International Journal of Business and Society, Vol. 19 No. 3, 2018, 637-659

AN EXPLORATORY MODEL ON RETIREMENT SAVINGS BEHAVIOUR: A MALAYSIAN STUDY

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ABSTRACT

Malaysia is expected to experience the ageing population problem by 2050, which is a cause for concern as Malaysians generally do not practice retirement savings behaviour. If Malaysians fail to address retirement planning early, then the burden of care may fall on their children and taxpayers in general. This study examines the retirement savings behaviour of 160 Malaysians through a multidisciplinary approach by concurrently investigating financial knowledge, quality of financial advisers, perception of health, and social influence as drivers of the behaviour. A conceptual framework is developed for these constructs, underpinned by various theories such as Theory of Planned Behaviour, Continuity Theory, and Social Identity Theory. All constructs, except quality of financial advisers, are found to have an influence on retirement savings behaviour. Financial knowledge is found to mediate the relationship between quality of financial advisers and retirement savings behaviour. Numerous implications from the study are discussed, such as the need for effective professional financial advisers and earlier intervention in financial education, long-term aged care, and other social security policy revisions.

Keywords: Retirement savings; Financial Planning; Financial knowledge; Aging

1. INTRODUCTION

Advances in healthcare and improvement in quality of life has significantly increased the longevity of Malaysians. In fact, according to recent estimates, the proportion of Malaysians above the age of 60 will be almost equal to the populace below aged 15 by 2050 (Abdul Hamid, 2015). This is a concern as Malaysia lacks a comprehensive social security infrastructure. An apt illustration of this contention is the recent finding that most Malaysians exhaust their retirement life savings within five years of retiring (Chin, 2015). For many Malaysians, this impending 'ageing population' phenomenon will be felt more directly when they are saddled with the burden of providing long-term care and financial support for their elderly parents. This major long-term commitment is further exacerbated by rapidly increasing cost of living in recent years. In fact, almost 9 out of every 10 Malaysian households have no emergency savings besides having significant debts of

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their own (Ngui, 2016; Shukri, 2014). Within this context, retirement savings is becoming increasingly relevant among Malaysian adults as part of their overall lifelong financial planning.

In terms of academic research, not much is known about retirement savings behaviour of Malaysians. Past empirical studies on financial planning have mainly focused on other specific areas that are more 'immediately relevant' in the lives of young Malaysian adults such as credit card spending, internet banking, and purchasing of insurance products (Nga, Yong, & Sellappan, 2011; Williamson & Lawson, 2015; Xiao, Tang, Serido, & Shim, 2011; Zolait, 2014). The focus on shorter-term behavioural tendencies may be partly driven by anecdotal evidence showing many young Malaysians possessing poor financial knowledge, rarely consulting proper financial advisers, and are heavily financially indebted (Asian Institute of Finance, 2015; Bernama, 2017; Murugiah, 2016). In addition, many young Malaysians seem to lead a lifestyle driven by a sense of entitlement as well as instant gratification facilitated by credit (Penman & McNeill, 2008). Studies show that while young Malaysians may be pragmatic and well-educated, a majority of them pay scant attention to savings for longer-term financial freedom (Asian Institute of Finance, 2015). Despite the increasing media and government initiatives to highlight the current acute shortfall in retirement savings amassed by most Malaysians, the fact remains that almost 70% of Malaysians have less than RM50,000 saved up for retirement over the course of their working lives (Chin, 2015). In this regard, the current study addressed an important knowledge gap in the extant literature by focusing on retirement savings behaviour within a developing economy setting. Furthermore, this investigation is timely and has practical real-life relevance.

Past empirical studies on the financial aspects of retirement tended to focus on a single or a selective few 'domain-specific' factors such as personality, self-image, social identity, bridge employment, transition to retirement, and motivation (Hiscott, 2013; Zaniboni, Sarchielli, & Fraccaroli, 2010). To date, there is no study on retirement planning in Malaysia that cuts across the different genres/domains. Hence, our study contributes to the extant literature by exploring a more comprehensive range of factors concurrently. More specifically, the primary objective was to investigate how financial knowledge, quality of financial advisers, perception of health, and social influence impact an individual's retirement savings behaviour.

In addition, the study explored the mediating effects of financial knowledge (especially on budgeting, savings, and investment) for the following reasons: (i) financial knowledge has the potential to assist individuals in assessing the soundness of financial advisers, and (ii) the perception of health (concerning the need to provide for the cost of healthcare) could reinforce the need to seek financial knowledge and hence, increases and enhances retirement savings behaviour. Hence, the study's second objective was to determine if financial knowledge mediates the influence of financial advisers and perception of health on retirement savings behaviour.

In terms of methodology, partial least square structural equation modeling (PLS-SEM) was employed to determine the significant formative constructs that influence retirement savings behaviour among Malaysians. PLS-SEM was a more robust technique to explore the potential mediating effects of financial knowledge on certain key relationships. This study was underpinned by the Theory of Planned Behaviour (TPB), which has been used rather extensively in investigating different areas of financial planning (e.g. intention to use Islamic banking, credit card usage, internet banking adoption, purchasing of insurance, etc.) but not on retirement savings behaviour

per se. As such, the study's conceptual framework was supported by other retirement planning theories including the Continuity Theory and the Social Identity Theory.

2. RETIREMENT SAVINGS WITHIN THE MALAYSIAN CONTEXT

In Malaysia, there are two main retirement funds. On one hand, government employees derive entitlements from a defined benefit scheme, namely the Public Pension Fund managed by Kumpulan Wang Persaraan (KWAP). Recent statistics show that the annual pension obligations/entitlements for KWAP members have tripled in the past decade to RM21.77 billion in 2017, constituting an 11.6% annual growth rate (Chua, 2017). Furthermore, the newly elected Malaysian government has stated that the country's national debt has now reached RM1 trillion or 80% of GDP (Shukry & Jamrisko, 2018). These figures have raised concerns on the ability of the government/taxpayers to continue shouldering the mounting public pension burden with high national debt levels.

