 2011 that financial literacy is related to retirement planning or preparedness.

Retirement preparedness is the level of readiness or preparation towards being ready for retirement. A study by the Malaysian Financial Planning Council in 2018 noted that Malaysians generally save for other future obligations first while saving later for retirement. In other words, Malaysians generally do not find saving for retirement to be a top financial planning priority. This could affect the amount they would have saved for retirement and subsequently the amount of money at their disposal at retirement.

While this is drawn from evidence of the studies mentioned, a finding by the Employees Provident Fund (EPF) that Malaysians will not have enough money to retire also supports this. While this rests on the awareness of Malaysians that saving early for retirement is important, it is also due to external circumstances such as a lower return on investment (Carvalho & Hamdan, 2015).

The Impact of Financial Technology on the Financial Literacy of Youths

The proliferation of Financial Technology, otherwise known as "FinTech", (Securities Commission Malaysia, 2018), heralds the democratisation of access to financial services for consumers. The access to these services is inherently different in nature as compared with traditional methods. For instance, it is easier now to acquire credit cards as one can now apply for cards online with a few clicks as opposed to filling up a form and making an appointment with a bank staff at a selected bank branch. This process is devoid of any human interaction. While this proves the development of the financial sector with regard to adoption of technological solutions is at an increasing rate, it also poses a risk to Malaysians as it was found that 10% of Malaysians are not disciplined enough to manage their finances and that as many as 30% of Malaysian working adults need to borrow to buy essential goods (Financial Education Network, 2019).

The E-commerce industry is also growing at an exponential rate and this growth has spilled over into the financial sector, given the average projected annual growth of 10% coupled with a high internet penetration rate in Malaysia (Abdul Aziz, 2017). With this development, Malaysia has also seen the growth of e-commerce making its way into the financial sector. This is evidenced by the establishment of e-wallets such as GrabPay, Touch 'n' Go E-Wallet, Boost and a host of phone application-based transaction services provided by banks, such as CIMB Clicks and Maybank2U.

This development came about to tap into the millennial sector who are more IT savvy than their predecessors. However, it was found that this group of consumers are not financially literate (Asian Institute of Finance, 2015). In the realm of the capital market, investing is now made easy with the establishment of micro-investing platforms such as StashAway and the digitalisation of stockbroking services such as Rakuten Trade. All these are designed to tap into millennial consumers in Malaysia (Subramaniam, 2018).

Therefore, a different approach to increasing financial literacy rate is encouraged for this group as the development of FinTech has provided a new dimension to understanding the nature of financial services available in Malaysia together with the risks surrounding them.

Research Gaps and Way Forward

While multiples studies have established the importance and link between financial awareness and retirement preparedness for multiple segments of society including youths (Lusardi & Mitchell, 2011), studies with a special focus on self-employed youths in emerging economies like Malaysia remain limited. The key question that remains for emerging economies with limited fiscal capabilities is how to provide an adequate level of social protection policy that can cover as many individuals in need as possible with minimal cost.

An understanding of the expanding niche groups or segments of society like self-employed workers comprising youths remains pertinent as financial counselling and planning professionals, as well as policy makers, have a stake in better understanding the factors that influence a person's financial literacy and their retirement preparedness levels. As this study can be used to systematically show and suggest factors that impact the retirement preparedness level of self-employed youths, it may be possible to design a social protection ecosystem that improves the level of retirement preparedness among Malaysians with this background. Therefore, this study is intended to fill that gap by establishing the relationship of financial awareness level with retirement preparedness of self-employed youths in Malaysia and the influence of demographic factors on the retirement preparedness of self-employed youths.

Methodology

Introduction

Self-employed millennials in Malaysia work in various industries and as such, this study intends to reach out to a sample that can reflect the diversity of the millennial themselves. However, it is worth noting that most self-employed workers are relatively more reachable in urban areas across Malaysia, especially in the Klang Valley rather than in rural areas.

Considering this, surveys used for this study were made available both online and offline for a wider reach. The questions in the survey were all given to several faculty members as a pre-test for an assessment of readability and ease of comprehension. The tests involved were all based on those used and conducted in previous studies. Notwithstanding that, two pilot studies comprising sample sizes of 40 and 150 respectively were run with similar and comparable results, which indicated the reliability of the tests chosen for use for this study.

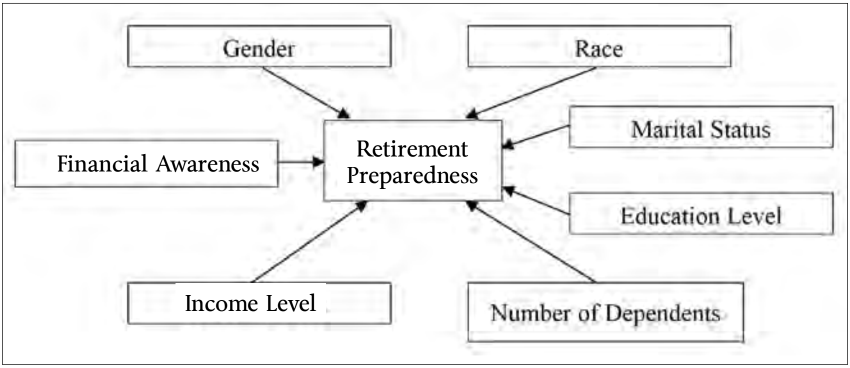
In this study, financial awareness is a measure of the amount of information a person holds. Retirement preparedness is the level of readiness or preparation towards being ready for retirement. Measures for this variable included whether respondents saved and if so, what proportion of the saving amount was for retirement purposes.

Conceptual Framework

Figure 1 displays the research framework for the present study. The research framework was derived from OECD's Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy in 2011. This study examined the reasons behind self-employed youths' lack of retirement preparedness in relation to their financial awareness. In this regard, this was a derivation and extension of works of past researchers such as Lusardi & Mitchell (2011).

This was further coupled with demographic factors such as gender, race, income level, education level, marital status, and number of dependents. This extended to works done by past researchers in linking demographic factors to financial literacy, such as Jeyaram & Mustapha (2015). The research framework for this study linked the reasons behind the retirement preparedness of self-employed youths with their financial awareness levels and the demographical factors.

Figure 1
Research framework for the study of self-employed youths' preparedness for retirement



As financial literacy is linked to retirement preparedness (Lusardi & Mitchell, 2011), this study adopted the testing of demographic factors similar to those studied in a separate paper by Jeyaram & Mustapha (2015) that includes gender and race in relation to financial literacy. Notwithstanding that, Potrich et al., (2015), also tested all the demographic factors chosen for this study. This indicates that these demographic factors such as gender, race, marital status, education level, number of dependents and level of income does influence financial literacy. This study intended to extend this to their relationship with retirement preparedness.

Research Design

This section of the study presents the hypotheses, unit of analysis, population frame, sampling technique and validation of instrument for this study.

Type of Study

The study was undertaken using survey questionnaires that were given to a sample of self-employed youth by hand and via online forms.

Based on the synthesized information/identified knowledge gap, the following hypotheses were developed:

H1A: Does financial awareness significantly influence retirement preparedness?

H2A: Is gender positively associated with retirement preparedness?

H3A: Is race positively associated with retirement preparedness?

H4A: Is marital status positively associated with retirement preparedness?

H5A: Is education level positively associated with retirement preparedness?

H6A: Does the number of dependents significantly influence retirement preparedness?

H7A: Does income level significantly influence retirement preparedness?

Unit of Analysis

The source of data for this study was information gathered from survey questions given to Malaysian self-employed youths. These consisted of those born between 1980 and 2000 (aged 18 to 38 as at 2018). Those who turned 39 as at 2019 were also considered in this study while those who turned 18 in 2019 were not considered. The term "youth" and "millennials" are used interchangeably for this study.

This study was conducted using the convenience sampling technique and focusing on individual millennials working independently. The respondents had to be born between 1980 and 2000 and worked as self-employeds for 3 months or more consecutively.

Population Frame

The respondents were individuals who fit the categories of being self-employed and born within 1980 to 2000. This was as 25.7% of the workforce was in the self-employed sector (Khazanah Research Institute, 2017). The population of millennials in Malaysia was estimated to be 11,659,600. By estimation, the population of self-employed millennials in Malaysia was at around 2,996,517 (25.7% * 11,659,600) (Department of Statistics Malaysia, [DOSM] 2017).

Sampling Technique

The convenience sampling technique was chosen as it is the optimum method to study the self-employed labour segment of Malaysia with a focus on the segment's millennials. This technique was chosen in the interest of time constraints and the then unknown number of self-employed youths in Malaysia.

Using the convenience sampling method, the respondents for this study came from the social circles of the researchers. This was to enhance quick accessibility to the respondents and shorten the time to get responses to the survey questions. Sulaiman et al., in 2007 adopted this technique to study urban mobile banking usage among urbanites. The limitation of this technique is its inability to ensure that the sample is representative of the whole population of self-employed youths.

In this study, the trait common to all respondents was that they were self-employed millennials. Other factors such as gender, age (limited to those born between 1980 and 2000), race, marital status, education level, income level and number of respondents were however not kept constant.

Sample Size of Study

According to the sampling size calculation table by Krejcie & Morgan (1970), for a population which is equal to or greater than 1,000,000, the required sample size is about 384 with confidence interval of 95% and margin of error of 5%. As the number of self-employed youths in the Klang Valley was only an estimation, it was advantageous to obtain a relatively substantial sample size to minimise error. This was to ensure that the sample data could be a representative of the target population given that potential problems like measurement errors, issues relating to coverage and non-response were minimised. This study aimed to collect information from a total of 400 respondents who were born between 1980 and 2000 and were self-employed as their estimated number was 2,996,517 persons.

G*Power software is a relatively recent method for researchers to estimate the sample size that would give them a reading with 95% confidence interval given the number of variables planned to be tested as well as the statistical toolkit aimed to be used. The software offers the ability to estimate the sample size for research and adopts a wide variety of statistical tests including t-tests, F-tests, and chi-square-tests, among others[1]. While the Krejcie & Morgan estimation was considered, the estimation by G*Power software was be the main reference for sample size estimation.

As the study planned to adopt linear multiple regression method, it gave an estimation of 77 respondents which could give a 95% confidence level in the results in G*Power.

Validation of Instrument

All 45 questions were multiple choice-based questions. This method could prevent bias and allow the data to be analysed in the most appropriate way. Data was collected from October 2018 to February 2019.

A pilot study was conducted among 40 and later 150 respondents to check the suitability of research instruments in a preliminary small-scale study. This assisted in deciding the most appropriate method to conduct the research project and to ensure that the proposed methods or instruments were suitable. Some instruments were revised regarding the terms used and the instructions given after the pilot study due to respondents' problems in understanding them. This enhanced the reliability and accuracy of the survey questions.The questionnaire was developed in both Malay and English to ensure understanding by respondents.

Assistance in the form of explanation was given when it was requested. In addition, the Statistical Package for Social Science (SPSS) was utilised in this research to analyse the information gathered.

Data Collection and Administration

The respondents were reached in person or by social media or survey sites such as Google Forms. To make answering the surveys easier, the questionnaires included the study objectives, the expected outcome of the study and the target group for the study. A few persons were asked to despatch and also collect the digital forms and hard copy forms of the survey after they had been answered. The persons in charge were given a few weeks to collect the questionnaires from the respondents and return them to the researcher. The information from the

[1]**https://en.wikipedia.org/wiki/G*Power**

survey was coded and analysed using SPSS.

As the sampling size calculation table by Krejcie & Morgan (1970) indicates that a suitable sample size is 348 individuals, this study therefore despatched 400 survey forms to self-employed youth via the internet and by hand despite G*Power's estimation of 77 respondents. Data was collected in a period of 4 months, from October 2018 to February 2019.

Instrumentation

This section of the study summarises the methodology of instrumentation of choice and the analysis of data for this study.

Introduction to Instrumentation

In designing the questionnaire, the study adopted survey questions from OECD's 2011 Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy. In adopting several questions pertaining to financial literacy, only questions requiring "yes" or "no" answers and those related to gauging a person's financial awareness such as "Credit cardholders can spend without limit" were asked. So that respondents better understood the questions, they were developed to reflect the Malaysian situation. For instance, instead of using US Dollars, the questions were asked in terms of the Malaysian currency, i.e., Ringgit.

Readability was of prime importance in designing the questions as this survey aimed to be given to self-employed millennials with all levels of education. The language and terms used were designed to be accurate, concise and simple. There were 45 questions altogether, consisting of either "yes" or "no" questions, Likert-scale questions, and multiple-choice questions. However, for better accuracy in the results, not all questions included in OECD's 2011 survey were chosen for this study.

