PSYCHOLOGICAL DETERMINANTS OF FINANCIAL PLANNING FOR RETIREMENT AMONG UNIVERSITY EMPLOYEES

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INSTITUTE FOR ADVANCED STUDIES
UNIVERSITY OF MALAYA
KUALA LUMPUR

2020

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THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

INSTITUTE FOR ADVANCED STUDIES
UNIVERSITY OF MALAYA
KUALA LUMPUR

2020

UNIVERSITY OF MALAYA

ORIGINAL LITERARY WORK DECLARATION

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Matric No: **HHB110016**

Name of Degree: **DOCTOR OF PHILOSOPHY**

Title of Project Paper/Research Report/Dissertation/Thesis ("this Work"):

PSYCHOLOGICAL DETERMINANTS OF FINANCIAL PLANNING FOR RETIREMENT AMONG UNIVERSITY EMPLOYEES

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PSYCHOLOGICAL DETERMINANTS OF FINANCIAL PLANNING FOR RETIREMENT AMONG UNIVERSITY EMPLOYEES

ABSTRACT

Retirement refers to the post-work period of a person's life. During this period, individuals cease working, thus affecting their regular source of income. Hence, it is important that individuals plan to cater for the financial requirements during retirement. However, planning is not an easy task as individuals are besieged by a variety of psychological, environmental, financial and life challenges. Current research in this field had been inconclusive and fragmented on the determinants influencing planning behaviours. This research aims to draw on the constructs of the Theory of Planned Behaviour (TPB) to investigate this behaviour, in particular planning financially for retirement. TPB assumes that behaviour can be predicted and explained by using a set of determinants; that is attitudes, subjective norms and perceived behavioural control. Research using TPB's integrative framework has been positive in many studies but its use in financial and retirement behaviour studies is limited. To investigate the suitability of TPB, a survey is conducted among a sample of university employees in Malaysia. The findings reveal that subjective norms and attitudes influence intentions to plan. Conversely, perceived behavioural control has no influence on intentions. These findings provide empirical support for the use of TPB as a general model of planning for financial retirement in Malaysia. It contributes to the body of knowledge on financial behaviours, by stressing the importance of understanding the motivations of individuals in their choices on financial matters, planning and retirement issues.

Keywords: attitudes, subjective norms, perceived behavioural control, beliefs, Theory of Planned Behaviour

PENENTU PSIKOLOGI PERANCANGAN KEWANGAN UNTUK PERSARAAN DIKALANGAN PEKERJA UNIVERSITY

ABSTRAK

Persaraan merujuk kepada fasa kehidupan dimana seseorang tidak lagi bekerja. Tanpa pekerjaan, sumber pendapatan tetap terjejas. Oleh itu, adalah penting individu membuat persediaan dengan merancang keperluan kewangan mereka semasa persaraan. Walau bagaimanapun, merancang bukanlah tugas yang mudah kerana individu menghadapi pelbagai cabaran psikologi, persekitaran, kewangan dan kehidupan. Kajian semasa dalam bidang ini juga tidak teratur dan menyakinkan. Olehitu, tujuan kajian ini adalah untuk menggunakan konstruk Teori Perilaku Terancang (TPB) untuk mendalami perlakuan merancang, khususnya dalam perancangan kewangan untuk persaraan. TPB mengandai yang tingkah laku dapat diramalkan dan dijelaskan dengan menggunakan satu set penentu; iaitu sikap, norma subjektif dan persepsi kawalan perlakuan. Dari tinjauan, kajian yang menggunakan struktur integrative TPB membuahkan hasil yang positif. Namun demikian, penggunaannya dalam tingkahlaku kewangan dan persaraan agak terhad. Untuk mengkaji kesesuaian TPB, satu tinjauan dijalankan dikalangan pekerja universiti di Malaysia. Hasil kajian menunjukkan bahawa norma subjektif dan sikap mempengaruhi niat untuk merancang. Sebaliknya, persepsi kawalan perlakuan tidak mempengaruhi niat. Penemuan ini secara empirikalnya menyokong penggunaan TPB sebagai model umum dalam perancangan kewangan untuk persaraan di Malaysia. Ini mempertingkatkan pemahaman dalam tingkah laku kewangan, dan menekankan kepentingan motivasi seseorang dalam isu-isu kewangan, perancangan dan persaraan.

Kata kunci: sikap, norma subjektif, persepsi kawalan perlakuan, kepercayaan, Teori Perilaku Terancang

ACKNOWLEDGEMENTS

I would like to take this opportunity to document my heartfelt gratitude to all the kind and helpful people who have lend me a hand in my PhD. journey. It is almost impossible to cover everyone in just a one-page acknowledgement but I would attempt to encompass everyone.

Firstly, I would like to thank my supervisors, Emeritus Professor Datuk Norma Mansor and Associate Professor Dr. Diana-Lea Baranovich, who was always there for me in my time of need and had given me valuable advice and guidance in understanding the various nuances of research. Next, I would like to document my appreciation to Employees Provident Fund (EPF) for providing me with the funding required for the research. I would also like to thank the staff, friends and employees at the Social Wellbeing Research Centre (SWRC), University of Malaya for their advice, help and support.

In every step of my PhD journey, I had the privilege to meet many esteem individuals, professors, academics, friends and colleagues which have given me new insights and revelations. They are people who shared ideas and extended help generously, both in University of Malaya and in the many other universities in Malaysia that I have visited. To these people, I would like to thank them and acknowledge their contributions in my study.

On a personal basis, this journey has its ups and downs. Periods of joy, laced with emotional turmoil and challenges. Family members have been my beacons in this arduous journey. I would like to acknowledge them here, as they are my source of inspiration and hope when things are bleak.

Thank you all for your kindness, help and support during this PhD journey!

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LIST OF SYMBOLS AND ABBREVIATIONS

ATT	:	Attitude
AVE	:	Average Variance Extracted
BB	:	Behavioural Beliefs
BI	:	Behavioural Intent
CB	:	Control Beliefs
CBSEM	:	Covariance Based Structural Equation Modelling
CMV	:	Common Method Variance
CR	:	Composite Reliability
CVI	:	Content Validity Index
DN	:	Descriptive Norms
DNB	:	Descriptive Normative Beliefs
EPF	:	Employee Provident Fund
EVT	:	Expectancy Value Theory
f^2	:	Effect Size
FOMCA	:	Federation of Malaysian Consumers Association
HTMT	:	Heterotrait-Monotrait ratio
IN	:	Injunctive Norms
INB	:	Injunctive Normative Beliefs
INT	:	Intentions
KMO	:	Kaiser-Meyer-Olkin
LCH	:	Life-Cycle Hypothesis
MOE	:	Ministry of Education
MQA	:	Malaysian Qualifications Agency
NB	:	Normative Beliefs

OLS	:	Ordinary Least Squares
PAF	:	Principal Axis Factoring
PBC	:	Perceived Behavioural Control
PLS	:	Partial Least Squares
Q^2	:	Predictive Relevance
R^2	:	Coefficient of Determination
RM	:	Ringgit Malaysia
SEM	:	Structural Equation Modelling
SN	:	Subjective Norms
SPM	:	Sijil Pelajaran Malaysia
SPSS	:	Statistical Package for Social Sciences
TACT	:	Target, Action, Context, Time
TPB	:	Theory of Planned Behaviour
TRA	:	Theory of Reasoned Action
VIF	:	Variance Inflation Factor

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CHAPTER 1: INTRODUCTION

Retirement is a period of a person's life when he or she is no longer working. Denton and Spencer (2009, p. 72) emphasise this period as a period where "… an older person … has a much reduced labour force attachment". Bowlby (2007, p. 17) summarises it as "…a person who is aged 55 and older, is not in the labour force, and receives 50 % or more of his or her total income from retirement-like sources". A person may voluntarily choose to retire or is forced to retire due to debilitating physical conditions or as a result of legislation concerning their position. To many, being able to work is important, as it generates income to sustain their lives. Hence, not working is worrisome, as the income stream for sustenance ceased and alternatives means of support has to be available. To understand the various means of income support during retirement, World Bank (1994) has depicted it in a three-pillar system. It reflects a three-legged stool, with each pillar outlining initiatives to protect the retiring individual.

The first pillar emphasises the importance of government initiatives to provide a pension to sustain basic needs and reduce poverty. In some countries, it is a form of social security which provides basic but universal coverage. It reflects efforts by the government to provide social protection, from the tax revenues collected, for its citizens. However, many of these countries also witness a demographic phenomenon, where the proportion of the aged to total population has grown tremendously in recent years (United Nations, 2002). Growth in the aged population has stressed the resources of countries, as there is a smaller working population to fund a growing group of retirees. Countries that provide pension and social security worry if they will have enough resources to continue to provide these financial supports (Morgan & Eckert, 2004). As a result, some governments are increasingly shifting responsibilities to individuals. For example, many pension funds

require workers to manage their retirement income actively by investing to generate future income (Smeeding, 2007).

Pillar two represents employers who provide pension plans for their employees. These plans were initially designed as a reward for loyal older workers (McDonald & Donahue, 2011). Both employers and employees will be required to make contributions, and with it, the monies will be used to generate funds for future retirement income (Morgan & Eckert, 2004). However, weak economic conditions have lead many employers to discontinue such practices. Some older workers are forced into early retirement as organisations begin cost-cutting initiatives. Employers who have previously provided pensions via defined benefits systems have also shifted towards defined contributions systems, which require individuals to manage the funds themselves (Smeeding, 2007; Hershey, Jacobs-Lawson & Austin, 2013).

Pillar 3 reflects individual initiatives to supplement their retirement income. It is mainly voluntary in nature, and involve efforts by the individual to manage their wealth. It encompasses savings, investments and insurance purchases from public or private providers (Morgan & Eckert, 2004). In view of global developments affecting Pillar 1 and 2, these voluntary initiatives are becoming increasingly important.

1.1 Retirement Income in Malaysia

In this study, the target population are Malaysians currently working in universities. Universities provide education, which is a priority in Malaysia's roadmap to development. It received the highest allocation of resources (Ministry of Finance, 2020) and is the focus of the government national agenda. In addition, universities educate future generations that will lead the country. Hence, the education industry has an important role in the Malaysia.

Universities are under the jurisdiction of the Ministry of Education (MOE) of Malaysia. The MOE oversees all the higher education institutions and government agencies involved in higher education activities such as the Malaysian Qualifications Agency (MQA), the National Higher Education Fund Corporation (Perbadanan Tabung Pendidikan Tinggi Nasional – PTPTN) and the Tunku Abdul Rahman Foundation (Yayasan Tunku Abdul Rahman).

The providers of higher education in Malaysia can be grouped into two major categories. The first consists of public universities, largely funded by the government. The Malaysian government offers a pension scheme for its core employees. This scheme mirrors a form of defined benefit plan, where upon retirement, an employee is entitled to a lifelong monthly payment calculated based on the number of years of service and the last drawn basic pay. It is wholly borne by the federal government through annual allocation from the federal budget. The scheme is quite generous, but in view of the rising share of government employees in the labour force, there are risks of fiscal sustainability (Sim & Hamid, 2010). With this in view, public universities employees are also offered alternative routes to retirement, such as savings through the Employees Provident Fund (EPF).

EPF is a trust fund established to provide a long-term retirement savings route for all employees in the private sector and non-pensionable employees in the public sector. Its retirement savings accounts are similar to defined contribution plans, where the contributions are based on a prescribed rate for employees and employers. These contributions are invested and returns earned are credited to the individual's account. The accumulated contributions can be fully withdrawn upon retirement.

In 2009, an estimated 20 public universities were located in various states in Malaysia (Malaysian Qualifying Agency, 2009). However, these public universities could not provide for the growing number of students in Malaysia. Public universities resources are also limited, as they depend on funds provided by the government.

To cater for the increasing number of students to ensure that opportunities are created for students who were unsuccessful in gaining entry into public universities, the MOE has encouraged the growth of the second category of provider of higher education, the private higher educational institutions. They are funded by private means, such as investments from corporations or alumni. These institutions are mandated to contribute to EPF.

In summary, university employees are covered by the formal social protection schemes in Malaysia which consist of the pension scheme and EPF. In addition, individuals may also supplement their retirement income by saving or investing. These initiatives are voluntary. They include savings or fixed deposits in banks and investments in unit trust or capital markets. There are also private insurance schemes (especially life and medical insurance) and savings that Malaysians, regardless of age, could subscribe to. Such efforts represent voluntary initiatives by the individual to financially plan and prepare for their retirement.

1.2 Statement of Problem

Voluntary initiatives to financially plan and prepare for retirement encompass a series of steps used by an individual to progressively attain retirement goals. This would involve various activities to organize a person's finances such as evaluating the suitability of banking products to a person needs (checking, savings accounts, credit cards and consumer loans), investments, (stock market, bonds, mutual funds) insurance (life insurance, health

insurance, disability insurance), participation and monitoring of private retirement plans and income tax management.

Researchers have noted that initiatives towards financial planning for retirement is moving at a slow pace (KRC Research, 2016; Employee Benefit Research Institute, 2018). Should this continue, there would be inadequate financial protection for a person in retirement. Traces of such inadequacy can be seen in the low saving rates in many countries (Brady, 2010; Kennedy & Matwijiw, 2010; MacDonald, Jones, Morrison, Brown & Hardy, 2011; Croy, Gerrans & Speelman, 2012; Ellen, Wiener & Fitzgerald, 2012; Pfau & Kariastanto, 2012). For example, Britain have reported a sharp decline since 1990s. Countries like United States, Japan and Australia also reported falling rates (Organisation for Economic Co-operation and Development, 2016).For Malaysia, EPF has reported that individuals will need a basic savings of RM196,800 by the age of 55, to sustain their retirement. However, in 2013, 69% of members have savings of RM50,000 and below while 54% have savings of RM20,000 and below, and only 31% are still working at the age of 54 years. At these rate, the amount saved will not be able to support the retiree during their retirement period (Employees Provident Fund, 2015).

This situation is made worse with social changes to the traditional family unit. Family provides various form of social support of emotional (nurture), informational (advice) and tangible (financial assistance) in nature. For many developing countries, it is not only an important form of old age support, but the only form of support (Holzmann, Mac Arthur & Sin, 2000; Holzmann & Hinz, 2005; World Bank, 2008; Antolín & Stewart, 2009).

However, changing social conditions, such as the increase in single-parent families, the dramatic increase in female employment and the geographic dispersion of families, has resulted in many family members not being able to provide the care required to an ageing person. Sim and Hamid (2010) reported a drop in the number of older Malaysians live in extended family households and an increase in the number of nuclear family households. Similarly, Tengku Aizan and Chai (2013) recognises intergenerational assistance as an important source of old age support, but note its decreasing trend in recent years.

With such challenges, it is unsurprising that achieving financial security in retirement may be an illusion to some. Countries have reported that their citizens seems paralysed to inaction at the insurmountable amount of work that they have to do to plan for their retirement future (Harrison, Waite & White, 2006). Some seems uninterested and unmotivated in managing their retirement affairs. It is unclear whether such attitudes are a distraction to their current unfortunate financial state or merely because retirement planning is not a priority in their lives. Whatever the reasons are, the reality is that there will be adverse outcomes to such inactions. In fact, many countries have reported that their retirees have to continue to work, more often because they cannot afford to retire fully (McDonald & Donahue, 2011; Hellevik & Settersten, 2013).

Research into this area are attempted in a fragmented way. There is lack of data on why and how people plan, not only in Malaysia but worldwide (Sim & Hamid, 2010; Hershey et al., 2013; Börsch-Supan, Bucher-Koenen, Coppola & Lamla, 2015). One popular focus of these research is on the demographics of the individual. Age frequently received attention in many studies. This is because as one grows older, the level of preparation increases (Hershey, Jacobs-Lawson, McArdle & Hamagami, 2007; Hershey, Henkens & Van Dalen, 2007; Padawer, Jacobs-Lawson, Hershey & Thomas, 2007). The fact that they are drawing nearer to retirement makes it more immediate. Gender also has its influences,

with men reported to be more likely to engage in financial planning. The income level is another determinant (Ekerdt, De Viney & Kosloski, 1996; Ekerdt, 2010; Ekerdt & Baker, 2014). Those more highly educated with a permanent position can plan more effectively. In summary, older educated males earning a higher income are reported to be more actively engaged in financial planning. Frequently, individuals with this demographic profile are afforded with more opportunities in life (Ekerdt et al., 1996; Petkoska & Earl, 2009; Ekerdt & Baker, 2014).

However, the use of demographic indicators have been critique. Hershey et al. (2013) states that these indicators are not explanatory variables and have limited use in theory development. Mechanism that underlies the association of planning with age, gender, income and education is lacking. Nonetheless, they are useful in developing interventions that target those at risk of poverty in old age and developing public policy initiatives aimed at encouraging individuals to plan and save. On the other hand, Fishbein and Ajzen (2010); Ajzen and Klobas (2013) opines that these variables should be considered as background factors, which influence intentions and behaviours indirectly via beliefs.

However, to assume that individuals do not plan at all may be too premature, as there are also studies that have shown that individuals do not remain idle in terms preparing for their retirement needs. In a survey conducted by (Princeton Survey Research Associates International, 2013), nine out of ten households in America are reported to be involved in some form of planning. Overall, almost 90% of its respondents indicate that they have done some form of planning. Those that take the initiatives to plan, experience positive outcomes, especial during times of economic uncertainty.

Unfortunately, the adequacy of their plans are questionable, in particular, its sufficiency in meeting the long-term needs of a retiree (Morgan & Eckert, 2004). Further analysis reveal that the degree of engagement in planning differs. Findings reveal that 19% are comprehensive planners, 38% are basic planners, 33% are limited planners, and 10% are non-planners. Comprehensive planners have a complete financial plan, have worked with professionals from the financial industry, and are somewhat confident in their financial choices. Basic planners may or may not have a complete plan. Only about 31% reported that they are more likely to plan in the following year (Princeton Survey Research Associates International, 2013).

In addition, the goals set are unclear. Only 80% have some specific goal in their savings plan. About 66% mentioned that they have a budget. For limited planners, only 11% are likely to make a plan in the following year, while 1% have a comprehensive plan. 44% have a budget, with plans to have at least one savings goal. 61% report that they do not have any credit card or credit card debt. As for non-planners, none of the respondents have a comprehensive plan or a budget. 38% have high credit card debt. Unfortunately, only 47% have a clear plan to reduce their debt.

Similarly, Brucker and Leppel (2013) reported that individuals that have planned had not executed their retirement plans well enough. Their study reveals that only 44% of the respondents have indicated that they had a financial plan with specific goals for retirement. For those within five years of expected retirement, about 50% had a plan. At the same time, based on a study of individuals over the age of 50, Lusardi and Mitchell (2011a) found that 31% of respondents had attempted to determine what they needed to save for retirement. However, of those who tried to do so, only 67% created some plan. For those who developed a plan, 88% followed through with it. The study also reveals an average of 19% success rate in the planning initiatives. The authors highlighted that the low success rate is

due to the difficulties in planning for retirement. For those who attempted it, many are not very clear on what they intend to do to achieve their goals.

The research conducted also documented a range of feelings ranging from positive feelings of optimism, confident, secure, content, happy to negative feelings such as uncertain, concern, worried, anxious and afraid of financial planning. KRC Research (2016) discovered that respondents in their survey can be categorised to four roughly equal segments based on their feelings towards various aspects of financial planning. These segments are labelled as Confident Savers (22%), Concerned Strivers (27%), Tentative Savers (24%) and Stretched Worriers (26%). Overall, 36% were optimistic, while 28% were uncertain and another 28% were concerned. Most of the optimism is from the Confident Savers and Concerned Strivers segments. The Stretched Worriers segments are struggling to stay current with bills and paying off debt and have not made much savings. At the same time, Confident Saver, Concerned Strivers and Tentative Savers have voice concern about the challenges they face in managing their credit card debt and mortgages.

Those who plan are more confident about their financial abilities. They save more and are progressively meeting their saving goals. Such sentiments are reflected in a survey by Employee Benefit Research Institute (2018). 64% of workers are reported to be confident (17%) or somewhat confident (47%) of their ability to live comfortably during retirement. However, confidence is inadequate. It must be accompanied by action. Equally of importance, findings have also revealed that respondents to the survey made assumptions which may give rise to a false sense of confidence. Some of these workers expect to retire later than retirees do. 68% expect to work for pay to provide them income in retirement. At the same time, 43% stated that debt hurts their ability to save for retirement. Also, those without a retirement savings plan are not confident of having enough resources for their old age.

Similarly, many individuals believe that regular contributions made towards their retirement accounts will provide a regular income stream during retirement. However, in a study by Cohen (2014) on superannuation retirement balances in Australia, it is discovered that these assumptions are questionable. Many retirees, despite making regular contributions, find their retirement balances below expectations (Brady, 2010; Kennedy & Matwijiw, 2010; MacDonald et al., 2011; Croy et al., 2012; Ellen et al., 2012; Pfau & Kariastanto, 2012). Findings reveal that while regular contributions have its benefits, what is more important is for the individual to actively manage and monitoring their contributions. Such action will enable early interventions if the amount accumulated fall below the desired target. In summary, it is no longer possible to rely on prudent behaviour alone to achieve retirement objectives. Instead, the individual is required to be familiar with the factors in the environment they live in that will affect their welfare and that of others during retirement.

Economic conditions are not the only influences on a person's retirement decisions. Croy, Gerrans and Speelman (2010a) and Croy et al. (2012) also identified several important social referents in a person's contextual environment, such as spouse, employers and financial advisers, that influence retirement savings decisions. Koposko and Hershey (2014); Van Campenhout (2015); Koposko and Hershey (2016); Koposko, Kiso, Hershey and Gerrans (2016) also emphasised the importance of parents, peers and early influences on a person's savings and retirement decisions. However, different populations are influence by different groups of social referents.

Briefly, financial planning for retirement involved budgeting, savings and money management, whilst taking into consideration various financial risks and future life events. The complexities in planning is demanding, both cognitively and motivationally. A survey investigating the financial capability and literacy among Malaysians reported that a

majority display inadequate knowledge on financial matters, particularly among vulnerable groups (Central Bank Of Malaysia, 2018). Most of them have short term tendencies, ignoring the possible long-term benefits of financial planning. Only about 40% are financially ready for retirement. Most of the respondents tend to rely on children or debt for emergency or expensive items. 75% have difficulty in raising money to meet emergency needs. Also, only 25% have made some form of investment. Many also reveal that they would face tremendous financial pressure if they lose their current source of income. The survey also reveals that most Malaysians have not been taking proactive financial decisions that are important for their well-being. Although most of them are worried about retirement, they adopt a passive strategy on retirement planning. They prefer to rely on statutory bodies such as EPF or possible welfare and social protection during old age. Such sentiments can put an individual at risk of poverty and deprivation during old age.

Another survey by the Federation of Malaysian Consumers Associations (FOMCA) (2016) reveals similar results. It stressed the importance of thinking about retirement. Findings reveal that 37% of respondents have never thought about retirement. For those who have thought about retirement, 60% were either not satisfied or only somewhat satisfied.

In summary, studies in this area show mixed results and appear fragmented. Some individuals are thoroughly prepared for retirement while others are either at a loss as to what to do or have no future plans (Selnow, 2004; Adams & Rau, 2011). Still many are also unable to plan due to economic or social challenges (Holzmann et al., 2000; Holzmann & Hinz, 2005; World Bank, 2008; Antolín & Stewart, 2009). Even for those that do plan, there are inconsistencies and weaknesses in their efforts (Lusardi & Mitchell, 2011a; Brucker & Leppel, 2013; Princeton Survey Research Associates International, 2013; Central Bank Of Malaysia, 2018). Some hold false assumptions or confidence about

retirement (Cohen, 2014; Employee Benefit Research Institute, 2018). What influence their actions (or inactions) on financial planning for retirement are unclear.

As a result, this study aims to investigates the determinants of intentions to plan financially for retirement and provide more significant insights into the planning done for a person's later life in retirement, within a selected sample in Malaysia, namely university employees. The key objective is to examine the influence of the beliefs, attitudes, subjective norms and perceptions of control on intention to plan financially for retirement within this population.

1.3 Research Model

To understand the various determinants and processes involved, this study bases its conceptual framework in the Theory of Planned Behaviour (TPB). TPB assumes that financial planning behaviours are a result of a reasoned decision. This means that behaviour is formed in a reasonable, consistent and often automatic fashion from the beliefs people possess. Beliefs guide a person's intentions to perform (or not perform) the behaviour in question (Fishbein & Ajzen, 1975; Fishbein & Ajzen, 2010)

According to TPB, three kinds of beliefs are distinguished. The first are behavioural beliefs. These beliefs refer to the perceived positive or negative consequences of a behaviour (such as planning financially for retirement) and its subjective values or evaluations. In aggregate, behavioural beliefs lead to the formation of a positive or negative attitude toward a behaviour. Generally, if the performance of the behaviour is perceived to result in positive outcomes, the attitude toward the behaviour will be favourable (Ajzen & Fishbein, 2005; Ajzen, 2015).

The second is normative beliefs. These beliefs reflect the perceived expectations and behaviours of important referent individuals or groups. Combined with motivation to comply with the referent in question, they produce perceived social pressure or subjective norm with respect to a behaviour. it is assumed that if more important others are believed to approve, and are performing the behaviour, people are likely to perceive social pressure to engage in the behaviour in question. The opposite would then happen for beliefs that are not favoured by the significant people in a person's life (Fishbein & Ajzen, 1975)

Third is the control beliefs. These beliefs refer to the perceived presence of factors that influence the ability of a person. Together with the perceived power of these factors, control beliefs produce perceived behavioural control. If control beliefs identify more facilitating than inhibiting factors, perceived behavioural control should be high and vice versa.

The attitudes, subjective norms and perceived behavioural control form behavioural intentions, or a readiness to perform the behaviour. Generally, the more favourable the attitude and subjective norm, and the greater the perceived behavioural control, the stronger the person's intentions. However, the relative importance of these determinants is expected to vary from one behaviour to another and from one population to another. A schematic representation of TPB is shown below.

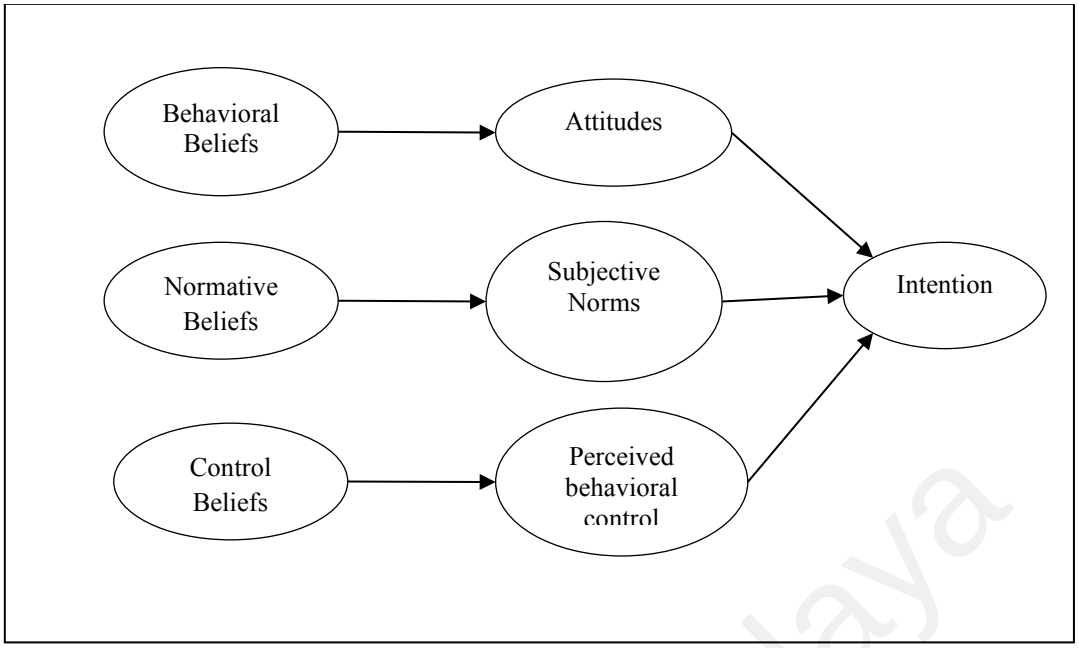

Figure 1.1: Theory of Planned Behaviour

1.3.1 Development of Research Objectives and Research Questions

In TPB, attitudes, subjective norms and perceived behavioural control are the direct antecedents to intentions. Attitudes reflect the degree to which the behaviour is positively or negatively valued. However, the influence of attitudes on intentions to plan financially for retirement are mixed. Research has identified a myriad of attitudes from positive feelings such as optimism, confident and happy to negative feelings such as uncertainty, worried, anxious and afraid in financial behaviour research (Princeton Survey Research Associates International, 2013; KRC Research, 2016). Some individuals view planning for retirement as highly necessary while others could not plan due to lack of resources or are just uninterested (Petkoska & Earl, 2009; Brucker & Leppel, 2013; Segel-Karpas & Werner, 2014; Van Deventer, De Klerk & Bevan-Dye, 2014). Hence, it is important to examine the influence of attitude on intentions to plan for retirement among University employees. Thus, the following research objective and question is developed:

Research Objective 1 - To examine the influence of attitudes on the intention to plan financially for retirement among University employees

Research Question 1 - What is the influence of attitudes on the intention to plan financially for retirement among University employees?

Subjective norms reflect the perceived social pressure to engage or not to engage in a behaviour. Social pressure comes from the social environment, particularly from the various important persons in an individual's life. These are strong influences not limited to friends or family. At times, society members, organisations and cultural groups also play important roles.

This determinant has an injunctive and descriptive component. Injunctive norms are concerned with gaining approval (or suffering from disapproval) from significant others in relations to the behaviour of study (Cialdini, Demaine, Sagarin, Barrett, Rhoads & Winter, 2006; Cialdini, 2007). It deals with one's perception of what others believe to be appropriate conduct and is different from one's personal opinion or reflections. Descriptive norms are related to one's perception of what significant others do in relations to the behaviour of study (Cialdini, 2007; Fishbein & Ajzen, 2010; Ajzen & Klobas, 2013; Klobas & Ajzen, 2015).

How these norms influence a person in financial and retirement planning is unclear. Earlier studies have revealed that subjective norms has a weak effect of intentions (Trafimow & Findlay, 1996). However, later studies reveal that differences are expected. Different population and context of study should exhibit different influences (Fishbein & Ajzen, 2010; Klobas & Ajzen, 2015).

Also, initial studies considered only the injunctive component in subjective norms (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2010). However, these earlier interpretations are deemed inadequate, as later studies have proven that both norms are important (Cialdini, 2007; Fishbein & Ajzen, 2010; Ajzen & Klobas, 2013; Klobas & Ajzen, 2015). On the onset, the norms display similarities, but upon more in-depth analysis, they differ conceptually and motivationally. Injunctive norms motivate a person into action via social evaluation, but descriptive norms motivate by providing social information. Most people perceive a behaviour socially adopted by the majority as a wise and effective form of conduct.

With the objective to explain the influence of subjective norms on the intentions to plan financially for retirement among university employees, the following research question is developed:

Research Objective 2 - To explain the influence of subjective norms on the intention to plan financially for retirement among University employees

Research Question 2 - What is the influence of subjective norms on the intention to plan financially for retirement among University employees?