On the other hand, private sector employees and employers are required by law to contribute monthly to a defined contribution scheme, namely the Employee Provident Fund (EPF). As of January 2018, the statutory contribution rates for employees and employers are 11% and 12% respectively for employees with basic pay above RM5,000 (Employees Provident Fund, 2017). Contributors can withdraw a portion of these funds for approved purposes such as for further education, medical reasons, purchase of property, and approved investments before retirement. Full withdrawal may be made at the age of 55 but contributors are permitted to continue deriving dividends for their remaining savings until the age of 100. Recent statistics on EPF savings indicate that 68% of Malaysians have less than RM50,000, which could only sustain a typical retiree for a period of five years (Chin, 2015). It is apparent that EPF savings alone are not sufficient to support a prolonged retirement period. In addition, past research also indicates that about 90% of rural and 86% of urban Malaysian households have no emergency savings and are borrowing too much (Ngui, 2016; Shukri, 2014). To an extent, this concern has been addressed by the Malaysian government's move to raise the retirement age from 55 to 60 years in 2012 (Yeap, 2012). The current study stressed that Malaysians need to start early in acquiring financial planning knowledge and sound financial advice on investments as well as in making social and healthy lifestyle choices. However, studies on these areas have not been widely conducted probably due to cultural taboos surrounding the reflection on one's mortality, knowledge and health (Savage, 2007; Hearn, Bortsoff, & Thomas, 2005).

3. LITERATURE REVIEW

3.1. Theoretical Underpinnings

The primary theoretical underpinning for the current study is the Theory of Planned Behaviour (TPB) as propounded by Azjen (1991). TPB has been commonly utilised by past empirical studies to investigate a wide range of distinctive financial behaviours such as impulse and credit card spending among young adults, adoption of internet banking, and delay of childbearing (Nga et al., 2011; Williamson & Lawson, 2015; Xiao et al., 2011; Zolait, 2014). One notable example is the study by Griffin, Loe, and Hesketh (2012) who used TPB to explore the impact of proactivity and

time discounting on preparedness for retirement in late-career employees in Australia. However, the study did not consider perceived behavioural control factors such as individual perception of health and the quality of financial advisers in reinforcing the longer-term components of retirement savings behaviour. Previous studies also did not consider the mediating influence of financial knowledge.

Studies on finance-related retirement behaviours generally used different combinations of 'domain-specific' theories to underpin each distinctive factor that they scrutinised (e.g. self-image, social identity, economic factors, and individual motivation). These antecedents were seldom considered in an inclusive, cross-genre framework which is the approach that the current study is taking. With TPB being the overarching theory, this study also drew upon the Continuity Theory and Social Identity Theory to support the study's exploratory conceptual framework and better explain retirement savings behaviour (Trepte, 2006; Wang & Shi, 2014).

3.2. Retirement Savings Behaviour

Retirement savings behaviour refers to financial planning that precedes an individual's eventual exit from full-time active employment (Financial Planning Association of Malaysia, 2018). Among the major considerations of retirement planning are the ability to cope financially in the midst of healthcare and cost-of-living inflation. Theories on retirement often discuss three temporal stages of decision-making envisaging the prospect of future retirement, considering the right time to retire, and actually implementing plans to facilitate retirement adjustments (Feldman & Beehr, 2011). In this respect, the Continuity Theory posits that it would be a natural tendency for individuals to want a smooth transition from working life to retirement without compromising too much on their quality of life expectations (Wang & Shi, 2014).

In Malaysia, the optional retirement age for government employees is 45 for females and 50 for males while the compulsory retirement age is 60 (Ministry of Human Resources Malaysia, 2017; Public Service Department Malaysia, 2017). A government employee could receive gratuity and a maximum pension of 60% of his/her last drawn salary after 30 years of service. However, with Malaysia's mounting debt burden and impending ageing population, the ability of the government to fund this defined benefit scheme is being increasingly scrutinised (Chua, 2017; Kaur & Tan, 2017; Yeap, 2018). Furthermore, there is no guarantee that gratuity and pension to adequately cover inflation (Estrada, Khan, Straniewski & Mansor, 2017).

As aforementioned, it is mandatory for employers and employers in the Malaysian private sector to contribute monthly to EPF. However, statistics show that 68% of EPF members at the age of 55 have less than RM50,000, which many would fully consume within five years after retirement (Shargar, 2016). As such, relying solely on EPF is insufficient. This is a perturbing issue as the average mortality rate for males and females in Malaysia are 72.6 and 77.2 years of age respectively (Department of Statistics Malaysia, 2016).

Notwithstanding longevity, Malaysians need to be committed in having retirement savings earlier in their lives (Nance-Nesh, 2005). A Malaysian employee would typically have between 30 to 40 years to accumulate income from active employment for emergency savings as well as wealth-building. During the course of one's vocation, he/she may experience changes in income arising from promotions/demotions, retrenchment, and career changes. In addition, an individual may

experience changes in personal and family financial commitments that may require adjustments to his/her financial plans. Due to long-term horizon, retirement planning could be regarded as a journey rather than a destination (Hearn et al., 2005). Hence, a life-planning approach could be adopted (Schulaka, 2010). Ideally, retirees should have the financial freedom to enjoy activities that they desire while being supported by passive income. However, retirement planning is often shelved due to the lack of immediacy as well as sensitivity surrounding the need to address unpleasant and uncertain issues such as death of spouse and illnesses (Hearn et al., 2005; Savage, 2007).

From a wealth management perspective, the modern theory of retirement posits that investment or asset management in retirement should emphasize conditions within longevity giving due consideration of different individual lifestyle choices and circumstances (Branning & Grubbs, 2009). To put it simply, retirement planning should not be purely evaluated from a market-driven portfolio model. For instance, individual mortality may vary and stretch beyond statistical averages, necessitating sustainable passive income and long-term healthcare requirements (Branning & Grubbs, 2010). Retirement savings behaviour should be customisable to account for different timelines for the accumulation of base (for living expenses), contingency (for emergencies), discretionary (for lifestyle choices), and legacy funds. Contrary to popular belief, past research has shown that many retirees end up spending more during the initial years of retirement (Schulaka, 2010). Additionally, many Malaysians were found not to have sufficient financial assets and/or savings to support them for retirement (Saieed, 2017). As a result, many individuals may have to bridge this gap by working after retirement, which could lead to disappointment, anxiety, and resentment (Savage, 2006).