The questions were made in the English language; however, a Bahasa Melayu version was also crafted for respondents who preferred to answer in Bahasa Melayu. The results were then translated to English for further analysis. Both versions of the survey were uploaded on Google Forms and distributed via e-mail and Facebook. In addition to that, marks were allotted for questions on financial awareness where each correct answer got one mark. Respondents who completed the survey online could also access the marks they got for several questions related to financial awareness.

400 hard copies of the survey questions were also printed out and distributed to colleagues to be given to those in their network of self-employed youth. Prior to distribution, colleagues were given an explanation of how to explain the study objectives and answer any questions that could arise from the respondents. In the event of confusion, a mobile phone number and an e-mail address were also stated on both the online and the hard copies of the survey for further queries. However, respondents who responded via hard

Table 1
Demographic Factors

Variable	Question	Code
QD1	What is your gender?	Female = 0 Male = 1
QD2	Which ethnic category do you fall into?	Malay = 1 Chinese = 2 Indian = 3
QD3	What is your marital status?	Married = 1 Single = 2 Divorce/Separated = 3
QD4	What is your highest education level?	No formal education= 1 Completed primary school= 2 Completed secondary school= 3 Diploma = 4 Degree = 5 Postgraduate = 6
QD5	How many dependents do you have?	None = 1 1 to 5 = 2 6 to 10 = 3 11 and above = 4
QD6	How much is your gross monthly income (RM)?	Less than 950 = 1 951 to 3860 = 2 3861 to 8319 = 3 8319 and above = 4

copies were not given marks in the interest of time.

Out of 400 responses distributed, 100 hard copies were completed and returned while 200 online versions were completed. This meant that as many as 300 responses were recorded, and 75% of the target was achieved. This fulfilled the G*Power requirements of 77 respondents. The survey was divided into four sections. The first section sought demographic information from the respondents. This section comprised a total of 17 questions in multiple-choice format which, among others, comprised those concerning gender, race, income level, education level, marital status and number of dependents.

The final section concerned retirement preparedness. 13 questions were asked in various formats ranging from multiple-choice questions to short-answer essay questions. The overarching theme for this section was saving for retirement, which subsequently revealed if the respondents gave much attention to their financial health in their later years. Questions such as "How consistently do you save?" and "What proportion of your savings is for retirement?" were asked. However, for better accuracy of results, not all questions were used for analysis.

Data Analysis

All the responses gathered through the survey were coded for analysis in SPPS. Demographic questions were asked as part of the study to examine the relationship between demographic factors such as gender, race, marital status, education level, number of dependents and income level, and financial literacy. With regard to income categorisation, the range of income for each category was in line with the national categorisation of income groups as provided by the Department of Statistics Malaysia (DOSM) in 2014.

Questions on financial awareness were designed in multiple ways with multiple answer choices. Some questions had five answer choices while others had only two. Therefore, for ease of data analysis, this study coded the answers to the questions into 1 or 0 where 1 indicated aware while 0 indicated not aware.

This also applied to Likert scale questions with answers ranging from 1 to 5 which were regrouped to 0 and 1. The questions included areas such as situational and statement-based questions. Statement questions such as QA1 and QA2 asked if the respondent knew the true intent of financial instruments such as insurance and credit cards. Credit cards are not for limitless spending and late payment is compounded with interest while insurance's main purpose is to mitigate the risk of financial loss. A correct answer was coded as 1 while a wrong answer was coded 0.

As some of the Likert scale questions in this section were "negative" where it comes to level of awareness, they were coded in reverse. For example, for question QA4, completely agree was coded 4 and 5 while completely disagree (this indicated a higher level of

Table 2
Financial Awareness Questions and Code

Variable	Question	Code	
QA1	Credit card holders can spend without limit	False = 1	True = 0
QA2	Insurance is to provide you with excellent investment return	False = 1	True = 0
QA3	Before I buy something I carefully consider whether I can afford it	Agree (1,2,3) = 1 Disagree (4,5) = 0	
QA4	I tend to live for today and let tomorrow take care of itself	Disagree (4,5) = 1 Agree (1,2,3) = 0	
QA5	I find it more satisfying to spend money than to save it for the long term	Disagree (4,5) = 1 Agree (1,2,3) = 0	
QA6	I set long-term financial goals and strive to achieve them	Agree (1,2,3) = 1 Disagree (4,5) = 0	
QA7	Money is there to be spent	Disagree (4,5) = 1 Agree (1,2,3) = 0	

awareness) was coded 1, 2 and 3. This approach also applied to QA5 and QA7. The questions and codes are as below:

Questions regarding Retirement Preparedness were designed in multiple ways. Some questions provided three answer choices while others had only two. Therefore, this study coded the answers to the questions into 1 or 0 where 1 indicated prepared while 0 indicated not prepared. The questions included those regarding propensity to save and proportion of saving for retirement.

For QR1, the more frequently a person saved, the more prepared they were for retirement. For QR1, this study assumed that a person who saved more frequently than each month and once in two months would be better equipped financially for retirement than those who saved at a less frequent rate i.e., once in six months, once a year or once a year or less frequently than once a year due to healthy saving habits even if not for retirement purposes yet.

For QR2, a person who saved for retirement was more prepared for retirement than those who did not save for retirement. For QR3, a higher proportion of savings for retirement made a person better equipped for retirement than those who had a lower proportion of savings for retirement. Here, this study concluded that those who put more than 50% of their savings for retirement were better equipped for retirement than those who allocated less than 50% of their savings for retirement.

For QR4, this study considered those who saved earlier to be more prepared for retirement than those who saved later. As such, this study concluded that those who started saving up for retirement from year zero to year five were more prepared than those who did so later than five years after working.

Finally, for QR5, awareness is a good component in making a person informed regarding planning for their future. Therefore, this study concluded that a person was better prepared if they were aware of the developments in the retirement structures of the country to be able to take advantage of those retirement schemes.

The coded data was analysed via SPSS. The minimum criterion used for all tests adopted for this study was 95% confidence interval. All the results are in a later section.

Tests and Procedures

Based on the literature review, it

Table 3
Retirement Preparedness Questions and Code

Variable	Question	Code
QR1	How consistently do you save?	More frequently than a month, monthly and once in 2 months =1 Once in 6 months, once a year and beyond once a year = 0

Table 4
Retirement Preparedness Questions and Code, continued

Variable	Question	Code
QR2	Do you save/plan for retirement?	Yes = 1 No = 0
QR3	What proportion of your savings is for retirement?	51 to 75% and 76 to 100% = 1 0 to 25% and 26 to 50% = 0
QR4	What is the best time to start saving up for retirement?	As soon as we start to work and 2 to 5 years after working =1 6 to 10, 11 to 20 and 20 to 30 years after starting to work = 0
QR5	Are you aware of retirement savings schemes such as EPF's i-Saraan Account or Private Retirement Schemes (PRS)?	Yes = 1 No = 0

is common to apply the model with good estimation performance. While a complex model is flexible, it can lead to a problem of overfitting. On the other hand, an insufficient model can lead to a problem of under fitting with a high chance of bias. This study employed a simple model based on the idea of parsimony with best validation performance focusing on unbiased assessment. This was done through a self-administered survey where results analysed were in line with the focus of the objectives of this study.

This study employed simple statistical tools as this study revolved around the behaviour of self-employed youths and thus did not call for sophisticated statistical tools. This study used ANOVA tests and t-tests to measure the relationship of demographic factors with retirement preparedness, and financial awareness with retirement preparedness, respectively. The Pearson Correlation Coefficient was also adopted to measure the significance of the relationships between financial awareness and retirement preparedness.

One-way ANOVA tests are mainly used to determine if the means of different variables are equal. It is suitable to be adopted when comparing the mean of three or more independent groups (Marshall & Boggis, 2016). The dependent variable should be in scale form while the independent variables are in nominal form. In this study, this test was used to determine the significance of the relationship between demographic factors such as gender, race, income level, education level, marital status, and number of dependents, which are in nominal form with retirement preparedness, which is in scale form. Therefore, one-way ANOVA was suitable for this section of the research. A significant relationship between the variables at 95% confidence interval is when the p-value of the result is less than 0.05. However, a different approach must be taken for measuring the significance of financial awareness to retirement preparedness.

When looking for relationships between one dependent variable that is in scale form and independent variables that are either nominal, ordinal or scale form, a multiple linear regression is suitable (Marshall & Boggies, 2016). This test of association is suitable to measure the significance of relationship between the level of retirement preparedness with the level of financial awareness as both variables are in scale form. A significant relationship between the variables at 95% confidence interval is when the p-value of the result is less than 0.05.

To measure the significance of the relationship between the independent variables sans demographic factors i.e. financial awareness, this study adopted the Pearson's Correlation Coefficient test as it is suitable to test the association between two continuous variables (Marshall & Boggis, 2016). A significant relationship between the variables at 95% confidence interval is when the p-value of the result is less than 0.05. This will be the measurement of reliability of the survey where the survey is reliable if there is significant relationship between the three independent variables.

Results and Discussion

Profile of Respondents

This study distributed 400 surveys and received 300 responses (75% response rate). Out of the total number of respondents, 82% were from the Klang Valley while 18% were from other states. This was in line with the profile of self-employed millennials found in a gig economy survey conducted by The Edge in 2018.

Tables 5 shows the profile of the respondents of this study. Slightly more than half or 50.7% of the respondents were male. Most of the respondents were Malays (72.3%) with Chinese making up 15.3% and Indians making up the rest. This was in line with the current national average where the Malay/ Bumiputera group make up 69.1% of the population, the Chinese make up 23.0% and the Indians and other racial groups make up 7.9% (DOSM, 2017).

The majority of the respondents (60.7%) were single, while 37.0% were married. The rest were either divorced or separated. Meanwhile, an overwhelming number of the respondents (54.0%) were bachelor's degree holders. Lastly, 92.7% of the respondents had less than five dependents with the balance percentage making up the rest.

Slightly more than half of the respondents (50.3%) were in the B40 group as they earned roughly between RM951 to RM3860 a month. The "less than RM950" and "RM3861 to RM8319" income group were divided almost equally at 21.0% and 22.3% respectively. This was slightly above the national average where those who earn

Table 5
Respondent Statistic

Demographic Factors	Frequency (n)	Percentage (%)
Gender		
Female	148	49.3
Male	152	50.7
Race		
Malay	217	72.3
Chinese	46	15.3
Indian	37	12.3
Marital Status		
Married	111	37.0
Single	182	60.7
Divorced/Separated	7	2.3
Education Level		
No formal education	12	4.0
Completed primary school or equivalent	7	2.3
Completed secondary school or equivalent	28	9.3
Diploma, STPM, A-levels or equivalent	65	21.7
Bachelor's Degree	162	54.0
Postgraduate Degree	26	8.7
Number of Dependents		
None	144	48.0
1 to 5	134	44.7
11 and above	3	1.0
Income Level		
Less than RM950	63	21.0
RM951 to RM3,860	151	50.3
RM3,861 to RM8,319	67	22.3
Above RM8,319	19	6.3

RM951 to RM 3860 a month make up 40% of the country's population. The results are shown as in the tables 5.

Level of Financial Awareness of Self-Employed Youth

This section consisted of a total of 300 respondents and seven questions. For each question, 1 point was given for the answer that was perceived to evidence a sound financial awareness level. These points were later summed up and re-calculated in percentage form. The average scoring rate for this section among all respondents was 53.5% {[1123/ (300 x 7)] x 100}. Out of

Table 6
Financial Awareness: Total Score by Question

Questions	Frequency (n)		Per cent (%)	
	Aware	Unaware	Aware	Unaware
QA1: Credit card holders can spend without limit	192	108	64.0	36.0
QA2: Insurance is to provide you with excellent investment return	127	173	42.3	57.7
QA3: Before I buy something I carefully consider whether I can afford it	227	73	75.7	24.3
QA4: I tend to live for today and let tomorrow take care of itself	133	167	44.3	55.7
QA5: I find it more satisfying to spend money than to save it for the long term	130	170	43.3	56.7
QA6: I set long-term financial goals and strive to achieve them.	230	70	76.7	23.3
QA7: Money is there to be spent.	84	216	28.0	72.0

the seven questions, more than half of the number of respondents correctly answered only three questions, i.e., QA1, QA3, and QA6, which meant they had a high level of perceived awareness in terms of these questions (refer Tables 6). The opposite was true for the rest of the questions. More than half of the respondents showed a lack of perceived awareness. QA7 had the lowest score with only 84 respondents or 28.0% of the total number of respondents answering it correctly. QA2 had the second last position in terms of the number of respondents with correct answers, at 42.3% of the total sample size. The question that had the highest marks for correct answer was QA6, with 76.7% of the total number of respondents answering it correctly.