Early developments of this model have focus on attitudes and subjective norms. At that time, the authors had referred this theory as the Theory of Reasoned Action (TRA) (Fishbein, 1963; Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980). However, TRA could not be applied to all situations and behaviour (Beck & Ajzen, 1991). In many studies, these determinants could only explain approximately 10% of the variance in behaviour (Ajzen & Fishbein, 2000). Ajzen and Fishbein (1980); Ajzen (1985) account this as due to the fact that many goals and behaviours are not under complete volitional control of a person. In recognition of this fact, Ajzen and Fishbein (1980); Ajzen

(1991) introduced an additional determinant, perceived behavioural control. This extension to TRA was subsequently called the Theory Of Planned Behaviour (TPB).

Perceived behavioural control refers to the extent to which an individual believes that they are capable of performing the target behaviour (Fishbein & Ajzen, 1975; Fishbein & Ajzen, 2010). This involves considering the presence or absence of factors that may facilitate or impede the performance of the behaviour, and whether the individual has perceived control over these factors.

A majority of studies have shown that intentions can be predicted with considerable accuracy using perceived behavioural control (Armitage & Conner, 1999; Armitage & Conner, 2001; Ajzen & Albarracin, 2007). However, the influence of perceived behavioural control differs depending on the population and behaviour. There are studies where perceived behavioural control have no direct correlation with intentions. Similarly, there are reports that it has exhibited moderating effects on attitudes and subjective norms (Fishbein & Ajzen, 2010). Hence, to determine the influence of perceived behavioural control on the intention to plan financially for retirement among University employees, the following research question is developed:

Research Objective 3 - To determine the influence of perceived behavioural control on the intention to plan financially for retirement among University employees

Research Question 3 - What is the influence of perceived behavioural control on the intention to plan financially for retirement among University employees?

Attitudes, subjective norms and perceived behavioural control can be analysed further to its antecedents. A person holds many beliefs but only those that are accessible explain intentions and behaviours.

The accessible beliefs depend heavily on the population of study. For example, behavioural beliefs are formed by associating a behaviour, such as financial planning for retirement, with various characteristics, qualities and attributes experience in lifespan of a person. Similarly, normative beliefs are beliefs regarding the prescriptions and behaviours of referents deemed important to the individual. Control beliefs, in turn, are beliefs about the resources (or opportunities) and obstacles (or impediments) individuals think they possess. All these beliefs may be formed directly from observation; indirectly from various sources or may be self-generated through inference processes. Beliefs are dynamic; they may persist over time, be forgotten and new beliefs can be formed.

Hence, in order to draw insights into the attitudes, subjective norms and perceived behavioural control of retirement planning behaviours, it is important to obtain information on the accessible beliefs of the population of study. These beliefs are identified in formative research where accessible outcomes are elicited in a free-response format from a representative sample of the population. The beliefs most frequently mentioned are then included in the survey of the main study.

Hence, to identify and to determine the influence of these accessible beliefs among university employees, the following research objective and question is developed:

Research Objective 4 - To determine the influence of beliefs on attitudes, subjective norms and perceived behavioural control among University employees

Research Question 4 - What is the influence of beliefs on attitudes, subjective norms and perceived behavioural control among University employees?

1.4 Research Methodology

This study employs quantitative research methods to answer the research questions. The data is collected using a survey method. In developing the items in the survey instrument, two separate methods are used (Morgan, 1998; Tashakkori & Teddlie, 1998; Fishbein & Ajzen, 2010). Items to answer research questions 1, 2 and 3 (attitudes, subject norms and perceived behavioural control) are adapted from existing validated scales from the literature whilst items addressing research question 4 (behavioural beliefs, normative beliefs and control beliefs) is developed via formative research which consist of qualitative interviews. From these interviews, the accessible beliefs are elicit (Ajzen, 1991; Ajzen, 2006). The frequently cited beliefs are then included in the survey. The goodness of the measures developed are subjected to validity and reliability checks. To ensure the validity of the survey, a team of experts is recruited. This team assesses each item in the survey instrument based on its consistency, representativeness, relevance and clarity (Lynn, 1986). As for reliability, a pilot study is conducted. The objective is to test the research methodology, survey instruments, data collection techniques and other research techniques in preparation for a more comprehensive study (Hassan, Schattner & Mazza, 2006; In, 2017).

Upon completion of data collection, all completed survey forms were checked, coded and entered into SPSS (Meyers, Gamst & Guarino, 2006). The data is then subjected to a series of preliminary analyses involving checking for missing values, normality, identifying outliers and collinearity issues. Descriptive analysis is conducted on demographic information such as age, education level, gender, ethnicity, religion, marital status and details of occupation. Subsequently, analysis using Structural Equation Modelling (SEM) via the Partial Least Squares (PLS) method is also used to determine the measurement properties and to testing the key theoretical relationships (Hair, Black, Babin & Anderson, 2010).

1.5 Population of the Study

The population selected for this study are universities employees in Malaysia. Universities in Malaysia can be grouped into public and private universities. These employees are covered by the formal social protection schemes in Malaysia, that is the pension scheme and EPF. Public universities offer two separate schemes to retirement for its employees, a pension scheme and savings through EPF. However, with the rising share of government employees in the labour force, eligibility for pension benefits have become more stringent in recent years. This has led to an increase in employees which have to opt for savings through EPF contributions (Sim & Hamid, 2010). As for private universities, they are mandated by law to contribute a prescribed rate to EPF. In addition to the formal social protection schemes, individuals may, voluntarily, supplement their retirement income by saving or investing. However, such efforts depend on income availability, resources and the initiative of the individual.

From the population, a simple random sampling process is used. SPSS will be used to generate the random numbers in the selection process. This method has the least bias and the most generalisability.

1.6 Contributions of the Study

Studies have demonstrated that the constructs in TPB have different effects in different contexts (Fishbein & Ajzen, 2010; Ajzen & Klobas, 2013; Klobas & Ajzen, 2015). Likewise, the constructs in this study have different effects on planning intentions. Subjective norms and attitudes have positive effects, while perceptions of controllability have no influence on planning intentions.

Subjective norms, which reflect the perceived social pressure from important referents, play a stronger role in this study. The important referents for university employees are mainly family members (spouse, parents, siblings and relatives). For many Eastern countries, family members are a leading source of formal and informal retirement support. Despite changing social conditions (single-parent families, increase in female employment, geographic dispersion of families), the findings from this study reaffirms the role of family in providing retirement support.

In comparison, though attitudes towards financial planning are positive, it plays a limited role in motivating behaviour among university employees. Perceptions of controllability, in turn, have no influence on planning intentions. Such findings indicate that though university employees have positive attitudes, they are more reliant on the existing formal mechanism (pension, EPF) as a mean of planning and savings for retirement. This expands the body of knowledge on financial behaviours, providing empirical contribution to the study of retirement planning in Malaysia.

This study used TPB as its research model. It is a robust and well accepted model in social psychology, but its use in financial behaviour studies is limited (Bobek & Hatfield, 2003; Xiao & Wu, 2006; Xiao & Wu, 2008; Croy et al., 2010a; Croy, Gerrans & Speelman, 2010b; Cohen, 2014; Croy, Gerrans & Speelman, 2015; Heraty & McCarthy, 2015). Nonetheless, TPB is able to explain the findings of this study, which makes it a valuable model of planning in Malaysia. It has also extended the understanding of the psychological relationships in financial planning for retirement behaviours.

Financial planning for retirement is a complex form of behaviour, encompassing a spectrum of activities and a wide variety of financial products and services. In order to study this behaviour, a variety of approaches, methodologies and sources are used. The objective is to ensure the validity and reliability of the study.

Consequently, careful considerations were taken in the development of the survey instrument. Two separate methods are used to develop the items (Morgan, 1998; Tashakkori & Teddlie, 1998; Fishbein & Ajzen, 2010). Attitudes, subjective norms and perceived behavioural control were adapted from existing validated scales. Beliefs (behavioural beliefs, normative beliefs and control beliefs) were developed from qualitative interviews, as they are unique and should be elicited from the population of study (Fishbein, 1963; Ajzen & Fishbein, 1980). Further tests using PLS-SEM were used to ascertain that the set of modal beliefs developed were significant indicators. Such steps provide a richer view of the complexity and uniqueness of financial human behaviour.

To ensure validity of the measures, a team of experts had been recruited to evaluate the items in the survey instrument based on consistency, representativeness, relevance and clarity. Results of their evaluations were used to calculate the Content Validity Index (CVI) and the Kappa Coefficient (Polit & Beck, 2006). Using these two criteria, decision rules were set, and items that do not meet with the rules specified were eliminated.

Many studies on human behaviour have non-normal data distributions. This study encounters similar challenges. Nevertheless, steps were taken to choose a statistical program that can cater to data that have normality issues. PLS-SEM is chosen as it allows structural equation modelling to be used with non-normal data. Its use of 5,000 re-samples in the bootstrapping technique and the robust validation process enhances the level of confidence on the findings.

This study offers practical contributions to policymakers, financial planning practitioners and the financial services industry. In recent years, many countries have witnessed the demographic phenomenon of an aging population (United Nations, 2002). As a result, policymakers have begun efforts to shift the responsibilities of retirement support to individuals. However, studies have also reported that the individuals are not

prepared for such responsibilities. This study suggests that policymakers can use TPB as a framework to understand planning at an individual level. The policies developed would then be more effective and helpful to individuals (Cohen, 2014).

The financial planning industry is currently underdeveloped. Nevertheless, it has shown promising market potential in Malaysia. Unfortunately, trust levels are low, as many are sceptical towards the industry players' commitment to resolving their clients' financial woes. For the industry to develop, it is vital to understand the reservations and mindsets of their clients. TPB offers a framework into the consumers psychology when planning for retirement. It helps in understanding the determinants that motivate their clients, thus enabling the development and marketing of more appropriate financial products or services.

1.7 Limitations of the Research

Researchers often struggle between parsimony and complexity. Although the constructs in TPB were able to predict intentions to plan, they do not fully address the complexity of human behaviour (Ajzen, 1991). The study recognises that there are other possible variables that play a role in influencing intentions, but operationalising all the variables would complicate the analysis (Ogden, 2015).

Every data collection method has its pros and cons. Similarly, survey methods also have its limitations. For this study, the initial low response rate was a challenge. Subsequent attempts to generate higher responses were successful, but was bounded by the policy and procedural requirements of the respective institutions (to collect data at selected locations in the universities, during working hours). Some of the survey forms collected were also unusable and had to be excluded.

The data collected were based on the thoughts and opinions of the respondents. As in studies that involve self-reports, elements of bias may occur. Individuals may not be entirely honest in their responses or have no recollection of what they did some time ago. Some also perceived the questions as sensitive and personal and were unwilling to participate. Nonetheless, strict measures were taken to provide complete anonymity and confidentiality to the respondents.

This study is cross-sectional. Cross-sectional data do not reflect how individuals may change their expectations as they evolve through the life-cycle. Nonetheless, many cross-sectional studies on TPB have useful and insightful discoveries (Notani, 1998; Armitage & Conner, 2001; Schulze & Wittmann, 2003; Rivis & Sheeran, 2004; Rivis, Sheeran & Armitage, 2009). In addition, Fishbein and Ajzen (1975); Ajzen (1991) had maintained that beliefs and attitudes tend to remain stable over time.

1.8 Future Research

This study adopts a reasoned action approach to understanding financial retirement planning. Its framework, TPB postulate a limited set of determinants (attitudes, subjective norms, perceived behavioural control) to explain behaviour (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980).

Yet, a multitude of determinants is known to influence planning. Many researchers have also questioned the sufficiency of TPB determinants in addressing intentions and behaviours (Ajzen & Fishbein, 2005; Fishbein & Ajzen, 2010; Klobas & Ajzen, 2015). Even the original authors of TPB have recognised the need for further research in predicting, understanding and changing behaviours. Such efforts may include future investigations into the origins of beliefs, exploring various demographic and personality

variables (Conner & Armitage, 1998; Armitage & Conner, 2001; Rivis et al., 2009; Fishbein & Ajzen, 2010).

Another area for future research involves subjective norms. The role of families, adult children and the extended family network to provide support for elderly people can be explored further (Yoo & Kim, 2010). In many Eastern countries like Malaysia, the concept of filial obligation and responsibility is greatly valued and is perceived as a duty of adult children (Walker, 2002). Yet, research in this area is limited, but with the growing importance of retirement, this is an important area for further investigations (Lapinski, Kerr, Zhao & Shupp, 2017).

The sample used in this study consists of University employees in Malaysia. However, a different group or segment of the population may engender different findings. Future research could examine the influence of selected variables on different groups of individuals. This may provide more information for various parties to tailor their services according to the needs of different segments of the population.

1.9 Definitions of Key Terms

(a) *Accessible beliefs*

Belief represents a state of mind. A person may deem something to be true, despite evidence of the contrary. It is a mental representation, where a person is oriented towards what they think is likely to be true (Schwitzgebel, 2006). Beliefs may be formed directly from observation; indirectly from various sources or may be self-generated through inference processes. They are dynamic and may persist over time, be forgotten or new beliefs can be formed.

Many different beliefs are formed about an object, but only a relatively small number determine attitudes at any given moment. Beliefs about object that come readily to mind are known as salient beliefs (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). However, the term salience has been replaced by accessible in recent social psychology literature (Fishbein & Ajzen, 2010). This term reflects an important fact, which is that beliefs can be activated spontaneously. One may consciously or unconsciously activate it, but it should come readily to mind when a person has reason to retrieve them.

(b) *Behavioural beliefs*

Behavioural beliefs link a behaviour to the subjective probability that it will produce a given outcome. The combination of all accessible beliefs with the subjective values of the expected outcomes will determine the attitude towards the behaviour (Ajzen, 2019).

(c) *Normative beliefs*

Normative beliefs refer to the perceived behavioural expectations of important referent individuals or groups in the population of study. The combination of a person's motivation to comply with the different referents will determine the subjective norm (Ajzen, 2019).

(d) *Control beliefs*

Control beliefs have to do with the perceived presence of factors that may facilitate or impede the performance of a behaviour. The combination of the perceived power of each control factor will determine the prevailing perceived behavioural control (Ajzen, 2019).

(e) *Attitudes*

Attitudes is defined as “a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual’s response to all objects and situations with which it is related” (Allport, 1935, p. 810). Eagly and Chaiken (1998, p. 269) define attitude as a “psychological tendency that is expressed by evaluating

a particular entity with some degree of favour or disfavour". Ajzen (1991); Fishbein and Ajzen (2010); Ajzen (2019) further defined attitudes as the latent disposition or tendency to respond with some degree of favourableness or unfavourableness to a psychological object.

(f) *Subjective norm*

Subjective norm is the perceived social pressure to engage or not to engage in a behaviour. Social pressure comes from the social environment of a person. Subjective norm has an injunctive and descriptive component. Injunctive norms are concerned with gaining approval (or suffering from disapproval) from important groups or individuals whereas descriptive norms are related to one's perception of what important others do in relations to the behaviour of study (Ajzen, 2019).

(g) *Perceived behavioural control*

Perceived behavioural control refers to the extent to which a person believe that they are capable and that they have control over their ability to perform a given behaviour (Ajzen, 2019). It takes into account a person's perception of the availability of information, skills, opportunities and resources required to perform the behaviour as well as possible barriers or obstacles that may have to be overcome.

(h) *Intention*

Intention is an indication of a person's readiness to perform a given behaviour, and it is considered to be the immediate antecedent of behaviour (Ajzen, 2019).

1.10 Overview

This thesis comprises six chapters. Chapter 2 presents a review of the literature on financial behaviour. As empirical studies related to financial planning are limited, the literature review incorporates studies in other financial areas such as savings, insurance, investment and money management. Nevertheless, the focus will be on examining influences among constructs related to the theoretical framework developed. Related underpinning theories are also discussed. Subsequently, the theoretical framework is presented, which also draws up the justification for the development of the hypotheses.

Chapter 3 discusses the research methodology in detail. The development of the survey instrument is outlined. Details of the development of each item in the survey are provided. The items developed are subjected to reliability and validity tests. A pilot test is also conducted before data collection. There is a detailed discussion of SEM using PLS along with the statistical techniques and guidelines. The chapter also justifies the methodology.

Chapter 4 analyses the data collected. This includes the respondents' profile and descriptive analysis of the responses to the items in the survey. In addition, preliminary data analysis is also conducted. Subsequently, both the measurement and structural models are evaluated. The measurement model provides more output on the reliability and validity of the study. As for the structural model, the path coefficient and variances are tested.

Chapter 5 presents a detailed discussion of the results in the previous chapter. All the paths in the theoretical framework are discussed and explained. In explaining the results, previous literature is reviewed.

Chapter 6 concludes the study by outlining the contributions, limitations and suggestion for future research. Finally, all supporting materials, such as the interview questions, survey instruments and content validation information are provided in the appendices.

CHAPTER 2: LITERATURE REVIEW

One distinct characteristic of humans is the ability to plan. This ability helps individuals to overcome their immediate impulse, enabling them time to evaluate the situation before taking action. Plans reflect the mental representations of what a person wants to do and their commitment to the effort (Friedman & Scholnick, 1997b). This ability helps a person to forms directions and solve problems. It provides a purpose for life. However, planning is a complex process. A person is required to gather their cognitive, emotional and motivational resources in the service of reaching desired goals. Although mentally taxing and behaviourally challenging, planning is critical to many activities in a person's life. This study aims to focus on one aspect of planning which involve an important phase in a person life; that is financial planning for retirement. This chapter review the epistemology of financial planning, the empirical works of previous authors and describe the theoretical framework that will guide this study.

2.1 Financial Planning for Retirement

Financial planning owes many of its initial developments to practitioners in the financial services industry. These practitioners comprise of bankers, insurance personnel or agents. By the nature of their occupation, they provide advice in many areas of finance to help their clients. However, such advice is dispensed in a fragmented way. The focus of these practitioners was in solving their clients' immediate problems and their allegiance to their professions.

However, some of the activities of these early practitioners drew negative responses; not only among their clients but from fellow practitioners in their industry. Many of the industry leaders opine that there is a requirement to build professionalism among its members. There are fiduciary responsibilities in what financial planners do, which encompass beyond just selling a particular insurance or financial product. With this in mind, a standardised code of ethics and practice standards is introduced among financial planners.

However, in developing these standards, these early developers face a challenge in defining financial planning. Financial planning involves a spectrum of activities and a wide variety of financial products and services. Nevertheless, a final decision was made to adopt a process view of planning, where planning is depicted to follow a rational and orderly path. Briefly, it involves gathering data on a person's current financial status and other non-financial information. Financial status includes related financial information such as assets, liabilities, insurances and investments. Non-financial information includes information such as marital status, family background and education level. Goals are then set based on the information available. A detailed roadmap is outlined on how to achieve the goals set. This depiction of financial planning has been incorporated into professional financial planning bodies and organisations in many countries (International Organization for Standardization, 2005; Financial Planning Association of Australia, 2014; Financial Planning Association Of Malaysia, 2014; Financial Planning Standards Board, 2015).

This processual adaptation is robust and is similar to how other fields have depicted planning. For example, in the field of strategic planning for businesses, planning is defined as the formulation of long-term plans in a business environment. This is further elaborated as the managerial process of developing a vision, setting objectives, designing, implementing and executing a strategy (Pearce & Robinson, 2011). Overton (2008)

supported this by stating that financial planning is a form of strategic planning. While strategic planning focuses on managing the organisation resources with the aim of maximising the profitability of a business, financial planning's objective is to help individuals achieve their goals with the proper management of their financial resources.

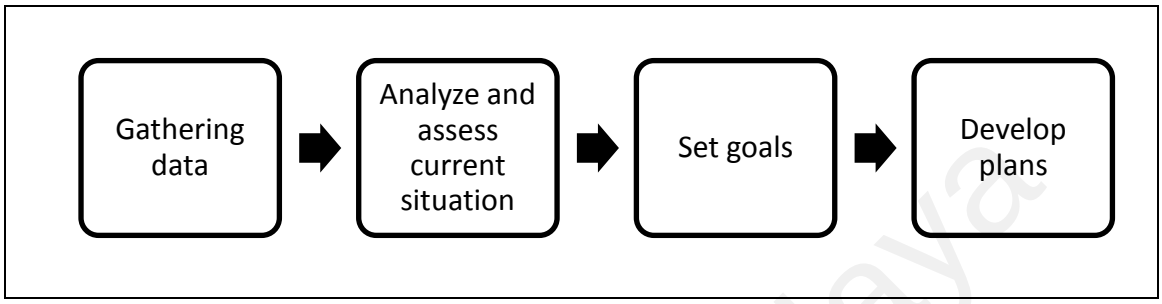

Figure 2.1: Processual depiction of planning

The definition of financial planning provides a guide for many practitioners in the industry. But in time, weaknesses arise. A person is assumed to have access to all the information required to plan. Furthermore, they also know the repercussions of the alternatives chosen and can effectively rank the options available. Unfortunately, such assumptions can only be possible with time and information that are accurate and complete. Grable, Archuleta, Roy and Roudi (2011) highlighted that this approach to planning is idealistic and difficult to achieve. It gives an illusion that by following a linear form of action, financial goals can be achieved.

Whether one is planning for an individual or an organisation, planning is rarely simple and orderly. This is obvious in other fields that have adopted the processual depiction of planning. For example, in the field of strategic planning, Mintzberg (1967); Mintzberg and Waters (1985); Mintzberg (1990); Mintzberg and Westley (1992) have reported that many strategies are not internalised or are misinterpreted by the organisation, resulting in high failure rates. Likewise, many financial planners report that financial plans or

recommendations developed are not read or understood by clients. Clients frequently display a lack of commitment to planning (Koh & Fong, 2000).

Such developments signal the importance of further understanding financial planning. There is a need to know why, how and when a person plan. Theories in this field is lacking and it is vital that specific models, that can be applied consistently across different context and among different populations guide the practice and development of the field (Harrison, 2005; Beal & McKeown, 2008; Grable et al., 2011). Financial planning is a complex process, which encompass beyond monetary considerations and is greatly dependent on the goals a person hopes to achieve. A person, when planning, must use their cognitive, emotional and motivational abilities to achieve their desired objectives. Hence, there is a myriad of psychological and contextual determinants that could potentially influence planning behaviours that has yet been explored.

2.1.1 Underpinning Theories

In economics, a model frequently used to understand an individual's planning, savings and consumption patterns is the life-cycle hypothesis (LCH). LCH stipulates that people make consumption decisions based on several considerations. Firstly, they would evaluate the resources available to them over their lifetime and secondly, they would also consider the resource requirements of their current stage of life.

With this in mind, individuals intend to even out their consumption in the best possible manner over their entire lifetimes, doing so by accumulating when they earn and dis-saving when they are retired. The key assumption is that all individuals choose to maintain stable lifestyles at all times where they would build up assets at the initial stages of their working lives for it to be used later during retirement. Hence, people constantly save for retirement and will alter their consumption patterns according to their needs at different stages. In

times when earnings are higher than consumption, they will save the excess which are then used to support consumption when income declines. If they do consume more than their earnings, they will finance the differences via borrowings. Borrowings typically occur in a person's youthful years where many do not earn enough for consumption. The resources are accumulated during the middle age years whereas during old age, a person would use the assets accumulated earlier. Such pattern would mean that consumption would be even out during their lifetimes (Modigliani & Brumberg, 1954; Ando & Modigliani, 1963).

However, LCH has its weaknesses. It assumes individuals are rational beings with access to all available information to formulate and execute their savings and spending plans. They are able to make complex economic computations and deal effectively with financial markets. Unfortunately, many people do not have such expertise. Acquiring such knowledge also come with time and cost.

The situation is more complex as governments, which previously designed and implement retirement pensions and protection plans, begin to entrust individuals with the responsibility of saving, investing, and decumulation activities. Individuals, who do not need to devote much attention to retirement details before, now have to explore and be aware of their future retirement plans. Not only must they acquire knowledge for this purpose, they must also make assumptions on future earnings, health status and return on investments (Mitchell & Utkus, 2004).

This model does not fully explain people's behaviour. Findings reveal that the elderly do not dissave as quickly as has been said in LCH. They are cautious about unpredictable expenses that may occur in their lifetime, and as such, will save more. These savings are known as precautionary savings. Precautionary saving may be made for the probable event of living longer than expected (and hence having to provide for a longer retirement period) or the possibility of ill-health and huge medical expenses. Others may also save more to

leave bequests to their children (Mitchell & Utkus, 2004). Nevertheless, LCH is useful in making macro predictions such as a country's savings and growth rate.

One popular focus of planning for retirement research is on the demographics of the individual. There are significant differences in the degree of engagement in financial planning based on gender, ethnicity, income, education, occupation, age and marital status (Berger & Denton, 2004; Calasanti, 2010; Ekerdt, 2010; Fontes, 2011; Ekerdt & Baker, 2014). To explain such differences, the Cumulative Inequality Theory is used (Ferraro, Shippee & Schafer, 2009). Cumulative Inequality Theory uses a life course perspective which emphasises that structural opportunities and risks are bestowed by the initial social location of a person's life. It can magnify into advantage and disadvantage, which translates into later life inequalities. Social location is determined by the demographic profile of an individual such as family statuses and origins; gender, ethnicity; the communities where people grow up and grow old; educational, socioeconomic and historical circumstances. Individuals with greater income, wealth, and education face circumstances offering more choices, and fare significantly better in old age than their less educated, less wealthy, lower income counterparts (Ekerdt, 2010; Ekerdt & Baker, 2014). Advantaged structural locations provide these individuals with better arrays of choices and capacities.

However, in current times, traditional social structures and location are continually reinvented and it is unclear how it influences the individual. In addition, life course trajectories are not only shaped by social location. It can change when individual exercise human agency, resulting in intragroup differences. Human agency refers to the capacity of individuals to act independently and to make their own free choices without being grounded in particular circumstances or being sanctioned by their affinity groups (Reeve, Ryan, Deci & Jang, 2007; Hardré & Reeve, 2009). An individual, structurally disadvantaged in earlier life or in one particular life domain, can potentially compensate

this by exercising agency to improve in another life domain. Choices individuals make reflects the variation in individual capacities and provide chances for a good life (Greenwell & Bengtson, 1997; Hellevik & Settersten, 2013).

However, little is known on how individuals can actually make sense of their human agency for their future economic security. Even less is known about how individuals account for the factors that inhibit them from starting financial preparations or prompt them to begin (Kemp, Rosenthal & Denton, 2005). Many of the assumptions in Cumulative Inequality Theory are implicit in nature and inferred from outcomes which has yet been tested empirically (Giele & Elder, 1998; Johnson, Crosnoe & Elder, 2011).

Exploration into planning continues in various areas. For Friedman and Scholnick (1997b), these explorations were initially intended to resolve conflicting explanations on adolescents' behaviour. Claims were made that societal problems associated with this age group stems from their cognitive limitations in the area of planning. However, further investigation reveals that planning itself involves a complex set of psychological operations. An individual has to use its cognitive, motivational and emotional resources in order to achieve the goals set out. How these resources are used reflect an individual's perception of the past, their knowledge of the present and hopes for the future.

Friedman and Scholnick discussed a framework, which outlines the various determinants that influence planning. However, what is interesting is that Friedman and Scholnick (1997b), acknowledges the importance of the 'decision to plan'. They stress that planning is not possible if a person is not psychologically motivated to do so. The decision to plan signifies an individual's intention, that is, their commitment to their planning initiatives. Many cognitive and rational model of planning merely assumes individual would be motivated to ensure that the planning effort is successful. The 'decision to plan' is frequently ignored. However, it is this commitment towards planning that is important.

Individuals must believe that planning is essential and that goal developed are important. The goals provide visualisation of the future that is appealing to the cognitive senses, which in turn, motivates them (Friedman & Scholnick, 1997a).

Yeske (2010) voiced similar concerns as decisions made in each step is influenced by a person's psychological and environmental circumstances. He reiterated that studies that emphasis on the "interior dimension" of motivations and values are important. A deeper understanding of beliefs, values, and motivations help to improve activities in financial planning, which aid the 'discovery' process for an individual. Success to any initiatives must match the various challenges in a person's personality, belief system, and personal history. It is these plans and strategies that will have the highest probability of success.

Using this framework, Hershey (2004); Hershey et al. (2007) extended the determinant of planning to financial planning for retirement. Financial planning predictors are grouped into four contributory factors. The first consists of psychological influences, which outline the cognitive, personality and motivational resources required. Cognitive resources are identified as knowledge and perception of task relevance. Personality influences refer to individual preferences such as time, risks and emotional stability. Motivational influences consist of factors such as the clarity of the goals, personal values and a person's confidence.

The second contributory factors consists of characteristics of the planning task. These include aspects such as the complexity of the task and whether there are options available. Task components such as activities that are long range in nature and daily monitoring of one's portfolio also influence a person's decisions.

The third group of factors refer to the environmental influences to planning such as availability of financial resources and economic forces. Financial resources come from an individual income base, current savings, assets and discretionary income. It also includes

sources such as informational, educational and technological resources which support planning behaviours. Economic forces reflect the conditions and future income expectations that influence financial planning for retirement.

The final group of factors are the sociocultural influences or the cultural ethos. It represents a collection of social forces from society, family and peer norms that influence the individual. It shapes the individual psychological tendencies and predisposition.

Studies on the various determinants engendered useful findings. More importantly, it provided empirical support to the various determinants of financial planning for retirement (Hershey et al., 2007; Hershey & Jacobs-Lawson, 2009; Van Dalen, Henkens & Hershey, 2010; Hershey et al., 2013; Gutierrez & Hershey, 2014; Hershey & Henkens, 2014; Gerrans & Hershey, 2016; Gupta & Hershey, 2016; Kiso & Hershey, 2017). However, the decision or intention to plan and individual motivations for financial planning for retirement has yet been fully explored. Intentions indicates how hard people are willing to try, and the effort that they put in to perform a behaviour. The stronger the intentions, the more likely a person will perform the behaviour.

Thus, to understand intentions, the Theory of Planned Behaviour (TPB) is explored. TPB is a psychological and motivational theory which offers a theoretical approach to predict and explain human behaviour by using selected determinants (attitudes, subjective norms, perceived behavioural control) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980). It assumes that human behaviour follows a reasonable and often spontaneously path from the information or beliefs people possess about the behaviour. These beliefs come from a variety of sources, such as personal experiences, formal sources of information, interactions with family and friends. People may also form beliefs from the ways they interpret and remember information. These beliefs then guide the decision to perform or not perform a behaviour.

Although this theory assumes that people behave in similar ways and are influence by a limited set of constructs, it also recognises the importance of domain-specific constructs in understanding behaviour. Its integrative framework has stimulated a great deal of empirical research and has been used to explain a wide range of behaviours such as health behaviour (Conner & Sparks, 2005), leisure choices (Ajzen & Driver, 1992), weight loss (Sparks, Shepherd, Wieringa & Zimmermans, 1995), fertility intentions (Ajzen & Klobas, 2013) and information technology usage (Taylor & Todd, 1995). Also, TPB's theoretical validity and robustness were further substantiated from the meta-analysis studies conducted (Ajzen, 1991; Godin & Kok, 1996; Armitage & Conner, 2001).

However, there is limited research on its use in financial and retirement behaviour studies. Nevertheless, existing studies using TPB in this area such as credit counselling (Xiao & Wu, 2006), tax compliance (Bobek & Hatfield, 2003), debt management (Xiao & Wu, 2008), savings behaviour (Croy et al., 2010a; Croy et al., 2010b; Croy et al., 2012) and retirement planning (Cohen, 2014; Heraty & McCarthy, 2015) had shown promising results. To determine the suitability of this framework, literature predicting and explaining financial and retirement behaviours are reviewed in greater detail.