3.3. Financial Knowledge

Financial knowledge for retirement planning involves the cognitive acumen to cope with escalating living costs, making investment decisions, and managing income (Willett, 2008). Such financial knowledge is often obtained through seminars and workshops organised by employers on defined benefit and/or contribution schemes (Gough & Niza, 2011). The development of financial knowledge should ideally be a reinforcing combination of formal and informal education. In retirement planning, the understanding of investment risk, inflation risk, and longevity risk is of utmost importance. Uncertainty over increasing costs of living and spending after retirement could lead to over-saving and retirement deferment. In reality, a household's real spending may decrease incrementally throughout retirement (Bernicke, 2005). However, better healthcare could mean longer years of retirement (Stein, 2000).

In Malaysia, the average life expectancy is currently 75 years and many contributors/retirees cannot rely on their EPF savings alone (Chin, 2015). In line with this, the portfolio of investments made for retirement need to generate income to support desired quality of lifestyle, inflationary risk, as well as longevity risk (Higgins, 2001; McCarthy, 2002). As such, individuals need to have financial knowledge to undertake investments with higher returns that involve assuming higher risk/volatility earlier in their working lives. In this regard, financial planning courses equip individuals with the knowledge on understanding one's risk profile, goal setting, budgeting, selection of appropriate investments, and insurance products. However, due to lack of immediacy and uncertainty, many people fail to realise the importance of financial knowledge for retirement. Past research has shown that many Malaysians over the age of 60 are ill-prepared to face financial

shocks (Hamid & Chai, 2017). Moreover, those who do have financial knowledge may not necessarily utilise it well to improve their management of personal finances (Ali, 2013). Hence, to be effective, financial knowledge needs to have not only the "how" but other practical aspects of "why", "when", "what", and "where".

Overall, the study contends that individuals need to be more deliberate in seeking and updating themselves in financial matters earlier so that they could take advantage of the time-compounding value of money as they save and make investments for retirement. Hence, it was posited that:

H_1: Financial knowledge has a significant positive influence on retirement savings behaviour.

3.4. Quality of Financial Advisers

Financial advisers are a main source of customised information on financial planning. As such, financial advisers need to possess the requisite qualification (e.g. Certified Financial Planner), experience, and expertise to coordinate, integrate, and educate their clients on areas of financial planning including debt management, tax, investment, insurance, asset protection, retirement, and estate planning. Consistent with this view, financial advisers in Malaysia are required to sit for qualifying examinations and possess appropriate licenses from the Securities Commission (as well as the Central Bank of Malaysia if they are insurance agents) before being permitted to provide investment advice (Yap, 2012). However, many Malaysians confuse independent financial advisers (IFA) with tax planners, unit trust agents, and/or insurance agents who may not be able to provide holistic financial planning advice (Yap, 2012). Moreover, a vast majority of these agents are traditionally commission-driven and may have ulterior motives. IFAs are fee-based, remunerated via either a fixed or scaled fee depending on the size of the managed portfolio or rewarded based on the performance of the invested assets.

Modern retirement planning involves complex interconnections between market changes as well as physical, social, psychological, and belief systems (Stein, 2000). There are many uncertainties surrounding longevity after retirement which could derail the achievement of retirement aspirations and plans. From the retirement planning perspective, financial advisers often guide clients in setting measureable goals, diversifying retirement accounts, and being better prepared for emergencies (Marsden, Zick, & Mayer, 2011). In addressing their clients' often glorified expectations, financial advisers need to garner trust and obtain information on pertinent personal matters including income, family matters, health, and the possibility of working after retirement. Financial advisers are able to recommend and customise long-term plans that address the gap between the client's current and future plans through proper diversification of investments (Salter, Harness, & Chatterjee, 2011; Savage, 2006). Past research has shown that the decision to seek professional advice depends on an individual's financial attitude, knowledge, and demographic factors (Marsden et al., 2011). Not all individuals engage financial advisers and not all financial advisers provide value-added, quality advice. Thus, the quality of the financial adviser could be a factor that provides advantage or perceived behavioural control to an individual's ability to make wiser retirement savings decisions (Azjen, 1991). In addition, a past study in the United States has found that qualified financial advisers tend to attract more financially knowledgeable clients (Sterling, Herbison, & Martin, 2017). As such, the following hypotheses were posited:

H_2: Financial advisers have a significant influence on financial knowledge.

H_3: Financial knowledge has a significant mediating influence on the relationship between financial advisers and retirement savings behaviour.

3.5. Perception of Health

There is an old adage that "health is wealth". The perception of health includes an individual's attitude towards health, awareness of his/her medical history, and willingness to engage in lifestyle changes (Naccarella, Wraight, & Gorman, 2016)**.** Poor health and disabilities can restrict one's income-generating abilities. In addition, poor health would entail greater financial resources for long-term healthcare which may hamper the wealth accumulation process (O'Neill, Xiao, & Ensel, 2016). However, in terms of academic research, health and financial literacy have often been investigated separately (O'Neill, 2008).

In Malaysia, the latest statistics indicate that the average mortality rate for males and females are average mortality rate are 72.6 and 77.2 years of age respectively (Department of Statistics Malaysia, 2016). The National and Morbidity Survey 2015 found that overall health literacy among Malaysians remains low. Increasing workplace demands and importance placed on the pursuit of wealth have caused many Malaysians to neglect their health. In addition, there are also reports suggesting that many Malaysians live relatively unhealthy lifestyles where an estimated 47.7% of the population above the age of 18 are obese, the highest in Asia (Bernama, 2016). Obesity and sedentary lifestyle are catalysts to diseases such as hypertension, diabetes, and hypercholesterolemia (Ministry of Health Malaysia, 2015). In addition, statistics show that one in three Malaysians suffer from mental illness, which is expected to be second to heart disease by 2020 (Arumugam, 2016; Lim, 2017). The high rate of mental illness among Malaysians has been attributed to depression caused by stressors such as financial problems, family conflict, work-related stress, physical and cyber-bullying, and the inability to cope with study-related stress (Lim, 2017).