The average scoring rate for financial awareness was 53.5%. In this study, it was

Table 7
Number of Respondents by Financial Awareness Score Percentages

Score Percentages (%)	Number of Respondents (n)	Percentage of Respondents (%)
0 - 25	21	7.0
26 - 50	117	39.0
51 - 75	116	38.6
76 - 100	46	15.3
Total	**300**	**100.0**

assumed that the pass mark was 50%; therefore, due to this result, slightly more than half of the respondents (162 respondents) were perceived to be financially aware. Meanwhile, as many as 138 respondents of the self-employed millennials provided the wrong answer, resulting in them being perceived as lacking financial awareness. Nine respondents managed to answer all questions correctly, scoring 1 for all seven questions in this section while only three respondents got 0 for all questions. In terms of score percentage, 117 respondents achieved score percentages of 26% to 50%. This was closely followed by 116 who scored between 51% to 75% and 46 respondents achieved score percentages between 76% to 100% and 21 who scored 0% to 25% respectively. Table 7 details the respondents' score percentages.

Financial awareness refers to the level of information the self-employed youths hold. With an average scoring mark of 53.5% for this section, it was found that the self-employed had a relatively high level of financial awareness level. This meant that they were equipped with information on finances. This confirms the findings of Zickuhr in 2010 which revealed that millennials are the most educated as compared to previous generations. This can be mainly attributed to the ease of obtaining information via the internet and most of the respondents having tertiary education.

As Table 6 shows, question QA7 i.e. "Money is there to be spent" received the lowest score rate, with only 28% of respondents managing to give the correct answer, i.e., score 1. This statement question seeks to find out the self-employed youths' mind-set concerning money. While money is used to spend for instant gratification, it should also be thought of as something that should be saved for future use and for investments to generate a return. This is an important concept that the youths need to grasp to increase the level of savings for their future.

Question QA2 which states "Insurance is to provide an excellent investment return" received the second lowest scoring of 42.3% of the total respondents. This question also related to the awareness of self-employed youths regarding certain financial instruments. In this regard, education is needed for this segment of the labour population. While some insurance products are investment-linked products that generate a return, the traditional aim of insurance is in fact to mitigate the risk of any future financial loss, depending on the type of the insurance product (i.e., general insurance or life insurance) (Rappaport, 2015). As an insurance product is an important financial tool to mitigate any future financial losses, self-employed youths need to understand the concept of insurance first to properly plan their financial future and be prepared for their grey years.

The question that received the highest score was QA6 "I set long-term financial goals and strive to achieve them" as 76.6% of the respondents scored 1. This revealed the positive mind-set that the self-employed youths had. However, these youths will also need to be equipped with an adequate amount of information before they can set long-term financial goals and strive to achieve them. These youths will need to understand financial concepts such as use of money and financial products such as insurance and loans. This is so that self-employed youths can have reasonable and achievable financial goals and be better prepared to strive for those goals and consequently for retirement.

Level of Retirement Preparedness of Self-Employed Youths

There was a total of 300 respondents and five questions in this section. For each question, 1 point was given for the answer that was perceived to evidence a sound retirement preparedness level. These points were later summed up and re-calculated in percentage form. The average scoring rate for this section was 63.8% {[957/ (300 x 5)] x 100}. Out of the five questions, only one question had less than half of the number of respondents answer the questions correctly i.e., low level of perceived preparedness in QR3 as seen in Table 8. The opposite is true for the rest of the questions where more than half of the respondents showed a high level of preparedness. In fact, QR3 had the lowest score with only 25 respondents or 8.3% of the total number of respondents who managed to answer it in a way that can be perceived as prepared for retirement. QR2 had the second last position in terms of the number of respondents with correct answers at 67.3% of the total sample size. The question that had the highest correct marks was QR4 at 87.7% of the total number of respondents.

The average retirement preparedness scoring rate was 63.8%. In this study, it was assumed that the passing mark is 50%; therefore, more than half of the respondents (229 respondents) were in fact perceived to have a high level of retirement preparedness due to this result. Meanwhile, as many as 71 respondents comprising self-employed millennials answered wrongly, which resulted in them being perceived as lacking retirement preparedness. Only 10 respondents managed to answer all questions correctly, that is, scoring 1 for all five questions in this section. On the other hand, only four respondents got 0 for all questions.

Table 8
Retirement Preparedness Scoring by Question

Questions	Frequency (n)		Per cent (%)	
	Prepared	Unprepared	Prepared	Unprepared
QR1: How consistently do you save?	255	45	85.0	15.0
QR2: Do you save/plan for retirement?	202	98	67.3	32.7
QR3: What proportion of your savings is for retirement?	25	275	8.3	91.7
QR4: What is the best time to start saving for retirement?	263	37	87.7	12.3
QR5: Are you aware of retirement savings schemes such as EPF's i-Saraan account or Private Retirement Schemes (PRS)?	212	88	70.7	29.3

Table 9
Number of Respondents by Retirement Preparedness Score Percentages

Score Percentages (%)	Number of Respondents (n)	Percentage of Respondents (%)
0 - 25	29	9.6
26 - 50	42	14.0
51 - 75	78	26.0
76 - 100	151	50.3
Total	**300**	**100.0**

An overwhelming number of respondents or 151 respondents scored a percentage range of between 76% to 100%. 78 respondents scored between 51% to 75%, followed by 42 respondents who scored a percentage of between 26% to 50% while 29 received score percentages of between 0% to 25%. Table 9 details the respondents' score percentages.

The question with the lowest score was QR3 "What proportion of your savings is for retirement?". As many as 8.3% of the total respondents did allocate much (more than 50% of their savings) of their savings money for their retirement. An overwhelming number of respondents (91.7% of the total number of respondents) did not allocate much of their savings for their retirement. This means that youths do not find retirement to be a top priority to save money, as they are more concerned with financial obligations closer to the present than those for the future. This confirms previous findings where savings are concerned; youths do not allocate much for the long-term. A higher allocation of savings would be dedicated to short-term obligations (MFPC, 2018).

The question with the second lowest scoring was QR2 "Do you save/ plan for retirement?" with 67.3% of respondents saving or planning for retirement. Although more than half of the respondents did save or plan for retirement, as related to question QR3, many did not allocate much for their retirement. While many of the respondents did save for retirement, there is room for improvement. The level of saving up for retirement can increase with self-employed youths being given the right exposure and education on the importance of saving for retirement. This finding also is parallel to the current level of retirement of formally employed youth. While the latter plan for their retirement, they also overwhelmingly depend on their EPF savings to sustain them during their grey years (MFPC, 2018).

The question that scored the highest was QR4 where the respondents stated that the time to start saving for retirement should be as soon as they start working to at most five years after they start working, which was 87.7% of the total respondents. This is a positive mind-set of the youths, which is also indicative of their financial awareness level as previously discussed. It is also worth noting that while the self-employed youths were aware of retirement savings scheme such as EPF's i-Saraan account or Private Retirement Schemes (PRS), as many as 39% of them were not aware of any tax incentives given for saving for retirement.

These findings regarding retirement preparation are in harmony with previous studies which revealed that youths are aware that they need to save for their retirement; however, much of their resources is allocated for short-term financial obligations. As stated in previous discussions, education is needed for this segment to learn how to manage their resources properly to balance between short-term and long-term obligations.

Relationship between Financial Awareness and Retirement Preparedness of Self-Employed Youths

The relationship between financial awareness and retirement preparedness was significant at 95% confidence interval. Hence, this study rejects the null hypotheses H1. That, retirement preparedness for self-employed millennials is influenced by financial awareness level. 10.7% of the variation in retirement preparedness can be explained by the level of financial awareness of self-employed youths. In addition, an increase by 1% of financial awareness level will increase the level of retirement preparedness by 0.316%. The model summary and ANOVA table are represented in Table 10 and Table 11 respectively.

Table 10
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
	0.327[a]	0.107	0.104	0.204	
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
				152	0.00
(Constant)	0.469	0.031	-	86	0
Financial Awareness				5.96	0.00
	0.316	0.053	0.327	8	0

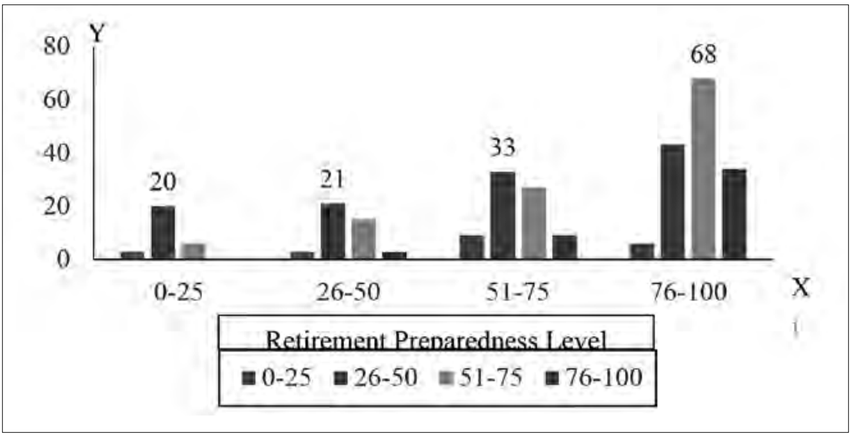
a. Predictors: (Constant), Financial Awareness

Table 11
ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.487	1	1.487	35.612	0.000
Residual	12.440	298	0.042		
Total	13.927	299			

a. Dependent Variable: Retirement Preparedness
b. Predictors: (Constant), Financial Awareness

Figure 2
Retirement Preparedness (Y) vis-à-vis Financial Awareness (X1) Score Percentages (%)



As seen in Figure 2, the modal range of financial awareness score percentage when the percentage score of retirement preparedness was at 76% to 100% was 51% to 75% (68 respondents). What this means is that while people are perceived to be prepared for retirement, they are also financially aware. The opposite holds true when the score percentage for retirement preparedness is 0% to 25%, the modal score percentage for financial awareness is 26% to 50%. The relationship between retirement preparedness and financial awareness was thus found to be positive. Here, the study categorised 0% to 25% marks as very low, 26% to 50% as low, 51% to 75% as average and 76% to 100% high level of financial awareness. The same categories apply for retirement preparedness marks. This confirms a finding by Lusardi and Mitchell in 2011, where financial awareness which is part of financial literacy affects preparation for retirement. A more financially aware self-employed youth will take necessary efforts in preparing themselves for their grey years, thus making themselves more prepared for retirement.

Influence of Demographic Factors on Retirement Preparedness

At 95% confidence interval, there was no positive association between gender and retirement preparedness as its p-value 0.840. Here, this study failed to reject the null hypotheses H2. As such, gender does not influence retirement preparedness. This finding departs from previous research (Jeyaram & Mustapha, 2015) which can be explained by the nature of self-employment and the narrowing educational attainment and income gap between males and females in the millennial category. Table 12 presents the test results.

At 99% confidence interval, there was a positive association between race and retirement preparedness as its p-value was 0.000. Here, this study can reject null hypotheses H3. Retirement

Table 12
T-Test Results for Gender Influence on Retirement Preparedness

	Independent Samples Test							
	Levene's Test for Equality of Variances		**t-test for Equality of Means**					
	F	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Std. Error Diff.**	**95% C. I. D**	
							Lower	Upper
A	0.039	0.840	1.73	298.00	0.085	0.025	-0.006	0.092
B			1.73	296.66	0.085	0.025	-0.006	0.092

Note: A = Equal variances assumed; B = Equal variances not assumed;
C. I. D. = Confidence Interval of the Difference; Diff. = Difference

Table 13
ANOVA Test Results: Influence of Race on Retirement Preparedness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.847	2	0.423	9.616	0.000
Within Groups	13.080	297	0.044		
Total	**13.927**	**299**			

preparedness was relatively higher among Chinese self-employed youths as compared to other racial groups. This is in line with a finding where Chinese students have a significantly higher level of literacy than students of other races (Jeyaram & Mustapha, 2015). This is as educational attainment in the Chinese community is high which leads to higher exposure and awareness to financial products and its uses. This brought forth a higher level of retirement preparedness. The test results are presented in Table 13.

At 99% confidence interval, there was a positive association between marital status and retirement preparedness as its p-value was 0.005. Here, this study can reject null hypotheses H4. There is a positive association between marital status and retirement preparedness. A married self-employed youth is more likely to be more prepared for retirement than a non-married self-employed youth. This finding is in line with previous findings where married people demonstrated higher financial literacy (Agnew et al., 2003). The sense of commitment for married couples is high, which leads to proper financial planning and self-discipline. This leads to higher level of retirement preparedness. The test results are presented in Table 14.