2.2 Attitudes and Beliefs

In investigating the various determinants in financial behaviour studies, attitudes have been a popular focus of research. Attitudes are described as a person's predisposition to an object of study (Fishbein & Ajzen, 1975; Ajzen, 2005b). This predisposition influences a person's response and behaviour. The object of study may encompass people, events, activities or ideas. Allport (1935, p. 810) further reiterated this in the following definition, that attitudes are "a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and

situations with which it is related". Similarly, Eagly and Chaiken (1993, p. 1) have described it as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour." This is further supported by Crano and Prislin (2006, p. 347); where attitudes are perceived as "…evaluative judgements that integrate and summarise… cognitive or affective reactions".

From the definitions, the study of attitudes offers a multitude of possibilities for research. It is a predominant reality that individuals differed in their attitudes pertaining money and finances. Not only that, they also differ in how they plan and the perspective they have on retirement issues. Some are vigilant, well organised and maintains control of their finances. However, there are also others that do not keep account of the money spent or have plans to deal with future or unexpected expenditures. In a research by Atkinson and Messy (2012) on financial literacy, different financial attitudes towards money and planning for the future were documented. Fourteen countries participated in this study. Although most countries reported favourable financial attitudes, results from Armenia and Poland were different. Only 1 in 10 Armenian have positive attitudes. For Poland, only 27% are reported to have positive attitudes. The study also documented that only 53% of Malaysians have positive attitudes, which is worrisome.

Various studies had been conducted to explain these differences in attitudes. One such attempt involves understanding about money attitudes. In the studies, researchers have discover a variety of psychological meanings of money. Subsequently, scales have been developed to measure these meanings. These meaning ranges from positive money attitudes (such as 'comfortable security') to negative ones (such as 'shameful failure') (Wernimont & Fitzpatrick, 1972). Further studies in this area also uncover other meanings. For example, money has been used to measure attitudes in relations to status, respect and freedom (Goldberg & Lewis, 1978); perceptions (Yamauchi & Templer, 1982), behaviour

and beliefs (Furnham, 1984) and ethics (Tang, 1992). Money, by itself may be seen as an inert object, but due to differences in one's experiences and situations, it has been empowered with special powers and meanings. Unfortunately, research into money attitudes was limited to aspect pertaining to the demographic profile of a person and variables such as spending habits of the individual (Furnham, 1984). The motivational influence of money on healthy financial behaviours such as financial planning for retirement is not fully explored.

Attitudes towards planning were also studied by various researchers. Van Deventer et al. (2014) investigated attitudes on personal financial planning of South African students. Findings reveal that the respondents have positive attitudes towards personal financial planning and placed importance on specific areas such as credit, insurance, investment and estate planning. This is in contrast to Tan, Hoe and Hung (2011) where Malaysia respondents displayed neutral perceptions on critical components of personal financial planning. What is particularly disturbing is the area of retirement management. Although respondents were aware of the amount of money they would need for retirement, they have yet started with their retirement planning nor do they have any formal retirement plan.

Similarly, attitudes toward various financial activities were also analysed. One of these involved attitudes towards savings. Savings is a wealth accumulation activity where a person's manages his assets with the intentions creating wealth. Croy et al. (2010b), in studying the motivations of retirement savings among fund members in Australia, discovered that attitudes have a positive influence on intentions. Other variables such as perceptions of planning and planning preparedness also have powerful influences. Similarly, Joo and Grable (2005) discovered that positive financial behaviours and attitudes increase the likelihood of a person having a savings programme.

Investment is another area of interest among researchers. Investments are activities where one can grow or increase wealth. Sivaramakrishnan, Srivastava and Rastogi (2017), in studying the various determinants of investments decisions, discovered that investors attitudes have a powerful influence on intentions to invest in equity markets. Other influential aspects include regulatory perceptions, avoidance of risk and various hassle factors (such as procedural complexity, expenses, and time) are important attitudinal considerations when investing. Research into understanding consumers investment decisions also involved an understanding of other influences such as inflation (Armantier, de Bruin, Topa, van der Klaauw & Zafar, 2015). Inflation measures the rate of price increases over time and is a significant risk associated with the effort to grow investment. Most investors would judge the success of their investment decisions by comparing the rate of return of any investment portfolio with the inflation rate. The result supports the economic theory and reaffirms the relevance of inflation expectations.

Notwithstanding, research also dwell into various risks attitudes. In a study by Yilmazer and Lich (2015), risk preferences are discovered to be an important influence on household investment decisions. In addition, the risk tolerance of spouses also influences the assets allocation, where the spouse with the higher bargaining power is more likely to influence the proportion of risky assets in the investment portfolio.

Risk attitudes are also studied in the purchase of insurances. In Furnham and Goletto-Tankel (2002), young people showed a poor understanding of life assurances. Topics on life assurances were deemed boring, as it appears irrelevant to their lives. However, those with an understanding of life assurance have a firm grasp on the importance of savings and arranging for their financial future. Owusu-Frimpong, Omar and Mmieh (2011) in their study on attitudes towards financial products in Ghana revealed a low level of subscription to life insurance policies. The researchers attribute this to the reliance on help from family

and relatives in time of financial distress. Also, many could not afford to purchase insurance given their low-income level.

In summary, there is a myriad of attitudes that influence financial, money and retirement behaviours. Such attitudes may stem from their beliefs about money, planning, the range of financial products or even on retirement goals. Due to the evaluative nature of attitudes, individuals could take a position with respect to any of these aspects on a dimension that ranges from negative to positive. For example, planning for retirement is perceived differently by different people. For those who have successfully accumulated adequate resources to fund this period, they evaluate the whole activity positively, and may even look forward to retiring. Others, who have inadequate resources, may see it negatively (Kim & Moen, 2001). Hence, differences in how one evaluate the different activities in financial planning for retirement (finances, money, planning and retirement) have different effect on intentions (Lusardi, Schneider & Tufano, 2011). How one evaluates these different aspects have not been explored well, and current findings are fragmented. There is a need to further investigate the overall attitudes on financial planning for retirement, and its effect on different populations and context (Ajzen, 1991).

2.3 Contextual Environment

The social environment influences planning behaviours. This influence is captured in TPB in the construct subjective norms, and refers to what is acceptable or permissible behaviour in a group or society (Fishbein & Ajzen, 2010). Social norms influence performance of a particular behaviour; and in TPB, it is viewed as perceived social pressure to perform (or not to perform) a given behaviour.

Studies done in this area has identify two main sources of social pressures. The first are proximal influences from the immediate surroundings of the individual. These influences may be from the family unit, friends or colleagues. The second source represent distal influences, which are not immediately present to the individual. These influences may come from cultural values, customs and laws or various professionals and social groups to which an individual belongs to.

A common source of social pressure to the individual comes from family members. Friedman and Scholnick (1997a) discuss the significant effects it have on the individual. Families provide the knowledge base for planning in their daily activities. For example, family routines are forms of daily anticipated plans, which build expertise, that is observed and internalised by family members.

As such, there is a strong and significant influence of family members on intentions to plan, particularly for retirement (Binswanger & Carman, 2012; Wang, Worsley, Cunningham & Hunter, 2014). Wang and Shi (2014) discussed how family and social network factors influence allocations of retirement investments in defined contributions plans. The findings indicate that the risk attitude of the spouse influences retirement investments allocations. Yang and Devaney (2012) also reported that spouses influence retirement wealth. They coordinate their pension and investments decisions and would rather opt for similar rather than diversified investments (Wang, Henkens & Van Solinge, 2011). Hence, the amount of retirement assets a person holds is also influenced by the bargaining power of spouses.

Notwithstanding that, many spouses also coordinate their leisure and social activities together. It is common for one to accelerate a retirement plan in order to ensure that they retire together with their spouses (Street & Desai, 2011). Couples may also stall their retirement plans depending on their dependent-care situations. Individuals with dependent

children are reported to postpone retirement plans. Similarly, others may retire early to take care of dependents with illness or grandchildren (Wang & Zhan, 2012; Wang & Shi, 2014). Some retirees also engage into some form of bridge employment if their resources are inadequate. But these are frequently seen as forced rather than wanted (Kim & Moen, 2001).

Children faced with similar planning situations would emulate their parents (Koposko & Hershey, 2014; Koposko & Hershey, 2016; Koposko et al., 2016). Kimiyaghalam, Mansori, Safari and Yap (2017) discovered that parents influence have a significant effect on retirement planning. Tang, Baker and Peter (2015) also reported that parents influence responsible financial behaviour. The thoughts and feelings of parents are important as it serves as a reference point on how to handle the issues at hand. Parents provide support structures and some even share responsibilities with the individual.

In addition to the family, peer groups such as colleagues and friends also play a role in influencing financial planning for retirement. Bayer, Bernheim and Scholz (2009) reported that individuals seem more likely to plan after being exposed to financial preparation seminars with colleagues in their workplaces. Individuals also have more favourable expectations towards retirement (Taylor-Carter, Cook & Weinberg, 1997). Many are more willing to engage in financial preparation with the basic financial planning skills and principles acquired during the seminars (Hershey, Walsh, Brougham, Carter & Farrell, 1998; Hershey, Mowen & Jacobs-Lawson, 2003). Croy et al. (2012) reported that peer effects might influence saving decisions and the formulation of saving plans. In the United States, many new employees are reported to be influenced by the decisions of peers or seniors when it comes to decisions on their retirement such as participation and contribution levels. Friends also play a role in influencing various aspects of retirement.

They provide informational support, be role models and sometimes even offering monetary assistance (Wang & Shultz, 2010; Zheng, Wang & Gao, 2012; Zhan, Wang & Yao, 2013).

Similarly, a person may be influenced by factors not immediately present in their situation. These distal influences may come from cultural values, customs, and laws to which an individual belongs. This would include various professionals and social groups.

Distal influences have also affected financial and retirement behaviour. Joo and Grable (2005); Grable et al. (2011); Marsden, Zick and Mayer (2011) discussed the roles of professional advisers (such as financial planners, lawyers, accountants and counsellors) in dispensing advice to their clients. Clients have reported to be more confident in making a financial decision after discussions with their advisors. They are more informed and gain a clearer perspective of how they can achieve their objectives. These professionals are also in a position to assess their client's current situation and provide suggestions on how best to plan.

There also appear to be a correlation between greater wealth and the financial advice dispensed by these professionals, but the direction of causality is difficult to ascertain (Kramer, 2012). Croy et al. (2012) reported that although the belief towards the financial advisers may be strong, many are not motivated to comply due to distrust. Financial professionals also have their interest, and their efforts may not always improve the financial situation of their clients.

Influences from governments via their policies and social protection initiatives play an important role in influencing planning and retirement behaviours. However, the extent to which the government plays a role is also dependent on its political structures. For example, some countries emphasised on their social protection measures. Known as welfare states, these countries may adopt a universal system, with provisions that cover all citizens. Such

protection helps an individual in its retirement planning. Croy et al. (2012) revealed that although belief towards the government is strong, motivation to comply towards its initiatives is questionable.

In summary, the normative influences in a person's life are vast and diverse. These influences may be proximal or distal in nature. While it cannot be denied that people are more receptive and trusting towards individuals close to them (family members, friends, peer groups), distal influences (government, professional advisors) also have effects on intentions. Hence, identifying sources of normative influences is important to explain the social pressures influencing the environment of an individual.

Besides that, people are not only influence by what the important referents expects, but also in what they do. Studies of such nature (Koposko & Hershey, 2014; Koposko & Hershey, 2016; Koposko et al., 2016) stressed the importance of both the injunctive and descriptive component in subjective norms. Yet, who and the extent to which these influences play a role in a person's financial decisions differs. Early interpretations of subjective norms were questionable as they only included injunctive components. These findings also frequently assumed subjective norms components are the weakest, resulting in numerous debates on its role in TPB (Fishbein & Ajzen, 1975; Godin & Kok, 1996). Although later studies by Fishbein and Ajzen (2010); Ajzen and Klobas (2013); Klobas and Ajzen (2015) discover that different antecedents of intentions are expected to have different effects, empirical evidences are required to integrate the study of descriptive norms into TPB.

2.4 Perceptions of control

The previous sections have discussed the various literature related to attitudes and subjective norms. However, intentions are also influence by factors beyond a person's control. People cannot act on their intentions if they lack the skills or resources or if external factors prevent them from doing so. Hence, for a person to successfully carry out their intentions, they must have sufficient volitional control. Unfortunately, measures of actual control are not always possible, as it is not always known to the individual all the relevant internal and external factors that may facilitate or impede performance of a behaviour. Nevertheless, a person's perceptions of their control over a behaviour can accurately serve as a proxy for actual control and is frequently used in the prediction of behaviours (Ajzen, 1991; Fishbein & Ajzen, 2010; Klobas & Ajzen, 2015; Ajzen, 2019).

2.4.1 Cognitive Requirements

Cognition is an important aspect of planning, especially for complex matters. Cognition is mental processes in the acquisition, storage and use of knowledge. They are thinking skills, which influence the quality of decisions and perceptions. With regards to planning for finances and retirement, knowledge in the area of personal finance, investing, risk management and savings are of particular importance (Hershey et al., 1998; Hershey & Walsh, 2000; Hershey, Jacobs-Lawson & Walsh, 2003). Hershey (2004) further elaborated on two particular dominant forms of knowledge in financial planning for retirement. The first is the domain-specific declarative knowledge which includes knowledge in critical financial and investing concepts or dynamically changing information such as prime lending rate or major stock market indices. Next is procedural knowledge, which includes knowledge of specific procedures. This may include aspects such as the important steps in the retirement planning process or procedural requirements to check online for a person's

retirement savings status. Both types of knowledge are good predictors of involvement in the financial and retirement planning process.

One particular area of focus in relations cognition is financial literacy. Financial literacy is the knowledge and ability to use to manage financial resources (Beal & Delpachitra, 2003; Hung, Parker & Yoong, 2009). Skills to manage financial resources is important, as it ensures that a person's well-being is taken care of in their retirement days (President's Advisory Council on Financial Literacy, 2008; Jump$tart Coalition for Personal Financial Literacy, 2018). Mandell (2007) also stressed that these financial skills are essential for making more informed decisions for the future.

The importance of financial literacy is recognised by policymakers. It has been embraced as a solution, especially in light of the complexity of financial products in recent times and the increasing responsibility of saving, investing and planning for retirement entrusted to workers and retirees (Fernandes, Lynch & Netemeyer, 2014).

Financial literacy has an influence on financial behaviour. The empirical studies by Joo and Grable (2005); Hershey et al. (2007) reveal that financial knowledge help increases savings level. Those with financial knowledge have a higher perception of the adequacy of their savings. Similar results are also sighted in research in the Netherlands, Hong Kong (Chou, Yu, Chan, Wu, Zhu & Lou, 2015) and in Mexico (Koposko, Bojórquez, Pérez & Hershey, 2016). Financial literacy also has strong links with investment, cash and credit management (Hilgert, Hogarth & Beverly, 2003) and engagement in healthy financial practices (Martin, 2007; Bayer et al., 2009; Collins & O'Rourke, 2009). Similarly, Courchane and Zorn (2005); Courchane, Gailey and Zorn (2008) in examining links between financial knowledge, financial behaviours and credit outcomes, discovered knowledge to be a key explanatory variable for behaviour and credit outcomes. Subsequent research has also positively correlated financial literacy to retirement planning and wealth

accumulation activities (Ameriks, Caplin & Leahy, 2003; Van Rooij, Lusardi & Alessie, 2011; Van Rooij & Teppa, 2014; Lusardi & Mitchell, 2017).

Many investment decisions and activities are dependent on financial literacy. Van Rooij, Lusardi and Alessie (2012) reported that financial literacy has influences on stock market participation. The investments choices and the evaluation of investment fees are also influenced by how financially literate a person is (Christelis, Jappelli & Padula, 2010; Van Rooij et al., 2011; Lusardi & Mitchell, 2011b; Choi, Kariv, Muller & Silverman, 2014). In contrast, negative financial behaviour such as debt accumulation, poor loan choices and inability to service monthly debt instalments are related to low financial literacy (Lusardi et al., 2011).

The importance of financial literacy and its effects on the financial well-being of a person is undeniable. Unfortunately, many people are still financially illiterate. Results from the 2004 Health and Retirement Study in the United States indicates low scores in several measures of financial literacy. Only about half knew how to compute compound interest and inflation rate. 34.3% could answer all financial literacy questions correctly, 35.8% has only two responses correct, 16.3% has one response correct, and 9.9% got all answers wrong (Lusardi & Mitchell, 2011a) . Such responses were quite revealing as these groups are of the age where there would have to make important financial decisions that would influence their retirement future. They have also witnessed numerous financial and economic challenges which have provided them with the exposure and information on financial risk.

This survey is replicated to include different groups such as young respondents between ages 23 to 28 (2007–2008 National Longitudinal Survey of Youth) (Lusardi, Mitchell & Curto, 2010) and respondents of all ages (RAND American Life Panel) (Lusardi & Mitchell, 2010). In 2009 and 2012, the National Financial Capability Study was also conducted (Lusardi & Mitchell, 2011c). All the findings concluded that the level of financial literacy in the United States is low.

Similar results were also discovered in other countries. This was regardless of the stage of economic development or the political state of the country (Millar & Devonish, 2009; Chinen & Endo, 2012). For example, countries with developed financial markets such as Germany, Netherlands, Australia and Japan have reported low literacy rates. Similarly, the Organisation for Economic Co-operation and Development (OECD) have highlighted the lack of financial literacy among its member countries (Christelis et al., 2010). Nations with rapidly changing financial markets such as Russia and Romania also reported low levels of financial literacy rates (Lusardi & Mitchell, 2014). Atkinson and Messy (2011); Atkinson and Messy (2012) discovered patterns of financial illiteracy in 14 countries stretching across four continents. These countries are at different stages of development, and the study was conducted using a similar set of financial literacy questions.

The lack of financial literacy is of grave concern to many parties, especially policymakers. It indicates that many have problems in financial matters. They would not be able to avoid financial mistakes or may not be aware of financial practices that can help them cope with possible economic shocks.

Lusardi and Mitchell (2007); Lusardi and Mitchell (2011c); Lusardi and Mitchell (2014) highlighted that financial matters are cognitively challenging and time-consuming. The collection, analysis and evaluation of different information, facts and alternatives is an expensive process. To many, planning is only useful when the expected gains from the

effort made exceed its costs. However, this is not always the case, which is why some opt not to plan, as they think it is not worth the time and effort (Agnew, Szykman, Utkus & Young, 2012).

Correspondingly, Remund (2010) and Fernandes et al. (2014) revealed that many other factors also influence financial literacy besides knowledge, skills and ability. The meta-analysis studies of Fernandes et al. (2014) found that interventions to improve financial literacy could only explain about 0.1% in the variance of financial behaviours. The results revealed that financial literacy effects deteriorate with time. Large scale intervention efforts also have similar effects. This is especially true as many things taught are not immediately acted upon.

Likewise, many researchers highlighted that there is inconclusive evidence to demonstrate that a causal relationship exists between financial literacy and improved financial outcomes (Willis, 2008; Willis, 2011; Hastings, Madrian & Skimmyhorn, 2013; Fernandes et al., 2014; Holzmann, 2015). Similarly, although Hilgert et al. (2003) have evidence of a link between financial education and sound financial decisions, they are also of the opinion that the findings are inconclusive. Other factors such as biases, heuristics and nonrational determinant could also influence decisions. The intrinsic personal characteristics of individuals, to want to improve their financial situation, have also been known to cause people to seek financial education.

Hadar, Sood and Fox (2013) argued that knowledge in financial matters could be in an objective or subjective form. Objective knowledge refers to accurate information that is stored in memory. Subjective knowledge refers to a person's assessment of their knowledge. In a series of experiments conducted, respondents who felt more knowledgeable were more confident in their decisions and take proactive financial action. The results demonstrated that financial information influences a person's decisions via

subjective knowledge. They concluded that most financial literacy programmes fail because of the focus on objective knowledge instead of subjective knowledge. Subjective knowledge is important, as they are associated with consumer confidence, which drives behaviour.

Meanwhile, in a research on the dimensions of financial planning for retirement, Huston (2010) revealed that a financially literate person would not exhibit the predicted positive financial behaviours if they lack the confidence to use the knowledge acquired. This additional application dimension stress that information is not the only important dimension. Ability and confidence to apply the information appropriately should not be ignored.

Similar studies have documented the importance of confidence in financial planning for retirement (Organization for Economic Co-Operation and Development, 2005; Lusardi & Mitchell, 2007; Hung et al., 2009). People, especially those who do not have the financial knowledge, depend heavily on how much they think they know (Lusardi & Mitchell, 2007; Hung et al., 2009). Confidence is reported to be more predictive of financial behaviours. Sometimes, the influence of confidence is even greater than actual knowledge (Hung et al., 2009).

Willis (2008); Willis (2011) argued that effective financial literacy would be difficult to achieve. Due to the dire straits of financial literacy in many countries, effort in educating people has to be extensive. Also, the changing financial landscape would mean that the ordinary persons are left to their own devices when navigating through the ever-changing cornucopia of financial products. An individual is only armed with financial education as he or she weaves through this sea of challenges.

The dynamic financial marketplace also makes it difficult for many to keep up with the changes. Effective implementation is hard given the constant change. Furthermore, there is no right answer for financial matters. What is right for one person, may not be the solution for another. As such, massive education campaigns on financial literacy may not yield the expected benefits. Instead, education that is tailor-made to a specific audience may be more beneficial.

In summary, whilst cognitive abilities in economic and financial matters are essential in financial decision making and management, it is not without its challenges. This is evidenced as most countries reported facing financial illiteracy. In addition, findings on the influence of financial literacy on improving financial behaviours are mixed (Fernandes et al., 2014). Various other factors such as confidence and the personal characteristics of individuals are equally influential. In addition, the massive effort and costs to educating populations do not necessarily yield expected results.

2.4.2 Time elements

One important aspect of planning is that it involves projections into time. Indirectly, it represents a person's intent to control their future. However, such attempts are challenging as the future is unknown and hard to predict. To draw up a plan of action of a future life demands creativity, innovation and foresight. As such, many streams of research have investigated the challenges and obstacles presented by the time elements in planning.

One such research investigates self-control or self-regulation failure. Self-control refers to a broad category of conscious and nonconscious effort a person exerts to control behaviour. A volitional self-regulated act involves restraint over an impulse. To counter the impulse, a person has to alter its states and responses. These skills involve patience, impulse control and willpower as they grapple over the constant struggle to control their

urges. Self-control failure happens when a person fails to exert the desired action. Such lack of self-control ability happens when individuals delay or procrastinate a positive behaviours and indulge in negative impulses (Pham, Lee & Stephen, 2012; Ryack, 2012; Van Schie, Dellaert & Donkers, 2015)

In planning financially for retirement, a person is faced with the decision to delay gratification. They have to override an immediate impulse of enjoying a tempting stimulus now and in return for a delayed but better reward (O'Donoghue & Rabin, 1999; O'Donoghue & Rabin, 2001). Plans and strategies reflect the future which may or may not happen whereas temptations (to spend) are an immediate reality. The timing of rewards and punishments are temporally far apart, making efforts at self-control a constant struggle (Gollwitzer & Oettingen, 2011; Koch & Nafziger, 2011; Townsend & Liu, 2012; Dzhogleva & Lamberton, 2014). These are the reasons why people with high credit card debt and low pre-retirement wealth (Ainslie, 2010; Charlton, Gossett & Charlton, 2011; Choi & Kim, 2014).

The tendency for people to have a stronger preference for more immediate payoffs relative to later payoffs is described as temporal myopia in the field of economics. Such studies reveal the myopic tendency of human to give in to impulses. To explain such tendencies, people are assumed to discount more on rewards that are further into the future in comparison to shorter delays, which reflects the inconsistent choices made over time (Ainslie, 2005; Farmer & Geanakoplos, 2009; Ainslie, 2010; Charlton et al., 2011; Teuscher & Mitchell, 2011; Choi & Kim, 2014). This results in people regretting when they make short term choices, and discovering later that waiting would result in a more substantial reward. Such short term choices have been thought of as impulsive or rash and it reflects the inability of people to consider the long-term outcomes of an action when making a choice (Ainslie, 2010; Charlton et al., 2011; Choi & Kim, 2014).

The preference for immediate pleasure instead of a future reward is not new. Such preferences result in them discounting the future reward, making it less attractive. Ainslie (2010) also describe it as the most basic impulse. However, what causes these impulses is debatable. Sometimes it is attributed to naiveté, or inability to estimate the values of the contingencies involved. It also shows that people tend to act impulsively when given choices involving time.

2.4.3 Resources

With increasing age, individuals would generally withdraw from the labour force, either voluntarily (through retirement) or involuntarily (through the loss of a job or for health or caregiving reasons). Without an active link to the labour market, this means a decrease in income for most. For a substantial minority of older individuals, social welfare programs implemented by governments are the primary source of income and they may find themselves living in low-income situations. Hence, in many situations, those that are older would prepare to avoid such circumstances. They may also plan more because finances become more salient as they approach retirement or because owing to life cycle factors (higher income, decreased childrearing expenses), they have the available resources (Kim & Moen, 2001). Such efforts would free a person psychologically from the stress of old age, enabling one to have the freedom and autonomy to make life choices (Harrison, 2005; Grable et al., 2011; Noone, O'Loughlin & Kendig, 2012).

Hence, resources (especially those that are financial in nature) is of great interest (Ekerdt et al., 1996; Ekerdt, 2010; Ekerdt & Baker, 2014). These variables correlate well with retirement savings and financial planning activities. High income individuals are reported to be more actively engaged in planning as they have more resources (Hira, Rock & Loibl, 2009; Fernández-López, Otero, Vivel & Rodeiro, 2010). They are also more

knowledgeable, have clearer financial goals and may engage the services of a professional financial planner. As such, they have a higher perception of the adequacy of their retirement effort (Balasuriya, Gough & Vasileva, 2014; Chou et al., 2015).

However, resources of a person are not limited to its income generating capacity. Different resources and their availability can be identified along demographic and psychological lines. Some of these differences (in equalities or inequalities) could be due to an individual's initial social location in life, which magnifies into social and economic opportunities and risks in old age (Berger & Denton, 2004; Ferraro et al., 2009; Calasanti, 2010; Ekerdt, 2010; Fontes, 2011; Ekerdt & Baker, 2014). For example, people with greater income, wealth and education face circumstances offering more choices and fare significantly better in old age than their less educated, less wealthy, lower income counterparts (Ekerdt, 2010; Ekerdt & Baker, 2014).

In analysing these differences, age is frequently the demographic variable used. Findings have reveal that older individuals are more engaged in planning in comparison to their younger counterparts (Hershey et al., 2007; Hershey et al., 2007; Padawer et al., 2007). Phua and McNally (2008) also reported age differences in their study of men's attitudes towards retirement planning where older men are more likely to save for retirement. Older workers are normally paid more (and hence have more resources to plan) or hold higher positions in their respective organisations. Being older; most would have also settled their debts and have the time to be engaged in planning activities (Ekerdt, Hackney, Kosloski & DeViney, 2001). They may also be more knowledgeable in financial matters and less tolerant to risks to their investments (Dulebohn, 2002; Dulebohn & Murray, 2007). In addition, retirement objectives and realities are clearer as one ages, which indirectly motivates a person to plan.

Gender also has its influences, with men reported to be more likely to engage in financial planning and savings activities (Glass & Kilpatrick, 1998; Moen, Huang, Plassmann & Dentinger, 2006; Noone, Alpass & Stephens, 2010; Noone et al., 2012). They are also more proactive in growing wealth via investments (Glass & Kilpatrick, 1998) and have more specific retirement goals in comparison with women (Hershey, Jacobs-Lawson & Neukam, 2002). Various reasons are cited for such differences, namely the fact that men earned more as they hold permanent jobs and have access to a more illustrious career. Traditional sex-role patterns have also dictated that men are responsible for the family financial planning activities.

Relative to men, women are at greater risk of poverty in later life, especially widowed or divorced women (Lown, 2008; Rowley, Lown & Piercy, 2012). Women are expected to forsake their careers to take care of the family and with that many have discontinuous work patterns. Women also have a longer lifespan relative to their male counterparts which makes them more susceptible to the risk of aging (such as disease and disability). For some, particularly those without access to social and material resources, this may mean a loss of independence and a risk of isolation and loneliness.

Education level also influences retirement planning. Highly educated people have more capacity and resources to plan due to their knowledge and exposure (DeVaney & Chiremba, 2005). They also have a better understanding of financial matters and have the cognitive resources to make an informed decision (Harris, Loundes & Webster, 2002; Lai & Tan, 2009; Folk, Beh & Baranovich, 2012; Hershey & Jacobs-Lawson, 2012).

However, the use of demographic indicators has been critique. The precise reasons why certain demographic variables appear to have strong links to financial preparation are not always clear or direct. Demographic factors such as culture and religion has not been fully investigated. At the same time, there appear to be intragroup differences. Many of the

assumptions used are also implicit in nature and inferred from outcomes (Giele & Elder, 1998; Johnson et al., 2011). Hershey et al. (2013) states that these indicators are not explanatory variables and have limited use in theory development.

Hence, there are other plausible reasons for such differences. Foremost, is the belief that a person has the ability to manoeuvre across the various constraints of inequalities in life by exercising human agency. Human agency refers to the capacity of individuals to act independently and to make their own free choices (Reeve et al., 2007; Hardré & Reeve, 2009). A person structurally disadvantaged in earlier life or in one particular life domain can potentially compensate this by exercising agency in another. Hence, an individual may have low social economic status, but may experience well-being and happiness through planning behaviours that capitalize on advantages in other domains (such as a nurturing family relationship or a large network of friends for social support).

When planning, multiple psychological mechanisms that build up the motivational resources of a person is at work. Firstly, in planning, an abstract goal is transformed into specific sets of action (Townsend & Liu, 2012). This builds clarity which enables a person to set guidelines and contingencies to make better decisions (Thaler & Benartzi, 2004; Benartzi & Thaler, 2007). Risk of uncertainties are reduced, and individuals can cope better with arising challenges in life. Atkinson, McKay, Collard and Kempson (2007) discussed that by planning, a person would be able to cope with various unexpected emergencies. Certain financial planning activities like budgeting help individual to monitor and control, enabling them to live within their means. It helps identify expenditure that can cause real problems (where one has to borrow in order to meet the commitment) or deal with commitments that fell outside the typical pattern of expenditures.

When planning, a person also considers the context one is in. Such consideration enables a person to evaluate things in different perspectives. For example, one may visualise retirement as a positive or negative phase in their lives. Those who sees it as an opportunity for a 'new start' are motivated to make early preparations (Wang, 2007; Wang et al., 2011; Wang & Shi, 2014) while others who view it as an unwelcome, imposed disruption may dread the uncertainty and procrastinate in planning (Frieze, Olson & Murrell, 2011; Karpinska, Henkens & Schippers, 2011; Van Solinge, 2014).

Hence, the various planning initiatives help a person to be more organised and solve problems (Hayes-Roth & Hayes-Roth, 1979; Friedman & Scholnick, 1997a). This builds commitment towards the 'decision to plan' (Stawski, Hershey & Jacobs-Lawson, 2007). Research suggests that those who plan and have clear financial goals are more engaged in financial preparations (Neukam & Hershey, 2003; Stawski et al., 2007; Hershey, Austin & Gutierrez, 2015).