Past findings on the health impact of retirement are mixed. While retirement may contribute to feelings of isolation especially during the early stages, retirement overall was found to improve the subjective health of individuals (Neuman, 2008). On the contrary, the lackadaisical attitude towards health literacy can lead to the acceleration of risk factors and delay in seeking treatment. This may lead to complications that increase the costs of medical treatments, which have been rising at a rate of 10% to 15% per annum (Alwis, 2015). Past empirical research outside Malaysia clearly showed the correlation between health and finance (O'Neill, 2008). In particular, rising healthcare costs and high health risk factors (e.g. obesity, hypertension, and diabetes) may weigh down personal finances. Poor health may hasten one's intention to retire but does not necessarily influence retirement plans (Vailliant & Wolff, 2012). While higher health literacy encourages more physical activities, financial literacy is associated more with cognitive activity and mental health in older persons (James, Boyle, Bennett, & Bennett, 2012). Both health literacy and financial literacy are intertwined and to this extent, a past study posits that individuals who engage in health information search behaviours are more likely to engage in retirement planning (Carr, Sages, Fernatt, Nabeshima, & Grable, 2015). As such, it can be envisaged that perceived health risks and concerns may lead individuals to seek out financial knowledge on how to provide for these rising costs. However, past research has shown that financial satisfaction is valued more than health satisfaction at retirement (Price & Balaswamy, 2009). As such, the following hypotheses were posited:

H_4: Perception of health has a significant influence on financial knowledge.
H_5: Financial knowledge has a significant mediating influence on the relationship between perception of health and retirement savings behaviour.

3.6. Social Influence

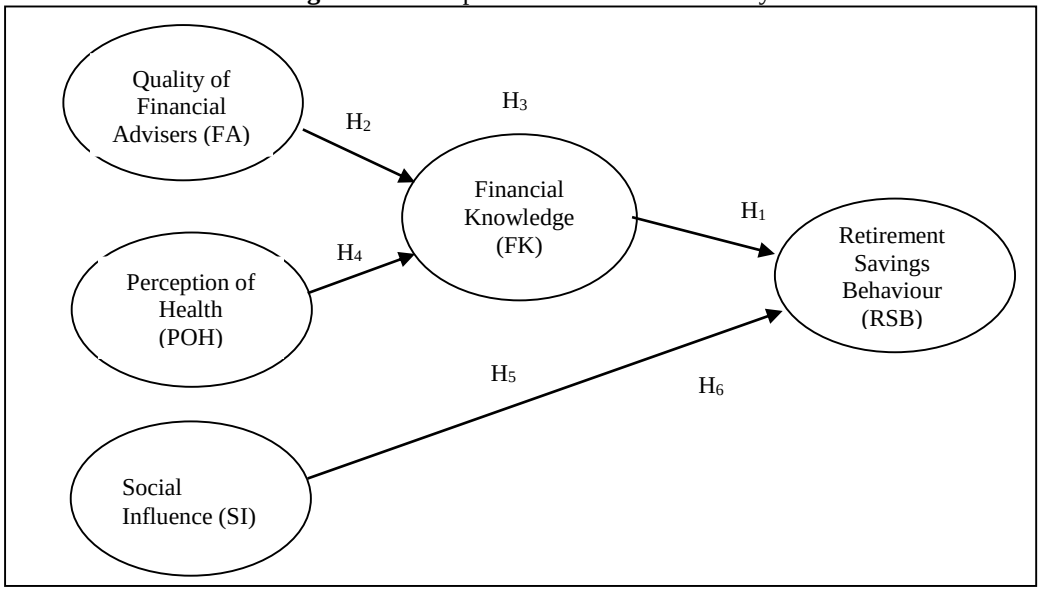
A quote by Aristotle states that man is naturally a "social being" and that "society precedes the man". The Social Identification Theory stipulates that an individual derives his/her self-concept by belonging to groups within which social categorizations and comparisons are made (Trepe, 2006). Furthermore, by associating and working with significant individuals can enhance their self esteem which may also influence their choices in the concept of entertainment (i.e., lifestyle choices). In a similar vein, the Social Determination Theory stipulates that an individual's motivation to act is innately driven by competence, autonomy, and relatedness (Ryan & Deci, 2000). Within the context of retirement, social relatedness can include information support for problem solving, tangible support for resources, and emotional/affective support (Taylor, Goldberg, Shore & Lipka, 2008). Similarly, the Social Cognitive Theory posits that significant others are often relied upon in areas that individuals may lack in terms of knowledge, resources, or mutual support (Bandura, 2002). As retirement is a major milestone in an individual's life and has material impact on the family, the decision to retire is often made in consultation with close confidants and is likely to incorporate cultural norms. Past research has also found that work relationships (i.e. colleagues and clients) and spouse's opinions are considered important in making retirement-related decisions (Warren & Kelloway, 2010).

From another perspective, the Role Theory describes that the transition an individual goes through in terms of coping with retirement includes role loss, realignment, and change (Zaniboni, Sarchielli, & Fraccaroli, 2010). This is because while retirement leads to fewer interactions with co-workers, it often intensifies family bonds and the need for social integration (Greller & Richtermeyer, 2006). However, for those who do not have an extensive social network, retirement can lead to a fear of loss of social integration which have implications on self-esteem (Bleidorn & Schwaba, 2018; Zaniboni et al., 2010). These individuals may resort to post-retirement employment in order to fill this void (Hiscott, 2013). Furthermore, if the individual is the breadwinner of the family or expects to lead a certain lifestyle, the retirement decision is likely to be influenced by the sufficiency of the post-retirement nest egg. Thus, the study posited that:

H_6: Social influence has a significant influence on retirement savings behaviour.

Based on the above discussion, Figure 1 presents the conceptual framework developed for this study.