At 99% confidence interval, there was a positive association between education level and retirement preparedness as its p-value was 0.000. Here, this study can reject null hypotheses H5. A self-employed with a higher level of education is more likely to be prepared for retirement than a self-employed youth with a lower level of education. This is in line with a finding by Lusardi and Mitchell in 2014 where educational attainment is correlated with financial literacy and hence, would be correlated to retirement preparedness. This could

Table 14
ANOVA Test Results: Influence of Marital Status on Retirement Preparedness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.481	2	0.241	5.316	0.005
Within Groups	13.445	297	0.045		
Total	**13.927**	**299**			

Table 15
ANOVA Test Results: Influence of Education Level on Retirement Preparedness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.398	5	0.280	6.559	0.000
Within Groups	12.529	294	0.043		
Total	**13.927**	**299**			

Table 16
ANOVA Test Results: Influence of Number of Dependents on Retirement Preparedness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.583	3	0.194	4.312	0.005
Within Groups	13.344	296	0.045		
Total	**13.927**	**299**			

stem from a higher level of exposure to financial education for those with a higher level of education, thus leading them to be more aware and prepared for retirement. The test results are presented in Table 15.

At 99% confidence interval, there was a significant relationship between number of dependents and retirement preparedness as its p-value was 0.005. Here, this study can reject null hypotheses H6. A self-employed youth with a higher number of dependents will likely be more prepared for retirement than a self-employed youth with a lower number of dependents. This could be due to cultural impact and high level of familial commitment where youths with children would be forced to plan finances carefully to avoid unnecessary losses which would impact themselves and their family members. The test results are presented in Table 16.

Table 17
ANOVA Test Results: Influence of Income Level on Retirement Preparedness

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.277	3	0.426	9.963	0.000
Within Groups	12.649	296	0.043		
Total	**13.927**	**299**			

At 99% confidence interval, there was a significant relationship between income level and retirement preparedness as its p-value was 0.000. Here, this study can reject null hypotheses H7. A self-employed youth with a higher level of income is more likely to be more prepared for retirement than a self-employed youth with a lower level of income. This is echoed in a finding by Lusardi and Mitchell in 2014 where lower income individuals exhibit a lower level of financial awareness, which would impact their retirement preparedness levels. With a higher income, self-employed youths would have more opportunity to plan their finances and would be exposed to a variety of financial instruments and savings channels which would naturally lead them to save more and be prepared for retirement. The test results are presented in Table 17.

The findings generally indicate that there is a significant relationship between demographic factors tested with retirement preparedness except for gender.

Conclusions and Recommendations

This study proves that like millennials of other professional backgrounds, self-employed millennials are also unprepared for retirement. Despite the seeming high marks in terms of financial awareness and retirement preparedness, which have a positive relationship, awareness of important topics such as understanding the right use of certain financial instruments is still lacking among self-employed youths. Interestingly, as can be seen from the responses to QA2, many understand insurance as another investment tool that is aimed at generating a return for themselves rather than as a financial tool to mitigate risks. This may have an impact on these youths as, unlike their formally employed counterparts, they are not covered under any mandatory retirement saving schemes. Meanwhile, all demographic factors tested, except for gender, do affect level of retirement preparedness. This may have impact on policy directions from policymakers for self-employed youths in Malaysia where targeted policies can be crafted strategically to serve groups of self-employed youths differently. The statistical tool employed for this study was modest as the study only aimed to investigate the level of financial awareness and retirement preparedness among self-employed millennials, which is behavioural in nature. The implication of this study is in the crafting of policies by the government for the self-employed sector which is increasingly comprising younger people. The relevant authorities can organise conferences, hold roadshows, campaigns, and intervention programmes which can focus on topics aimed to meet the needs of self-employed Malaysian millennials ■

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Legality of Cryptocurrency from An Islamic Perspective: A Systematic Literature Review

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Introduction

People often only consider paper notes and coins as money, but in reality, money refers to anything that is an acceptable mode of payment for goods, services or debts. Money is thought to be a medium of exchange, a unit of account and a store of value. Money, being a medium of exchange, establishes a high degree of economic efficiency. Money thus needs to be standardized, widely accepted, stable, durable, and mobile. The current monetary system is unable to fulfill the primary functions of money being a unit of account and store value. Thus, in the economy, a currency must achieve these functions in order to stimulate stability (Peie et al., 2017).

What is Cryptocurrency?

Transactions over the Internet rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments and the cost of this mediation increases transaction costs, limiting the minimum practical transaction size and cutting off the possibility for small casual transactions. The solution to this problem lies in cryptocurrencies which are decentralized currency schemes based on cryptography. This enables users to provide virtual payment for goods and services free from a central trusted authority. Cryptography is a way of encoding messages or making them unintelligible to unfamiliar eyes. Bitcoin is an open source, peer-to-peer digital currency that was first proposed in a white paper published under the name of Satoshi Nakamoto in 2008. Nakamoto stated that financial institutions have been relied upon almost exclusively as trusted third parties for processing electronic payments for commerce on the Internet. While the current system works well enough for most transactions, it still suffers from the intrinsic deficiency of the existing model (Nakamoto 2008). Further, the rewarding mechanism through which Bitcoin is created is called "mining". For Bitcoin to be "mined", a process of sophisticated mathematical problem solving must occur and this becomes increasingly complicated over time, as the maximum number of Bitcoins is limited to 21 million.

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In the Bitcoin network, money is not in a physical form, but rather it is "mined", using widely distributed computing power. The "miners'" are operated autonomously by members of the network, using software built to support the initial algorithm. The system's sophistication lies in the fact that it produces Bitcoins. The mining network also handles the exchange of Bitcoins between currency holders (Nakamato 2008). In researching cryptocurrencies, three different meanings have been observed: Bitcoin the currency, Bitcoin the protocol and Bitcoin the transaction network. However, "cryptocurrency" in this paper refers to the currency unit, while the other meanings are referred to directly.

The different meanings of Bitcoin are explained as follows: Bitcoin (the currency) users depend on the Bitcoin protocol to receive and send payments over the Internet (Brito & Castillo 2013). Participants who want to buy and sell using Bitcoins then connect to a peer-to-peer network (transaction network). The Bitcoin network is based on the Bitcoin protocol (Meiklejohn et al. 2013). To avoid double-spending of Bitcoins, each transaction is verified by Bitcoin network nodes or "Miners", who have to solve a complicated mathematical problem. The Miner who succeeds first includes the transaction in a publicly available ledger and gets rewarded with Bitcoins (Nakamato 2008). Therefore, as the encryption, verification and transfer for each transaction is based on the Bitcoin protocol and transactions are publicly available through the ledger that is shared by nodes in the network, neither individual actors nor any central institution is needed for conducting a transaction (Maurer et al., 2013).

What is Meant by 'Shariah - Compliant'?

'Shariah' refers to activities that comply with the teachings of the Islamic religion, also known as Shariah law (the divine law). All the transactions should be free from prohibited elements, such as *riba* (usury), *gharar* (speculation or unreasonable uncertainty) and *maisir* (gambling). The main source in Islamic law is the *Qur'an* and the *Sunnah* (the teachings and practices of the holy Prophet Mohammad) (Bakar et al., 2017).

The focus of this review is to map all research papers regarding the legality of cryptocurrencies from an Islamic viewpoint, with an emphasis on Bitcoin as the most widely used cryptocurrency, which we believe requires a summarization in order to identify whether or not it is compatible with Islamic law since there have been no prior systematic literature reviews on this matter. The following questions form the basis for this review:

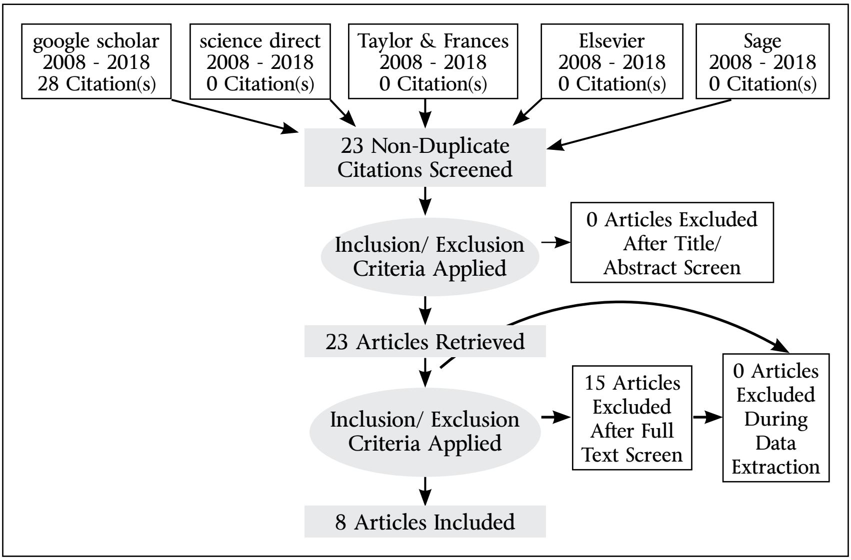
1. What is the opinion of Muslim scholars on the permissibility of cryptocurrencies in Islam?
2. What aspects have been addressed until now and which gaps remain to be covered?

This literature review is divided into four sections. Section 1 gives a brief overview of money in general and Islamic law. In the second section, we outline the methodology for the literature review and then present its results in section 3. Finally, a conclusion is drawn and the literature review limitations are discussed.

Systematic Literature Review

The reporting of this systematic literature review was based on the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines. An overview of the process used to identify the articles in this study is illustrated in Figure 1 and is described in the following. Firstly, the following search terms have been used: "cryptocurrency" AND "compatibility with Islamic law" OR "in compliance with Islamic law" OR "legality from the Islamic perspective" OR "Islamic law "OR "Islamic perspective" OR "Shariah law "OR "Islamic perspective" OR "Islamic view" and "Bitcoin" to obtain a comprehensive overview of the literature on cryptocurrencies from an Islamic perspective. The term "Bitcoin" was also included as Bitcoin is currently the most widely used cryptocurrency. The search terms "digital currency" or "virtual currency" were not used as our focus was on decentralized currency schemes based on a cryptography literature review. The time frame of the search was not restricted, but we did not expect to find much literature prior to 2008. These search terms were then used in the *Google Scholar, Science*

Figure 1
Flowchart of the Systematic Review



Direct, Taylor and Frances, Elsevier and Sage databases to identify relevant studies. To ensure that only quality publications were included, practical screening criteria were specified. More specifically, to be included in the review, papers had to (1) be published articles, (2) state the primary or secondary aim as assessing the compatibility of cryptocurrencies or Bitcoin from an Islamic point of view, and (3) be written in English. This was to address the main objective of the study in assessing the legality of cryptocurrency or Bitcoin from an Islamic point of view. A study was excluded if it did not contain data relevant to any of the above three criteria. As a result, the identified citations were reviewed in a two-stage process according to the established inclusion and exclusion criteria. Firstly, the titles and the abstracts of articles were screened. Then, the full texts of all identified articles were assessed. At the initial stage, a total of 25 articles was retrieved, and then five duplicates were removed. Additionally, "manual checks" for all the articles that fell within the search inclusion criteria were performed by reviewing the full text of the remaining ones. This resulted in removing 15 papers that clearly did not address the topic or that were outside of the scope of this paper, or, for example, the language of publication. Furthermore, an additional three studies were identified by examining the reference lists of the included articles. In fact, a point of saturation was considered to have been reached when the same articles continued to appear. Therefore, this systematic literature review is based on eight articles with a specific focus on cryptocurrencies from an Islamic perspective.

Our selected studies reveal an overall consensus among Muslim scholars towards the permissibility of cryptocurrency. Table 1 shows the critical results of included studies in this review. The Findings of each study were discussed. A careful review of the content of included articles indicates that all the arguments posed by those who condemn cryptocurrency as being not Islamic are weakly reasoned and could be managed through proper regulation. Moreover, all papers focus on validating or refuting whether cryptocurrencies have the characteristics of money or not, leaving out other aspects of money.