In summary, resources are an important consideration in financial planning for retirement. Wang (2007); Wang and Shultz (2010); Wang and Shi (2014) postulate that a person's adjustment to retirement depends on their resources. However, these resources are not limited to financial resources. They can extent along demographic and psychological lines. In most demographic analysis, by virtue of their social location in life, older, higher educated males appear to be more prepared financially for retirement. Yet, such assumptions are challenged especially when there are also intragroup differences amongst the groups. Individuals have the freedom to mapped out strategies to overcome life challenges and build resources. They need not fall in line with traditional social structures. For example, a person may compensate an inequality in one domain of their lives by planning to capitalize the advantages in other domains. Such efforts come in many forms,

which makes it a rich landscape for research (Wang & Shultz, 2010; Wang et al., 2011; Wang & Shi, 2014).

2.5 Theoretical Framework

This study adopts a reasoned action approach to understanding financial retirement planning. TPB postulate that behaviour will always follow a reasonable and spontaneous path from the information or beliefs people possess. Hence, it can be predicted and explained by using a limited set of determinants (attitudes, subjective norms, perceived behavioural control) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980).

Historically, the early formulation of this approach recognised intentions as the immediate antecedents of behaviour and that intentions are, in turn, a function of attitude and subjective norms (Fishbein, 1963; Ajzen & Fishbein, 1969; Fishbein & Ajzen, 1975). This early formulation was referred to as Theory of Reasoned Action (TRA).

Early studies using TRA have demonstrated its applicability in various situations and behaviours (Beck & Ajzen, 1991). Meta-analysis review by Sheppard, Hartwick and Warshaw (1988) also revealed that TRA was able to predict across a range of behaviours. However, TRA is only applicable to behaviours must be under the complete volitional control of the individual. This would mean that a person must have consciously thought of all related aspects of the behaviour and can decide whether to perform or not perform the behaviour. Hence, not all behaviours can be explained by TRA (Ajzen & Fishbein, 1980; Ajzen, 1985).

This had led to the introduction of the construct Perceived Behavioural Control (PBC), an additional predictor of both intention and behaviour. PBC is defined as the individual's perception of ease or difficulty in performing a behaviour. It assumes the performance of a behaviour is contingent on the presence of opportunities or resources (Ajzen, 1991; Ajzen, 2002b; Fishbein & Ajzen, 2010). With this extension, TRA is known as the Theory of Planned Behaviour (TPB). TPB cater to the non-volitional aspects of behaviour (Ajzen, 1985; Sheppard et al., 1988; Ajzen, 1991). In other words, for behaviour not purely under volitional control, perceptions of control would influence intentions and behaviour (Ajzen & Fishbein, 1980; Ajzen, 2005a).

TPB was tested across a wide range of behaviours. Findings reveal that it was able to explain well the variances in intentions and behaviour. The average correlation for intentions ranges from 0.59 to 0.66 (Notani, 1998; Armitage & Conner, 2001; Schulze & Wittmann, 2003; Rivis & Sheeran, 2004; Rivis et al., 2009). Armitage and Conner (2001) also found that the influence of PBC is significant even after controlling the effects of attitudes and subjective norms. Several meta-analyses also reveal positive findings where PBC has added power to predict behavioural intention and behaviour (Conner & Armitage, 1998; Armitage & Conner, 1999; Armitage & Conner, 2000; Armitage & Conner, 2001).

Research was also undertaken to compare the prediction of intentions and behaviour using TRA and TPB (Madden, Ellen & Ajzen, 1992). The results demonstrated that TRA was adequate in explaining behaviour within volitional control (Ajzen, 1991). For behaviours not under full volitional control, TPB was superior in explaining the variance in intentions and behaviour. This is also supported by meta-analysis reviews in different fields (Armitage & Conner, 2001).

Perceptions of control have demonstrated an influential effect on intentions and behaviours. However, in later studies (Fishbein & Ajzen, 2010; Ajzen & Sheikh, 2013; Klobas & Ajzen, 2015) the relative importance of the constructs (attitudes, subjective norms and PBC) are found to vary. Such findings are expected, as intentions and behaviours differ among individuals and populations. Some populations may be affected by attitudes and less so by subjective norms and PBC. Similarly, one type of behaviour may be more under the influence of attitudinal than normative or control factors. The reasoned action approach provides a conceptual framework that accommodates the theoretical constructs influencing behaviour. In the following sections, each of the construct in TPB is reviewed in greater detail to gain a better understanding of the role they play in explaining behaviours.

2.5.1 Attitudes and Behavioural Beliefs

In TPB, one of the key elements in determining intentions to engage in a targeted behaviour is attitudes (Armitage & Conner, 2001). Attitudes is defined as a disposition or tendency to respond with favourableness or unfavourableness towards an object or behaviour (Ajzen & Fishbein, 2005; Ajzen, 2005a; Fishbein & Ajzen, 2010). A person may evaluate an object or behaviour negatively, positively or even take a neutral stance (Ajzen, 2019). Hence, a bipolar evaluative dimension known as semantic differential scales is used to measure attitudes. It consists of adjective pairs placed on opposite ends of a scale; such as good-bad, pleasant-unpleasant and harmful-beneficial (Osgood, Suci & Tannenbaum, 1957).

Similarly, studies by Ajzen and Fishbein (1980); Ajzen and Driver (1991); Ajzen and Driver (1992) also discover different types of attitudes. Attitudes can be cognitive or affective in nature. Such distinctions has its roots in an earlier theory, that is the

multicomponent view of attitude (Rosenberg & Hovland, 1960). However, Fishbein and Ajzen (2010) hold different opinions on the use of the term 'cognitive' and 'affective'. These terms can be misleading as they proposed a unidimensional view of evaluation. As such, more neutral terms such as 'instrumental' and 'experiential' is proposed. Instrumental items reflect perceived positive or negative consequences of a behaviour whereas experiential (or in some literature, affective) items reflect the positive or negative experiences associated with performing the behaviour. These form the direct measures of attitudes.

These standardised direct measures are good indicators of an underlying attitude, but they do not provide information on causes of such attitudes. For this purpose, beliefs structures must be examined. Beliefs are formed by associating the object or behaviour with various characteristics, qualities and attributes. A person experience various belief during their lifespan. It may be formed by direct observation; indirectly from friends, teachers, the media and other outside sources; or self-generated through inference processes. Some beliefs persist over time, some are forgotten and new beliefs can be formed. These changes would produce corresponding changes in attitudes.

The way beliefs influence attitudes is best described by the Expectancy Value theory (EVT) (Ajzen & Fishbein, 1980; Ajzen, 1991). EVT is a model of attitude formation and it provides a framework for understanding attitudes and beliefs (Conner & Sparks, 2005). Each behaviour or object have various attributes, which has its respective expectancy and value component (Ajzen & Fishbein, 1980; Eagly & Chaiken, 1993). The expectancy component refers to the level of confidence a person holds about the consequences of performing a behaviour. It represents specific beliefs a person holds regarding their success of the task that they perform. In EVT, it is termed as behavioural beliefs (b_i). The value component refers to how important or useful an individual perceives the task. It answers

the question as to why they would want to perform the task (Wigfield & Eccles, 2000). It forms the evaluation of the outcome (e_i).

To predict attitudes, the expectancy and value component must be multiplied. The total of all these attributes in relations to the behaviour will form the overall attitudes. EVT assumes that people will only be motivated to perform certain behaviour if they deem that the results are highly valued. If they do not believe that it will lead to the desired outcome or will lead to outcomes that are not valued, the person will not perform it.

The components considered are illustrated using the following equation:

$$A = \sum_{i=1}^{i=p} b_i . e_i$$

where

A: Attitude towards the task or targeted behaviour

b_i: The behavioural belief of the targeted behaviour, which lead to outcome *i*

e_i: Evaluation of the outcome *i*

p: Number of accessible consequences

The above equation attempts to explain attitude formation by discussing details on the 'calculations' that are considered. In reality, individuals do not make these computations when making decisions on a behaviour (Conner & Sparks, 2005). Instead, attitudes emerge automatically and spontaneously as beliefs are formed. These attitudes are thought to be immediately available when a person is confronted with the attitude object or behaviour. As such, the equations merely provide an illustration of a person's attitude and its underlying behavioural beliefs.

Similarly, many researchers also assumed that the reasoned action approach consider people to be rational and to deliberate at length before engaging in any behaviours. Contrary to that, beliefs can be biased. There are possibilities of invalid information, accessing only selective information, be self-serving or information that fail to reflect realities of life.

People hold numerous beliefs about an object, attribute or event. However, only a small set is accessible at a particular time (Fishbein & Ajzen, 1975; Ajzen, 2011). Accessible beliefs are activated spontaneously. Its activation occur below conscious awareness, but come readily to mind when a person retrieves them (Beck & Ajzen, 1991; Fishbein & Ajzen, 2010; Ajzen, 2012).

Hence, in order to understand why people, hold certain attitudes, it is necessary to elicit their accessible beliefs. This would involve asking a representative sample of individuals from the population of interest to list the advantages and disadvantages of performing the behaviour under investigation. A content analysis, where responses are organized to identify beliefs held with the greatest frequency in the population, is performed (Conner & Sparks, 2005; Fishbein & Ajzen, 2010). This is the recommended pilot work before beginning any form of study and procedures (Ajzen & Fishbein, 1980; Ajzen, 2011). It is insightful as the elicitation procedure usually produces sets of beliefs specific to the population and context that is studied (Fishbein & Ajzen, 2010).

2.5.2 Subjective Norms and Normative Beliefs

The social environment of a person exerts strong influence on a person's intentions and actions. Subjective norms reflect social norms, what is deemed acceptable or permissible behaviour in a group or society. It is defined as the social pressure to perform (or not to perform) a given behaviour. The stronger the perceived social pressure, the more likely an

intention to perform the behaviour will be formed (Ajzen & Fishbein, 2005; Ajzen, 2005a; Fishbein & Ajzen, 2010).

Two types of social norms can be identified using a reasoned action approach. They are injunctive and descriptive norms (Cialdini, Kallgren & Reno, 1991; Cialdini et al., 2006; Cialdini, 2007). Injunctive norms refer to perceptions of others concerning what should or ought to be done with respect to performing a given behaviour, whereas descriptive norms refer to perceptions that others are or are not performing the behaviour in question. People may be motivated to behave in accordance with what they believe others think or do for various reasons. It could be that these persons or groups has the power to reward or punish them, has the right to request it, is an expert, or simply because they want to be like them.

Earlier conceptualisation of subjective norms is limited to measures that are injunctive in nature, which is what important referents think that the person should do. Hence, social pressure is only from the approval (or disapproval) of people important to the individual. As a result, in some studies, subjective norms displayed weak results (Sheeran & Orbell, 1999; Armitage & Conner, 2001). It is subsequently recognised that injunctive norms are not the only source of social pressure. Subjective norms measure the influence of the social environment, hence, social influences that directly and indirectly influenced the thoughts, feelings and actions of a person should be considered (Turner, 1991; Ajzen, 2005a).

Social pressure also exist when a person believe that important others are also performing (or not performing) a particular behaviour (Fishbein & Ajzen, 2010). These forms of norms are known as descriptive norms. It measures the attitudes and behaviour of people important to the individual. Many use important referents as examples of wise decisions. They serve as a reference point for people when they are making decisions for themselves (Cialdini et al., 1991; Cialdini et al., 2006; Cialdini, 2007). Donald and Cooper (2001) opined that, by the definition of social influence, there are two social processes that

should be considered that influence intentions and behaviours. The first concern the approval of others, and the second, other indirect social influences, such as descriptive norms. Observing the actions and behaviours of the important referent is a strong motivator, which is at times stronger than complying to the perceived expectations of significant people in a person's life.

To further understand the causal determinants of subjective norms, it is important to examine beliefs, in particular normative beliefs. Normative beliefs are beliefs of specific important referent individuals or groups in a person's life. It considers whether these referents would approve or disapprove of them performing the behaviour; as well as whether these referents are performing or not performing the behaviour. If people perceive that people important in their lives encourage and support the behaviour, it would likely result in positive intentions (Ajzen & Fishbein, 1980). In totality, normative beliefs produce subjective norms, that is, perceived social pressure to engage or not engage in the behaviour.

The way normative beliefs influence subjective norms is best described by the following formulation (Ajzen & Fishbein, 1980; Ajzen, 1991):

$$SN = \sum_{j=1}^{j=q} nb_j . \, mc_j$$

where

SN: The subjective norm in relation to a target behaviour

nb_j: The normative belief of referent *j*

mc_j: Motivation to comply with referent *j*

q: Number of accessible referents

In the formulation, subjective norms (SN) is a function of normative beliefs (nb_j) and motivation to comply (mc_j). Normative beliefs (nb_j) is the perception of individual on whether the important referent would expect them to perform a behaviour and are performing the behaviour. Motivation to comply represent the extent in which the individual is motivated to conform to the important referents' expectations (mc_j). Each measure of normative beliefs is multiplied by the motivation to comply in order to ascertain the subjective norms. Hence, the social pressures to behave are only when the individual is motivated to comply with that particular referent (Ajzen & Fishbein, 1980).

Similar to behavioural beliefs, there are numerous groups and individuals that influence a person's normative beliefs. The list of important groups and individuals can be elicited from a representative sample of the population. This would then form a modal set of accessible normative beliefs. It is also the recommended pilot work before beginning any form of study (Ajzen & Fishbein, 1980).

2.5.3 Perceived Behavioural Control and Control Beliefs

In addition to attitudes and subjective norms, perceived control over performance of a behaviour also influence intentions. PBC reflects the extent to which people believe that they have the capability and control in performing a behaviour. It considers the information, skills, opportunities and resources required to perform the behaviour. It also takes into account the possible barriers or obstacles that have to be overcome. If people believe that they do not have control over performance of a behaviour, they may not form strong behavioural intentions even if they hold positive attitudes and perceive strong social pressure to do so (Ajzen & Fishbein, 2005; Ajzen, 2005a; Fishbein & Ajzen, 2010).

Another issue of concern regarding PBC is the conceptualisation of the control variables. Most researchers are of the opinion that PBC and self-efficacy are similar or equivalent. Both refer to a person's evaluation of their ability to perform a behaviour. However, there are others who have highlighted subtle differences (Bandura & Pallak, 1982; Ajzen, 1991; Sheeran, 2002). PBC is perceived as the difficulty in performing a behaviour while self-efficacy is the perceived confidence in performing the behaviour (Garcia & Mann, 2003). Such confidence is deemed important to determine how well one can execute a course of action in any prospective situation. A person with self-efficacy is confident of their ability to perform a behaviour. This influence a whole spectrum of activities, from the choice of activity to preparation and effort directed towards completion of an act. As such, many researchers also argue that both concepts should be clearly defined and outlined in the field of study (Giles, McClenahan, Cairns & Mallet, 2004).

The influence of PBC on behaviour can be direct or through intentions. Direct influence is possible when the individual is aware of all factors that will ease or impede behaviour. This is known as actual control, where there is a direct path from PBC to behaviour. Under such circumstances, the perceptions of control also reflect a person's actual control (Beck & Ajzen, 1991). These factors can come in many forms such as opportunities, ability, resources or skills to perform the behaviour of study (Ajzen, 1985; Beck & Ajzen, 1991).

There are also situations where an individual is not fully aware of the opportunities, resources or skills required to perform a behaviour (Beck & Ajzen, 1991). Perceptions of control, reflected by the construct PBC, are used to predict future behaviour instead of actual control. In TPB, the path from PBC to intentions reflect the motivational influence of the control component (Madden et al., 1992).

Determinants of PBC, can be examine further by identifying beliefs, that is control beliefs. The relation between control beliefs and perceived behavioural control is expressed using the following equation:

$$PBC = \sum_{k=1}^{k=r} c_k . p_k$$

where

PBC: Perceived Behavioural Control in relation to a target behaviour

c_k: Perceived frequency or likelihood of occurrence of factors k

p_k: Perceived facilitating or inhibiting the power of the factor k

r: Number of control factors

PBC has an expectancy and value component. The expectancy component is represented by the perceived frequency or likelihood of occurrence of factors that facilitate or impede the performance of a behaviour (c_k). The value component is represented by the perceived power of the facilitating or inhibiting factor (p_k). PBC is computed by multiplying the frequency of occurrence of the factors with the perception of the power of each factor that facilitate or inhibit behaviour (Conner & Sparks, 2005). In summary, if a person perceives that the behaviour requires a resource or skill, and believe that they have what is required, they will be motivated to attempt the behaviour.

Readily accessible beliefs regarding these control factors are assumed to determine the overall level of PBC. Similar to behavioural and normative beliefs, control beliefs are elicited from a representative sample of respondents. These participants are asked to list the factors they believe would enable and impede them when performing the behaviour. A set of modal accessible control beliefs is then constructed by selecting the most frequently mentioned factors.

2.5.4 Intentions

Intention is a central concept in the studies of TRA and TPB. It represents the motivational factors that influence the behaviour studied and how cognitively ready a person is to perform a behaviour (Ajzen & Fishbein, 1980). It also reflects how hard they are willing to try and the degree of effort they are willing to exert to perform the behaviour (Ajzen, 1991). It can be deemed as instructions one gives themselves to act (Triandis, 1977).

In both TRA and TPB, intentions precede behaviour, making it a good predictor. It has also been used as a proxy to behaviour, especially when there is no available measure. The stronger an individual's intention to engage in a behaviour, the more successful they are in performing the behaviour (Ajzen, 2005b).

In TRA, intentions (*BI*) are influenced by attitudes (*A*) and subjective norms (*SN*). However, for TPB, intentions (*BI*) are not only influenced by attitudes (*A*) and subjective norms (*SN*) but also perceived behavioural control (*PBC*) (Ajzen, 1985; Ajzen & Klobas, 2013; Klobas & Ajzen, 2015). Also, PBC is also able to influence behaviour directly (Armitage & Conner, 1999; Armitage & Conner, 2001). In summary, the more favourable the attitudes, subjective norm and PBC is, the stronger the individual's intention to perform the behaviour under consideration.

These influences can be presented in the following equation:

$$B = BI = w_1 A + w_2 SN + w_3 PBC$$

where

B: Behaviour of interest

BI: Behavioural intent

A: Attitude towards performing the behaviour

SN: Subjective norm

PBC: Perceived behavioural control

w_1, w_2, w_3 are the relative weights of attitudes, subjective norms and PBC

Also, as previously discussed, the antecedents of attitudes, subjective norms and perceived behavioural control can be explained by beliefs. For attitudes, the antecedent is behavioural beliefs, which are beliefs on the consequences of the behaviour. Subjective norms antecedents are normative beliefs which list the important referents in a person's life. As for PBC, the antecedents are control beliefs, which is a person's belief of the factors that may ease or impede the performance of a behaviour.

For studies of intentions and behaviour, intentions are good predictors of behaviours (Sheeran, 2002). The results have recorded a mean correlation between 0.44 to 0.62 (Sheppard et al., 1988; Notani, 1998; Armitage & Conner, 2001; Hagger, Chatzisarantis & Biddle, 2002; Schulze & Wittmann, 2003). Similarly, in meta-analysis study by Webb and Sheeran (2006), the interventions resulted in an average effect size of 0.66 for changes in intentions and 0.36 for changes in behaviour.

2.6 Hypotheses Development

This study intends to use a reasoned action approach to investigate the influence of beliefs, attitudes, subjective norms and PBC (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980) on intentions to plan financially for retirement. These determinants are drawn from TPB, a social psychology model which has been used to explain a wide variety of behaviours. It recognises that each of the construct will have varying effects among different individuals and groups. In a similar manner, behaviours

may also be influenced differently by the constructs (Fishbein & Ajzen, 2010; Ajzen & Sheikh, 2013; Klobas & Ajzen, 2015).

The first determinant, attitudes, pertains to a person's predisposition to financial, money and retirement matters (Fishbein & Ajzen, 1975; Ajzen, 2005b). A person may take a positive, neutral or negative stance in any of these matters. Generally, in existing studies, individuals are more likely to perform behaviours that are evaluated positively (Princeton Survey Research Associates International, 2013; KRC Research, 2016). Conversely, if they evaluate the outcome negatively, they are less likely to engage in activities pertaining the behaviour. However, studies in financial behaviours also reveal a myriad of influence (Furnham & Goletto-Tankel, 2002; Joo & Grable, 2005; Croy et al., 2010b; Owusu-Frimpong et al., 2011; Tan et al., 2011; Van Deventer et al., 2014; Armantier et al., 2015; Yilmazer & Lich, 2015; Sivaramakrishnan et al., 2017). Hence, the following hypothesis is developed to test the effects of attitudes on intentions to plan financially:

Research Question 1 - What is the influence of attitudes on the intention to plan financially for retirement among University employees?

Hypothesis 1 (H1)

Attitudes have a positive influence on intentions to plan financially for retirement among University employees.

Perceived social pressures from important referents influence a person's intentions. In TPB, this is reflected in the subjective norms construct. Subjective norms have injunctive and descriptive components (Cialdini, Reno & Kallgren, 1990). Injunctive norms are the perception of important referent's expectations whilst descriptive norms measure the perception of important referent's actions in relations to the targeted behaviour. These norms, in aggregate, would represent the social pressure from the environment.

However, the influence of these norms varies. Different populations and context of study are influenced by different important referents (Fishbein & Ajzen, 2010; Klobas & Ajzen, 2015). Nonetheless, individuals are expected to be influenced positively if they believe that important referents in their lives think that they should be planning financially for retirement (Fishbein & Ajzen, 2010). Similarly, if individuals believe that the important referents are also engaging in the behaviour, they will follow suit (Rimal & Lapinski, 2015; Lapinski et al., 2017). Hence, the following hypothesis is proposed to test the effect between subjective norms and intentions:

Research Question 2 - What is the influence of subjective norms on the intention to plan financially for retirement among University employees?

Hypothesis 2 (H2)

Subjective norms have a positive influence on intentions to plan financially for retirement among University employees.

PBC measures an individual perception of their ability to perform a behaviour. If an individual is confident of having the relevant skills, opportunities and resources of performing the desired behaviour, they will have a high degree of PBC (Ajzen, 1991). Conversely, if they are not confident of their ability to control the opportunities or resources, they will have a low level of PBC.

A majority of studies have shown that intentions can be predicted with considerable accuracy using PBC (Armitage & Conner, 1999; Armitage & Conner, 2001; Ajzen & Albarracin, 2007). However, the influence of PBC also differ depending on the population and behaviour. There are studies where PBC have no direct correlation with intentions (Fishbein & Ajzen, 2010). Hence, to determine the influence of PBC on the intention to plan financially for retirement, the following hypothesis is developed:

Research Question 3 - What is the influence of perceived behavioural control on the intention to plan financially for retirement among University employees?

Hypothesis 3 (H3)

Perceived behavioural control has a positive influence with intentions to plan financially for retirement among University employees.

To further explain the basic construct of TPB (attitudes, subjective norms and PBC), beliefs about financial planning for retirement are explored. These beliefs could be formed through personal experiences, formal sources of information, interactions with family and friends or the way information is interpreted. Individuals hold many beliefs, but only a small set are accessible at any one time (Fishbein, 1963; Fishbein & Ajzen, 1975; Ajzen, 2011). These beliefs then guide the decision to perform or not perform a behaviour.

According to TPB, three types of beliefs can be identified. These are behavioural beliefs, normative beliefs and control beliefs. Behavioural beliefs influence attitudes; normative beliefs influence subjective norms while control beliefs will help in understanding PBC. The following hypothesis is tested:

Research Question 4 – What is the influence of beliefs on attitudes, subjective norms and perceived behavioural control among University employees?

Hypothesis 4a (H4a)

Behavioural Beliefs has a positive influence on attitudes among University employees.

Hypothesis 4b (H4b)

Normative Beliefs has a positive influence on subjective norms among University employees.

Hypothesis 4c (H4c)

Control Beliefs has a positive influence on perceived behavioural control among University employees.

In brief, the hypothesis developed is shown in the following schematic representation.

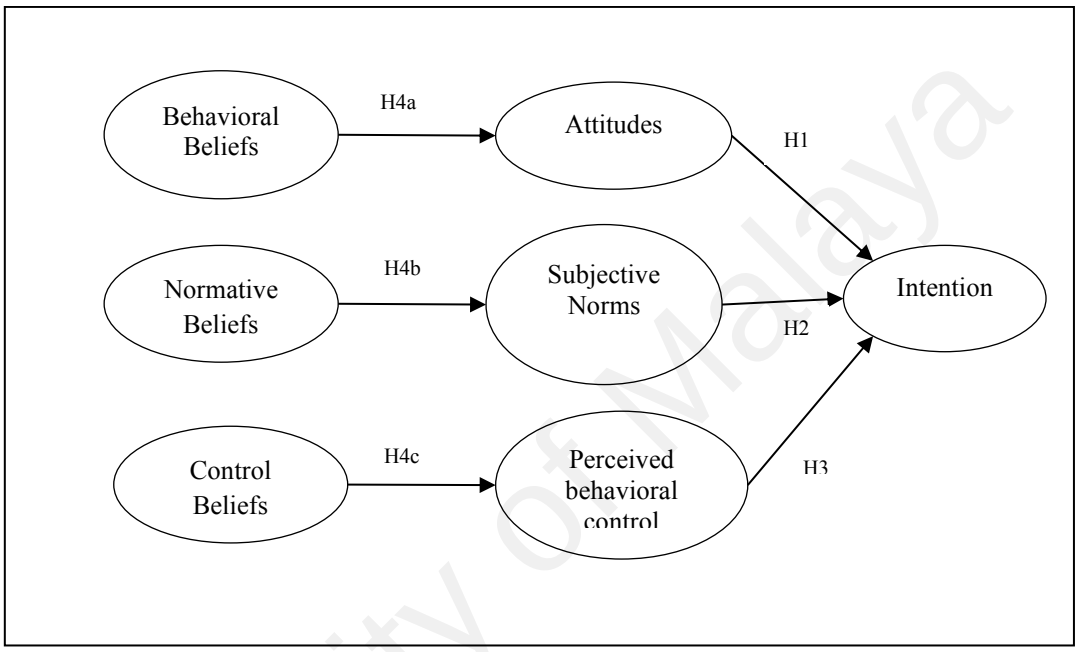

Figure 2.2: Research Hypotheses

2.7 Summary

This chapter discuss the development of financial planning for retirement and the importance of intentions and motivation in planning. The underpinning theories that has been used to understand financial, planning and retirement matters are also examined. Ultimately, TPB was used as the theoretical framework for this study as it offers a comprehensive organising framework to study the different psychological and environmental circumstances faced by an individual.

Various financial behaviour literatures were also reviewed to understand the influence of attitudes and beliefs, contextual environment and resources. Although, generally the importance of the constructs in TPB (attitudes, subjective norms and PBC) is recognised, there are gaps, where findings are inconclusive and fragmented. Some studies recognise the importance of a determinant, yet others find that it has no influence in their research. As such, hypotheses were developed to test its effects on intentions to plan financially for retirement.

CHAPTER 3: RESEARCH METHODOLOGY

The earlier chapters had analysed the literature on beliefs, attitudes, subjective norms and perceived behavioural control of financial planning for retirement. The problem statement and theoretical framework has been discussed to develop the research questions, model and hypotheses. It is the intent of this thesis to study the determinants influencing financial planning for retirement. The Theory of Planned Behaviour (TPB) is used as the underpinning theory where financial planning behaviours are assumed to form from the beliefs people possess. TPB offer a theoretical approach to predict and explain human behaviour by using selected determinants (beliefs, attitudes, subjective norms, perceived behavioural control) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980). However, there is limited research on its use in financial and retirement behaviour studies, hence, the constructs in the theoretical framework must be tested.

This study adopts a quantitative methodology in its research design. It would be the principal method used to answer the research questions and to test the hypothesis. For this thesis, primary data is collected via a survey. Surveys are common in financial planning research. They have been used to elicit responses for constructs such as attitudes and other determinants (Tang et al., 2015; Nosi, D'Agostino, Pagliuca & Pratesi, 2017; Topa, Lunceford & Boyatzis, 2018). It is cost efficient and suitable for studies that involve a larger sample. Respondents of the survey can be anonymous, which is crucial if it involves personal and sensitive questions (Creswell, 2014).

Studies conducted using surveys are also supported by Armitage and Conner (2001), where the results are deemed more superior than observations. Yin (1994) further supports this methodology. It is particularly suitable for studies that use the 'what-type' research questions.

3.1 Development of Instrument

In a survey, the development of the survey instrument is important. The survey instrument comes in the form of a questionnaire, which is a preformulated written set of questions to which respondents record their answers (Sekaran, 2003). The items in the survey instrument is developed via two separate methods (Morgan, 1998; Tashakkori & Teddlie, 1998; Fishbein & Ajzen, 2010). Items to test Hypotheses 1, 2 and 3 (attitudes, subject norms and perceived behavioural control) are adapted from existing validated scales from the literature. The authors of TPB has developed the items to measure the constructs and its validity have been proven in many studies. However, the authors invites researchers to use the current of knowledge and scales developed in their research to extent the body of knowledge in understanding behaviour (Ajzen, 2006; Fishbein & Ajzen, 2010). Meanwhile, items addressing Hypotheses 4a, 4b and 4c (behavioural beliefs, normative beliefs and control beliefs) is developed via qualitative interviews. This is because it is difficult to specify any fixed beliefs at any given context. A person holds numerous beliefs and there are possible differences among the different sets of population. Hence, it is necessary to elicit these beliefs from interviews with a modal set of participants of the population of study.

The behaviour of interest must be defined clearly in studies using TPB (Ajzen & Fishbein, 1977; Ajzen, 2006). For this purpose, the principle of compatibility is used. In this principle, behaviour is defined according to four considerations. The first is the target. It identifies the target in which the action is directed. The second is action, which defines the activity itself. The third explains the context in which the action takes place. The final elaborates on the time at which the act is performed. This principle is also known as 'TACT' which is the acronym for Target, Action, Context and Time. In developing this

principle, the researcher acknowledge that it may be difficult for some behaviour to specify all considerations. In such cases, the minimum specification should be the action and time frame (Conner & Sparks, 2005).

For this study, the behaviour in question is intentions to plan. It relates to money related planning activities, such as savings or investments, with the purpose of meeting a person's retirement goals (for example financial independence in old age). Using TACT, the behaviour is defined as the 'intention to plan financially for the next 12 months', and adapted across the measures developed. These elements are important and must be consistently applied to the items developed in order to ascertain the statistical relationship between them.

3.1.1 Adapted items

(a) *Attitudes*

Attitude is one of the determinants of a person's intentions (Ajzen & Albarracin, 2007). It is defined as the degree to which performance is positively or negatively valued and reflect the reaction to any object that is of significance to a person (Osgood et al., 1957).

There are two different components of attitudes, that is the instrumental and experiential components (Ajzen & Driver, 1992). Instrumental components consider the rewards (or punishment) to the attitude. The experiential component refers to a person's feelings or emotions. Ajzen and Fishbein (2000); Ajzen and Fishbein (2005) have indicated that attitude measures in TPB should have items representing both the instrumental and experiential components. At the same time, these items should be measured using semantic differential scales (Ajzen & Fishbein, 1980).

Five items were adapted to measure the evaluation of these components in attitudes. Two of these items measure the instrumental components, that is 'worthless-useful' and 'beneficial-harmful' while another two measures experiential or affective aspects, that is reflected by the scales 'enjoyable-uninteresting' and 'unpleasant-pleasant'. A final question that measures the overall evaluation, 'good-bad', is also included.