Figure 1: Conceptual framework of the study



Source: Developed for the study

4. RESEARCH DESIGN AND FINDINGS

4.1. Sampling Design

The purpose of this exploratory study was to develop a conceptual framework that includes financial knowledge, quality of financial advisers, perception of health, and social influence in explaining retirement savings behaviour. In terms of theoretical underpinnings, the conceptual framework incorporated aspects of TPB, Continuity Theory, and Social Identity Theory in deriving the constructs of the study. As this study aimed to verify the posited theoretical framework rather than achieve population generalisation, a convenience sampling design and a quantitative survey method were used. Before the survey was conducted, effort was made to gain informed consent and provide assurance of anonymity to respondents. There were 160 survey respondents from around the Klang Valley region in Malaysia. The majority of the respondents are male (57%), married (70%), of Chinese ethnicity (68%), and have more than 21 years of working experience (33%).

4.2. Measurement Assessment

The measurement scales for the independent constructs chosen for our study — quality of financial advisers, perception of health, and social influence — were developed based on extant literature. The Likert scale (ranging from 1= Strongly Disagree to 5= Strongly Agree) was utilized to rate each of the items within the constructs above. Quality of financial advisers was assessed based on respondents' perception of financial advice provided by their financial adviser (Willett, 2008). The scale for this construct consisted of seven questions regarding the different types of information

provided by financial advisers including advice on risk and returns, capabilities of the financial adviser, and trust towards the financial adviser. The scale assessing perception of health comprised seven self-evaluation items regarding respondents' physical health and practice of a healthy lifestyle (O'Neill et al., 2016). The scale assessing social influence comprised eight questions about the perceived effect that respondents' significant others (including peers, family, friends, and society) have on their financial decision-making process (Haynes, Banks, & Hill, 2014; Warren & Kelloway, 2010).

Financial knowledge, a mediating construct, was conceptually defined as the respondent's assessment of his/her financial awareness on areas of financial planning such as budgeting, risk and returns, investment products, and planning (Joo & Grable, 2005). Finally, retirement savings behaviour (the dependent construct) was assessed based on seven questions concerning respondents' financial preparedness for retirement in terms of their savings, EPF contributions, and other financial planning initiatives (Gough & Niza, 2011; Joo & Grable, 2005; M. M. Lai, Lai, & Lau, 2009).

Convergent reliability is a measure of internal consistency that assesses how well items within a scale correlate together to measure the same construct (Hair, Ringle, & Sarstedt, 2011). A common measure of convergent validity is Cronbach's alpha value of above 0.70 (Nunnally & Bernstein, 1994). Additional measures of internal consistency include composite reliability measures of Dijkstra-Henseler's rho (ρ_A) and Jöreskog's rho (ρ_c) with values above 0.60 (Henseler, Ringle, & Sinkovics, 2009). Besides this, indicator reliability is being within acceptable threshold if the absolute standardised outer loadings are between 0.40 to 0.70 is also another measure of convergent reliability (Hair, Ringle, & Sarstedt, 2011; Henseler et al., 2009). However, if the composite reliability is above 0.60, then a value of average variance extracted (AVE) above 0.40 is acceptable (Huang, Wang, Wu, & Wang, 2013). Table 1 shows that all the constructs of the study have met these thresholds.

Table 1: Convergent Reliability Results

	Indicator	Loadings	Dijkstra-Henseler's rho (ρ_A)	Jöreskog's rho (ρ_c)	Cronbach's alpha(α)	Average variance extracted (AVE)
Quality Financial Advisers (FA)	FA1	0.7655	0.9170	0.9246	0.9084	0.5775
	FA2	0.7837				
	FA3	0.7467				
	FA4	0.7747				
	FA5	0.8010				
	FA6	0.7891				
	FA7	0.6914				
	FA8	0.6696				
	FA9	0.8059				
Financial Knowledge (FK)	FK1	0.6599	0.7346	0.8177	0.7320	0.4296
	FK2	0.6695				
	FK3	0.6327				
	FK5	0.7276				
	FK6	0.6804				
	FK7	0.5487				
Perception of Health (POH)	POH1	0.7177	0.6609	0.7896	0.6468	0.4858
	POH2	0.7092				
	POH3	0.7536				
	POH7	0.5977				
Social Influence (SI)	SI1	0.8055	0.7285	0.8022	0.6958	0.4526
	SI2	0.6974				
	SI3	0.5799				
	SI6	0.7022				
	SI8	0.5462				
Retirement Savings Behaviour (RSB)	RSB1	0.5246	0.8561	0.8856	0.8484	0.5295
	RSB2	0.7151				
	RSB3	0.7869				
	RSB5	0.6505				
	RSB6	0.7664				
	RSB7	0.8237				
	RSB8	0.7821				

Discriminant validity is a measure of the degree by which items that represent a particular construct is differentiated from other constructs within a study. Discriminant validity is measured using the Fornell-Larcker criterion, heterotrait-monotrait (HTMT) criterion, and cross loadings (Hair et al., 2011; Henseler et al., 2009; Henseler, Ringle, & Sarstedt, 2015). To achieve acceptable discriminant validity based on the Fornell-Larcker criterion, the AVE values of each latent construct (located along the diagonal line of the table) should be higher as compared to the squared correlation of all other latent constructs. Based on the HTMT criterion, the values should not exceed the 0.85 to 0.90 threshold (Henseler et al., 2015). In terms of cross loadings, a specific construct's (i.e. indicator's) loadings should be higher than the cross loading for all other constructs

within the same column being examined. Tables 2 and 3 below show that all constructs of the study have met the requirements for discriminant validity.

Table 2: Discriminant validity — Fornell-Larcker criterion

Construct	FA	FK	POH	SI	RSB
Quality of Financial Advisers	**0.5775**				
Financial Knowledge	0.2592	**0.4296**			
Health	0.0160	0.0707	**0.4858**		
Social Influence	0.0568	0.1115	0.1280	**0.4526**	
RSB	0.0722	0.1643	0.2602	0.1709	**0.5295**

Note: Squared correlations; AVE values bolded and located along the diagonal line.