Table 1 summarizes the result of this literature review, which reveals that only two out of eight papers ground their research on the impermissibility of Bitcoin in Islam. The two papers provided almost the same argument against Bitcoin permissibility in Islam. According to Meera (2018), Bitcoin and cryptocurrencies are forbidden from the Shariah point of view as the Bitcoin inventor is unidentified; there is no central authority behind its issuance; it has no intrinsic value; and the high volatility of Bitcoin value makes it inconsistent with the store of value function of money, which is an important role for anything that plays the role of money in Islam. Moreover, the author claims that there is a direct link between money having an intrinsic value and monetary justice. According to the author, for any digital currency to

Table 1
Summary of Papers Included

Source	Argument	Findings
Meera, A. K. M. (2018)	• Lack of supervision; • Has no intrinsic value; • Has an element of both *maisir* and *gharar*; • High volatility; • The inventor is unknown.	Cryptocurrencies are not backed with real assets; therefore, Bitcoin is not Shariah- compliant.
Bakar, N. A., Rosbi, S., & Uzaki, K. (2017)	• Has no physical form; • Has no intrinsic value; • Difficulty of tracking the real account holder; • High volatility; • No central authority; • Vulnerability to hacking activity	Bitcoin transaction is classified as a transaction with high uncertainty (*gharar*)
Evans, C. W. (2015)	1. Performs the store of value function; 2. Cannot be inflated; 3. The way it is created is free of *riba*; 4. Incorporates the principle of *maslahah*; 5. Operated according to the principle of risk-sharing and cost-sharing (*musharakah*)	Bitcoin or a similar system might be a more appropriate medium of exchange in Islamic banking and finance than a riba-backed central bank fiat currency
Muedini, F. (2018)	1. The supply of Bitcoin is fixed, thereby eliminating any potential *gharar* (uncertainty) and inflation; 2. It cannot be altered, forged, or manipulated; 3. Removes any risk associated with a third-party control over one's money	Bitcoin and other digital currencies seem to be much more aligned with the principles of justice and social fairness, characteristics valued in Islamic jurisprudence

Table 1
Summary of Papers Included

Source	Argument	Findings
Abubakar, Y. S., Ogunbado, A. F., & Saidi, M. A. (2018).	**Proponent views:** • Bitcoin acquisition is permissible if it is done for the purpose of immediate payment for goods and services or currency exchange; • Bitcoin mining may be permissible if the goal behind it is noble; • Bitcoin cannot be forbidden based on its fluctuating value; • Bitcoin is recognized as a legal currency if allowed by governments; • Any commodity that may be used by a society as a means of payment may be perceived as money; • Bitcoin fulfils the condition of *mal* and is thus allowed as a means of exchange **Opposing views:** 1. It is neither a measure of value nor a monetary commodity; 2. Its valuation is open to speculation; 3. The Bitcoin issuer is anonymous; 4. It has no intrinsic value; 5. Bitcoin is considered a type of gambling as traders invest a lot of money to create Bitcoin with no guarantee of success as the miners try to solve mathematical puzzles in order to create Bitcoin; 6. Bitcoin is subject to high speculation; 7. No central authority; 8. Difficulty to track the real account holder if any suspicious activity occurs	The study found that Muslim scholars are divided on this issue. Some completely reject Bitcoin, while others believe Bitcoin does not contradict Islamic principles. These researchers tend to support the supporters' view

Table 1
Summary of Papers Included

Source	Argument	Findings
Asif, S. (2018)	1. The Proof of Work (PoW) protocol is *Halal* whereas the Proof of Stake (PoS) protocol is *Haram*; 2. The existing cryptocurrency derivatives found to be *Haram*; 3. The earnings resulting from an unlawful source (industry) are deemed *Haram*; the earnings resulting from a lawful source (industry) are deemed *Halal*.	The cryptocurrency ecosystem consists of both *Halal* and *Haram* elements
Oziev, G., & Yandiev, M. (2017)	Bitcoin complies with the following requirements of Shariah: 1. The emission process, including its supply to and withdrawal from the money market should be free from *Riba*; 2. Nature of currency/money can be tangible or intangible (e.g.: digital); 3. Money emitter and monetary regulator can be two different bodies; 4. Money emitter is a risk-free organization; 5. Money emitter should not enter into financial relations with financial institutions aimed at obtaining income; 6. Using foreign currency/money as the state currency is permissible; 7. Money does not necessarily have to be backed by real assets; 8. Money must be emitted in a sufficient volume to serve the needs of the economy; 9. No prohibitions and no restrictions on monetary transactions, as well as the exchange and transfer of money	The authors believe in the permissibility of using the cryptocurrencies subject to strict reservations

Table 1
Summary of Papers Included

Source	Argument	Findings
Adam, M. F. (2017)	• Bitcoin seems to be *māl* (wealth) with *taqawwum* (legal value); however, it does not possess *thamaniyyah* (currency attributes); • The following risks were determined in relation to Bitcoin: security risk, technological risk, money laundering risk, volatility risk, data risk, transaction risk, intermediary risk, regulatory challenge, structural deflation risk, competition, Bitcoin scalability risk, monopoly risk, liquidity risk; • Bitcoin falls short of fulfilling the principles of the preservation of wealth in Shariah; • Bitcoin and cryptocurrency investments do not serve the real economy and do not promote the real growth of an economy	• Bitcoin is considered to be money. • At this current time, Bitcoin is just another investment which is for individual profit maximization; nevertheless, returns on it should be lawful

1 First view: Cryptocurrency is Incompatible with Islamic Law

be compatible with Shariah law, it has to be a measure of value and it has to be a monetary commodity. He argues that there must be a standard of weight on a paper note or electronic currencies for it to be Shariah-compliant. Moreover, it has to be redeemable with a standard weight, such as gold. Otherwise, it is just another type of fiat money. Furthermore, Bakar et al., (2017) added the fact that the account holder is unknown, which makes it difficult to track in the case of any suspicious activities, which encompasses an element of *gharar* (uncertainty). Additionally, it is also vulnerable to hacking activity.

Cryptocurrency is compatible with Islamic law

All remaining papers ground their research on the permissibility of Bitcoin in Islam. According to Abubakar et al., (2018), the proponents' view on the permissibility of Bitcoin is based on the consent of any given society to use a certain commodity as a method of payment and thus it should be considered money. As a consequence, the authors believe that most of the arguments of the opponents among Muslim scholars are based on temporary problems which can be easily overcome with proper regulation of cryptocurrencies, particularly Bitcoin, by governments (Abubakar et al., 2018). Furthermore, Oziev and Yandiev (2017) stated that there is no proof that Bitcoins clearly contradict Islamic law. In addition, the rapid growth of the Bitcoin price does not necessarily signalize its impermissibility from an Islamic point of view. Instead, it is just an indication of the rising demand for Bitcoins. However, the following must be abided by for Bitcoin to be Shariah-compliant (Oziev & Yandiev 2017).

1. Bitcoin acquisition should be done with the intention of instant payments for goods and services or even for currency exchange;
2. For Bitcoin mining to be lawful, nobility as a driving force is essential.

Evans (2015) pointed out that the underlying technology of Bitcoin can effortlessly conform to the prohibition of *riba* (usury) and incorporate the principles of *maṣlaha* (social benefits of positive externalities) and mutual risk-sharing (as opposed to risk-shifting).

Muedini (2018) argues that Bitcoin and other cryptocurrencies are highly compatible within Islamic finance and, have in many cases, solved the issue of a middleman in the form of a government institution controlling currencies. Bitcoin and other cryptocurrencies have, above all, provided a better solution for several concerns of early Muslim scholars. In contrast to fiat, the issuance of Bitcoin and many other digital currencies are fixed, which, in effect, eliminates the possibility of *gharar* (deception), and also inflation. Moreover, Bitcoin cannot be altered, forged, or manipulated. Adam stated that Bitcoin does seem to be *Māl* (wealth) with *Taqawwum* (legal value); however, it does not possess *Thamaniyyah* (currency attributes). Furthermore, Bitcoin falls short of fulfilling the principles of the preservation of wealth in Shariah. Bitcoin and cryptocurrency investments fall short in serving the real economy and in promoting real growth in an economy. Therefore, it can be argued that Bitcoin is not ideal as a long-term investment and neither should the Islamic finance industry consider its use in exchange until a framework which is regulated and transparent is established (Adam, 2017).

The author concedes that currently, Bitcoin is just another type of investment which is for individual profit maximization. Despite this, returns on such investments would be Shariah-compliant (Adam, 2017). According to Asif, "although the technology of cryptocurrencies in itself is *Halal*, different aspects contribute in deciding whether the specific digital currency in question is *Halal* or *Haram*" (Asif, 2018).

Conclusion

The present paper aims to present a systematic literature review that investigates the compatibility of cryptocurrencies with the Islamic code of conduct. The stands of Muslim scholars on the permissibility of cryptocurrencies comprise both opponent and proponent. Generally, the opponents of this view argue that a cryptocurrency is not compatible with Shariah law due to the fact it has no intrinsic value, no central authority and Bitcoin value is highly unstable. Moreover, all the arguments contending that cryptocurrencies are not Islamic are weakly reasoned, whereby any inherent weaknesses or problems can be solved. As a matter of fact, many scholars are working on the shortcoming of blockchain, which are temporary in nature and can be easily solved through proper regulation. On the other hand, the advocates of cryptocurrencies' permissibility affirm that there is no proof suggesting that cryptocurrencies are against Islamic law. Moreover, all papers focus on validating or refuting whether cryptocurrencies have the characteristics of money or not, leaving out other aspects of money, such as lending, fundraising, financing and alike, which have been ignored in the academic research arena.

This systematic literature review inevitably has some limitations. Despite this, the research presented could be a springboard for further study. The focus here was on Bitcoin due to the fact that it was the first decentralized payment method. Currently, there are many types of cryptocurrency which have not been considered in this paper, so adding them to the consideration could give a more accurate result. Additionally, the literature review was limited to peer-reviewed articles. Therefore, adding more sources of information could be more prolific.

This systematic literature review suggests that policy makers in the Muslim world should consider adopting cryptocurrencies and develop a subsequent financial system compatible with the operations of cryptocurrencies. Conducting research in the technical aspect of cryptocurrencies could also prove to be beneficial to business scholars ■

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RFP Your Pathway to Professionalism
RFP Shariah A Premier Financial Planning Designation of MFPC
Volume 8 / June 2021

The Impact of the Covid-19 Pandemic on Economic Markets

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Introduction

The Covid-19 pandemic has had a great impact on the world's economies as it has affected more than 200 countries. As of writing this article, over 6,000,000 positive cases and more than 300000 deaths have been recorded (WHO, 2020; Wang, Hong, Li, & Gao, 2020).

In particular, the pandemic has impacted on (1) labour markets, (2) goods and services markets, and (3) money markets (interest rate) (WHO, 2020; Wang et al., 2020).

The effects on labour markets have been immediate and very significant, and are likely to continue. Many millions of workers have been directly impacted by lockdowns. Many workers have lost their livelihoods, increasing the unemployment rate in global labour markets (Fouad, 2020; (Henrekson, 2020; International Labour Organization, 2020; Wilson, Cockett, & Papoutsaki, 2020).

In addition, the goods and services markets have also been directly affected by the shutdowns and disruptions to supply chains, stalling economic growth. The effects have already been dramatic, particularly for commodities related to transportation. While most food markets are well supplied, concerns about food security have risen as countries announce trade restrictions and engage in excess buying (Fernandes, 2020; Luonga & Nguyen, 2020; Simola & Solanko, 2020). Finally, the global money market (interest rates) has also been affected negatively. Although this is not nearly as high a priority as protecting people's health and well-being, it is still important for the money market to learn from these challenges (Ashraf, 2020; Fernandes, 2020).

The Labour Market

The job market or the labour market refers to the supply of workers to meet employers' demand. The labour market is an important component of any economy and is closely related to

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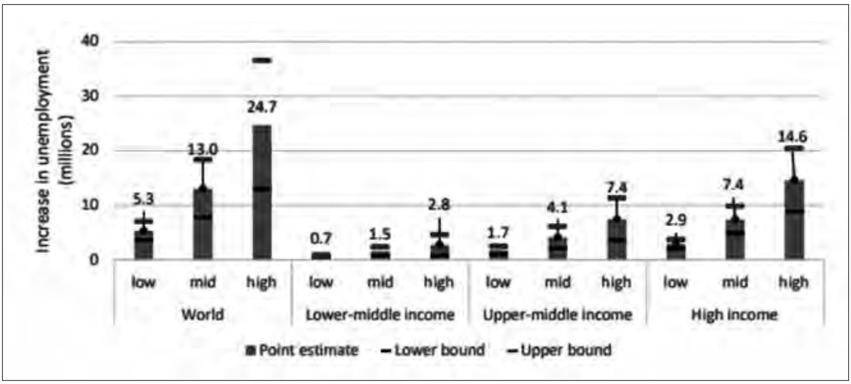
the capital, goods, and services markets. At the macroeconomic level, supply and demand are influenced by national and international market dynamics, as well as by factors such as migration, population age, and levels of education. Related factors include unemployment, productivity, participation rates, total income, and gross domestic product. At the microeconomic level, individual companies interact with wages and work hours, increasing or reducing them. The relationship between supply and demand affects employee working hours and the compensation they receive for wages, salaries, and benefits (Henrekson, 2020; International Labour Organization, 2020; Mankiw, 2020).

The Covid-19 pandemic has had far-reaching effects on labour market outcomes. Beyond pressing concerns about the health of workers and their families, the pandemic and the subsequent economic shocks have affected the world of work in three main dimensions: 1) the number of jobs (unemployment and underemployment); 2) quality of work (for example, wages and access to social protection); and 3) effects on specific groups that are more vulnerable to negative labour market outcomes (Henrekson, 2020; International Labour Organization, 2020; Mankiw, 2020).