Table 3.1: Adapted Scale items for attitudes

Measures	Items	Source
Overall	Good----------bad	Ajzen (2006), Bearden, Netemeyer and Haws (2011), Bruner II (2009), Francis, Eccles, Johnston, Walker, Grimshaw, Foy, Kaner, Smith and Bonetti (2004), Osgood et al. (1957), Ajzen and Driver (1992)
Experiential	Enjoyable------uninteresting	
Instrumental	Worthless------useful	
Instrumental	Beneficial------harmful	
Experiential	Unpleasant-----pleasant	

(b) *Subjective norms*

Subjective norms refer to the influence of the social environment on the individual. It relates to a person's perception of the social pressure to engage (or not engage) in a behaviour.

Measures of subjective norms in TPB have injunctive and descriptive qualities. However, initial studies on subjective norms have only included the injunctive qualities. This results in many studies concluding that there are inadequacies of this form of measurement (Sheppard et al., 1988; Godin & Kok, 1996; Armitage & Conner, 2001; Fishbein & Ajzen, 2010). Generally, important referents are expected to approve desirable behaviours and disapprove undesirable ones. Hence, injunctive norms alone are not reflective of the pressures faced from the social environment. It merely address motivating action through the approval of others (Cialdini et al., 1991).

In order to further study the influence of social environment, Ajzen and Fishbein (2005); Fishbein and Ajzen (2010) suggested the inclusion of descriptive norms. Descriptive norms describe what important referents do. It is also an important indicators social pressure. Rivis and Sheeran (2004) reported that across 14 tests, a descriptive norm-intentions of 0.46 was achieved. It was also able to explain an additional 5% variance in intentions, after taking into consideration attitudes and PBC. Conner and Sparks (2005) further reiterated that this is an interesting area of research.

To address the injunctive norms, questions pertaining to the opinions of important referents and whether they think the individual should do what important referents want are adapted. The first is the statement 'I feel the social pressure to plan financially for retirement', and the second 'Most people who are important to me think I should plan financially for retirement'. As for descriptive norms, the statement 'Most people who are important to me plan financially for retirement' is adapted.

Table 3.2: Adapted Scale items for subjective norms

Measures	Items	Source
Injunctive norms	I feel the pressure to plan financially for retirement.	Ajzen (2006), Bearden et al. (2011), Bruner II (2009), Francis et al. (2004)
Injunctive norms	Most people who are important to me think I should plan financially for retirement.	
Descriptive norm	Most people who are important to me plan financially for retirement.	

(c) *Perceived Behavioural Control (PBC)*

PBC reflects the extent to which people believe that they have the capability and control in performing a behaviour. It considers the resources and barriers to a behaviour. When people believe they have control over the performance of a behaviour, they will form strong intentions (Ajzen & Fishbein, 2005; Ajzen, 2005a; Fishbein & Ajzen, 2010).

Two aspects are important considerations in the measures of PBC. The first is self-efficacy. Self-efficacy is defined as how easy or difficult it is to perform a behaviour. Self-efficacy is similar to Bandura (1995) definition, which is defined as the degree of confidence a person has. One must be convinced that they have the ability and resources to execute a behaviour in order to produce the outcome desired. In order to assess self-efficacy, the following questions are adapted: 'I am confident that I can effectively plan financially for retirement' and 'For me to plan financially for retirement is easy'.

The second consideration is perceived controllability (Ajzen, 2002b). It is defined as a person's perception of their ability to control behaviour and that the performance (or non-performance) is entirely up to them. The item 'The decision to plan financially for retirement is beyond my control' is used for this purpose. Another question to assess controllability is 'Whether I plan financially for retirement or not is entirely up to me' is also used. It is recommended that in measuring PBC both self-efficacy and controllability is used. Hence, a total of four items were used for PBC.

Table 3.3: Adapted Scale items for Perceived Behavioural Control

Measures	Items	Source
Self-efficacy	I am confident that I can effectively plan financially for retirement.	Ajzen (2006), Bearden et al. (2011), Bruner II (2009), Francis et al. (2004)
Self-efficacy	For me to plan financially for retirement is easy.	
Controllability	The decision to plan financially for retirement is beyond my control.	
Controllability	Whether I plan financially for retirement or not is entirely up to me.	

(d) ***Intention to plan***

Intention to plan financially for retirement indicates a person's readiness, which in this case is the readiness to plan financially for retirement in the next 12 months (Ajzen & Fishbein, 1980). This behaviour is measured using three items. The first item 'I want to plan financially for retirement in the next 12 months' outlined the desire to act, while the second item 'I intend to plan financially for retirement in the next 12 months' and third item 'I will try to plan' reflects intention to act, which direct action (Conner & Sparks, 2005; Ajzen, 2006).

The items are supported by various literature. Studies by Armitage and Conner (2001) also reveal a very high level of correlation among these items. A majority of studies reviewed used a mixture of these items (Conner & Armitage, 1998; Armitage & Conner, 2001; Ajzen, 2006).

Table 3.4: Adapted Scale items for intentions

Measures	Items	Source
Desire to act	I want to plan financially for retirement in the next 12 months.	Ajzen (2006), Bearden et al. (2011), Bruner II (2009), Armitage and Conner (2001); Francis et al. (2004)
Intentions	I intend to plan financially for retirement in the next 12 months.	
Intentions	I will try to plan.	

In summary, the survey instrument measuring attitudes, subjective norms, perceived behavioural norm and intentions consists of 15 items. Attitudes are measured using a semantic differential scale of 1 to 5 (Osgood et al., 1957). Subjective norms, perceived behavioural norm and intentions are, in turn, measured by a set of Likert scales. The level of the agreement is reflected by one which indicates 'Strongly disagree', two indicates 'Disagree', three indicates 'Neutral', four indicates 'Agree' and five indicates 'Strongly agree' (Vagias, 2006). The following table summarises the adapted scale items.

Table 3.5: Summary of Adapted Scale Items

Constructs	Number of Items
Attitudes	5
Subjective Norms	3
Perceived Behavioural Control	4
Intentions	3
Total	*15*

3.1.2 Qualitative Interviews

Items to measure attitudes, subjective norms and PBC are adapted from numerous validated scales available in the literature. These constructs are, in turn, influenced by beliefs. A person possesses many beliefs but only a relatively small number are accessible at any given moment. These accessible beliefs are important, as they are the ones that guides behaviour (Conner & Sparks, 2005; Fishbein & Ajzen, 2010).

However, it is difficult to specify any fixed accessible beliefs at any given context as a person hold numerous beliefs and possible differences exists among the various sets of the population. Therefore, for this study, a qualitative method is used to identify the beliefs. This method involves using interviews, that is conducted among members of the population of interest (Ajzen, 1991; Ajzen, 2002a; Ajzen, 2006). A modal of accessible beliefs is then elicited from these interviews and used in developing the beliefs sections of the questionnaires.

These interviews are also useful to explore and derive new insights to support the existing literature (Ajzen, 2011; Ajzen & Klobas, 2013; Ajzen & Sheikh, 2013; Ajzen, 2015; Ajzen & Dasgupta, 2015; Klobas & Ajzen, 2015). Currently, there is a lack of studies related to financial planning for retirement, particular in the Malaysian context. Such efforts are particularly useful to clarify an understanding of the problem and ascertain that the research is worth pursuing.

The interview questions were scripted using guidelines recommended (Ajzen, 2006; Klobas & Ajzen, 2015) and were conducted to the point of saturation. Nevertheless, respondents were also given the freedom to reflect on their views. This is especially important to respondents that may be unfamiliar or have not thoroughly thought of their future. Before beginning the interviews, a brief explanation is given on the background and objective of the study (Francis et al., 2004).

In brief, to elicit behavioural beliefs, participants were asked the following questions: 'What do you see as the advantages of you planning financially for retirement, for the next 12 months?', 'What do you see as the disadvantages of you planning financially for retirement, for the next 12 months?', 'What else comes to mind when you think about planning financially for retirement, for the next 12 months?'.

For normative beliefs, participants are asked of groups or individuals that would approve or disapprove of them planning (Ajzen & Fishbein, 1980). The objective is to determine the salient referent groups. For this purpose, the following questions were asked: 'Please list the individual or groups who would approve or think you should be planning financially for retirement, for the next 12 months', 'Please list the individual or groups who would disapprove or think you should not be planning financially, for retirement, for the next 12 months', 'Please list any other individuals or groups who come to mind when you think about planning financially for retirement, for the next 12 months'.

For control beliefs, participants are asked regarding the factors or conditions that would ease or make it difficult for them to perform the behaviour (Ajzen & Driver, 1992). The following questions were asked: 'Please list any factors or circumstances that would make it easy or enable you to plan financially for retirement, for the next 12 months', 'Please list any factors or circumstances that would make it difficult or prevent you from planning financially for retirement, for the next 12 months' and 'Please list any other factors or

circumstances that come to mind when you think about the ease or difficulty in planning financially for retirement, for the next 12 months'.

Each interview took about half an hour to two hours. Some of the interviews were recorded, with the consent of the interviewees. Upon completion, the interviews were transcribed and prepared for subsequent analysis. Responses are categorised into modal beliefs that are frequently cited by respondents. The responses are analysed together with a panel of three reviewers.

The responses identified represent the accessible beliefs adopted by the population of interest. These interviews identify and reaffirm the various variables and dimensions in the literature review which further explains the theoretical framework developed and also on the relationship of the constructs. The sets of modal beliefs obtained are used to guide the development of the belief portion of the questionnaire in the survey.

(a) ***Interview participants***

Details of the preliminary interview participants' profile is available in Appendix L. Twenty-one participants agreed to be interviewed. The participants are selected based on several criteria. They must be Malaysians who are working as public or private university staff and have conducted or thought about their retirement. Sixteen public universities staff participated in this interview, representing 76% of the participants, while the remaining are from private universities (24%).

The participants are mainly aged 30-34 (28.6%) and 35-39 (33.3%). This age group represents about 60% of the participants. The remainder are aged 40 to above 60. Three of the participants range from 40-44 (14.3%), while one participant is from the range of 45-49 (4.8%) and another from 50-54 (4.8%). For the 55-59 age group, only one participant

has agreed to be interviewed (4.8%). The above 60 category has two participants, representing 9.4%.

As for the educational background, 76.2% have a Master degree while only 9.4% have PhD qualifications. For marital status, about 80.9% of the participants are married, 14.3% single and 4.8% divorced. The main ethnic groups in Malaysia are well represented, with more than 60% Malays, while about 30% are Chinese. The remainder are Indians (9.5%). The participants consist of four males (19%) and 17 females (81%). For religion, more than 60% are Muslim, 20% are Buddhist while the rests are Hindu and Christian.

As for the income range, participants from income range of less than RM30,000 and RM30,000-50,000 consist of one participant each (4.8%). Most of the participants (about 28.5%) have incomes between RM50,001-70,000. 19% are from the income range of RM70,001-90,000 and another 14.3% are from income range RM90,001-110,000. Those with an income range above RM110,000 comprise 19% (RM110,001-130,000) and 4.8% (RM130,001-150,000) respectively. One respondent would like to keep the income information confidential.

(b) *Behavioural beliefs*

Behavioural beliefs link intentions to plan financially for retirement to expected outcomes. During the interviews, participants spoke of how planning brings about a sense of awareness. Firstly, they are more aware of their future, in particular their financial situation. This, in turn, helps them to set directions and be more alert of possible financial benefits from the actions they take. Planning also helps them to visualise their future, guide their direction and take advantage of opportunities. Ultimately, they have more flexibility and choices in life. Three beliefs were identified from this part of the interview, that is "to be able to foresee the future", "to be able to set my own directions" and "to be aware of the environmental opportunities". Another aspect which also features predominantly in the

interviews is that planning enables one to achieve independence and freedom. In particular, the participants emphasised that the goals set during planning gives them financial freedom. They emphasise that it ensures that they are self-sufficient in their time of need. Financial freedom allows them to dip into their financial resources, and reduces reliance on charity or welfare from others. This identify another important belief, that is "to be independent and self-sufficient".

These four beliefs are linked to an outcome, that is, to maintain autonomy in a person's life. In total, 71% of participants mentioned autonomy. Having autonomy is about being able to have choices. It gives a person freedom in life and have sufficient room to act and make decisions (Weinstein, Przybylski & Ryan, 2012).

Another set of beliefs highlighted that planning helps them to cope with uncertainties, problems and the emotional challenges in life. It gives them a sense of confidence and preparedness, especially when faced with healthcare problems. This provides them with choices, which enables them to make contingency plans to confront any eventualities in life. Two modal beliefs are identified, that is, "to be able to handle uncertainty confidently" and "to be prepared to handle problems". Participants further mentioned their concerns during retirement. Financial support is critical during this period as healthcare problems may arise. What is worrisome during retirement is the loss or reduction of income coupled with the possible increase in financial obligation and commitments. This may bear a negative impact on their quality of life during retirement. From these responses, two additional beliefs were identified, that is, "to be able to have adequate financial support during the remaining lifespan in retirement" and "to be able to maintain the quality of life during retirement".

These four responses are linked to how planning for retirement helps the participants to cope emotionally and financially with problems that may arise in life. 76% of the participants believe that planning financially for retirement will help them cope with life challenges. It will enable them to undertake activities to deal with or minimise the demands resulting from life stressors (Lazarus & Folkman, 1984).

The next outcome of planning financially for retirement involved self-control. About half of the participants highlighted that planning help them to overcome temptation. It highlights the area where they may be overspending, which disciplined them, such as providing them indicators when they exceed their budget. This reflects the advantages of planning financially for retirement.

At the same time, participants also highlighted the disadvantages of planning for retirement. They reflect on the inner conflicts they face, where at times they deem planning as burdensome as they have to exercise restraint in their urges to spend. Frequently, self-control is required to suppress emotions or behaviour. Baumeister, Vohs and Tice (2007) defined self-control as the capacity to alter one's responses to be in line with standards or social expectations and to support the pursuit of long-term goals. Three additional modal beliefs are identified, that is, "to be able to resist temptations", "to be able to gain benefits of savings and investing despite current limitations in money" and "planning is a burden".

In summary, the participants outlined their behavioural beliefs which relate to outcomes they hope to achieve when planning financially for retirement. In total, 11 questions were developed to measure behavioural beliefs of the participants; four related to outcomes in autonomy, another four related to coping and the final three related to self-control. There are many advantages of planning for retirement (Delpachitra & Beal, 2002; Ameriks et al., 2003; Hershey & Jacobs-Lawson, 2009; Street & Desai, 2011; Lusardi & Mitchell, 2011a), but it seems the most accessible ones for this group of participants are concerns with

outcomes related to autonomy, coping and self-control. Using the modal beliefs generated, items addressing the behavioural belief are developed. Details are provided in Appendix L. These beliefs will be subjected to validity and reliability tests.

(c) ***Normative beliefs***

The next set of questions intend to inquire into the social environment and its influences on the participants. Results reveal that most people closest to the participants influence their retirement and financial planning activities. Foremost are family members such as spouse, children, parents, siblings and relatives. Friends are also a rich source of social support. Some participants also mentioned that they had been approached by individuals or groups from the financial industry regarding their financial and retirement plans. However, many have trust issues with them.

During the interviews, the participants elaborated on the influences of these important referent individuals or groups. They provided information on financial matters and social support when required. Married participants talked about working together with spouses on critical financial matters, such as buying insurance or properties. Others mentioned that some spouses provided an alternative source of income, when necessary. Many also share financial expenses at home. Some participants report that they are the active financial planner in the household, while others left the role to their spouses.

Influences from immediate family members and relatives are also quite dominant. Parents constantly provide information and advice for the future. For example, they emphasise the importance of having a stable job and a steady stream of income to cater for life challenges. Similarly, many participants purchase insurance and make provisions for their children in order to reduce the risk of possible financial distress later in life. Some participants also report that siblings would share financial information such as investments and savings. Other participants also reported the role of relatives in providing information

(such as possible good and reputable investments) and educating them on financial management skills. Nonetheless, participants also lament that sometimes the different opinions and viewpoint confuses them and challenge their decision-making skills. Nonetheless, many admit that relatives are a rich resource of advice and support.

Similarly, friends provide support to the participants. They provide information on various types of investments that they have done (especially when the returns from the investments are lucrative). Some also share information on their concerns for the family. They purchase insurance plans or make specific savings for the future.

In order to develop the items, important individuals or groups are categorised as family members and non-family members. For family members, the spouse is the most frequently cited important person, followed by children, parents, siblings and relatives. Hence, the groups are divided into spouse, members of immediate family (which comprise of siblings, children and parents). As for family members other than spouse, parents, children and siblings, they are categorised as relatives. Non-family members are categorised as friends and acquaintances.

Most participants have not encountered parties that would disapprove of them planning financially for retirement. For those who have encounter disapproval, they are acquaintances, which have not initiated any planning activities for their future. They do not have an adequate understanding of finances or planning, or are afraid of the risk of losses should they make any investments.

The items developed are based on the individuals or groups mentioned by the participants. However, in reviewing the items developed, the panel reviewers are also of the opinion that an additional scale item "not applicable" should be added in the actual survey. This is to cater for the different social environments. For example, for unmarried

people, normative influences from a spouse would not be applicable. This is also in line with recommendations from Fishbein and Ajzen (2010).

The various categories of individuals and groups are based on the different social environment of the preliminary interview participants. As noted by the panel reviewers, it may not be all-encompassing. In a wider survey, respondents may be influenced by other individuals or groups not within the category identified. In order to address these other important referent persons or groups, a section will be included for respondents to complete, should there be these group of people or entity.

Table 3.6: Normative beliefs identified from preliminary interviews

Normative Beliefs	Participants	Items developed
Proximal individuals/groups that are related to participants: Family Spouse Children Parents Siblings Relatives	 10 11 9 9 2 3	Categories of important individual / groups • My spouse • My immediate family (example: siblings, parents, children) • My relatives (family members other that spouse, parents, children, siblings)
Proximal individuals/groups (but not related to participants): Friends Acquaintances	 8	 • My friends • My acquaintances

From the interviews, participants also highlighted that they are influenced by what these important referents do. These are similar to descriptive normative beliefs. Descriptive normative beliefs refer to one's perception of what important others do (Cialdini et al., 2006; Cialdini, 2007). Participants highlighted that some of the important referents in their lives are also actively planning for their retirement. These referents have initiated strategies to accumulate wealth. Some of their family members and friends have saved their excess income and are leading comfortable lifestyles. Participants also reported that their siblings

had grown their wealth by investing in good and reputable investment. They also receive a steady stream of income from these investments. On the non-financial side, some participants also noted that they admire referents which have continuously taken care of their health to reduce the risk of any serious illnesses.

Given their experience and expertise, many participants have sought help from these referent persons when they initiate their planning activities. Participants highlighted that their referents had helped them to build the competence and confidence to explore and build their planning strategies independently.

In conclusion, these interviews have identified important referents in the participant lives. They are not only concerned about whether what they do would be approve by these referents (injunctive normative beliefs), but also by what the referents are doing themselves to plan for their retirement future (descriptive normative beliefs).

(d) *Control beliefs*

Control beliefs are defined as the perceived presence of factors that ease and impede performance. Most participants reported challenges that impede their retirement planning and financial activities. The first area of concern pertains the reliability of the channels of information on financial matters. Participants reported receiving information from formal and informal channels. For formal channels, this includes mass media information such as newspaper, magazines, internet news, television and radio. Informal channel comes from family, relatives, friends and financial services providers. Some of the information is conflicting, and confusing. Participants also highlighted that they sometimes doubt the authenticity of the information provided.

Given the variety of information, viewpoints and products received, participants find making planning, financial and retirement decisions stressful. They have to make the decisions in the current environment, but they will only know the effect or impact of their decisions many years into the future. It is difficult to envision what will happen then.

Also, many doubt their ability to plan. Participants acknowledge their lack of skills to understand and use financial information and opportunities that are available. Some also highlighted that time management is required to make their plans a success. Four modal beliefs are identified from the interviews, namely difficulties "to think about my future plans as am not sure if the information received is reliable", "to make decisions in view of the differing viewpoints and products received", "to learn the skills of financial management" and "to be able to have skills to manage time required for planning".

The four beliefs identified are linked to competence. Competence refers to the tools, equipment, training and supports a person have in order to perform to a certain standard. It encompasses a sense of feeling able and confident from a job that is satisfactorily completed (Deci & Ryan, 2000). In the case of financial planning for retirement, financial competence is required to plan for retirement. In total, 76% of the participants have reservations in their competence to plan financially for retirement.

Another area of concern is the adequacy of their income and financial resources to meet daily needs. Managing daily expenses, handling unforeseen increases in expenditure is hard, in view that resources are limited. Some cite that inadequate income not only makes it difficult for them to plan; there is also no excess income to save for long-term requirements, such as retirement. They realise that a steady stream of income is important. However, they have concerns in generating the income streams require, especially when faced with limited career opportunities and stagnated increments. Inadequate income also raises concerns when managing expenses. Increasing expenses and commitment are grave

concerns. Some are worried that they would be unable to support the financial requirements of their dependents, let alone plan for their retirement requirements. Many are aware that serious lifestyle changes are required, but even this is a challenge. Participants also find it difficult to take advantage of all the environmental opportunities such as financial and retirement benefits that can help them in their planning effort. Five modal control beliefs are identified from the interviews, that is "to manage expenses and commitments when planning financially for retirement", "to have the excess income to plan financially for retirement", "to have the stable source of income which is important when planning financially for retirement", "to be aware of all the financial and retirement benefits that is important to planning efforts" and "to be flexible with the lifestyle changes required in financial plans for retirement". All these beliefs concern the area of managing resources. It is also a problem cited by 90% of the participants. In summary, grave concerns on the inadequacy of their income were highlighted. A steady stream of income is greatly desired, when planning. Unfortunately, the situation is made worse by increasing expenses and rising cost of living.

Another aspect that is of concern relates to the areas of risk. Two areas feature prominently in the discussion. One is the financial risk borne when participants make investments choices. Another concerns a form of social risk, that is, life course risk. Life course risk implies that social risk is distributed unequally across the life course of a person. This is especially for those in childhood and old age. Retired and ageing individuals face higher life course risk such as poverty, social isolation, loss of independence and autonomy as their earnings and health decline during the lifespan. About 40% of the participants are concern about these risks.

With regard to financial risks, participants are unsure whether they have made good investment decisions and worry whether it will generate the desired income streams in the future. Participants also acknowledges the risk of aging, with its possible deteriorating physical and mental conditions. Such risks are hard to manage, and it is inevitable. To counter these risks, many have bought insurance policies and adopt healthy lifestyles. Additional three model control beliefs are identified; "to evaluate areas which may bring financial risk to planning effort", "to be confident of what will happen to investments in the future" and "to be certain of the future situation". Details are provided in Appendix L.

3.1.3 Additional Information

Several additional questions are included in the survey instrument to provide a better understanding of the respondents' background. This information will be used in the descriptive analysis. A summary of the codes and categories developed is available in Appendix B.

(a) *Demographic Information*

Demographic information such as age, education level, nationality, gender, ethnicity, religion, marital status and details of occupation were asked. These questions are available in Section E of the survey instrument developed. For data entry and analysis purposes, each demographic item is coded.

For the demographic variable age, ten categories were identified, ranging from below 20 to above 60. This coded as AGE. As for the education background, six categories are identified. They are SPM or Certificate Level, Diploma, Bachelor Degree, Master, PhD and Others. Education background is coded as EDU1. Gender consists of two categories, Male or Female, and is coded as GENDER1. Four categories are identified for race or

ethnicity, which are Malay, Chinese, Indian and Others. This variable is coded as ETH1. The major religions in Malaysia are identified, which are Muslim, Buddhist, Hindu and Christian, with an additional 'Others' category. Religion is coded as RELIGION1. Marital status comprises four categories, namely Never Married, Married, Widowed and Divorced/ Separated, and coded as MARITAL1. To ensure that only the targeted population complete the survey, the variable nationality is identified. Nationality consists of two categories, Malaysian or Others, and is coded as NATION1. Only surveys completed by Malaysian university employees will be analysed.

University employees are wage earners, and a significant proportion of their income comes from their occupation. Further information is also obtained to better understand the individual's occupation and position in their organisation. Information on participants' occupation is available in Section E of the survey instrument developed.

In this section, respondents are to provide information on their occupation. It is in a free format which allows respondents to specify their position. This item is coded as OCC1_TYPE. The responses were analysed, and four categories are identified. They are academics, which comprise of lecturers, researchers and teaching staff, and non-academics. Non-academic are further classified into top management, management & professional and support staff.

Further inquiries were made concerning the status of their position, that is, whether they are permanent, contractual or have other arrangement with the organisation. This is an important aspect to determine the stability of their careers. This item is coded as OCC2. Other information collected pertains their organisation, whether it a public sector organisation funded by the government or in the private sector (relies on corporate investment, alumni, and/or student funding). An 'others' category is also developed for respondents in organisation that are neither public or private funded. This item is coded as

OCC3. Further information regarding the retirement schemes that respondents have contributed to were also obtained. In this regards, three categories were identified, that is, government pension, contribution to Employee Provident Fund (EPF) and other contribution schemes they are involved in. This item was coded as OCC4.

(b) ***Information on financial matters***

In order to plan, monetary and income resources are important. Information on financial matters are asked in Section B and D of the survey instrument developed. These questions would provide an overview of the respondents' ability and resources to plan. The first question seeks to inquire on the estimated annual personal income. A range from less than RM30,000 to above RM150,000 was provided. Eight categories are identified, that is, less than RM30,000, RM30,000-50,000, RM50,001-70,000, RM70,001-90,000, RM90,001-110,000, RM110,001-130,000, RM130,001-150,000 and above RM150,000. This item is coded as IC1.

Other questions to capture respondents' monthly financial commitments and debt level were also collected. Respondents were asked about the monthly household debt repayments to financial institutions. A range from no debt to above RM10,000 was provided for respondents to select. Eight categories are identified, that is, no debt, less than RM1,000, RM1,001-3,000, RM3,001-5,000, RM5,001-7,000, RM7,001-9,000, RM9,001-10,000 and above RM10,000. This item is coded as IC2.

Questions to gauge the satisfaction level of the respondents with their current financial situation were also asked. The categories developed are not at all satisfied, slightly satisfied, moderately satisfied and very satisfied.

At the same time, for respondents with children, additional information on their dependents were solicited. Information on children is asked in Section E of the survey. This

includes information such as the number of dependent children (CHILD1), their ages (CHILD2) and the number of children they have which are still financially dependent on them (CHILD3). All these questions are in a free format. For number of dependent children, categories ranging from 0-6, 8 and 9 are identified. Six ages of children can be identified, children below 7, 7-12, 13-17, 18-21, 22-25 and above 25 years. As for the number of children who are still financially dependent on the respondent, seven categories are identified ranging from 0-6 and 9.

3.2 Goodness of Measures

Several methodological considerations are taken to ensure the validity and reliability of the survey instrument developed. These are important considerations before actual data collection activities begun.

A valid survey instrument would mean that the findings are really about what they appear to be, while reliability would reflect that the instrument would yield consistent findings (Saunders, Lewis & Thornhill, 2009). Sekaran (2003); Sekaran and Bougie (2010) explain this as assessing the 'goodness' of the measures developed. The instruments used must measure the variables as they are supposed to, and in an accurate manner.

3.2.1 Expert Validation

To ensure the validity of the survey, a team of experts is recruited. This team would be assessing each item in the survey instrument (Lynn, 1986). Details results of the evaluation are available in Appendix C to Appendix I.

For this study, six experts in fields related to this study have agreed to assess the items developed (Davis, 1992; Grant & Davis, 1997; Sekaran & Bougie, 2010). These experts are all PhD. holders, with a proven track record, experience and publications in refereed journals from international and well-known institutions (Grant & Davis, 1997). They are recruited on the basis that they have the knowledge and experience in areas relating to the theory (TPB) and are experts in the field of financial planning, retirement and aging.

Invitations were sent to the various experts (Waltz, Strickland & Lenz, 1991). Details of the research were provided and background information, such as objectives, population and context of the study that are deemed important in judging the elements of the questionnaire, are included. Details regarding the conceptual basis for the instrument, such as its underpinnings, research questions and the theoretical model, are also provided (Polit & Beck, 2006).

Each item in the constructs is presented in a tabular form. The experts are to evaluate each item in the questionnaire based on the consistency, representativeness, relevance and clarity using a 4-point rating scale (1 being 'not relevant or representative'; 2 is 'somewhat relevant or representative'; 3 is 'quite relevant or representative'; 4 is 'highly relevant or representative').

Consistency pertains consistency of the items with the conceptual definitions. Representativeness, in turn, reflects the suitability to the domain of interest. Meanwhile, relevance refers to relevance to interpretations. For clarity, it denotes a comprehensive understanding of each item. The experts were also free to make suggestions or modifications for the adequacy of each item, as well as for the addition or exclusion of items. Upon completion, the discussion is initiated with the panel members to explore and clarify any instrument issues.

The experts' ratings are further analysed using two measures. The first is the kappa coefficient, which measures the level of interrater agreement (Waltz et al., 1991; Polit & Beck, 2006). The threshold of acceptable levels for interrater agreement is between 0.70 to 1.00 (Davis, 1992; Polit & Beck, 2006). The second measure used is the Content Validity Index (CVI) (Davis, 1992; Polit & Beck, 2006; Natalio, Faria, Teixeira-Salmela & Michaelsen, 2014). CVI measure the proportions of experts who have scored the items as relevant, that is either a 3 or 4. Therefore, for this study, as there are six experts, at least five of the experts must give a score of 3 or 4 in order to achieve a minimum CVI value of 0.833. This would mean that the acceptable CVI value should be between 0.833 to 1.00 (Davis, 1992; Polit & Beck, 2006; Natalio et al., 2014).

Items below the acceptable rate for kappa and CVI are investigated further. Discussions is initiated with the experts and issues clarified. This iterative process assures the consistent use of definitions and scaling options, and also the consistency, representativeness, relevance and clarity of the items in the survey instrument developed.

3.2.2 Validation for Behavioural Beliefs

From the preliminary interviews, a set of four items related to autonomy were identified. Of these four items, only three were within acceptable levels and coded. For the first item "If I plan financially for retirement, I will be able to envision my financial situation in the future", four of the experts mentioned in their comments that the item could be accepted if rephrase for better clarity. The item is promptly rephrased and approved by the experts. Only one item ('If I plan financially for retirement, I would be more aware of the financial benefits from the action I take') is removed as the kappa and CVI scores were below the threshold set for consistency, representation, relevance and clarity. The remaining items are 'If I plan financially for retirement, I will be able to envision my financial situation in

the future' coded as BA1; 'If I plan financially for retirement, I will be able to set my directions (e.g. have more flexibility and choices in life)' coded as BA2 and 'By planning for my financial needs, I will be independent and self-sufficient' coded as BA3.

The second set of items deals with the belief that planning helps to cope with life's stressors. Of the four items outlined, three achieved the acceptable kappa and CVI levels. The item 'Planning financially for retirement will help me to be prepared in handling potential problems, i.e. financial problems' had achieved low kappa and CVI scores for the relevance criteria. Four experts further commented that this item is similar to the item 'Planning will help me face uncertainties more confidently' (BC1) and recommend that BC1 be retained with examples added. After the amendments, the remaining items are 'Planning will help me face uncertainties more confidently (example of uncertainties: healthcare problems, sudden loss in income, increase in financial commitments)', coded as BC1, 'By planning, I will be able to have adequate financial support during the remaining years of my life', coded as BC2 and 'If I plan, I will be able to maintain my quality during retirement', coded as BC3.