Table 3: Discriminant validity — HTMT criterion

Indicator	FA	FK	POH	SI	RSB
FA1	**0.7655**	0.3782	0.1167	0.2348	0.2222
FA2	**0.7837**	0.4142	0.0387	0.1691	0.2057
FA3	**0.7467**	0.3469	0.1214	0.1901	0.2564
FA4	**0.7747**	0.4164	0.0683	0.1695	0.2247
FA5	**0.8010**	0.3869	0.0698	0.1843	0.2233
FA6	**0.7891**	0.3941	0.0397	0.1623	0.0969
FA7	**0.6914**	0.3412	0.1404	0.1808	0.0994
FA8	**0.6696**	0.3002	0.0968	0.0847	0.1097
FA9	**0.8059**	0.4653	0.1680	0.2251	0.3193
FK1	0.4352	**0.6599**	0.0571	0.0814	0.2193
FK2	0.2600	**0.6695**	0.3615	0.2856	0.2890
FK3	0.1975	**0.6327**	0.1830	0.1828	0.2862
FK5	0.3983	**0.7276**	0.1876	0.3062	0.2723
FK6	0.3758	**0.6804**	0.0607	0.1947	0.2224
FK7	0.3097	**0.5487**	0.1743	0.2383	0.3013
POH1	0.1160	0.2035	**0.7177**	0.2616	0.3716
POH2	0.2188	0.2197	**0.7092**	0.2230	0.2851
POH3	0.0356	0.1489	**0.7536**	0.2681	0.4592
POH7	-0.0103	0.1841	**0.5977**	0.2429	0.2720
SI1	0.1678	0.2715	0.2832	**0.8055**	0.3214
SI2	0.2039	0.2581	0.2461	**0.6974**	0.2258
SI3	0.1293	0.2763	0.3692	**0.5799**	0.2115
SI6	0.1710	0.1486	0.1996	**0.7022**	0.3705
SI8	0.1292	0.2220	0.1301	**0.5462**	0.1955
RSB1	0.1818	0.2730	0.4072	0.3386	**0.5246**
RSB2	0.2238	0.1494	0.3369	0.2606	**0.7151**
RSB3	0.1314	0.3258	0.3794	0.2361	**0.7869**
RSB5	0.1871	0.2521	0.2347	0.1348	**0.6505**
RSB6	0.1788	0.3592	0.4511	0.4410	**0.7664**
RSB7	0.1920	0.2891	0.3731	0.3190	**0.8237**
RSB8	0.2707	0.3546	0.3369	0.2680	**0.7821**

4.3. Hypotheses Testing

There are two major approaches in structural equation modeling — co-variance-based (CB-SEM) and partial least square-based (PLS-SEM). PLS-SEM is the preferred approach when the purpose of the study is to predict or identify key constructs in a structurally complex model, and when the sample size is small and/or non-normality is a concern (Hair et al., 2011). In this respect, PLS-SEM is more suitable for models where theories are less developed and which have both formative and reflective constructs. On the other hand, CB-SEM is more suitable for theory confirmation and testing or comparing theories.

The current study fills an existing gap in research by investigating important drivers of retirement savings behaviour from different genres/domains (i.e. financial knowledge, quality of financial advisers, perception of health, and social influence). Moreover, these constructs were considered formative as the scales measuring them were either developed or adapted from extant literature. The sample size of the study was also relatively small compared to the overall working population in Klang Valley, Malaysia. Hence, PLS-SEM was a more suitable approach for data analysis. As such, the six hypotheses of the study were analysed using ADANCO PLS-SEM structural path model.

4.4. Results of Hypotheses Testing

The model fit assessment was assessed via the R-square, whereby R-square values of 0.25, 0.09, and 0.01 were used as benchmarks for substantial, moderate, and weak effect sizes respectively (Cohen, 1992). The findings of the study showed that the overall model fit for the relationship between the independent constructs (financial knowledge, quality of financial advisers, perception of health, and social influence) and retirement savings behaviour is 0.3583, as indicated by the adjusted R-square value.

Table 4 and Figure 2 summarise the six findings of this study. H_1 was supported as financial knowledge has a statistically significant positive influence on retirement savings behaviour ($p < .05$). H_2 was also supported as quality of financial advisers have a statistically significant positive influence on financial knowledge ($p < .01$). For H_3, financial knowledge was found to have a sizeable indirect effect of 0.0987 (more than 0.08; Hair, Black, Babin, & Anderson, 2010) on the relationship between quality of financial advisers and retirement savings behaviour although the relationship between these variables was not statistically significant ($p = .38$). Thus, H_3 was still supported as financial knowledge was found to have a significant positive role in mediating the relationship between quality of financial advisers on retirement savings behaviour. This finding implies that without financial knowledge, advice provided by financial advisers alone is not effective in motivating retirement savings behaviour.

Additionally, perception of health was found to have a statistically significant positive influence on financial knowledge ($p < .01$), supporting H_4. However, financial knowledge was not found to be a mediator (indirect effect of 0.0418 which is less than 0.08) on the relationship between perception of health and retirement savings behaviour although the direct relationship between the latter two variables was statistically significant ($p < .01$). As such, H_5 was not supported. H_6 was supported as social influence has a statistically significant positive influence on retirement savings