Initial ILO estimates indicate a significant increase in unemployment and underemployment due to the virus. Based on different scenarios of the effect of the pandemic on global GDP growth (see Figure 1), International Labour Organization (ILO) preliminary estimates indicate an increase in global unemployment between 5.3 million ("low" scenarios) and 24.7 million ("high" scenarios) from a base level of 188 million in 2019. A "medium" scenario indicates an increase of 13 million (7.4 million in high-income

Figure 1
The Impact of A Slowdown in Global Growth on Unemployment on the Basis of Three Scenarios, World and Income Groups (Millions)



Source: International Labour Organization countries). Although these estimates are still very uncertain, all figures indicate a significant increase in global unemployment. For comparison, the global financial crisis in 2008-2009 increased unemployment by 22 million (International Labour Organization, 2020; Sumner, Hoy, & Ortiz-Juarez, 2020).

It is expected that underemployment will increase widely. As noted in previous crises, the impact of labour demand is likely to translate into significant downward adjustments in wages and hours of work. While self-employment does not usually react to economic downturns, it acts as a "hypothetical" option for survival or income maintenance, often in the informal economy. For this reason, informal employment tends to increase during crises. However, current restrictions on the movement of people and goods may restrict this type of coping mechanism. The decline in economic activity and the restrictions that affect people's movements affect both manufacturing and services. The latest data indicates that the total value added of industrial companies in China decreased by 13.5 per cent during the first two months of 2020 and global and regional supply chains were disrupted. The services, tourism, travel, and retail sectors are particularly vulnerable. A preliminary assessment by the World Trade and Tourism Board predicts a decrease in the number of international arrivals by up to 25 per cent in 2020, putting millions of jobs at risk (International Labour Organization, 2020).

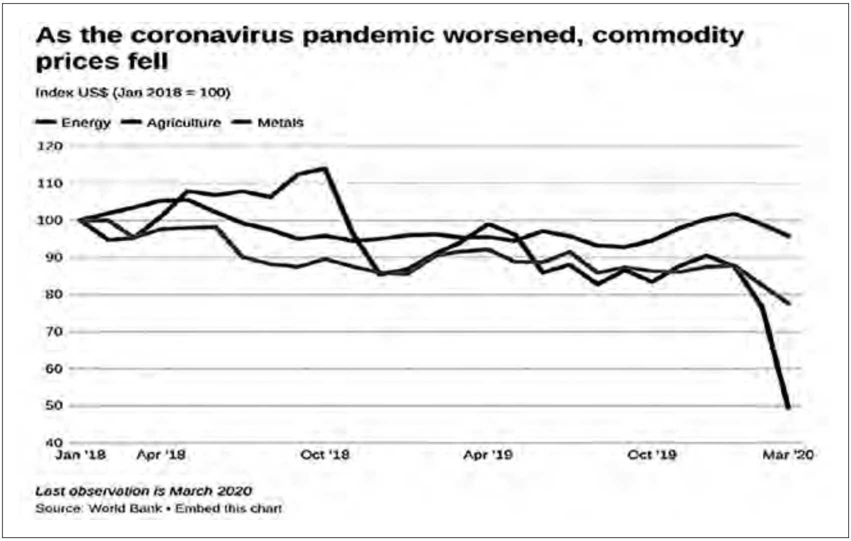
The Goods and Services Market

Commodities such as pens, salt, apples, and hats are generally (but not always) tangible goods. Services are activities that others, including doctors, gardeners, dentists, barbers, waiters, online servers, etc. provide. Together, the production, distribution, and consumption of goods and services supports all economic activity and trade. According to economic theory, consumption of goods and services should provide a benefit (satisfaction) to the consumer or end-user, although companies also consume goods and services in the context of producing other goods and services (Mankiw, 2020; Marshall, 2009).

As countries around the world face the health emergency of the Covid-19 pandemic, the economic effects of almost all activities being suspended immediately have affected global commodity markets and are likely to continue to affect them in the next months (Barua, 2020; Dev & Sengupta, 2020).

The epidemic has affected demand for and supply of goods alike, according to the April release of Commodity Market Reports. These effects are direct as a result of the closure to mitigate the spread of the virus and disturbances in supply chains. They are also indirect, as the global response slows the growth and leads to what is expected to be the largest global recession. (Ishiwata & Furuya, 2020; Sukharev, 2020).

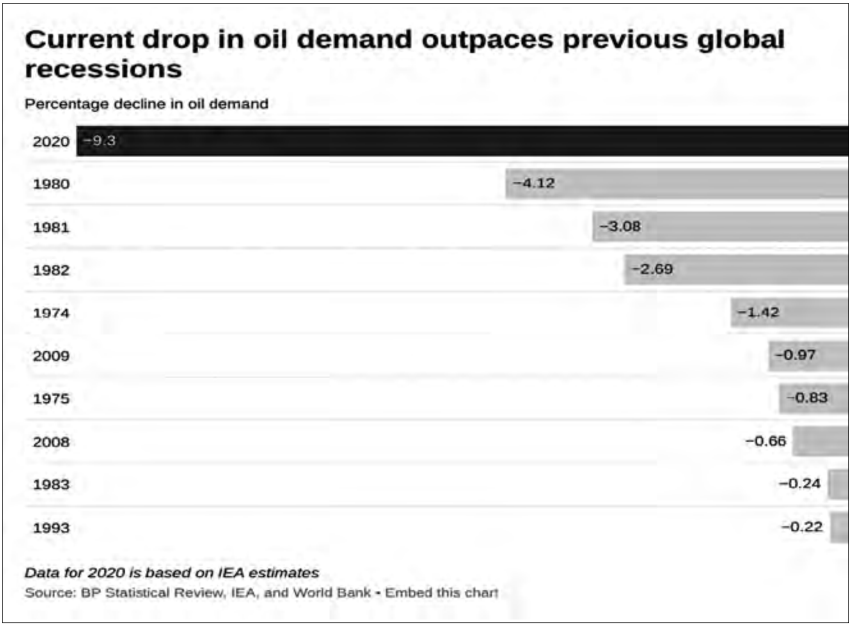
The full impact of the pandemic on commodity markets will depend on



how severe and how long it lasts and how countries and the international community decide to respond to it. The pandemic can lead to permanent changes in the supply and demand for products, especially in supply chains that transport these products from producers to consumers around the world (Ishiwata & Furuya, 2020; Sukharev, 2020).

The effects were really exciting, especially for transport-related products. Oil prices fell beginning January 2020, and prices hit a record low in April 2020, with some indices operating at negative levels. This decrease reflected a sharp drop in demand and was exacerbated by the uncertainty about production levels among the major oil producers. Due to the easing efforts that have limited most travel, oil demand is expected to drop by 9.3 million barrels per day in 2020 in an unprecedented way from the 2019 level of 100 million barrels per day. Oil prices are expected to average $ 35 a barrel in 2020, a sharp downward revision to the October forecast, and a 43 per cent drop from the 2019 average of $ 61 a barrel. The prices of natural rubber and platinum, which are widely used by the transportation industry have also fallen (Bloom, 2009; World Bank, 2020).

The recent efforts of the Organization of the Petroleum Exporting Countries and other oil producers to reduce production in response to lower demand will reduce some of the pressure on oil markets. However, in the long run, the current agreement, to the extent that it supports prices, will be subject to the same forces (the emergence of new producers, as well as exchange and efficiency gains) that led



to the collapse of previous agreements and other commodity treaties. Part of the report looks at OPEC in the context of past coordinated efforts to manage prices (Cashin, Mohaddes, Raissi, & Raissi, 2014; Greene, 2010; Van de Graaf, 2020; World Bank, 2020).

Average gross energy prices, which also include natural gas and coal, are expected to decrease by 40 per cent in 2020 compared to 2019, although a major recovery is expected 2020-2021. Natural gas prices fell dramatically in 2019-2020, but coal prices have been less affected as demand for electricity has been less affected by mitigation measures (Janzen, Davis, & Kumar, 2020; world-bank, 2020).

Money Market

The money market refers to trading in short-term debt investments. At the wholesale level, it involves large-scale exchanges between enterprises and merchants. At the retail level, it includes mutual funds in the money market that individual investors buy, and money market accounts opened by bank customers (Levi, 2005; Stigum & Crescenzi, 2007).

Merchants and institutions are more buyers of other money market products, such as euro deposits, bank acceptance, commercial paper, federal funds, and repurchase agreements. In all cases, low-risk investments with maturities of overnight to slightly less than a year are considered. This short life makes it almost liquid-like liquidity. In other words, the exit is safe and the money cannot be reached for a long time (Cook & LaRoche, 2010; Gorton, Metrick, Shleifer, & Tarullo, 2010).

Bridging the economies during the Covid-19 crisis creates conditions in which private sector demand can go unlimited while protective savings increase. This article indicates that the crisis will further reduce the real interest rate for equilibrium, which has declined since the 1980s. However, increased government spending to combat the crisis could offset this trend. The overall impact on the balanced rate of interest will depend in part on the extent to which the growing public debt can provide the private sector with a safe asset to maintain protective savings (Gavin Goy, 2020; Lagoarde-Segot, 2020).

Savings and Spending

The Covid-19 crisis began as a supply-side shock turned into a shock in demand. High uncertainty and strict bans are increasingly affecting the economy, which have led to increased private savings in the short term. The decline in aggregate demand is offset, at least in part, by higher government spending as governments announce important fiscal policy measures. Although changes in public savings can be considered a mirror image of short-term private savings, the effects of the Covid-19 outbreak on total savings are less clear in the future (Gavin Goy, 2020; Krugman, 2020).

Assuming that the Covid-19 crisis is a temporary shock that does not affect preferences for long-term savings, accumulated demand will result in a higher interest rate once the crisis is resolved (since the equilibrium interest rate is the relative price of future goods on today's commodities). However, due to budgetary constraints in the euro area, budget conditions must be improved at some point so that the fiscal stimulus provided is temporary. This reduces the space available for a permanent reduction in public savings (Gavin Goy, 2020; Krugman, 2020).

If the Covid-19 multiple waves require the blocks to persist for a longer period, the recession may be longer, unlike the V-shaped recovery. In this case, the marginal propensity to consume may decrease and unemployment risks can increase the preferences of prudential savings. In this context, the findings of Jordà, Singh, and Taylor (2020) suggest evidence that the shift towards preventive saving is a typical feature of epidemic periods. Such an increase in risk aversion, similar to that observed after the global crisis, will further lead to a lower interest rate on the equilibrium. As a result, the economy is moving towards a new balance (or balanced growth path) with greater uncertainty and less economic growth (Gavin Goy, 2020; Krugman, 2020).

Conclusion

The Covid-19 crisis will lead to significantly negative effects on the global labour, goods and services and money market in future years. Firstly, the labour market will face high unemployment that comes from the high number of companies that will be closing resulting from this crisis. Secondly, the goods and services market will be affected by this crisis through the high numbers of companies that will be closed due to this crisis. Thirdly, the money market (interest rate) will be negatively affected by the high reduction of interest rate as governments try to increase investment in their economies. Government support measures are trying to prevent this by increasing the money supply in the markets. There will be an upward impact on the labour market, the goods and services market, and the money market. However, the crisis has also had a downward impact on the equilibrium rate of potential growth declines and risk premiums remain high due to increased risk aversion ■

The Crypto Book:
How to Invest Safely in Bitcoin and Other Cryptocurrencies

Yong Chu Eu
Money & Life Academy Sdn. Bhd.

Author	: Siam Kidd
Publisher	: John Murray Learning
No. pages	: 217
Price	: RM79.90
ISBN Publication	: 9781473693319

Bitcoin was invented by Santoshi Nakamoto during the Global Finance Crisis of 2007/08 in answer to the distrust among the majority towards centralized authorities like banks and governments. This conflict continues from the Occupy Wall Street movement to the recent GameStop Speculation. This explains why the open source, transparent, and decentralized feature of bitcoin has been able to capture the participation of retail investors from bitcoin's early stage until recently when institution investors started to participate in search of wealth preservation. Whenever there is a crisis, people tend to look towards safe havens to preserve their wealth, and now they have another option in addition to gold and stable currencies. Recent research reveals that people have started to look at bitcoin as replacement for gold as a wealth preservation tool. Since 2007, fiat currencies have depreciated although with government regulation, conversion rates have not changed much. However, in comparison, the price of gold has not fluctuated much. That accounts for why people are turning to bitcoin.

One of the features of bitcoin is peer-to-peer transaction with low transaction cost, making it preferable. Bank remittance normally takes several days, especially if it is between regions or countries, and with a 5-7% transaction fee. This requires having a bank account to allow transactions to take place. As there are about 1.7 billion people who are unbanked and do not have access to bank facilities, this disqualifies them from participating in global economic activity and transactions. With bitcoin, as long both the sender and receiver have bitcoin wallets and Internet connection, they can send any amounts of bitcoins as payment to each other with a low transaction fee (<1-2%) and the whole transaction will take only about 10 minutes to complete.

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This is a very big improvement over the traditional remittance system and brings more people into global economic activity and creates more prosperity for everyone. (Chapter 2: *The Crucial Difference between Money and Currency*). The blockchain technology behind the bitcoin is here to stay and will change a lot of things that we have been used to. We should not ignore this and that's why I recommend this book.