Three items are developed based on the beliefs related to self-control. These items achieved acceptable kappa and CVI scores. The items are validated and coded as BSC1 ('Planning will help disciplined me to resist unnecessary spending'), BSC2 ('Even though saving for retirement limits the money I have currently, the money I have saved and invested will benefit me after I leave the workforce') and BSC3 ('Planning financially for retirement is a burden - it prevents me from enjoying my life now') respectively.

In summary, of the 11 items developed, two were removed. Details of the items are available in Appendix C. Items developed are included in Section B of the final survey.

3.2.3 Validation for Normative Beliefs

The preliminary interviews identified several important persons who are categorised as spouse, immediate family members (such as siblings, parents, children), friends; relatives (such as family members other than spouse, parents, children, siblings) and acquaintances. These groups play a role in influencing individuals directly, either through their expectations (injunctive normative beliefs) or their actions (descriptive normative beliefs).

A total of five items were developed for these normative beliefs. The first four categories developed is within acceptable levels. For injunctive normative beliefs, these items are coded as INB1 (spouse), INB2 (immediate family), INB3 (friends) and INB4 (relatives) whereas for descriptive normative beliefs these items are coded as DNB1 (spouse), DNB2 (immediate family), DNB3 (friends) and DNB4 (relatives). Only one category is removed (acquaintances) as it received low ratings in the representativeness and relevance criteria. Details of the items are available in Appendix B. Items developed are included in Section C of the final survey.

3.2.4 Validation for Control Beliefs

From the preliminary interviews, several factors were identified to influence control beliefs. One of them is in reference to competence. Four items are developed to measure control beliefs. Of this, only three achieved the acceptable kappa and CVI levels. The item "It is difficult to have the skills to manage time, which is required when planning financially for retirement" did not fulfil the consistency and representative criteria of the experts and was removed. The remaining items 'It is difficult to think about my plans as I am not sure if the information I received is reliable' were coded as CC1, 'The differing viewpoints and financial products I receive makes it hard for me to make planning

decisions' were coded as CC2 and 'It takes a lot of effort to learn the skills of financial management' were coded as CC3.

As for managing resources, all five items developed have achieved acceptable kappa and CVI levels. The items 'I find it difficult to manage my expenses and commitments when planning' is coded as CR1, 'It is hard to find the extra income to put aside for retirement purposes' are coded as CR2, 'It is difficult to have a stable source of income required in a planning effort' are coded as CR3, 'It is difficult to be aware of all the financial and retirement benefits that are important to my planning efforts' are coded as CR4 and 'It is hard to be flexible with the lifestyle changes required in financial retirement plans' are coded as CR5.

Three items are developed in reference to risk concerns. All items are within acceptable kappa and CVI levels. The item 'It is hard to evaluate areas which may bring financial risk to my planning effort' are coded as CRS1, 'When I am planning financially for retirement, I am confident of what will happen to my investments in the future' are coded as CRS2 and 'I find planning for retirement very difficult as I am uncertain of my future health situation' are coded as CRS3.

In summary, a total of 12 items were developed. Of that, only one item was removed. Details of the items are available in Appendix E. Items developed are included in Section B of the final survey.

3.2.5 Validation for Items Adapted

Four constructs from the theoretical framework had adapted items from the various literature. These items were also provided to the experts for content validation. The first set of items measure attitudes. These items are measured using semantic differential scales

of ‘good-bad’, ‘enjoyable-uninteresting’, ‘useful-worthless’, ‘beneficial-harmful’ and ‘pleasant-unpleasant’. All the items are within acceptable kappa and CVI levels. The item ‘good-bad’ is coded as DA1, ‘enjoyable-uninteresting’ coded as DA2, ‘useful-worthless’ coded as DA3, ‘beneficial-harmful’ coded as DA4 and ‘pleasant-unpleasant’ coded as DA5. Details of the results of the validation are available in Appendix F. Items adapted are included in Section A of the final survey.

To measure injunctive norms, two items are adapted. These items are ‘I feel the social pressure to plan financially for retirement’ and ‘Most people who are important to me think I should plan financially for retirement’. Both items are within acceptable kappa and CVI levels and coded as IN1 and IN2 respectively. Details of the results of the validation are available in Appendix G. A measure was also adapted to capture descriptive norms that are, “Most people who are important to me plan financially for retirement” and is coded as DN1. These items are included in Section C of the final survey.

Four items are adapted to perceived behavioural control. The items, ‘I am confident that I can effectively plan financially for retirement’ (DPBC1) and “For me to plan financially for retirement is easy” (DPBC2) is adapted to reflect the confidence or self-efficacy of a person. Subsequently, the items, “The decision to plan financially for retirement is beyond my control” (DPBC3) and “Whether I plan financially for retirement or not is entirely up to me” (DPBC4) is adapted to measure controllability. All the items are within acceptable CVI and kappa levels. Details of the results of the validation are available in Appendix H. Items adapted are included in Section B of the final survey.

Intentions of the respondents are measured using three items. The first item is ‘I *want* to plan financially for retirement in the next 12 months’ (coded as DINT1), while the second item ‘I intend to plan financially for retirement in the next 12 months’ (DINT2) and the third item is ‘I will try to plan’(DINT3). All the items are within acceptable kappa and

CVI levels. Details of the results of the validation are available in Appendix I. Items adapted are included in Section D of the final survey.

In summary, a total of 48 items were developed and adapted for the survey instrument. They comprise of 33 items developed from interviews with participants and 15 items adapted from various literature. Upon completion of the expert validation process, five of the items developed from interviews are removed. A total of 43 items remains, in which 28 are developed, and 15 are adapted. The following table is a summary of the results of the validation by experts.

Table 3.7: Summary of Content Validation by experts

Variable	Number of Items		Remove
	Initial	Final	
Items adapted			
Attitude	5	5	-
Subjective norms - Injunctive norms (2) - Descriptive norms (1)	3	3	-
Perceived behavioural control	4	4	-
Intentions	3	3	-
Total items adapted	15	15	-
Items developed			
Autonomy	4	3	1
Coping	4	3	1
Self-control	3	3	-
Total Behavioural beliefs	*11*	*9*	*2*
Injunctive normative beliefs	5	4	1
Descriptive normative beliefs	5	4	1
Total Normative beliefs	*10*	*8*	*2*
Competence	4	3	1
Resources	5	5	-
Risks	3	3	-
Total Control beliefs	*12*	*11*	*1*
Total items developed	**33**	**28**	**5**
TOTAL (items adapted and developed)	***48***	***43***	***5***

3.3 Pilot Studies

A pilot study is conducted before implementing the full study (Cooper & Schindler, 2011). A final check is made on the survey instrument before conducting the pilot test. This involve checking the words and sequence of questions. The words have to be easy to read, short and simple. The content of each item should not have two simultaneous questions. As for the sequence of questions, it should be clear and organised to minimise eyestrain, with clear instructions to the reader. All this will help to avoid missing values and unreliable answers.

The purpose of the pilot study is to test the research methodology, survey instruments, data collection techniques and other research techniques in preparation for a more comprehensive study (Hassan et al., 2006; In, 2017). The survey instrument has to be comprehensible and appropriate for the target population. It is important to ascertain that respondents are interpreting the question or statements as intended. Readability and clearness of words have to be established. The respondents' viewpoints are important in order to avoid possible misinterpretations, falsified answers and missing responses. Also, the length of time taken to complete the entire survey instrument is considered (Bowden, Fox-Rushby, Nyandieka & Wanjau, 2002).

The pilot test considers the various aspects of data collection. This would include entering and coding of survey items and appropriate statistical tests. This would further ascertain the goodness of the measures and to identify any potential problem areas and deficiencies that may arise.

Invitations are sent and follow-ups made via telephone calls to explain the various aspects of the pilot test and to solicit participation. Those who agree to participate are given the survey instrument to complete. Additional comments on the items, structure and interpretations of the questionnaire were sought. This is to learn whether they had difficulty

with any items and to receive other suggestions to improve the quality and readability of the instrument.

A total of 35 public and private universities employees responded to the pilot test. The respondents provided useful comments on the clarity of the items in the survey instruments. This includes the terms used, the style of language (ambiguity, readability, comprehensibility) and the flow of the statements used. Other aspects included suggested improvements to the cover letter, and the format of the instrument used (including the font and layout). Respondents also suggested that some examples be provided for better clarity.

The responses were entered into the Statistical Package for Social Sciences (SPSS) programme, using the codes prepared for each item. Preliminary descriptive analysis and reliability analysis were also performed.

The result demonstrated that the research is feasible. It did not appear to be disruptive to the respondents. Also, flaws identified in the survey instruments could be amended before implementing the full study. Data entry was not problematic.

3.3.1 Results of the Pilot Study

Descriptive analysis was conducted for this pilot study. The demographic information analysed are age, education background, gender, race or ethnicity, religion and marital status. The respondents must be Malaysian citizens currently working in a public or private university. Details of the results of the pilot study is available in Appendix K.

The respondents are from four categories of age groups, that is, 25-29 (17.1%), 30-34 (22.9%), 35-39 (31.4%), 40-44 (17.1%) and 45-49 (11.4%). A majority are of 35 to 39 years old while those from ages 45 to 49 had the least number of respondents.

As for the educational background, the respondents are ordered into three categories; Bachelor degree (11.4%), Master (71.4%) and PhD (17.1%). Most of the respondents have a Masters qualification. As for gender, 77% of the respondents are female, while the rest are male.

For ethnicity, most of the major races are represented. About 66% are Malay, 26% are Chinese and 6% from others. Only one respondent (2%) did not respond to the question. For religion, it is somewhat reflective of the ethnic diversity of Malaysia, which is Muslim (69%), Buddhist (23%) and Christian (6%). Similarly, only one respondent (2%) did not respond to the question. As for marital status, about 94% of the respondents are married while the rest are either widowed, divorced or separated.

An analysis of occupational details of the pilot study respondents reveals that most of them are academics (80%), namely lecturers, teaching staff and researchers. 20% are from the non-academic section consisting of management and professional (17%) and support staff (3%). Most of the staff have permanent positions (80%), while only 20% are contractual. Meanwhile, for type of organisation, most of the respondents are from the public sector universities (80%). Only about 20% are from private universities. As for the retirement contribution schemes, 80% choose to receive the government pension.

On the financial information, respondents revealed that they have annual personal income that ranges from less than RM30,000 to RM150,000. Responses come from seven categories, that is, less than RM30,000 (17.1%), RM30,000-50,000 (8.6%), RM50,001-70,000 (28.6%), RM70,001-90,000 (22.9%), RM90,001-110,000 (11.4%), RM110,001-130,000 (8.6%) and RM130,001-150,000 (2.9%). A major proportion are from the income group of RM50,001-70,000. Only one respondent is from the income range RM130,001-150,000.

As for the estimated total monthly household debt repayments made to financial institutions, seven categories are identified. They are from categories of less than RM30,000 (17.1%), RM30,000-50,000 (8.6%), RM50,001-70,000 (28.6%), RM70,001-90,000 (22.9%), RM90,001-110,000 (11.4%), RM110,001-130,000 (8.6%) and RM130,001-150,000 (2.9%). Most of the respondents pay debts of about RM1,001-3,000 per month. Only one person reported paying RM9,001-10,000 while another reported paying above RM10,000.

The respondents were also asked of their satisfaction with their current financial situation. Four categories of respondents were identified, not at all satisfied (11.4%), slightly satisfied (42.9%), moderately satisfied (31.4%) and very satisfied (14.3%). Most respondents are only slightly satisfied with their current financial situation (15 respondents). Four respondents are not at all satisfied with their situation.

For respondents with children, further information was solicited about their dependents. Of the respondents, only 22 (63%) have children. 29% have one child, 2.9% have two children, 22.9% have three children, 5.7% have five children and 2.9% have six children. Most respondents have at least one child. One person reported having six children (3%).

Further analysis revealed that the children consists of three categories, namely below 7 years, primary school going children (7-12 years), secondary school going children (13-17 years) and pre-university (18-21 years). For those with children below 7 years, 28.6% report having one child, 11.4% report having two children and 5.7% report having three children. For children between 7-12 years, 17.1% report having one child, 14.3% report having two children and 2.9% report having three children. As for children between 13-17 years, 2.9% reported having one child while 8.6% have three children of the age range. Only one respondent (2.9%) reported having two children between 18-21 years. From the analysis, most of the respondents have children below 12 years old.

Most of the respondents have children who are still financially dependent on them. This is a burden to the financial resources available for planning for the respondents. From the table below, most of the respondents (49%) have at least 1-3 dependent children.

In addition to the demographic analysis, a reliability analysis was conducted for this pilot study (details available in Appendix K). Several statistics are reviewed. Firstly, the correlation matrix is checked for negative values. All values should be positive, as this would indicate that the items are measuring the same underlying characteristic.

Subsequently the Cronbach's alpha value are reviewed. Cronbach's alpha measures internal consistency which indicates the relationship of the items in the construct (Sekaran & Bougie, 2010). Measures of Cronbach's alpha are between 0 to 1. Values closer to one indicates a higher internal consistency reliability. Generally, reliability of less than 0.60 are poor, those within 0.60 to 0.80 are acceptable while those above 0.80 are deem good (Nunnally, 1978; Pallant, 2016).

Next, the Item-Total Statistics table are reviewed. The Corrected Item-Total Correlation values indicate the degree in which each item correlates with the total score. Items measuring the same construct should be above 0.30. In addition, the Cronbach's Alpha if Item Deleted should be below the final Cronbach's Alpha value.

For the construct behavioural beliefs, all the items in the correlation matrix have positive values. The Corrected Item-Total Correlation values are above 0.30, except for BSC3_r. Nonetheless, the Cronbach's alpha is above 0.80 ($\alpha = 0.902$) which is deemed good and hence not items are required to be removed.

The scales which measure normative beliefs have a 'not applicable' option. These responses are treated as missing values (using listwise deletion). Hence, only about 69% are valid cases. Most of the items in the correlation matrix have positive values and

'Corrected Item-Total Correlation' above 0.30, except DNB1. However, the Cronbach's alpha is above 0.80 (α = 0.826) which is deemed good. As the Cronbach's alpha is good, no items are required for removal.

For the construct control beliefs, all the items in the correlation matrix have positive values. In addition, the values in the 'Corrected Item-Total Correlation' are above 0.30, except for CRS2. However, the Cronbach's alpha is above 0.80 (α = 0.920) which is deemed good; hence no items are removed.

The items in the construct attitudes did not have reliability (α = -1.332). Items DA3 and DA5 have negative values in the correlation matrix and the Item-Total Statistics table. This is a reason for the negative Cronbach's Alpha value.

These two items were removed from the scales and reliability analysis was conducted again. The Cronbach's alpha improved to above 0.80 (α = 0.900), which is deemed good. All the items in the correlation matrix have positive values, with values in the Corrected Item-Total Correlation above 0.30.

For the construct subjective norms, all the items in the correlation matrix have positive values. The Cronbach's alpha is below 0.60 (α = 0.515) which is deemed low. In addition, IN1 has 'Corrected Item-Total Correlation' below 0.30. Removing this item would improve the Cronbach's Alpha value to acceptable level (α = 0.669).

For the construct intentions, all the items in the Correlation Matrix have positive values. The Cronbach's alpha is above 0.80 (α = 0.979), which is good. All 'Corrected Item-Total Correlation' are above 0.30. No items are removed.

A summary of the results of the reliability analysis are presented in the following table. Details are available in Appendix K.

Table 3.8: Results of reliability analysis (pilot study)

Variables	No. of items	Cronbach alpha	Items Recommended for removal	No. of items (after removal)	Cronbach alpha (after removal)
Attitudes	5	-1.332	DA3, DA5	3	0.900
Subjective norms	3	0.515	IN1	2	0.669
PBC	4	0.529	DPBC3_r	3	0.629
Intention	3	0.979	-	3	0.979
Behavioural beliefs	9	0.902	-	9	0.902
Normative beliefs	8	0.826	-	8	0.826
Control beliefs	11	0.920	-	11	0.920
Total:	43		Total:	39	

From the reliability analysis, all the belief constructs (behavioural beliefs, normative beliefs, control beliefs) have Cronbach's alpha above 0.80, which is deemed good. Control beliefs have the highest level of reliability ($\alpha = 0.920$), follow by behavioural beliefs ($\alpha = 0.902$) and Normative beliefs ($\alpha = 0.826$). Hence, no items are recommended for removal.

However, three constructs, attitudes ($\alpha = -1.332$), subjective norms ($\alpha = 0.515$) and PBC ($\alpha = 0.529$) have low reliability levels. Four items are recommended for removal to improve the reliability. This include two items from the construct attitudes (DA3, DA5), one item from subjective norms (IN1) and PBC (DPBC3_r), respectively. With the removal of these items, the Cronbach's alpha improved.

Generally, the results indicate that reliability is acceptable for most of the constructs used in the study (with recommendations for removal of selected items). However, this is based on a sample of 35 respondents. Also, a high or acceptable rate for Cronbach's alpha does not indicate dimensionality. As such, further analysis is conducted before removing any items.

3.4 Ethics Approval

Before conducting data collection for the main survey, approval was sought from the Ethics Committee, University of Malaya. In line with the ethical requirements, the purpose, procedures and nature of the project were reviewed. All aspects of the study conform to the requirements, and there were no potential risks.

The researcher undertook steps to ensure the confidentiality of the universities selected in the sampling procedure. Also, personal information was not revealed. The data collected is also not used for any other purpose.

An invitation letter, the participant information and instructions sheet were enclosed with the survey instrument to explain and obtain permission to conduct the survey. The information describes the purpose of the study and the identity of those who are conducting the research. Participation is voluntary, and confidentiality is assured. Individuals are also informed that the right to abstain from participating in the research would be respected. The documents also clearly specify the contact details of the researcher. All the information is in order, and the University's Ethics Committee duly approves the project.

3.5 Population and Sampling

Sekaran and Bougie (2010) emphasised that selecting a representative sample and having sufficient responses are important. For this purpose, the target population and sampling method must be clear. In this study, the targeted population are Malaysians employees, currently working in universities.

A sampling frame of all the universities in Malaysia is compiled (Malaysian Qualifying Agency, 2009; StudyMalaysia.com, 2015). From the list, two groups are identified. The first group consists of public universities which are funded by the government. There are

two forms of retirement schemes offered to this group, namely the pension and EPF schemes. The second group consists of private universities where the respective institutions are mandated to contribute to EPF. Details of both groups are available in Appendix P.

As for sampling strategy, this study adopts a simple random sampling process. The respondents are selected based on the list of universities. To do this, all the names and details of the universities are entered into SPSS. Using the random number generator option, five universities are selected from each group. Invitations, together with information regarding the study, were sent to these universities for permission to conduct data collection. Universities that declined to participate were then replaced by other universities, also selected randomly from the respective groups. Upon approval by the respective universities, the survey form and related information were sent through the staff e-mails via the university portal. This will ensure that all university employees have an equal chance of participating in the survey.

In deciding the appropriate sample size, several considerations were made. The total workforce in the higher education industry in Malaysia is estimated to be around 100,000 (Ministry of Education Malaysia, 2014a; Ministry of Education Malaysia, 2014b; Department of Statistics Malaysia, 2016a). From the literature on sample size, several researchers have recommended a sample size of 500 (Roscoe, 1975; Sekaran & Bougie, 2010). Similarly, Krejcie and Morgan (1970); Cohen (1988) suggested that a sample size of 384 is appropriate for a population of 1,000,000 and above. Roscoe (1975) rule of thumb advises that the minimum sample should be at least ten times the number of variables (Sekaran & Bougie, 2010). After considering all this, a sample size of about 500 is collected as it was large enough to accommodate issues such as measurement error (with a confidence level of about 95%). Nevertheless, attempts will be made to collect more to ensure that the rigour for this study is ascertained.

3.6 Data collection

Unfortunately, the data collection strategy discussed in the previous section generated a very low response rate. Only 30 completed surveys were received from the various universities. Additional measures via telephone and emails were initiated to increase the responses. These measures were unsuccessful in generating the additional responses. Discussions were subsequently conducted with the university administrators to increase the response rate. With their approval, hardcopies of the survey forms are distributed according to the terms and conditions specified (selected locations, within the premises of the universities, during working hours). Indirectly, these additional measures also ensure that only university employees complete the survey.

An additional 2,350 survey forms were distributed through these methods. With the additional efforts, a total of 677 survey forms were returned. Of this, 265 are from various public universities whilst the rest are from private universities.

The surveys received from the various respondents were checked to ensure completeness and readability before coding. A total of 177 respondents have to be excluded. This is because 28 of these respondents are not Malaysians. The remainder (149 respondents) of the survey forms were incomplete where they either had no comments and responses at all or did not complete major proportions of the sections (approximately 25% and more of the items in the questionnaire are incomplete). The excluded cases are removed and not keyed in at all (Sekaran, 2003; Hair et al., 2010).

Upon completion of all the required data checking, the total acceptable surveys are 500, in which 221 are from public universities, and a total of 279 are from private institutions. The following table summarises the responses received.

Table 3.9: Summary of survey forms received

Details	Public universities	Private universities	Total
Questionnaires distributed	1200	1150	2350
Questionnaires returned	265	412	677
Response rate	22%	36%	29%
Excluded cases			
Non-Malaysians	26	2	28
Questionnaires incomplete	18	131	149
Total excluded cases	44	133	177
Usable questionnaires	221	279	500
Effective response rate	18%	24%	21%

3.7 Preliminary Data Analysis

After data have been collected, preliminary analysis is conducted. This initial analysis will help ensure that the data are of assured quality. This involved data screening activities (checking and handling blank responses, coding, determining normality, identifying outliers and collinearity issues), exploratory factor analysis and checking the common method variances or bias. Detail results will be provided in the following chapter.

3.7.1 Data Screening

In surveys, there are possibilities that respondents do not answer all of the items in the survey. The respondents may not understand these questions, do not know the answer, were unwilling to answer or was simply indifferent to the need to respond to the entire questionnaire. Hence, there is a need to analyse the 'missingness' in the data.

Analysis of missing value helps address several concerns caused by incomplete data. If cases with missing values are systematically different from cases without missing values, the results can be misleading. Also, missing data may reduce the precision of calculated statistics because there is less information than originally planned. Another concern is that

the assumptions behind many statistical procedures are based on complete cases, and missing values can complicate the theory required.

In order to identify the missing responses, two codes are used during the data entry process. The first code is '99'. This code caters for the blank or missing responses to the various items in the questionnaire. The second code is for the 'non-applicable' responses, which are coded as '999'. Questions, that have 'non-applicable' responses, are only relevant to selected segments of the sample. Using these codes, the pattern of missing data (such as the location of the missing values and how extensive they are) can be identified and analysed.

Once the patterns of missing data are analysed, decisions on how to handle this missing information can be made. Normally, missing values of less than 5% of the total number of cases can be dealt with using several methods. These methods would not have major impacts to the results. These methods are the conventional methods of listwise deletion (or complete case analysis), pairwise deletion and imputation methods. Listwise deletion would mean that the entire case with missing values is omitted. Although listwise deletion often results in a decrease in the sample size available for analysis, it does have advantages. If the data are missing completely at random, it leads to unbiased parameter estimates. Unfortunately, there is a loss in power using this approach (especially if it involves a large number of subjects).

As for pairwise deletion, only specific missing values are omitted (not the entire case). Under this approach each element of the intercorrelation matrix is estimated using all available data. The problem with this approach is that the parameters of the model will be based on different sets of data, with different sample sizes and different standard errors.

Other methods to handle missing data include replacing the missing values (imputation). Each missing value is substituted based on a reasonable guess. The analysis is then continued as if there were no missing values. Missing values can be imputed using single imputation methods such as means or linear regressions substitutions. Such actions could lead to an underestimation of standard errors and, thus, overestimation of test statistics.

Statistics have also developed a new approach to handling missing data. This method involves using multiple imputations. An analysis of patterns of missing data is performed with the objective of identifying multiple imputation of missing values. Multiple versions of the dataset are then produced, each containing its own set of imputed values. When statistical analyses are performed, the parameter estimates for all of the imputed datasets are pooled, providing estimates that are generally more accurate than they would be with only one imputation. This method is generally considered to be superior to single imputations. Multiple imputations adopts a simulation-based procedure, where its purpose is not to re-create the individual missing values but to handle missing data to achieve valid statistical inference (Schafer, 1997; Allison, 2001; Soley-Bori, 2013).

After reviewing the pro and cons of each method, the missing values are treated using the pairwise deletion option. This is because there are less than 5% missing values in the data set. Pairwise deletion would allow all available data to be used.

Another important data screening activity is coding. Coding involve activities such as defining and labelling each of the item in the survey and assigning numbers to the possible responses to each question. This also involved reversing and coding negatively worded questions so that all answers are in the same direction. Each item in the survey is labelled with abbreviated names that will be eventually used in the analysis. These names are unique so that the information can be clearly identified. Caution is exercise to keep each name and abbreviation as concise as possible to ensure easy readability. Coding these items and

responses will help in identifying items and sources of error in the data set. A list of the codes and categories developed are available in Appendix B.

The data is also subjected to normality tests. Normality tests are performed to determine if the data set has a normal distribution. For this purpose, the data is viewed graphically and numerically. Graphs such as histogram and Normal Q-Q plots were viewed. In addition, the Kolmogorov-Smirnov and Shapiro-Wilk test of normality were also performed.

Assessment of outliers is important in data screening. Outliers are observations or measures that are distant from other observations. They are extreme case scores which may affect the results of the analysis (Hair et al., 2010). To detect the observations outside the expected range, Mahalanobis distance (D_2) are checked.

The data is also checked for any collinearity issues. Multicollinearity may exist for situation when two (or more) variable are highly related which makes determining the specific contribution of each independent variable in predicting the dependent variable problematic. It is important that collinearity issues are identified before testing the hypothesis of the model (Hair et al., 2010; Sekaran & Bougie, 2010). The indicator used to assess collinearity is the Variance Inflation Factor (VIF) and it indicates the degree to which the standard error has been increased due to the presence of collinearity. VIF value of 5 and higher indicate a potential collinearity problem.

3.7.2 Exploratory Factor Analysis

In developing the survey instrument, a number of items were adapted and developed to measure intentions to plan. Steps such as expert validation and pilot test is taken to assessing validity and reliability of these items. In addition to these steps, an Exploratory

Factor Analysis (EFA) is also conducted. EFA is a statistical technique applied to a set of items to uncover coherent subsets that are relatively independent of one another. Subsets of items that are correlated are then combined into factors. These factors reflect underlying processes that have created the correlations among the items. It reflects patterns of correlations, and reduces a large number of items to a smaller number of factors.

An important issue of consideration in EFA is the suitability of the data for factor analysis. It is important that the sample size is large enough for the correlations to be reliably estimated. Tabachnick and Fidell (2013) recommends that the sample size should be at least 300-500 cases. Hair et al. (2010) states that it should be above 100. Many researchers also proposed a minimum of at least ten times as many observations as the number of variables to be analysed (ratio of 10:1) (Nunnally, 1978; Hair et al., 2010; Tabachnick & Fidell, 2013). Undoubtfully, the highest cases-per-variable ratio would mean a more meaningful interpretation of the data. In addition, the correlation matrix should also be reviewed. There should also be a substantial number of correlations greater than 0.30 (Tabachnick & Fidell, 2013). For cases with missing data, the missing values must be dealt with accordingly (either using imputation, listwise or pairwise deletion).

Two additional statistical measures are also used to assess the factorability of the data. The first is Bartlett's test of sphericity (Bartlett, 1954). This measure should be significant ($p < 0.05$) for the factor analysis to be considered appropriate. The second is the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1974). KMO has an index that ranges from 0 to 1, with 0.6 suggested as the minimum value for a good factor analysis (Tabachnick & Fidell, 2013).

Another issue to be considered is the number of factors that best describes the underlying relationship among the variables. Adequacy of extraction of factors is related to the number of factors. The more the factors are extracted, the better the fit and the greater the

percentage of variance in the data is explained by the factor solution. However, there is also a trade-off. More factors extracted would also mean less parsimony. Hence, there is a need to find a solution that explain as much of possible the variance in the original data set with as few factors as possible.

A number of techniques can be used to assist in the decision concerning the number of factors to retain. The first is Kaiser's criterion or the eigenvalue rule. Using this rule, only factors with an eigenvalue of 1.0 or more are retained for further investigation. The eigenvalue of a factor represents the amount of the total variance explained by that factor. Another method is the scree test (Cattell, 1966). The scree test plots each of the eigenvalues against the factors. The scree plot is inspected to find a point at which the shape of the curve changes direction and becomes horizontal. It is recommended to retain all factors above the elbow, or break in the plot, as these factors contribute the most to the explanation of the variance in the data set. The final technique is Horn's parallel analysis (Horn, 1965). It involves comparing the size of the eigenvalues with those obtained from a randomly generated data set of the same size. Only those eigenvalues that exceed the corresponding values from the random data set are retained.

In addition, to facilitate factor extraction, numerous procedures are available in SPSS. They are principal components analysis, principal axis factoring (PAF), image factoring, maximum likelihood factoring, alpha factoring, unweighted least squares and generalised least squares. Of these, principal components analysis and PAF are the most commonly used. All these methods have a common objective, that is to determine the smallest number of factors that can be used to best represent the interrelationships among the set of variables. For this study, principal axis factoring (PAF) is used. The following table summarises the goal of analysis for various extraction techniques.

Table 3.10: Summary of Extraction Procedures

Source: Tabachnick and Fidell (2013)

Extraction Technique	Goal of Analysis
Principal components	Maximize variance extracted by orthogonal components.
Principal factors	Maximize variance extracted by orthogonal factors.
Image factoring	Provides an empirical factor analysis.
Maximum likelihood factoring	Estimate factor loadings for population that maximize the likelihood of sampling the observed correlation matrix.
Alpha factoring	Maximize the generalizability of orthogonal factors.
Unweighted least squares	Minimize squared residual correlations.
Generalized least squares	Weights variables by shared variance before minimizing squared residual correlations

The results of factor extraction must be rotated. Rotation is used to maximise high correlations between factors and items and minimize low ones. It makes the solution more interpretable without changing the underlying mathematical properties. Two types of rotation are available, orthogonal and oblique.

Orthogonal rotation assumes that all factors are independent. There are several orthogonal rotation methods such as varimax, quartimax, and equamax. Varimax is the most commonly used. Orthogonal rotation methods produce a loading matrix. The sizes of these loadings reflect the extent of the correlations between observed items and factors. As there is only one loading matrix to interpret, it makes the solutions easier to report; but the assumptions that the underlying constructs are not correlated seems unrealistic (Tabachnick & Fidell, 2013).

Oblique rotation assumes that the factors are correlated. Two oblique rotation techniques are available; direct oblimin and promax. Direct oblimin is the more commonly used technique. This type of rotation produces several matrices. The loading matrix (in an orthogonal rotation) is split into two matrices; a structure matrix of correlations between factors and items and a pattern matrix of unique relationships between each factor and each observed variable. The meaning of factors is interpreted from the pattern matrix and the

factor correlation matrix. This makes the solutions more difficult to interpret, describe and report (Tabachnick & Fidell, 2013). However, its assumptions are more reasonable, as factors are more likely to be correlated. The following table summarises the goal of analysis for various rotational techniques.