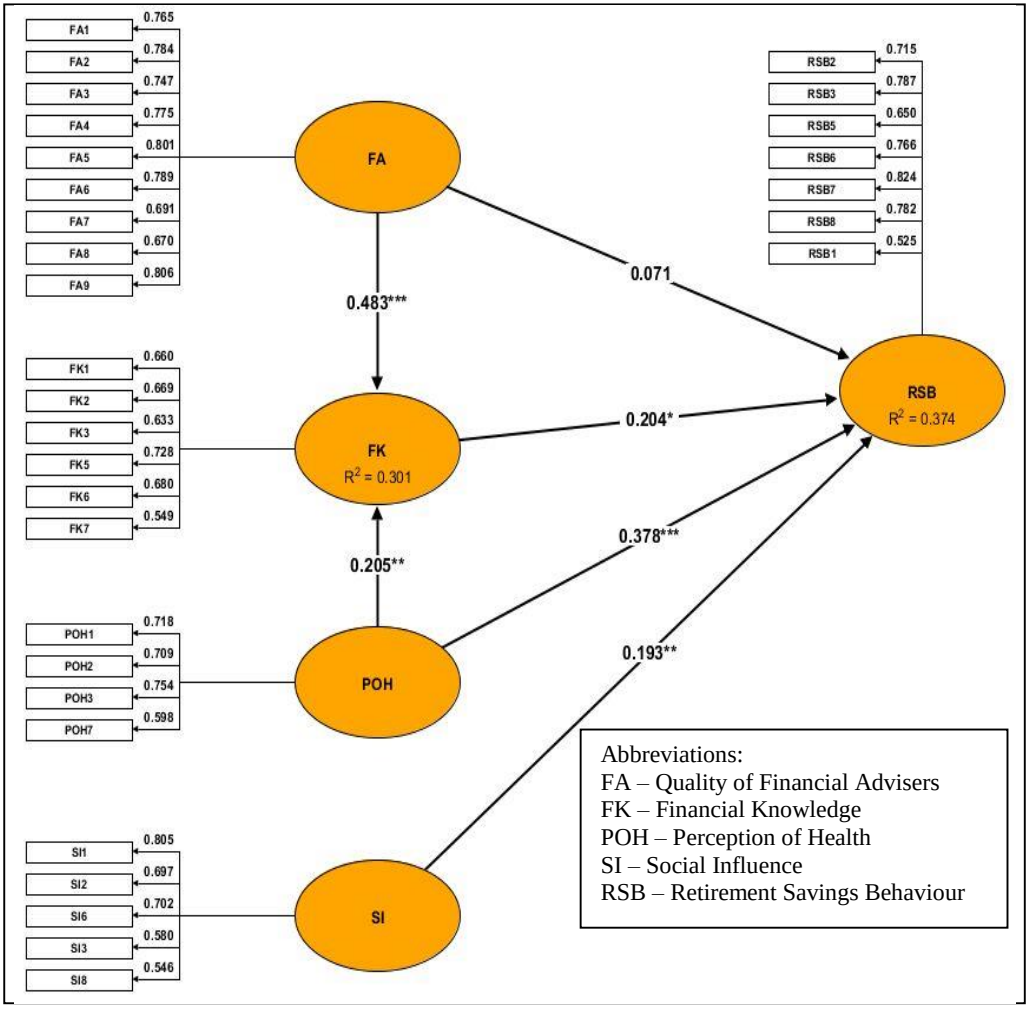
behaviour ($p < .01$). This means that retirement planning is not an isolated activity; it involves consultation with others such as family, close friends, and confidants.

Table 4: Direct and indirect effects

Hypotheses	Effect	Direct Effect	Indirect Effect	Standard Bootstrapped Results				
				Mean value	Standard error	*t*-value	*p*-value (Two sided)	p-value (One sided)
H_1	Financial Knowledge (FK) →Retirement Savings Behaviour (RSB)	0.2042		0.1962	0.0837	2.4409	0.01480	0.00740
H_2	Quality of Financial Advisers (FA) → Financial Knowledge (FK)	0.4833		0.4899	0.0714	6.7723	0.00000	0.00000
H_3	Quality of Financial Advisers (FA) → Retirement Savings Behaviour (RSB)	0.071		0.0812	0.0822	0.8635	0.38810	0.19400
	Quality of Financial Advisers (FA)→Financial Knowledge (FK) → Retirement Savings Behaviour(RSB)		0.0987					
H_4	Perception of Health (POH) → Financial Knowledge (FK)	0.2049		0.2117	0.0772	2.6522	0.00810	0.00410
H_5	Perception of Health (POH) → Retirement Savings Behaviour (RSB)	0.3778		0.374	0.0718	5.2598	0.00000	0.00000
	Perception of Health (POH) → Financial Knowledge (FK) → Retirement Savings Behaviour (RSB)		0.0418					

Hypotheses	Effect	Direct Effect	Indirect Effect	Standard Bootstrapped Results				
				Mean value	Standard error	*t*-value	*p*-value (Two sided)	p-value (One sided)
H_6	Social Influence (SI) -> Retirement Savings Behaviour(RSB)	0.1932		0.2103	0.0733	2.6365	0.00850	0.00430

Figure 2: Structural model — overall path diagram



5. DISCUSSION AND IMPLICATIONS

Consistent with the findings of past empirical studies conducted across a number of different contexts (see, for instance, Gough & Niza, 2011; Joo & Grable, 2005; M. M. Lai et al., 2009), we showed that the degree of financial knowledge has a positive influence on the retirement savings behaviour of Malaysians. This is an apt indication that good financial literacy is an essential component in fostering more responsible financial practices. The fact that most Malaysians have inadequate/minimal planning as well as insufficient savings for retirement reflects is therefore symptomatic of poor overall financial practices (e.g. accumulating excessive amounts of debts, overspending, etc.) as well as low financial literacy especially among the young (Asian Institute of Finance, 2015; Mahalingam, 2017).

Next, since financial knowledge is found to be a significant mediator on the relationship between quality of financial advisers and retirement savings behaviour, we show that receiving financial advice alone does not necessarily motivate retirement savings behaviour especially in the short-term (Marsden et al., 2011). To have a more significant impact on long-term retirement savings behaviour, the individual clients need to have a requisite level of financial literacy which could include specific areas of financial planning such as compound interest and investing (Folk, Beh & Baronich, 2012). If we consider the generally low levels of financial knowledge possessed by Malaysians (as discussed earlier), it is unsurprising that they may not fully comprehend nor be fully convinced of the soundness of their seemingly complex/sophisticated advice. We contend that this tendency of not adhering to 'proper' financial advice is also exacerbated by a general lack of trust in such financial intermediaries. This is mainly because, traditionally, most financial products and services offered to Malaysians are done via sales agents that are not properly qualified and are mostly commission-based (e.g. insurance agents, salespersons from banks offering credit cards, mutual funds, etc.).