Siam Kidd, the author, is a full-time UK Cryptos Investor, Trader and Educator. His book is based on many years of hard trial and error experience in trading. He was able to ride through the Cryptos crash in 2017/18 and managed to profit from it, making him a good person to learn from. In Chapters 23 and 24, he talks about his own experiences and observations of the market, and about the ten plus eleven mistakes made by Crypto novices. This is a good lesson for us as it teaches us to not repeat other people's mistakes and lose all our money.

We always link Crypto Market to Tech Bubble and speculation which is unfair, but the author manages to project a good perspective for the reader to compare the peak total market capitalization of 8.7 Trillion during Tech Bubble with Cryptos Market (0.65 Trillion in 2018 according to the book but, its value was about 1.7 Trillion as at 23 March 2021) and understand too much liquidity now which is very different from the last time. And people have started to see bitcoin as digitalized gold due to its scarcity feature which is inflation proof. Some investors have started to replace some of their gold and US currency reserves to bitcoin due this this reason. Of course, it is still too early to see which coin will become the de facto in its area. A crash is part of the cycle if it should go far beyond its value, but it is too early to worry about it now. If we look back at the Tech Bubble, the evolution in technology continues where Google, Facebook and Amazon have become Internet icons replacing Yahoo/AOL. (Chapter 15: *The Lesson and Comparison of the Dotcom Bubble*).

Bitcoin and the technology underneath, blockchain, is like the Internet, a game changer and now as version 3.0, the technology evolution has grown from being purely transaction driven to smart contract (automate algorithm that governs any trust-less transaction) and plenty of business applications. (Chapter 12: *Understanding the Technology Adoption Curve*) Blockchain technology offers a lot of great features like military grade security, freedom (peer- to-peer or decentralized), no intermediary (saves cost, is more confidential), with unalterable records (creates trust in data), with no single point of failure and speed. Big companies like Walmart and Cola-Cola have started to apply blockchain technology to reduce costs and improve business efficiency. We will see increasing adoption of bitcoin in the business world. (Chapter 6: *What on Earth is Blockchain?*)

One of the valuable parts of this book is about the author's Cryptos Investment Portfolio and strategies. This is because of his many years of experience with Cryptos. The first and important point is alternative coins like Ethereum and others are more volatile than bitcoin; so, those who are more conservative should focus on investing in bitcoin only. Why bitcoin only? Bitcoin is the mother of all crypto coins and due to limited supply, which is about 21 million units only, makes it more valuable, inflation-proof and secure to hold for the long term. The second important point is to never put all your money in Cryptos. Some of the profit from cryptos should be locked in bitcoin and some of it should be cashed out to invest in other investment types like stock, business, property, etc. Cryptos only exist in the virtual world; you cannot touch them so you should not put all your money in one basket in the virtual world. As for the author's investment portfolio, he invested in varieties of cryptos industries like the Internet of Things, Storage, etc. Five per cent of his investment is in bitcoin as a pension fund, the ultimate gift that he wants to keep for his kids or grand kids. (Chapter 22: *The Top Cryptos to Get it into Right Now*).

The crypto world has not escaped scams. The author discusses how to detect and avoid Fake MLM and scams in Chapter 20. One of the evolutions in crypto is called "ICO-Initial Coin Offering" which works much like ICO but is community-based. Due to this and the fact that it is decentralized with no regulation or law enforcement, you need to do your own screening as most of the ICO projects are fake or scams. However, it has created a positive impact as it creates instant capital for start-ups and Crowd Funding. Some valuable and innovative projects have managed to raise a few hundreds of millions within a few minutes and this will spark innovations and breakthroughs.

I strongly recommend you to read this easy to read book which is full of gems for you to explore not matter whether you are a crypto beginner or an experienced investor. I wish you luck in the crypto world ■

Shariah Minds in Islamic Finance

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Title	: Shariah Minds in Islamic Finance
Author	: Datuk Dr Mohd Daud Bakar
Publisher	: Portfolio (US)
No. pages	: 304
Price	: RM74.95
ISBN Publication	: 9780008261375

Shariah Minds in Islamic Finance, written by Datuk Dr Mohd Daud Bakar, a global practising Islamic scholar, won the Islamic Finance Book of the Year 2016 awarded by Global Islamic Finance Award (GIFA) in 2016. It is the first ever book which provides a rare inside look and accounts of the many facets of the career of a Shariah advisor. The writer is a very influential and experienced person who has very deep knowledge in the field of Shariah. He is also an authoritative figure as a Shariah scholar in Islamic finance. He has been devoted to shaping the world of Islamic finance and has been actively involved in various basic works over the past two decades. From his writing in this book, I am confident that the author is very keen to convey and share the knowledge and experience he has for the benefit of others in order to further develop the Islamic finance industry and meet the established Shariah requirements.

The book contains 13 chapters. The first four chapters focus on the definition, roles, expectations and significance of Shariah scholars in Islamic finance. Chapters 5 and 6 discuss the methodology embraced by Shariah scholars as well as the thinking process from the occurrence of a problem to the issuance of *fatwā* or ruling. Chapter 7 discusses the streamlining of the reasoning leading to differences in *fatwā*. These three chapters are the main part of the book as they explain the process of Shariah minds. The following chapters namely, 8, 9 and 10, are devoted to resolving several issues and the negative thoughts of the public towards the performance and contributions of Shariah scholars. The remaining three chapters are the

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personal views and experiences of the author with regard to the author's wish list, career path and the daily routine of Shariah scholars.

The book also articulates the real-life stories experienced by the author himself, encompassing the way of the thinking of Shariah scholars and organizing their thinking in dealing with the Islamic finance industry. It revolves around product, support, audit, compliance, oversight, just to name a few. Readers are able to experience a remarkable enlightenment from this book as it explores the issues and conflicts that occur among Shariah scholars. In addition, the book also deliberates on the importance arising from some Shariah board representation by a number of scholars, the role and behaviour of *fatwā*, the future development of scholars, Shariah professional profit schemes and many more perceptions of Shariah scholars.

The earlier parts of the book focus on the definition of Shariah scholars, roles, requirements and qualifications to become a Shariah scholar. In addition, they also provide information on the characters of Shariah scholars and the challenges with regard to being an effective Shariah advisor in the financial sector. There are so many calls to produce more Shariah scholars for the industry. Therefore, extensive reading of all the *fatwā* and resolutions issued by many Shariah boards around the world will help Shariah scholars to enter the world of Shariah advisory. As time progresses, a Shariah advisor needs to elevate their knowledge on Islamic Finance to the level needed to enter the Shariah advisory world. According to the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), the Shariah board is entrusted with the duty of directing, reviewing and supervising the activities of Islamic financial institutions.

Indeterminately, the main function of Shariah scholars is to provide assurance on Shariah compliance. Shariah scholars also have to engage with other scholars to instil the culture of Internal Shariah Compliance. This is because Shariah advisors have to provide Shariah endorsement when products or services are launched and to manage and develop their Islamic Finance businesses. As Muslim economists, they need to contribute more by combining economics and Shariah as well as corporate finance. Muslim economists must not only think of Shariah compliance of the contracts, but must also be able to comprehend the data and make inferential conclusions on that particular data. The book also offers constructive assessments and insights of a Shariah advisor for the improvement of Shariah advisory services and the industry as a whole.

Next, the need is for Shariah boards to share their expertise, knowledge, intellectual capabilities as well as to provide a third-party assurance that Shariah compliance is not being compromised. This is because of the necessity to adhere to the principle of transparency, integrity, and good governance that must be implemented at all levels. Additionally, Shariah scholars must be well trained and equipped professionally with a sound foundation of the proliferation of knowledge in Islamic finance. Moreover, they have to acquire all the necessary skills, both hard and soft, in order to navigate the expectations of the industry. At the same time, the book communicates the need for greater standards of governance. It emphasizes the duties and responsibilities of care as well as the diligence and skills that Shariah scholars must possess.

In the book, the author specifies that the objectives of Shariah scholars are to look at the *Maqāid al-Sharī'ah* and to determine the legality of specific financial contracts. However, some Shariah scholars seem to overstate the technical aspects of financial contracts. Due to this, they seem to regulate the overall impact of such contracts upon the realization of Shariah objectives in the long run, as part and parcel of the general equilibrium of the economy. At the same time, the author tends to limit the scope of the discussions on *Maqāid al-Sharī'ah* with regard to poverty eradication and equitable distribution as addressed by Muslim economists, hence, disregarding many other economic goals in harmony with *Maqāid al-Sharī'ah*. The author also emphasises that wealth creation is more fundamental to distributive goals emphasized by Muslim economists. Nonetheless, he may have overlooked that Muslim economists view that wealth should be created from real activities as finance only plays a supportive role.

Shariah scholars are constantly under pressure as they are being called by the Shariah boards, to issue *fatwā* and Shariah resolutions to avoid any conflicts that could accommodate the many imperfect environments in the financial sector. Among the conflicts that have occurred are the *fatwā* dispute between scholars based in Malaysia and scholars based in the Gulf Cooperation Council (GCC) countries as well as the monopoly of some leading Shariah scholars. As rules have been postulated, Shariah scholars will have a common understanding that they will make decision based on two primary sources of Islam namely, *Al-Quran* and *As-Sunnah* or Traditions of Prophet Muhammad (PBUH). Additionally, they should also be aware of the four different schools of law in the Sunni world. For example, the general Shariah principle in financial dealings, among others are prohibitions of *riba*, *maisir* and *gharar*. Hence, these divine prohibitions are also attributable to other practices such as gambling, and bribery as well as criminology such as theft and armed robbery.

Sustainably, apart from developing young and new scholars, senior Shariah scholars must also be able to see the potential of engaging with these young and dynamic scholars and grooming them for the betterment of the industry. The reason why senior Shariah scholars have to contribute to this active, purposeful and impactful coaching or engagement is to transform these new scholars as the most qualified Shariah scholars to the next level.

Furthermore, readers are able to enjoy the information and inspiration provided by the book, particularly for the new generation who wish to become Shariah scholars. Among them are invaluable trade tips and secrets from the author's own industry experience that has spanned more than twenty years.

With the contributions provided by Shariah scholars, the public is very confident that Shariah filtering and Shariah due diligence have been well performed by a group of Shariah experts. It will also increase public confidence in the process of ensuring Shariah compliance and maintaining compliance all the way. Hence, the presence of Shariah scholars in the industry helps to shape a kind of Islamic finance image and branding in the minds of the audience. It has also put Islamic finance on the stage.

To conclude, the Shariah mind works mostly by following a legal algorithm shaped by various maxims in performing analogical analysis between new financial products and the classical *fiqh* rulings, while the aggregate socio-economic impact is simply ignored. This description fits Shariah advisory board members, but not necessarily Shariah scholars who should be at the forefront of finding solutions and suggesting improvements. Therefore, it is unsurprising that the roles of Shariah scholars in Islamic finance are limited to reactionary behaviour towards industry demands instead of a progressive attitude towards promoting the objectives of Shariah in the market. Shariah scholars are in serious need of a wake-up call from the industry to move on, and this suggests that they lack creativity to initiate the efforts to look for solutions inherent in revelation. Nevertheless, the author suggests that Shariah scholars should be actively involved with the task of instilling the culture of internal Shariah compliance in financial institutions ■

Journal of Wealth Management & Financial Planning (JWMFP)

Journal of Wealth Management & Financial Planning (JWMFP) is a peer-reviewed research and practitioner journal, published annually by Malaysian Financial Planning Council (MFPC). The aim of JWMFP is to establish an academic and practice guide for the fast-growing Financial Services industry.

The Journal comprises research papers in the various aspects of wealth management and financial planning by academicians and practitioners in a number of fields, providing research-based benchmarks and studies for public, corporate and academic reference.

JWMFP features original research and conceptual effective approaches to education and practice concerning all aspects of financial planning and management. The Journal covers the entire spectrum of the Financial Services industry i.e. Insurance, Unit Trusts, Stock Markets, Wealth Management, Banking, Macro Economy, Infrastructure and IT, Practice Management, etc.

Readers will find detailed recommendations for education and practice in the journal articles. JWMFP also features book reviews, and news and views on relevant issues.

All articles are blind-reviewed and publication decisions are the responsibility of the chief editor and editorial board members.