Table 3.11: Summary of Rotational Techniques

Rotational Technique	Goals of Analysis	Comments
Orthogonal Varimax	Minimize complexity of factors (simplify columns of loading matrix) by maximizing variance of loadings on each factor.	Most commonly used rotation; recommended as default option
Quartimax	Minimize complexity of variables (simplify rows of loading matrix) by maximizing variance of loadings on each variable.	First factor tends to be general, with others sub clusters of variables.
Equamax	Simplify both variables and factors (rows and columns); compromise between quartimax and varimax.	May behave erratically
Oblique Direct oblimin	Simplify factors by minimizing cross-products of loadings.	Continuous values of gamma, or delta, δ, available; allows wide range of factor intercorrelations
Promax	Orthogonal factors rotated to oblique positions.	Fast

Although there seems to be a large number of combinations of extraction and rotation techniques available, in reality, the differences among them are trivial (Velicer & Jackson, 1990; Fava & Velicer, 1992). Most of the approaches often result in very similar solutions, especially when there is clear pattern of correlations among the items and the data set is large. If there are any apparent differences after extraction, it often disappear after rotation (Tabachnick & Fidell, 2013).

To interpret a factor, one tries to understand the underlying dimension that unifies the group of items loading on it. In an orthogonal rotation, the information in a loading matrix is reviewed. For oblique rotation, the pattern matrix is used. Generally, as a rule of thumb, only items with loadings of 0.30 and above are interpreted. The greater the loading, the more the item is a pure measure of the factor (Tabachnick & Fidell, 2013). The size of loadings is also influenced by the homogeneity of scores and the sample size where a lower cutoff can be used for sample that produces similar scores on observed items or low sample size (for example below 300). As a guide, Comrey and Lee (1992) suggest that loadings in excess of 0.71 (50% overlapping variance) are considered excellent, 0.63 (40% overlapping variance) very good, 0.55 (30% overlapping variance) good, 0.45 (20% overlapping variance) fair and 0.32 (10% overlapping variance) poor.

Other relationships on the data set are also available. This includes information on the communality of the items and factor correlation coefficients. Communality measures the total amount of variance an original item shares with all other items. Although no statistical guidelines indicate exactly what is an acceptable level, practical considerations dictate that levels of above 0.30 is recommended (Pallant, 2016). As for factor correlations, these are matrices which produces regression-like equations to predict scores on factors from scores of observed items. For orthogonal rotation, a factor transformation matrix is produced whereas for oblique rotation, a factor correlation matrix is available. Generally, correlations should be below 0.30 so that the overlap in variance among factors is below 10% (Tabachnick & Fidell, 2013).

Factors are usually interpretable when the items load highly on them and not the rest. Ideally, each item should load on one factor only. Identifying possible patterns is an exploratory approach. The objective is to find a ‘simple structure’ with as few factors as possible that will explain as much of the variance in the data set as possible (Thurstone,

1947; Tabachnick & Fidell, 2013). Igbaria, Iivari and Maragahh (1995) provide a general the criteria by identifying and interpreting items that load 0.50 or greater to belong to one factor and 0.35 or lower on other factors.

3.7.3 Common Method Variance

For this study, the measurements were based on the responses of individuals. Hence, the existence of common method variances or bias was possible. Common method variance (CMV) is defined as variances that are attributable to measurement methods and not from the constructs. It is a systematic error variance among constructs using the same source or method, which may result in inflated or deflated relationships between the variables (Podsakoff, MacKenzie, Lee & Podsakoff, 2003; Podsakoff, MacKenzie & Podsakoff, 2012).

Several of the procedural remedies suggested by Podsakoff et al. (2003); Podsakoff et al. (2012) were adopted in the development of the survey instrument to reduce common method variances. This involve efforts to motivate respondents to provide accurate answers to the questions. Wordings and statements used in the instrument were checked and verified to ensure that it is within the respondents' ability. Care was taken to ensure that statements and questions were about processes in which respondents had done. Clear and concise language were used and items was presented in sections. Each section had instructions and explanations that gave the respondent a context for them to answer more consistently and to avoid ambiguity. All the items were also subjected to content validation by experts and a pilot test.

A cover letter was also provided to explain the objective of the study, along with the involvement and interest of various reputable institutions. The importance of respondents' opinion and feedback was stressed. Confidentiality of the responses were also guaranteed,

and respondents were informed that there were no right or wrong answers and that people had different opinions.

In addition, to identify CMV, the Harman's single-factor test was employed. This is a diagnostic technique where all of the variables are loaded into an exploratory factor analysis. The results of the unrotated factor solution is analysed. The basic assumption of this technique is that if a substantial amount of common method variance is present, the unrotated first item would be above 50% (Podsakoff & Organ, 1986).

3.8 Descriptive Analysis

Demographic information such as age, education background, gender, ethnicity, religion, marital status, financial situation, income and details of occupation and dependents are tabulated using frequency tables. This is useful to develop a profile of the overall sample. At the same time, the responses for each item of the variables in the study (beliefs, attitude, subjective norms, perceived behavioural control, intentions) are tabulated using frequency tables. These variables are also analysed using measures of central tendency and spread (Sekaran & Bougie, 2010).

The sample is further divided to groups. Two groups are identified based on the retirement schemes they are participating in. The first are respondents which have opted for a government pension and the second are those which are contributing to Employee Provident Fund (EPF). Generally, those which have opted for a government pension are working in the public universities, whereas those contributing to EPF are from the private universities. These demographic profile and responses to the items in the questionnaire of each of this group is analysed further.

3.9 Structure Equation Modelling

In this study, the hypotheses and collected data are subjected to further statistical analysis. A myriad of statistical methods can be applied, but for this study, multivariate data analysis methods is used. Multivariate analysis refers to statistical techniques that simultaneously analyse multiple measurements on individuals or objects under investigation. This makes it easier to comprehend complex relationships (Hair et al., 2010).

One increasingly popular and powerful multivariate statistical technique is structural equation modelling (SEM). SEM is able to assess latent variables at the observation level (outer or measurement model) and test relationships between latent variables on the theoretical level (inner or structural model) simultaneously (Chin & Newsted, 1999; Bollen, 2011). This enable researchers to test complete theories and concepts (Rigdon, 2016). It also facilitates accounting for measurement error in observed variables. As such, SEM can identify relationships that likely would not otherwise be found.

SEM techniques can be confirmatory or exploratory in nature, depending on the nature of the research study. They are confirmatory when the hypotheses of existing theories and concepts are tested and exploratory when they search for patterns in the data, especially when there is no or only little prior knowledge on how the variables are related.

3.9.1 Path models

In applying SEM, path models are drawn. Path models are diagrams based on theory that visually display the hypotheses and relationships that are examined. An example of a path model is shown in Figure 3.1.

Each latent variable or construct is represented by circles or ovals in the path model (Y_1, Y_2 and Y_3). Measures for these constructs (indicators or items) are represented in path models as rectangles by (X_1 to X_7). The path coefficients, which measure the relationship between these constructs, are indicated by the single-headed arrows. These arrows are predictive relationships and, with strong theoretical support, can be interpreted as causal relationships.

A path model consists of two elements. The first element is a structural model (inner model) which represents the constructs. The structural model also displays the relationships (paths) between the constructs. The second element are the measurement models (outer models) of the constructs which display the relationships between the constructs and the indicators or items. There are two types of measurement models. The exogenous latent variables explain other constructs in the model and the endogenous latent variables are those constructs that are being explained in the model.

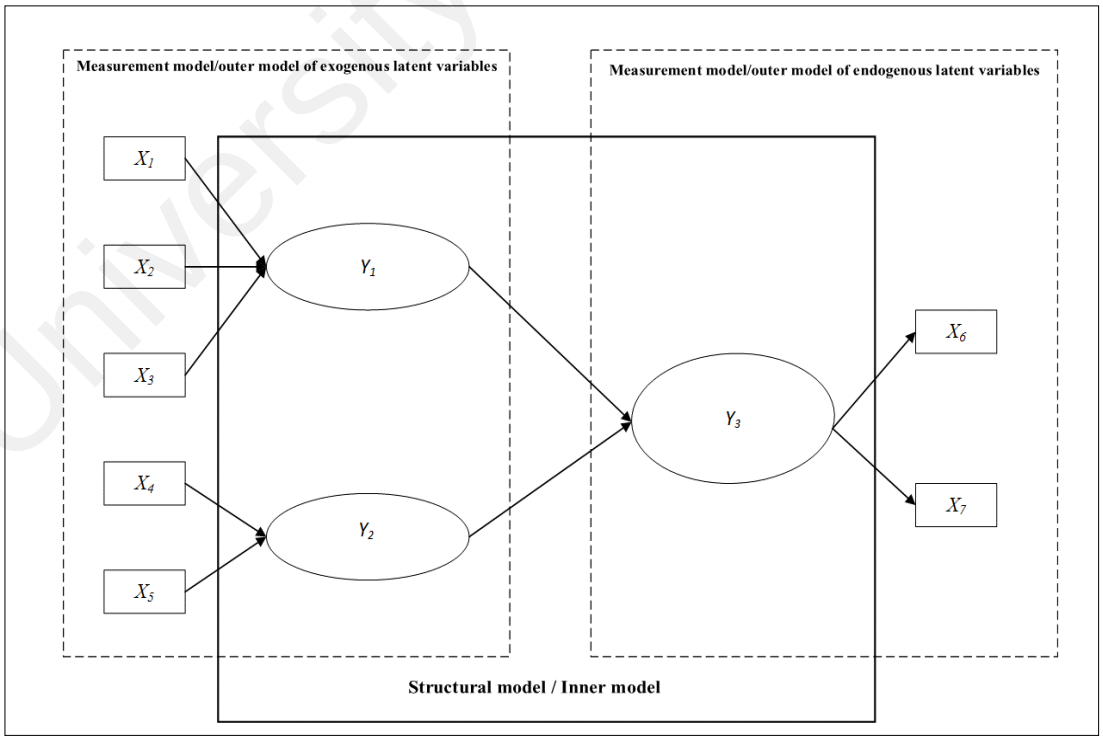

Figure 3.1: Measurement and Structural Model

Source: Hair, Hult, Ringle and Sarstedt (2017)

These path models are developed based on theory. Theory is a set of systematically related hypotheses developed to explain and predict outcomes. Thus, theories are multiple hypotheses that are logically linked together and can be tested empirically.

The path models are based on two types of theory. The first theory is the measurement theory which specifies how each construct is measured. The second is the structural theory which outlines how the constructs are related to each other.

In the measurement theory, the direction of causality between a construct and its indicators are important. The direction can be viewed as either reflective or formative (Jarvis, Mackenzie & Podsakoff, 2003). Constructs using reflective indicators (Y_3) have an arrow direction that points from the variable to the indicator, indicating the assumption that the construct causes the measurement (or the covariation) of the indicator variables. These indicators are examined using loadings (Petter, Straub & Rai, 2007), which represent the correlation between the indicators and the component scores (Gefen, Straub & Boudreau, 2000). These indicators should be consistent internally as all items are measuring the same phenomenon. Changes of values in a measure will result in changes for all the other values in the same direction.

Conversely, constructs using formative indicators have arrow direction from the indicators to the construct (Y_1, Y_2), indicating a causal (predictive) relationship. Measures are based on weights which provides information on the importance of each indicator in the component (Chin, 1998b). They represent different themes or dimensions. Removing a measure would affect the meaning of the construct (Chin, 1998a; Gefen et al., 2000; Jarvis et al., 2003). Hence, these measures need not covary with one another.

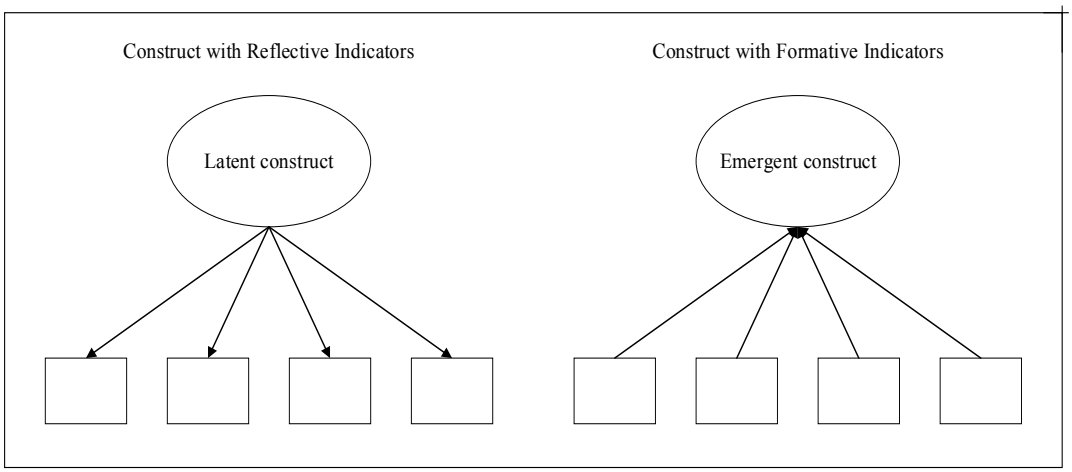

Figure 3.2: Reflective and Formative Constructs

Source: Hair et al. (2017)

On the other hand, structural theory shows how the latent variables are related. This is represented by the constructs and the path relationships between them in the structural model. The location and sequence of the constructs are based on theory.

When latent variables serve only as independent variables, they are called exogenous latent variables (Y_1 and Y_2). When latent variables serve only as dependent variables (Y_3) or as both independent and dependent variables, they are called endogenous latent variables. Any latent variable that has only single-headed arrows going out of it is an exogenous latent variable. In contrast, endogenous latent variables can have either single-headed arrows going both into and out of them or only going into them (Y_3).

3.9.2 Covariance based and Variance based Techniques

There are two main approaches to estimating the relationships in a structural equation model. One is a covariance-based technique (CB-SEM) and the other is a variance based partial least squares (PLS-SEM). Each is appropriate for a different research context. Hence, the characteristics and objectives that distinguish these two methods is investigated before making a decision on which approach to use (Hair, Sarstedt, Ringle & Mena, 2011).

A crucial conceptual difference between PLS-SEM and CB-SEM relates to the way each method treats the latent variables in the model. CB-SEM considers the constructs as common factors that explain the covariation between its associated indicators. It analyses how well a proposed theoretical model can estimate the covariance matrix for a sample data set, or how well the theoretical model fit into the observed data. This is done using the maximum likelihood function (Barclay, Thompson & Higgins, 1995). Hence, it is possible to estimate latent variable scores within a CB-SEM framework, which is useful when confirming (or rejecting) theories (Chin, 2010; Gotz, Liehr-Gobbers & Krafft, 2010).

However, these estimated scores are not unique as there are numerous sets of latent variable scores that can fit the model equally well. Consequently, the correlations between a common factor and any variable outside the factor model are indeterminate (depending on which set of factor scores is chosen). As a result, this limitation makes CB-SEM unsuitable for prediction.

PLS-SEM, on the other hand, uses proxies to represent the constructs of interest. These proxies are weighted composites of indicators of a particular construct. These weights also facilitate accounting for measurement error. Weights offer important insights into each item's importance and its relationships with other composites in the structural model. In addition, once weights are established, a single specific (determinate) score for each composite can be produced. The use of weights is superior, in comparison to other SEM methods such as multiple regression (that uses sum scores).

Using these proxies as input, PLS-SEM applies an iterative sequence of ordinary least squares (OLS) regression with the objective of minimising the error terms (and maximising the explained variance) of the endogenous latent variables (Henseler, Ringle & Sinkovics, 2009). This feature achieves the prediction objective of PLS-SEM. PLS-SEM is therefore the preferred method when the research objective is theory development and explanation of variance.

Several additional considerations are important when deciding on which approach to used. For CB-SEM results to be acceptable, the data must be normally distributed (Urbach & Ahlemann, 2010; Hair, Ringle & Sarstedt, 2011). It also works best with a large sample size, of 200 to 800 (Chin & Newsted, 1999; Chin, 2010; Hair et al., 2010). CB-SEM constructs are a composite of the indicators plus an error term model (indeterminate), and model misspecification are noted to have a significant impact on estimates (Chin, 2010). In some studies, CBSEM has difficulties in handling models with fifty or more items (Barclay et al., 1995; Chin & Newsted, 1999; Chin, 2010). As for the direction of relationship among the constructs, CBSEM allows recursive (unidirectional) and non-recursive (bidirectional) relationships.

PLS has no assumptions on measurement, distribution or sample size. It has statistical properties that makes very robust model estimations with data, regardless of whether the distribution of data is normal or not. Nonetheless, influential outliers and collinearity would still influence the regressions, hence the data and results must be evaluated for these issues (Hair et al., 2010). Although PLS-SEM has been reported to work well for small sample sizes (below 100 cases), the sample size must have sufficient statistical power and be representative of data (Chin & Newsted, 1999; Chin, 2010). Hence, it is important to consider the sample size against the background of the model and data characteristics. Generally, in PLS-SEM, model misspecification has no influence on the overall model. It

can also handle very complex models. However, the specified statistical model should comply with the conceptual model and the technical requirements (Barclay et al., 1995; Chin & Newsted, 1999; Chin, 2010). PLS-SEM model can contain feedback loops or take account of endogeneity if an adequate estimator is used for the structural model. A sufficient number of exogenous variables must also be available.

The use of CB-SEM is limited to research models that use reflective constructs. Although previous studies have used formative measures within the structural model, they usually lead to problems (Henseler et al., 2009). For instance, the use of formative constructs within CB-SEM would create a situation where the explanation of the covariance of all indicators is not possible. Further, the use of CB-SEM in handling both reflective and formative constructs is relatively complicated (Urbach & Ahlemann, 2010).

On the other hand, PLS-SEM can be used to analyse a research model that consists of either reflective, formative or a combination of both reflective and formative constructs at the same time (Chin, 1998b). It can also handle single-item constructs, with no identification problems. In comparison to CB-SEM, PLS-SEM has greater statistical power where it is more likely to render a specific relationship significant when it is in fact significant in the population. It can therefore be applied in a wide variety of research situations.

Table 3.12: Comparison between PLS-SEM and CB-SEM

Source: Chin and Newsted (1999)

Criterion	PLS-SEM	CB-SEM
Objective / Approach	Prediction oriented Variance based	Parameter oriented Covariance based
Assumptions	Nonparametric	Parametric
Latent variables scores	Determinate-Explicitly estimated	Indeterminate
Relationship between latent variables and its indicators	Can be modelled in either formative or reflective	Typically only with reflective indicators
Model complexity	Large complexity (e.g., 100 constructs and 1000 indicators)	Small to modest complexity (e.g., less than 100 indicators)
Sample size requirements	20 to 100 cases	200 to 800

3.9.3 Justification for Using PLS-SEM

This study uses the Structural Equation Modelling (SEM), in particular, the Partial Least Squares (PLS) approach (Hair et al., 2010). From the various criterion discussed, there are advantages in employing PLS-SEM for this study.

PLS-SEM is suitable for exploratory research and theory development (Hair et al., 2011; Hair, Risher, Sarstedt & Ringle, 2019) which is in line with the objective of this study. From the previous chapter, the aim of this study is to investigate the determinants of a behaviour which is intentions to plan financially for retirement. Theory of Planned Behaviour (TPB) is used as the underpinning theory. In TPB, behaviours are assumed to be the result of reasoned decisions which can be predicted and explained using a set of determinants (beliefs, attitudes, subjective norms, perceived behavioural control) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980).

However, whether these set of determinants can be adapted into a financial setting to explain retirement planning behaviours have yet been explored. These variables appear random, yet they are interrelated in many ways. Hence, their different effects have to be analysed. PLS-SEM can assist in understanding and exploring the complex relationships in retirement planning behaviours. The use of such understanding can extent the use of TPB and its body of knowledge in a financial setting.

Several of PLS-SEM capabilities also offer added benefits. Firstly, it has fewer rigid expectations in terms of the distribution of variables and error terms which is suitable for non-normal data. The data collected from this survey is also not normally distributed (Hair et al., 2010). There are several limitations to the distribution of the questionnaires (subjected to each university's procedural requirement, voluntary, random selection of universities).

Next, PLS-SEM can handle model misspecifications, where misspecifications does not have a significant influence on other parts of the model (Henseler et al., 2009). This is particularly important as beliefs are different in each population, and hence can only be obtained from qualitative interviews. It cannot be adapted from previously validated surveys. As for the adapted item, it has not been used extensively in a financial setting. Nevertheless, additional statistical tests (pilot test, EFA) have been conducted to ensure the validity and reliability of the items and constructs.

PLS is suitable for models with large complexity. For this study, there are many items and constructs developed and adapted. In summary, there is a total 9 constructs used (with a total of 43 items) to measure intentions to plan financially for retirement.

3.9.4 Evaluation Using PLS-SEM

Data can be analysed using PLS-SEM in two stages. The first stage involves the analysis of the measurement or outer model. The measurement model links the latent variables to the indicators. In this stage, the reliability and validity attributes are assessed, in particular, the internal consistency reliability, convergence and discriminant validity (Hair et al., 2017). The objective is to ascertain that the indicators correctly measure the constructs (Gefen et al., 2000). This approach assures that good constructs and measures are represented in a valid structural model (Gefen et al., 2000; Barroso, Carrion & Roldan, 2010; Hair et al., 2010; Hair et al., 2017).

The second stage involved the analysis of the structural or inner model. The structural model links the latent variables. It subsequently assesses the path and the significance of the hypothesised relationships (Barroso et al., 2010; Hair et al., 2010). Stage two can only proceed if the results in stage one are satisfactory.

Table 3.13: Evaluation of reflective models using PLS-SEM

Source: Hair et al. (2017)

Step 1. Evaluation of measurement model	Step 2. Evaluation of structural model
• Internal consistency reliability • Convergent validity • Discriminant validity	• Coefficients of determination (R^2) • Predictive relevance (Q^2) • Size and significance of path coefficients • f^2 effect sizes

3.9.5 Evaluating the Measurement Model

(a) *Internal consistency reliability*

The traditional criterion to assess internal consistency is Cronbach's alpha. It provides an estimate of the reliability, using the intercorrelations of the indicators. High Cronbach's alpha is an indication that the construct has the same meaning and range (Cronbach, 1971).

However, Cronbach's alpha has limitations. It is sensitive to the number of items in a scale and tends to underestimate the internal consistency reliability. It assumes that all indicators are equally weighted and that there is no tau equivalent among the measures (Werts, Linn & Joreskog, 1974).

As such, with such limitations, composite reliability (CR) is also used to indicate internal consistency reliability. Composite reliability prioritises the indicators according to their loading (Chin, 1998b).

CR values vary between 0 and 1. Higher values indicate a higher level of reliability. Generally, values below 0.6 indicate a lack of reliability. Values between 0.6 to 0.70 are acceptable for exploratory research while values above 0.70 are regarded as satisfactory (Bagozzi & Yi, 1988; Gotz et al., 2010; Urbach & Ahlemann, 2010; Hair et al., 2017).

(b) *Convergent validity*

Convergent validity measures the extent that each indicator correlates positively with the alternative indicators of the construct. For this purpose, the indicator reliability and Average Variance Extracted (AVE) is evaluated.

To evaluate the indicator reliability, the size of the outer loadings is reviewed. High outer loadings would indicate that the associated indicators have much in common. A general rule would be to accept items with loadings of 0.707 or more. This is because loadings valued at 0.707 would be able to explain 50% of the indicators variance (Barroso et al., 2010; Chin, 2010). Indicators with outer loadings between 0.40 to 0.70 should be removed only if it results in an increase of composite reliability or AVE beyond the suggested threshold value. Outer loadings below 0.40 are recommended for removal.

Chin (1998b); Chin (2010) also caution that any removal of items must be done carefully. This is because removing some of the indicators may influence content validity. In PLS-SEM, poor indicators may have useful information that will help create a better construct score. Also, PLS-SEM have determinate constructs, where low indicators are factored by lower loadings. Hence, indicators with low loadings may still have predictiveness as long as other reliable indicators exist (Chin, 2010).

The second measure for convergent validity is AVE (Fornell & Larcker, 1981). It measures the amount of variance captured by a variable from its indicators, relative to the amount due to measurement error (Chin, 1998b). AVE is more conservative than CR. Ideally, AVE values should be greater than 0.50, as this would mean that more than 50% of the variance is accounted for (Bagozzi & Yi, 1988; Chin, 1998b; Barroso et al., 2010).

(c) *Discriminant Validity*

Discriminant validity refers to the degree to which the constructs are distinct from the other constructs (Barroso et al., 2010). This would mean that the indicators do not correlate well with other constructs, except for the one that it is theoretically associated with (Gefen et al., 2000). Discriminant validity can be evaluated using cross-loading (Chin, 1998a), Fornell-Larcker criterion (Fornell & Larcker, 1981) and heterotrait-monotrait ratio (HTMT) (Hair et al., 2017).

The first approach to evaluate discriminant validity involves assessing the indicators cross-loadings. Cross-loadings are derived by correlating each item with its construct and to all other constructs (Chin, 1998b). The correlation between the constructs and items would show a pattern, where indicators of its theoretically assigned construct will load higher in comparison to other items (Gefen et al., 2000). Indicators that load higher with constructs other than the one it is intended to should be considered for removal.

Another consideration for discriminant validity involves using the Fornell-Larcker criterion (Fornell & Larcker, 1981). This criterion involves comparing the square root of the AVE values with the construct correlations. The square root of each construct's AVE should be greater than its highest correlation with another construct, as it shares more variance with its associated indicators in comparison to others (Fornell & Larcker, 1981; Gefen et al., 2000).

Henseler, Ringle and Sarstedt (2015) found weaknesses when cross-loadings and the Fornell-Larcker criterion is used for discriminant validity. Cross-loading is unable to detect discriminant validity for perfectly correlated constructs, while Fornell-Larcker is ineffective for indicator loadings that have small differences (Voorhees, Brady, Calantone & Ramirez, 2016).

To counter such problems, the heterotrait-monotrait ratio (HTMT) method is proposed (Henseler et al., 2015). HTMT is the ratio of the between-trait correlations to the within-trait correlations. A threshold value of 0.85 and 0.90 has been recommended to ascertain discriminant validity. The guidelines for assessing reflective measurement model can be summarised in the following table.

Table 3.14: Guidelines for Assessing Reflective Measurement Model

Validity Type	Criterion	Guidelines
Internal consistency reliability	Composite Reliability (CR)	CR > 0.7 (for exploratory study) CR > 0.8 (advance research) CR < 0.6 (lack of reliability)
Convergent validity	Outer loadings Average Variance Extracted (AVE)	Indicator loading > 0.707 AVE > 0.50
Discriminant validity	Cross loading	Item's loading of each indicator is highest for its designated construct.
	Fornell and Larcker	The square root of the AVE of a construct should be greater than the correlations between the construct and other constructs in the mode
	Heterotrait - monotrait ratio (HTMT)	A threshold value of 0.85 and 0.90

3.9.6 Evaluating the Structural Model

Once the evaluation of the measurement model is validated, the second stage, which is the analysis of the structural model can begin. In this stage, the model's predictive power and the relationship between the constructs are important. The evaluation of the structural model involves several steps, as shown in the following figure.

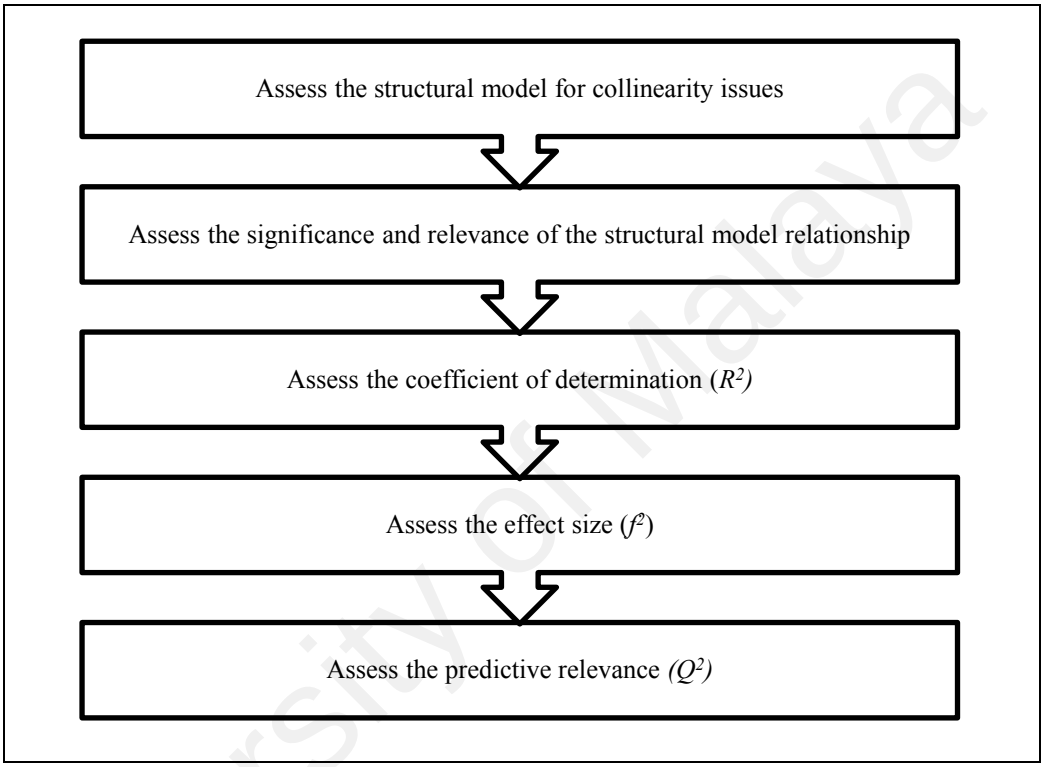

Figure 3.3: Structural Model evaluation procedures

Source: Hair et al. (2017)

(a) *Assess the structural model for collinearity issues*

When two constructs are highly correlated, the issue of collinearity arises. This is possible when the set of independent variables could predict some other variables as well. As a result, minor variations in the sample may have a significant effect on the loadings. As such, each set of predictor constructs need to be assessed. Indicators used to assess collinearity is the Variance Inflation Factor (VIF). According to Hair et al. (2017), any VIF value above 5 would indicate potential collinearity problems.

(b) ***Assess the significance and relevance of the structural model relationship***

Before assessing the significance of the structural model relationship, a bootstrapping routine is applied. This is a nonparametric technique that is used to estimate the accuracy of the estimates in PLS-SEM. This technique creates sample sets in order to obtain estimates for each parameter in the model. Each sample set is obtained via replacements to the original data set. The bootstrapping routine would yield the standard error, t-values, p-values and values for all the structural paths. The recommended bootstrapping techniques have suggested the use of 5,000 resamples (Hair et al., 2017).

Upon completion of the bootstrapping routine, the path coefficient should be examined. The path coefficient's algebraic sign, magnitude and significance must be checked. Path coefficient values can range from -1 to +1. The coefficient that is closer to +1 represents strong positive relationships while those closer to -1 indicates a strong negative relationship. Hence, those paths with signs that are contrary to the assumed theoretical relationship do not support the hypotheses.

The path coefficients magnitude indicates the strength of the relationship between the constructs. The higher the coefficient, the stronger its effect on the endogenous latent variable. Also, path coefficients should be statistically significant. In assessing the path coefficient, Sellin and Keeves (1994); Urbach and Ahlemann (2010) have stressed that the path coefficient should exceed 0.10 to have an impact on the model. Also, it should be significant at the 0.05 level.