Our findings also reaffirm our multi-domain conceptual framework in the sense that the retirement savings behaviour construct is more robust if social influence and perception of health are analyzed together or at least included as control variables. Moreover. the finding that social influence has a significant positive impact on retirement savings behaviour corroborates a previous US study where spouses may coordinate their retirement intentions based on the financial incentives from pension plans and social security (Gustman & Steinmeyer, 2004) and in another study parents of college students (Todd & DeVaney, 1997). Lastly, we show that perception of health has a positive influence on retirement savings behaviour. Although financial knowledge was not a mediator in the abovementioned relationship, perception of health does have a significant direct positive influence on financial knowledge. These findings suggest that Malaysians do consider health matters and its literacy does positively influence retirement savings behaviours and motivate the seeking of financial knowledge. As such, within the context of Malaysia, it may be fruitful to enhance retirement savings behaviour by promoting the "health is wealth" concept which is discussed more below.

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Considering the findings discussed above, we propose a few implications for practice. First, since fostering sound financial knowledge seems to be the foundation to better financial practices in general (and, retirement savings behaviour in particular), institutions of higher learning in Malaysia should work together with the Malaysian authorities (e.g. the Central Bank of Malaysia, The Credit Counselling and Debt Management Agency, the Securities Commission, the Higher Education

Ministry) to introduce mandatory financial planning courses/modules as part of the requirement for students complete their tertiary studies. In addition, Malaysian businesses could also include workplace financial education as part of their professional development and corporate social responsibility initiatives.

Second, since there is (i) a clear trust deficit between sales-focused providers of financial products & services and their clients and, (ii) unclear distinction, from the perspective of Malaysians in general, between commission-based salespeople and properly qualified financial advisors; the authorities should revamp the entire financial services industry and to require all 'providers' of financial products to be appropriately qualified individuals. In this regard, we have observed that certain segments of the market are being restructured in such a fashion. For instance, all insurance agents around the country are now required to sit and pass the Pre-Contract Examination for Insurance Agents (PCEIA) conducted by The Malaysian Insurance Institute (MII). The professionalization of the financial services industry must be coupled with sound financial education (Hopkins, 2015) – as suggested earlier. If clients do not possess good financial knowledge, they may not be able to fully comprehend and are likely to lack the confidence to undertake retirement savings regardless of the quality of the financial advice presented (Kim, Kwon & Anderson, 2005; Salter, Harness & Chatterjee, 2011). Once again, this is the major problem currently faced in Malaysia.

Next, with the looming ageing population-related concerns coupled with the inadequate social security net for most Malaysians, many individuals are reliant on their children for financial support post-retirement (Abdul Hamid, 2015). However, their children as adults may eventually have family and financial commitments of their own. Thus, the reliance of retirees on their children as sources of support may not be sustainable (Ong, 2014). In fact, many elderly retirees are abandoned by their children and getting placed in publicly-funded shelter homes, severely affecting overall quality of life (Abdul Hamid, 2015). Moreover, the longevity risk of public pensioners and the mounting shortfall in defined benefit schemes are a huge burden to taxpayers. The introduction of the Private Retirement Scheme (PRS) by the Malaysian government in 2012 is commendable but the magnitude of its impact remains to be seen. On a related development, in Malaysia, the lure of relatively cheap and easily available street cuisines has been a contributing factor to unhealthy eating habits, obesity, and the increase in chronic diseases. In this respect, Malaysians may require more health literacy which could be addressed in schools and at the workplace. This findings of this study also suggest that there may be opportunities for the Health Ministry, Education Ministry, the private sector, and NGOs can work together to reinforce the importance of maintaining a healthy lifestyle on retirement planning/future savings. In addition, Malaysians could be encouraged to take up long term care insurance which may be in the form of a 'rider' on life insurance policies (Noordin, 2016). This would facilitate the retirement savings behavior by providing an investment/savings element as well as addressing health and longevity concerns among Malaysians. In this regard, there may be opportunities for insurance companies and the government could work closer together to develop a more comprehensive contribution model that could promote long-term health and aged care benefits as well as retirement savings to Malaysians. Additionally, a part of the EPF contributions could also be channeled towards long-term care insurance (similar to the Eldershield model (Ministry of Health Singapore, 2018)).

5.1. Further Research

The current study's sample was relatively small, concentrated towards a particular ethnic group, and cross-sectional. While this sample size was appropriate to verify the proposed theoretical framework, future studies can explore potential differences in retirement savings-related behavioural tendencies among (i) Malaysians that live in urban areas as opposed to those in rural areas (where lifestyles and priorities may be different); (ii) different countries; and (iii) different time periods. Besides this, further studies can include constructs such as retirement intermediacy, efficacy of life and medical insurance, and family medical history.

6. CONCLUSION

Theories that address different aspects of retirement were utilised in a highly specific manner and largely depended on which factors were chosen (e.g. personality, self-image, social identity, bridge employment, transition to retirement and motivation). Very few studies have attempted to cut across genres/domains when studying retirement planning. As such, the current study used TPB (Azjen, 1991) as its overarching theoretical base, complemented with other theories such as the Continuity Theory and Social Identity Theory to develop a more comprehensive exploratory conceptual framework. The current researchers contended that financial knowledge, the quality of financial advisers, perception of health, and social influence significantly impacts retirement savings behaviour of Malaysians. Due to the exploratory nature of this study and the existence of formative constructs, the PLS-SEM was employed to increase the statistical robustness of the analysis.

The study found financial knowledge to be a mediator in the relationship between quality of financial advisers and retirement savings behaviour. This indicates that financial advisers play a distinctive and yet complementary role in improving the clients' current knowledge in diversification of portfolios and wealth accumulation for retirement. In addition, this study found that although perception of health significantly influences retirement savings behaviour, perception of health has a significant influence on the seeking of financial knowledge. The implications of this study extend to the need for government agencies, the private sector, and NGOs to work together to establish more practical and effective policies on the provision of financial education, social support, elderly care, and health awareness.

ACKNOWLEDGEMENT

The authors would also like to acknowledge the contributions of Lim Yuan Ping for her contributions in the collection of data for this research.

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