Key Journal Audiences

- Academics
- Practising Financial Planners
- Financial Services Providers
- Insurance Advisors
- Professionals in the Securities Industry
- Financial Planning Consultants
- Regulators
- Educators
- Students

Editorial Criteria

JWMFP publishes empirical and theoretical research topics related to personal and household financial decision making. JWMFP invites submission of both normative and empirical research on topics that include:

- Household Portfolio Choice
- Retirement Planning and Income Distribution
- Saving and Investment
- Wealth Creation and Distribution
- Individual Financial Decision Making
- Household Risk Management

- Life Cycle Consumption and Asset Allocation
- Investment Research Relevant to Individual Portfolios
- Household Credit Use and Debt Management
- Takaful, Zakat and Islamic Banking
- Tax and Estate Planning
- Professional Financial Advice and Its Regulation
- Behavioural Factors Related to Financial Decisions
- Financial Education, Literacy and Capability
- Other Topics of Interest to Scholars and Practitioners in the Field of Personal and Family Finance

Review Process

Manuscripts are subject to double-blind peer review at the discretion of the Editor. Papers submitted to JWMFP must not be published or submitted for publication elsewhere until an editorial decision is rendered on the submission. Successful authors are required to submit final versions of their papers in Microsoft Word, and to assign copyright to the publisher of JWMFP.

The review process normally takes 1-2 weeks and MFPC will inform you if your submission will be published. To ease the reviewing and editing of your submission, please follow the guidelines provided.

Proofreading & Editing

Articles accepted for publication will be edited by the editorial board. Authors will only be required to ascertain the validity of facts in the proof. Two copies of the proof will be sent to the author. The author is required to sign his / her name on one of the proofs and return it to the editor after making sure that there are no factual errors. JWMFP is the rightful owner of all published articles.

Submission of Papers for JWMFP: Guidelines For Authors

General

The manuscript sent to this journal must be original work that has not been published or accepted for publication in other journals. The paper should be written in English.

Manuscripts

Prepare the entire manuscript, including the text headings, references, tables, figures, and appendixes according to the most recent edition of the Publication Manual of the American Psychological Association (APA Style).

Order

The order of the manuscript should be similar to:

- Title page with title and three to five key words
- Abstract (start on a separate page, numbered page 2)
- Text (start on a separate page, numbered page 3)
- References (start on separate page)
- Appendixes (start each on separate page)
- Endnotes (list together starting on a separate page)
- Acknowledgements (start on a separate page)
- Tables (start each on a separate page)
- Figures (start each on a separate page)

Manuscript

- 3000 to 8000 words or between 5 to 15 pages including an abstract, texts, tables, footnotes, and references.
- Title should not exceed 20 words, and abstracts should not exceed 250 words.

Font

- The manuscript should be in MS Word format
- Times New Roman
- 12 point font
- One spacing

Supportive Illustrative

- Authors are encouraged to provide supportive illustrative material with manuscript.
- Tables, graphs, maps and drawings should not separate from the body of the text.
- For the presentation of quantitative data, graphs are preferred to tables because they contain more information and are easier to edit and reproduce.

References

The Journal of Financial Planning follows The Publication Manual of the American Psychology Association (APA) 7th Ed.) for style and format reference. The APA

Manual is available in bookstores or from the APA on-line at www.apa.org/books. Summaries of the APA style and format guidelines also are available from a variety of Internet sources such as https://apastyle.apa.org/instructional-aids/reference-guide.pdf. The following guidelines may be helpful for those who have used this formatting style.

In October 2019, the American Psychological Association published the 7th edition of its Publication Manual. The 7th edition of the APA paper format includes updated citation rules for more efficiency, new example citations and papers, and revised writing guidelines.

Most of this guide follows the 6th edition, but if you're looking for guidance on the 7th edition for your paper, these are some notable changes:

- When making an APA book citation do not include the publisher's location. This also applies to book chapter references
- When making a journal citation:
  a. DOIs are formatted as URLs (i.e., https://doi.org/xxx)
  b. Don't include the label "DOI" before the DOI url
  c. Include the issue number if one exists
- When making a full APA website citation, do not include the words "Retrieved from" before the URL
- When citing an ebook, don't indicate the format, platform, or device (e.g., Kindle).
- Figures are formatted more like notes with a number and title at the top, and a note under the figure/table instead of a caption.
- Don't include running heads on student papers, except when your instructor asks for it by your instructor.

There are new guidelines in the 7th edition that didn't exist before. This includes new sections and examples on:

a. Annotated bibliographies
b. Citing social media posts, podcasts, and other modern sources

There's only a single space after sentences

Diagram / Illustration

The diagram or illustration is preferably being prepared in black and white only. If the diagram should be reduced in size for publication purpose, it has to be clear and sharp so that it can be easily noticed.

Proof Reading

Article accepted for publication will be edited by the editorial board. Authors will only be required to ascertain the validity of facts in the proof. Two copies of the proof will be sent to the author. The author is required to sign his / her name on one of the proofs and return it to the editor after making sure that there is no factual error. JWMFP is the rightful owner of any article published.

Submission of Manuscript

1. Registration and submission must be done electronically through the online submission system.

2. For First time user, click on the "Registration" menu to create ConfBay Account, and proceed for registration by logging in the system. For existing ConfBay Account user, please proceed Login.
3. You must enter a valid email address. All notification will be sent via registered email.
4. Click on "Online Submission" menu to submit manuscript and follow the procedure.

Guidelines: News & Views Section

Topic Areas

The News and Views section is a practitioner-focused section covering Malaysian, Asian and international economic, business and financial issues.

This section aims to deliver relevant, essential and current market information and views relevant to our readers. The focus of the articles should be to help financial planners better serve their clients and contribute to the common good of the Financial Planning industry.

"News" includes any financial-related news comprising any aspect of financial planning, wealth management, investment banking, and regulatory changes. It should be of general interest or a current issue affecting the marketplace.

"Views" includes an opinion piece on any aspect of Financial Planning detailing the practitioner's outlook on a particular issue.

Length

Articles for the news and views column should not exceed 3,000 words. A succinct introduction as a summary would help readers better understand the information contained in the article.

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Guidelines: Book Review Section

A book review for JWMFP should run one to three pages or approximately 500 to 1500 words at most (font Times New Roman, size 12, single space).

The heading should include the following bibliographic information about the book:

- Author
- Date of publication Title Edition (if any) Place of publication Publisher
- Number of pages Price (if applicable)

Example:

Robert T. Kiyosaki (2012). *Retire Young Retire Rich: How to get Rich Quickly and Stay Rich Forever!* NY, USA, Warner Books, 376 pages. US$9.73.

Write the review with two goals in mind: to report basic information about the book and more importantly, to evaluate the book. Do not abstract the book, but be sure to indicate the range and nature of its contents. The exact information will vary according to the kind of book, but in all cases it includes the book's purpose or main theme, and the way in which the author seeks to achieve the purpose or develop the theme.

Summarize your main conclusion briefly. Place the book in the perspective of related literature by comparing it with other books on a similar topic. Tie together any issues raised in the review, and end with a concise comment on the book. If you like, you can offer advice for potential readers.

Avoid quoting long passages from the book. Paraphrase when possible. Always give the page number of the quote in parenthesis.

Because JWMFP is an interdisciplinary publication, avoid overly technical language understandable to only a few specialists.

Avoid using references and footnotes. If a quotation from another work is absolutely necessary, incorporate the reference into the text. The form of the reference should be: (Francine D. Blau, Marianne A. Ferber & Anne E. Winkler, *The Economics of Women, Men and Work*, Boston, NY: Prentice Hall, 2010).

We reserve the right to edit reviews for style, conciseness, and consistency.

Submit the review in typewritten copy via e-mail attachment to mfpc@mfpc.org.my.

Declaration Form

Title of Paper

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Declaration Statement

I/We hereby represent and warrant that the paper is original and that I am/We are the author(s) of the work, except possibly for the material such as text passages, figures and data that are clearly identified as to the original source, with permission notices from the copyright owner where required. I/We also represent that I/We have the power and authority to make this statement. I/We also declare that the material submitted for publication is exclusively for *Journal of Wealth Management & Financial Planning* (JWMFP) and has not been submitted for publication elsewhere.

In the case of more than one author, the main author may, after contacting other co-authors, sign and submit this form on their behalf.

Please Send this Declaration To:

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Shariah RFP A Premier Financial Planning Designation of MFPC

About MFPC

MFPC is an independent body set up with the noble objective of promoting nationwide development and enhancement of the financial planning profession. MFPC provides an evolving set of Best Practice Standards and Code of Ethics that must be adhered to by Registered Financial Planner (RFP) and Shariah RFP designees. This requirement is aimed at ensuring that the public will be served with the highest quality of financial planning services. MFPC was registered on 10 March 2004 under the Societies Act 1996.

MFPC is proud to have received numerous awards. In 2014, MFPC received Honourable Commendation in the UNESCO Wen Hui Award for Educational Innovation in recognition of its Financial Planning awareness programmes. In addition, in September 2015, MFPC was awarded the Best Islamic Finance Education Provider by the prestigious Global Islamic Financial Awards (GIFA). Subsequently, in June 2016, the World Education Congress Global Awards awarded MFPC the Best Educational Institute in Banking and Insurance. Further, our Shariah Registered Financial Planner was recognized as the Best Islamic Finance Qualification 2016 and Best Islamic Wealth Management Qualification 2018 by the GIFA Awards Committee.

Registered Financial Planner (RFP)

The Registered Financial Planner (RFP) programme was launched by the former Governor of Bank Negara Malaysia, Y.Bhg. Tan Sri Dato' Sri Dr Zeti Akhtar Aziz in November 2002.

The RFP designation was approved by Bank Negara Malaysia (BNM) in March 2005 as the prerequisite qualification to apply for the Financial Adviser's Licence and Financial Adviser's Representative Licence. The Registered Financial Planner (RFP) designation was also approved by Securities Commission Malaysia (SC) in November 2005 as one of the qualifications to apply for the Investment Adviser's Licence under the Securities Industry Act 1983.The RFP designation has also been approved by the SC for the application of the Capital Markets Services Licence (CMSL) with the implementation of the Capital Markets and Services Act 2007.

The RFP serves as a mechanism for the MFPC to help fulfil the national objective of making Malaysia a Centre of Educational Excellence. The RFP signifies the twin pillars of professionalism in financial planning – Professional Education and Practice Excellence.

Most importantly, the concept of the RFP is defined by Malaysians. As of September 2012, RFP designees are licensed Private Retirement Scheme (PRS) distributors/consultants. The Federation of Investment Managers Malaysia (FIMM) which regulates PRS consultants grants RFP designees automatic recognition as PRS consultants.

Affiliate RFP

The Affiliate RFP designation was launched by Y.B. Dato' Mustapa bin Mohamed, then Minister of International Trade and Industry on 6 December 2007. It was introduced in recognition of the commitment of the students undertaking the RFP programme.

The Affiliate RFP designation is conferred on members who have passed Module 1: Fundamentals of Financial Planning and one other module of the RFP Programme. The Affiliate RFP serves as a measure to inject a new force of professionally qualified human capital into the industry. Affiliate RFP designees are potential Financial Adviser Representatives and Capital Markets Services Licence Representatives who will be given the appropriate guidance and opportunities to practise financial planning advisory services.

RFP Programme (7 Modules)

- Module 1 : Fundamentals of Financial Planning
- Module 2 : Risk Management & Insurance Planning
- Module 3 : Investment Planning
- Module 4 : Zakat & Tax Planning
- Module 5 : Estate Planning
- Module 6 : Retirement Planning
- Module 7 : Applications in Financial Planning

Shariah Registered Financial Planner (Shariah RFP)

In line with the national agenda to make Malaysia an Islamic Financial Centre and to promote advancement in Islamic transactions and businesses, MFPC developed the Shariah RFP Programme as a practical professional programme for practitioners to equip themselves with Takaful and Islamic financial planning principles and knowledge. Y.B. Dato' Seri Mohamed Khaled Bin Nordin, then Minister of Higher Education, launched the Shariah RFP Programme on 21 August 2008. Shariah RFP is recognised as a professional programme by both Bank Negara Malaysia and Securities Commission Malaysia.

Affiliate Shariah RFP

In response to local and international market demand and changes in the financial planning landscape, MFPC introduced the Affiliate Shariah RFP designation for members who have passed Module 1: Fundamentals of Shariah Financial Planning and one other module of the Shariah RFP Programme.

Affiliate Shariah RFP aims to meet the need for a pool of professionally qualified practitioners in the Shariah financial planning sector in Malaysia.

Shariah RFP Programme (7 Modules)

- Module 1 : Fundamentals of Shariah Financial Planning
- Module 2 : Risk & Takaful Planning
- Module 3 : Shariah Investment Planning
- Module 4 : Zakat & Tax Planning
- Module 5 : Shariah Estate Planning
- Module 6 : Retirement Planning
- Module 7 : Applications in Shariah Financial Planning

Financial Planning Awareness Programmes for Undergraduates, Practitioners and Public

MFPC continuously promotes awareness of the value and importance of financial planning and financial planning services, and works towards elevating the financial planning literacy of Malaysians. Towards this end, we regularly conduct financial planning awareness workshops and programmes for undergraduates, practitioners and the public nationwide. These include our Financial Planning Workshops (My Money and Me) and our Shariah Financial Planning Awareness Programmes. ■

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