(c) ***Assess the coefficient of determination (R^2)***

The coefficient of determination (R^2) measures the model's predictive power. This coefficient is calculated as the squared correlation between a specific endogenous construct's actual and predicted values. It represents the amount of variance in an endogenous construct that can be explained by all the related exogenous constructs. R^2

values range from 0 to 1, where higher values indicate a higher level of predictive accuracy (Barclay et al., 1995; Hair et al., 2017). In the context of this study, the coefficient of determination (R^2) would assess the extent that the variance in attitudes, subjective norms and perceived behavioural control is explained by beliefs (behavioural beliefs, normative beliefs, control beliefs). Subsequently, how well attitudes, subjective norms and perceived behavioural control explains intentions to plan financially for retirement is assessed.

Generally, R^2 values depend on the model complexity and the research discipline. Backhause, Erichson, Plinke and Weiber (2003); Gotz et al. (2010); Hair et al. (2017) argue that the acceptable threshold of R^2 depends on the study and the respondents. For example, the value of 0.20 is considered high in research involving consumer behaviours (Hair et al., 2017).

As a guide, R^2 values of 0.75, 0.50 or even 0.25 for endogenous latent variables can be described as substantial, moderate or weak (Hair et al., 2011). However, Chin (1998b) is of the opinion that the value of R^2 around 0.67 is substantial, 0.33 are average and values of 0.19 and lower are weak. At the same time, Cohen (1988) have described the R^2 levels of 0.26, 0.13 and 0.02, respectively, as substantial, moderate and weak. Similarly, some researchers also argue that the R^2 for endogenous variables or constructs should be greater than 0.1 to be deemed adequate (Falk & Miller, 1992; Santosa, Wei & Chan, 2005). For this study, Cohen (1988) values would be used. These values are widely accepted in the field of psychology and social sciences.

R^2 is also influenced by the number of predictors constructs in a model. The more predictors a model have; the higher is the R^2 results. Hence, it is advisable to use the adjusted R^2, which controls for model complexity (Hair et al., 2017). Adjusted R^2 is computed as follows:

$$R_{adj}^2 = 1 - (1-R^2) \cdot \frac{n-1}{n-k-1}$$

(d) *Assess the effect size (f^2)*

The effect size (f^2) is used to assess the change in R^2 of a dependent construct when a specific predictor construct is used or omitted. The objective is to evaluate whether the omitted construct has a substantive impact on the dependent constructs. The effect size is calculated using the following formula:

$$f^2 = \frac{R^2 \text{ included} - R^2 \text{ excluded}}{1 - R^2 \text{ included}}$$

where

R^2 included: R^2 of the dependent variable when the independent variable is included

R^2 excluded: R^2 of the dependent variable when the independent variable is excluded

The effect size indicates the influence of the predictor constructs on the dependent variable. The higher the effect size (f^2) value, the higher the influence. According to Cohen (1988), the effect size of 0.02, 0.15 and 0.35 indicates a small, medium or large influence, respectively. A small f^2, however, does not necessarily imply a negligible effect (Wilson, 2010). In the context of this study, the effect size of the predictor variables (attitudes, subjective norms and PBC) is evaluated.

(e) *Assess the predictive relevance (Q^2) (Blindfolding)*

In addition to R^2, Stone-Geisser's Q^2 value (Geisser, 1975) is also recommended to be used in examining the inner model's predictive relevance (Henseler, Hubona & Ray, 2016; Hair et al., 2017). When a model has predictive relevance, it means that the model can

accurately predicts data not used in the model estimation. In the structural model, Q^2 values larger than zero for a specific reflective endogenous latent variable indicate the path model's predictive relevance for a particular dependent construct.

In PLS-SEM, the blindfolding procedure is used to obtain the predictive relevance (Q^2) value of the model. This procedure systematically eliminates data points. In order to do this, the omission distance (d) has to be specified. Using this technique, every d^{th} data point is omitted in the endogenous construct's indicators as well as the parameters of the remaining data. The omitted data is considered as missing values and replaced with mean values. As such, the blindfolding technique is used as a general cross-validating metrics. PLS can accurately predict the data points of indicators in reflective measurement models of endogenous constructs and endogenous single item constructs. The omission distance should be between 5 and 12 is considered to be sufficient (Wold, 1985; Chin, 2010). Also, the sample size should produce a round number (not integer values) when divided by the omission distance.

Two different forms of Q^2 was generated from the blindfolding procedure (Chin, 1998b; Chin, 2010). The cross-validated redundancy measures the ability of the model to predict the endogenous manifest variables. It indicates the quality of the structural model (Hair et al., 2017). The cross-validated communality measures the ability of the path model to predict the manifest variables from their latent variable score and indicates the quality of the measurement model (Hair et al., 2017).

Chin (1998b); Chin (2010) suggests using the cross-validation redundancy measure to evaluate the predictive relevance of the structural model. Q^2 measures how well the model and its parameters reconstruct the observed values. Q^2 values should be more than zero to indicate that the model has predictive relevance. Values below zero would mean that the model has no predictive relevance (Hair et al., 2017). In this study, the endogenous

variables (attitudes, subjective norms, PBC and intentions) predictive relevance are assessed.

3.10 Summary

This chapter outline the research methodology adopted. A quantitative methodology is used in its research design. Primary data is collected via a survey. To address Hypotheses 1 to 3 (attitudes, injunctive subjective norms, descriptive norms, perceived behavioural control and intentions), scales are adapted from existing literature. For Hypotheses 4a, 4b and 4c, qualitative interviews are conducted to identify the accessible beliefs of the population of study. The beliefs identified are used to developed the behavioural beliefs, normative beliefs and control beliefs scales.

As survey is the main data collection method, care is taken to ascertain the goodness of the measures adapted and developed. A content validation by experts and a pilot test was used to checked the validity and reliability of the instrument developed.

Details was provided on the sampling procedures. The data collected goes through a preliminary data analysis which involve data screening and Exploratory Factor Analysis. Also, descriptive analysis is performed. Subsequently, SEM are discussed, along with using PLS-SEM statistical techniques and guidelines.

CHAPTER 4: RESULTS

For this study, the principle method used was quantitative, where a survey instrument is used to collected the data. Quantitative methods are also used in many behavioural studies (Zikmund, 2003; Neuman, 2006; Sekaran & Bougie, 2010). In financial behaviour, in particular the field of financial planning and retirement research, quantitative methods are recommended as it is not only able to elicit responses on unobservable behaviour, but is also considered the most economical and feasible method to elicit the views of a large number of participants.

4.1 Results of Preliminary Analysis

Before analysing the results using PLS, the data is screened. For this purpose, analysis of missing data, normality, outliers and checking for collinearity issues is conducted. The objective of this process is to avoid any potential problems at the later stage of the analysis.

4.1.1 Data Screening

During data screening, the 'missingness' in the data set is examined. Two forms of missingness can be identified from the data. These 'missingness' are coded using 99 and 999. The code '99' identifies items in the questionnaire that are unanswered or left blank by the respondents. From the codes, the missing values can be identified to three items from Section E-Personal details, that is IC2, IC3 and CHILD3. These are regarding financial matters related to the individual.

IC2 are information on the estimated total monthly household debt repayments a person makes to financial institutions. One person (0.2%) did not answer the question. As for IC3, the item measures the satisfaction level of the respondent to their current financial situation.

2% of the sample did not respond to the question. Meanwhile, CHILD3 documents information on number of financially dependent children. Two persons did not answer the question (0.6%). Overall, the missing value is below 5% of the total number of cases. Pairwise deletion would be used to deal with these missing values, where the case is only excluded for analysis for the items with missing data.

Table 4.1: Missing data

Variables	Code	Recorded responses	Missing values		Total
			Frequency	Percent (%)	
Monthly household debt	IC2	499	1	0.2	500
Satisfied with current financial situation	IC3	490	10	2	500
Nos. of financially dependent children	CHILD3	328	2	0.6	330

Note: Missing data - code 99

The second form of missingness is pertaining the 'non-applicable' responses, which are coded as '999'. In total, these responses can be identified to nine items. The first item (CHILD1) is from Section E-Personal details. CHILD1 identifies the segments of the sample that have children. Only 66% have children. The remainder eight items are from Section C-The people around you and your environment. These are regarding normative beliefs. They include injunctive and descriptive normative beliefs identified from the codes INB1, INB2, INB3, INB4 and DNB1, DNB2, DNB3, DNB4, respectively. These variables will be used for further analysis in PLS-SEM.

Table 4.2: Non applicable responses

Variables	Code	Recorded Responses		Non-applicable responses		Total
		Count	Percent	Count	Percent	
Nos. of children	CHILD1	330	66.0	170	34.0	500
Injunctive Normative Beliefs	INB1	375	75.0	125	25.0	500
	INB2	489	97.8	11	2.2	500
	INB3	470	94.0	30	6.0	500
	INB4	454	90.8	46	9.2	500
Descriptive Normative Beliefs	DNB1	368	73.6	132	26.4	500
	DNB2	487	97.4	13	2.6	500
	DNB3	471	94.2	29	5.8	500
	DNB4	458	91.6	42	8.4	500

Note: Non applicable responses - code 999

Most of the missing values coded 999 are also above 5% of the total number of cases. However, INB1, INB2, INB3, INB4 and DNB1, DNB2, DNB3, DNB4 are normative beliefs items. The presence of missing values will influence the results generated and have to be dealt with accordingly. Fishbein and Ajzen (2010) recommends that the average of each indicator is computed to derive an injunctive and descriptive normative belief composite. Hair et al. (2017) further supports this as a better approach to overcome missing data as it minimizes the decrease in variability of responses.

It is also important to test for normality. This study uses PLS in its analysis. PLS is suitable for studies involving non-normal data. To assess normality, the histogram and Normal Q-Q plots were viewed. The histogram does not show a normal distribution curve. For the Normal Q-Q plots, it also does not fit into the standard normal distribution line. In addition, the Kolmogorov-Smirnov and Shapiro-Wilk test of normality were significant ($p<0.05$), indicating that the distribution was not normal. The results of the normality tests confirm that the data is not normally distributed.

The data was further examined for outliers. Mahalanobis distances were generated. Examination of the D_2 values did not indicate outliers. Thus, all observations were retained for analysis.

To assess collinearity issues, the VIF is computed. As this study used reflective indicators, the inner VIF was assessed. VIF values should be below 5 to be of the acceptable range. From the following table, all the VIF figures are less than 5, thus indicating that there were no collinearity issues (Hair et al., 2017).

Table 4.3: Collinearity Statistics

Constructs	Attitudes	Descriptive Norms	Injunctive Norms	Intentions	PBC	Subjective Norms
Attitudes				1.104		
Subjective Norms		1.000	1.000	1.012		
PBC				1.096		
Intentions						
Behavioural Beliefs	1.000					
Normative Beliefs						1.000
Control Beliefs					1.000	

4.1.2 Exploratory Factor Analysis

The objective of using Exploratory Factor Analysis (EFA) in this study is to uncover the underlying factor structure and interrelationships among the variables. It is a form of preliminary confirmation on the expected factors to be extracted which would support the used of Theory of Planned Behaviour. There is a total of 43 items developed and adapted using TPB guidelines. The list of these items is in Table 4.5.

For this study, the sample size used for EFA is 500 and missing data is dealt with using 'pairwise deletion'. This sample size is large enough for correlations to be reliably estimated (Nunnally, 1978; Hair et al., 2010; Tabachnick & Fidell, 2013). Oblique rotation (Direct Oblimin) is used, where all factors are assumed to be correlated. For factor extraction, principal axis factoring (PAF) is chosen, where the common variance is analysed and error variance removed.

An assessment of the suitability of the data for factor analysis is conducted. Inspection of the correlation matrix revealed the presence of coefficients of 0.30 and above, with Kaiser-Meyer-Olkin exceeding the recommended value of 0.6 (Kaiser, 1974) and Bartlett's Test of Sphericity shows that there is statistical significance ($p<0.05$) (Tabachnick & Fidell, 2013). However, attitudes, which was initially developed with 5 items (DA1_r, DA2_r, DA3, DA4_r, DA5), had separated into two factors. Items in the first factor (DA1_r, DA2_r, DA4_r) reflect all three underlying components of attitude (overall - DA1_r, experiential - DA2_r, instrumental - DA4_r) but items in the second factor only has two components (experiential - DA5, instrumental - DA3). Therefore, the first factor has stronger and a more comprehensive representation of attitudes. As for the second factor, DA3 (worthless-useful) and DA5 (unpleasant-pleasant) loaded later in EFA, and may not be suitable or well understood in the context of planning for retirement. It was decided to remove the two items and to run EFA again.

Using an exploratory iterative approach by analysing the eigenvalues, screeplot and parallel analysis, a final 8-factor structure is extracted. This solution is able to explain the variance in the data set with as few factors as possible. A summary of the items and variables were provided in Table 4.5.

Table 4.4: Initial theoretical framework and the 8-factor model

Factor	Variable	Initial theoretical framework		8-factor model		For removal
		Qtn	Item Codes	Qtn	Item Codes	
1	Behavioural beliefs	9	BA1, BA2, BA3 BC1, BC2, BC3 BSC1, BSC2, BSC3_r	9	BA1, BA2, BA3, BC1, BC2, BC3, BSC1, BSC2, DPBC4	DPBC4
2	Control beliefs	11	CC1_r, CC2_r, CC3_r, CR1_r, CR2_r, CR3_r, CR4_r, CR5_r CRS1_r, CRS2, CRS3_r	13	CC1_r, CC2_r, CC3_r, CR1_r, CR2_r, CR3_r, CR4_r, CR5_r, CRS1_r, CRS3_r, IN1, BSC3_r DPBC3_r	BSC3_r IN1 DPBC3_r
3	Descriptive Normative beliefs	4	DNB1, DNB2, DNB3, DNB4	4	DNB1, DNB2, DNB3, DNB4	
4	Intentions	3	DINT1, DINT2, DINT3	3	DINT1, DINT2, DINT3	
5	Attitudes	5	DA1_r, DA2_r, DA3, DA4_r, DA5	5	DA1_r, DA2_r, DA4_r DA3, DA5	DA3, DA5
6	Injunctive Normative beliefs	4	INB1, INB2, INB3, INB4	2	INB3, INB4	
7	Perceived Behavioural Control	4	DPBC1, DPBC2, DPBC3_r, DPBC4	3	DPBC1, DPBC2, CRS2	
8	Subjective norms	3	IN1, IN2 DN1	4	IN2, DN1, INB1, INB2	
	Total	*43*				*6*

The first factor has a variance of 19.249% which comprise of 8 behavioural beliefs items (BA1, BA2, BA3, BC1, BC2, BC3, BSC1, BSC2) and one perceived behavioural control (DPBC4) item. Another item, BSC3_r converges into Factor 2-Control beliefs. Further analysis into DPBC4 ('Whether I plan financially for retirement or not is entirely up to me') reveal that it has loadings and communalities below 0.30. It is not loading as intended and the communality also indicates that it is not a substantive part of the factor solution. This item is removed. This factor is named Behavioural beliefs where all items have loadings and communalities above 0.30.

The second factor has a variance of 14.126%. It comprise of 10 items from control beliefs (CC1_r, CC2_r, CC3_r, CR1_r, CR2_r, CR3_r, CR4_r, CR5_r, CRS1_r, CRS3_r), one item each from behavioural beliefs (BSC3_r,), subjective norms (IN1) and perceived behavioural control (DPBC3_r). However, BSC3_r ('Planning financially for retirement is a burden - it prevents me from enjoying my life now'), IN1 ('I feel the pressure to plan financially for retirement') and DPBC3_r ('The decision to plan financially for retirement is beyond my control') was not designed to measure control beliefs. In addition, they have the lowest loading and communalities among all the items in this factor. All three items are removed. The remaining items are named Control beliefs. All the items have loadings and communalities above 0.30.

The third factor has a variance of 6.372%. It comprises of 4 descriptive normative beliefs items (DNB1, DNB2, DNB3, DNB4). The fourth factor has a variance of 4.725% and comprise of 3 items of intentions (DINT1, DINT2, DINT3). The fifth factor has a variance of 4.139%. It comprises of 3 items of attitudes (DA1_r, DA2_r, DA4_r). All items in Factor 3, 4 and 5 have loadings and communalities above 0.30, and is named accordingly.

The sixth factor has a variance of 3.764%. It initially comprises of 4 injunctive normative beliefs items (INB1, INB2, INB3, INB4). However, after running EFA, only two items are retained, representing 50% of the variables (INB3, INB4). Hence, factor 6 is recognized as injunctive normative beliefs. All items have loadings and communalities above 0.30. INB1 and INB2 converge into Factor 8 (subjective norms).

The seventh factor has a variance of 3.425%. It comprises of 4 perceived behavioural control items (DPBC1, DPBC2, DPBC3_r, DPBC4). However, only two items (DPBC1, DPBC2) are retained after running EFA and the factor was named perceived behavioural control. All items have loadings and communalities above 0.30. DPBC3_r and DPBC4 converge into Factor 2 (control beliefs) and Factor 1 (behavioural beliefs), respectively and has been removed. An additional variable (CRS2), initially developed to measure risks in the control belief variable, converge in to this factor. CRS2 ask the question 'I am confident of what will happen to my investments in the future'. It has similarity with the self-efficacy component in perceived behavioural control, which could be the reasons why it converges to this factor.

The eighth factor has a variance of 2.319%. It comprises of three subjective norms items (IN1, IN2, DN1). After running EFA, two items (IN2, DN1) are retained and was named subjective norms. These items have communalities above 0.30. IN1 converge with Factor 2-Control beliefs and has been removed. Two additional items (INB1, INB2), initially developed as injunctive normative belief variables has converge to Factor 8. These items have an 'non-applicable' option in the scales developed, hence not all respondents were able to answer the questions about certain referents. This could have an impact on its convergence. Nevertheless, it is still reflective of the impact of the social environment on the individual.

In summary, items DPBC4 (Factor 1), BSC3_r, IN1, DPBC3_r (Factor 2), DA3 and DA5 (Factor 5) are removed. The total variance extracted is at 58.119%, with the total number of items reduced to 37. The Kaiser-Meyer-Olkin value is at 0.83, with Bartlett's Test of Sphericity at significant levels ($p<0.05$). A number of correlation coefficients above 0.30 were identified. Loadings and communalities of all items are at acceptable levels. Details of the statistical results is available in Appendix Q.

This solution revealed the presence of a somewhat 'simple structure' (Thurstone, 1947), with items that form factors showing strong loadings, and each item loading substantially on only one factor. The factor correlation matrix further confirm that each variable is factorially distinct. These results support the use of the variables in Theory of Planned Behaviour. This structure is further confirmed in the measurement model assessment in PLS, where reliability, convergent and discriminant validities were analysed.

4.1.3 Common Method Variance

In the previous chapter, several procedural remedies were incorporated to reduce the common method variance in this study. An inspection of the correlation matrix of the variables did not reveal any high correlations between the constructs. Hence, there is no initial evidence of the possibility of common method variance (CMV) (Bagozzi, Yi & Phillips, 1991).

However, to test further, the Harman's single-factor test was employed (Podsakoff & Organ, 1986; Podsakoff et al., 2003). The results show that the unrotated factor analysis explains only 16.79% of the variance, which is below the threshold level of 50%. As a result, CMV is not view as a problem for this study. The following table is an extract of the results of Harman's single-factor test.

Table 4.5: Results of Harman's single-factor test

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.888	18.344	18.344	7.222	16.795	16.795

4.2 Respondents' Profile

The unit of analysis for this study are Malaysians, currently employed in universities. In total, there are 500 respondents, where 44.2% are from public universities, largely funded by the government, while 55.8% are private universities which relies on corporate investments, alumni or student funding. 84% of the public universities' respondents have opted for the pension scheme.

In total, 185 respondents that has chosen the government pension scheme (37%) whilst 315 are not in the pension schemes (63%). The demographic details (age, education background, gender, race or ethnicity, religion and marital status) of the respondents are analysed. The two groups, those opting for the government pension scheme and those not in the pension scheme are available in Appendix M.

(a) *Age*

The age range of the respondents are from below 20 years to above 60 years. 45.4% of the respondents are between 25-29 (20.4%) and 30-34 (25%) years of age. Of this 32.9% are have opted for the pension schemes and 52.7% from the non-pension group. The remainder of the 55% of the sample respondents are below 20 and from ages 35 to above 60 (35-39 - 16.0%, 40-44 - 13.2%, 45-49 - 9.2%, 50-54 - 6.8%, above 60 - 3.2%, 20-24 - 3.0%, 55-59 - 3.0% and below 20 - 0.2%).

For the respondents who opted for the government pension scheme, 55.7% are from ages 30-44 (30-34 - 20.5%, 35-39 - 15.7% and 40-44 - 19.5%). This is followed by the other age groups, namely ages 35-39 (15.7%), 50-54 (12.4%), 25-29 (12.4%), 45-49 (8.1%), 55-59 (6.5%), above 60 (2.7%), 20-24 (2.2%) and below 20 (0.0%).

As for those that do not opt for the pension scheme, 52.7% are mainly from the ages 25 to 34, (30-34 - 27.6% and 25-29 - 25.1%). The remainder are from ages 35-39 (16.2%), 45-49 (9.8%), 40-44 (9.5%), 20-24 (3.5%), 50-54 (3.5%), above 60 (3.5%), 55-59 (1.0%) and below 20 (0.3%).

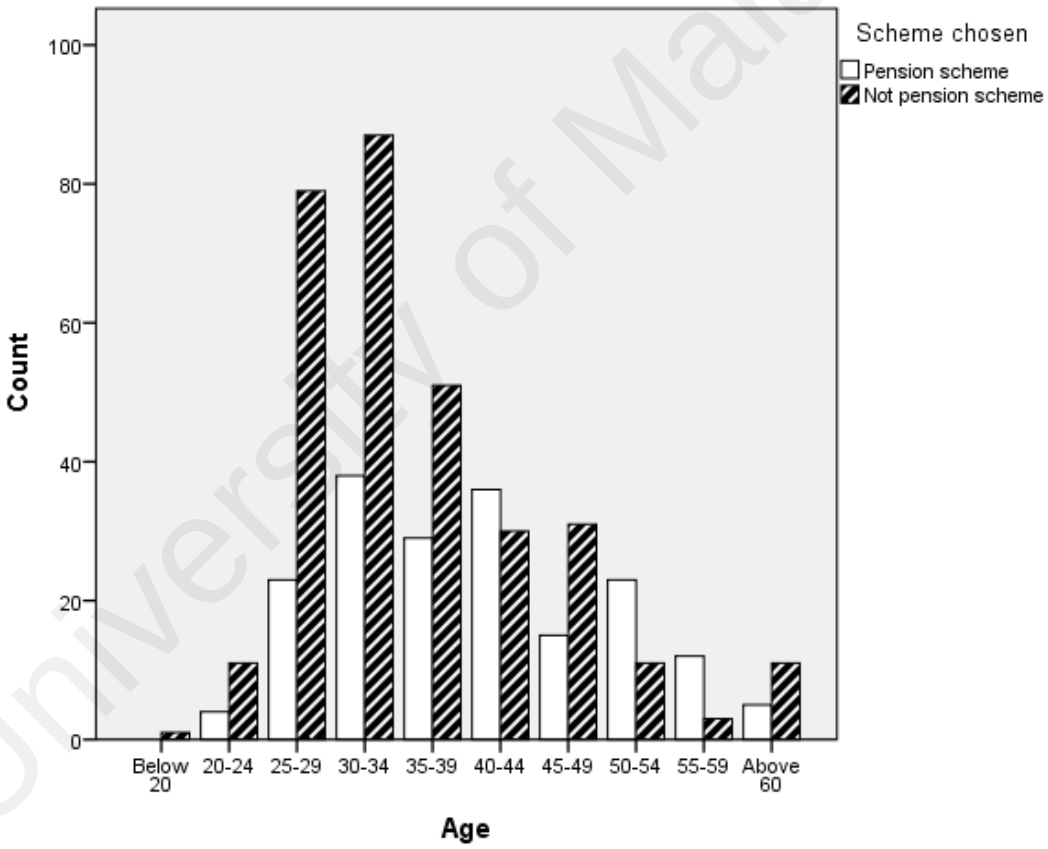

Figure 4.1: Respondents' age profile

(b) ***Educational background***

As for educational background, options are provided (SPM / Certificate Level, Diploma, Bachelor Degree, Master, PhD, Others). Over 90% of the sample have been through tertiary education and have at least a Bachelor's degree, where those with postgraduate qualifications totals about 67%. Most of the respondents have Master qualifications (45.6%), followed by Bachelor Degree (23.6%), PhD (21.4%), Diploma (6.6%), SPM/Certified level (2.2%) and others (0.6%). Those with Diploma and SPM/Certified level are the minorities in this sample (8.8%).

In summary, for the respondents who opted for the government pension scheme, 92.5% have tertiary education (Master - 46.5%, Bachelor Degree - 15.7%, PhD - 30.3%). Meanwhile, for the non-pension respondents, 90.6% have tertiary education (Master - 45.1%, Bachelor Degree - 28.3%, PhD - 16.2%, Others - 1.0%). Further analysis within each of the education background categories also reveal that most of the tertiary levels are in the non-pension scheme.

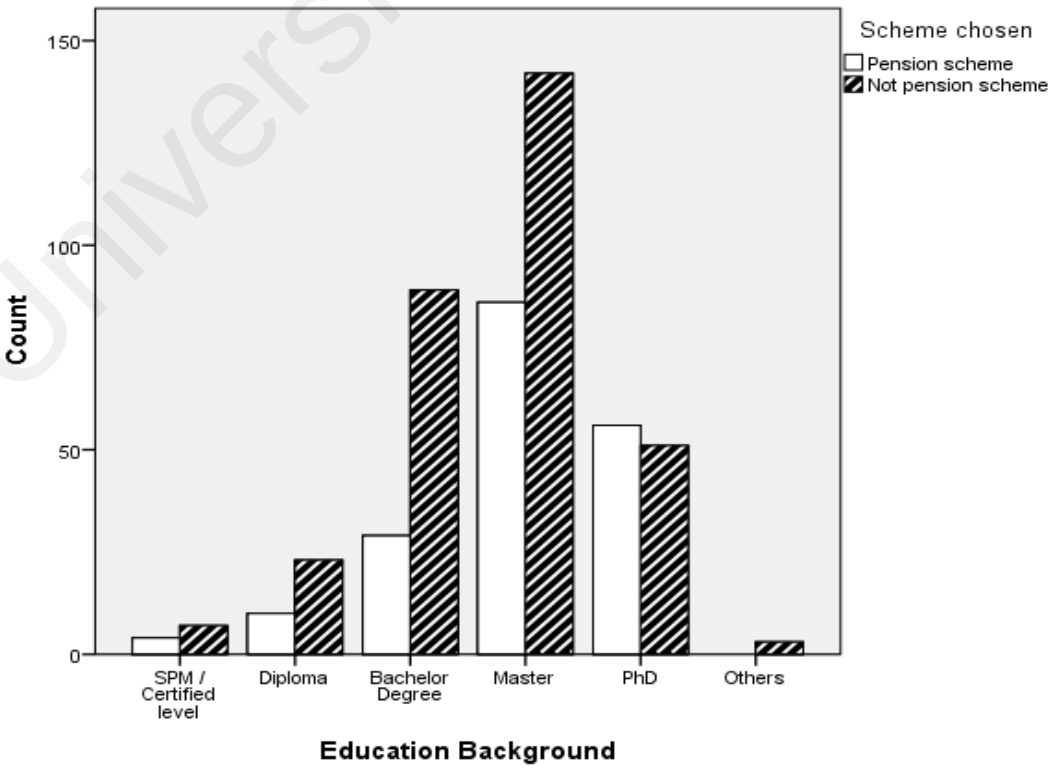

Figure 4.2: Respondents' education background profile

(c) *Gender*

For gender, the sample consist mainly of females (68.4%) while males comprise of 31.6%. Similarly, those in the pension scheme (69.2%) and non-pension schemes (67.9%) are also female.

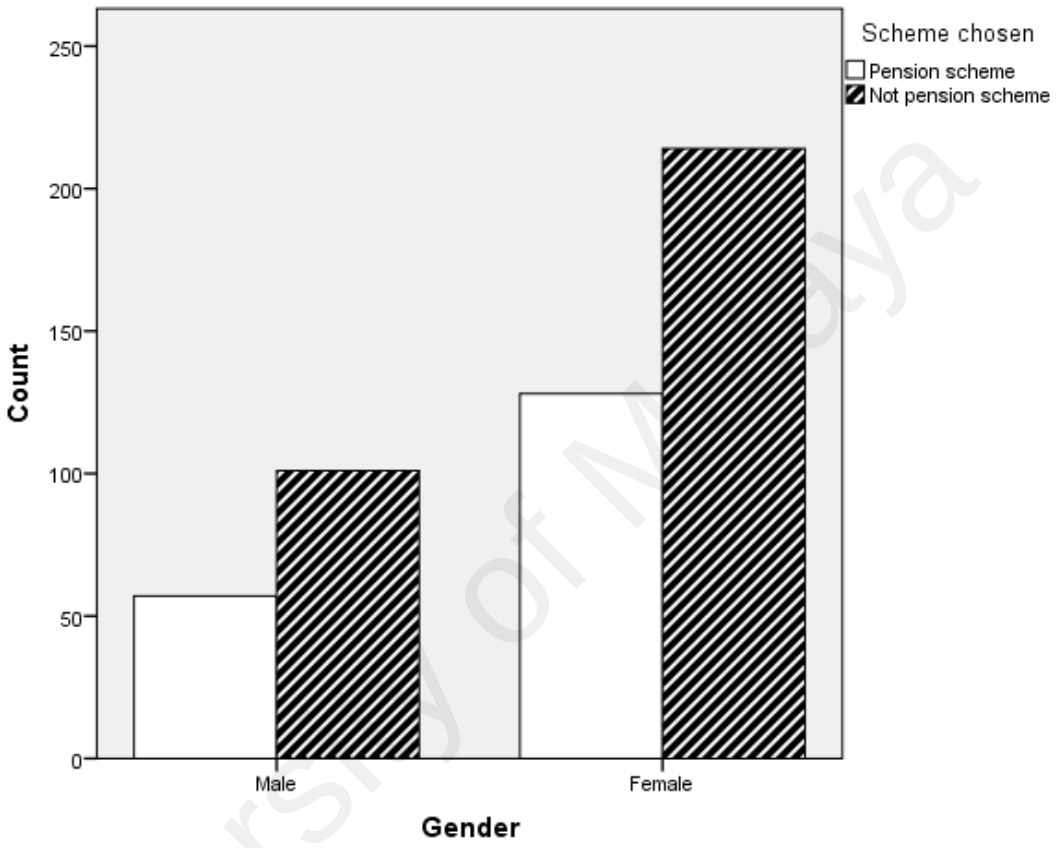

Figure 4.3: Respondents' gender profile

(d) *Ethnicity*

Meanwhile, the ethnic composition of the sample comprises mainly of Malays (52.80%) and Chinese (37.80%). The Indians (6.8%) and Others (2.6%) total less than 10%. The other category consists mainly of the indigenous races in East Malaysia (Kadazan, Bidayuh, Dusun), Eurasian and Punjabi. The ethnic distribution is reflective of Malaysia's population. Those that have opted for the government pension scheme, majority are Malay (76.2%), follow by Chinese (16.8%), others (3.8%) and Indians (3.2%). For those not in

the pension scheme, they comprise of Chinese (50.2%) follow by Malay (39%), Indian (8.9%) and Others (1.9%).

In summary, a major proportion of those that opted for the government pension scheme are Malays (76.2%). For those not in the pension scheme, they are mostly Chinese and Indian (59.1%).

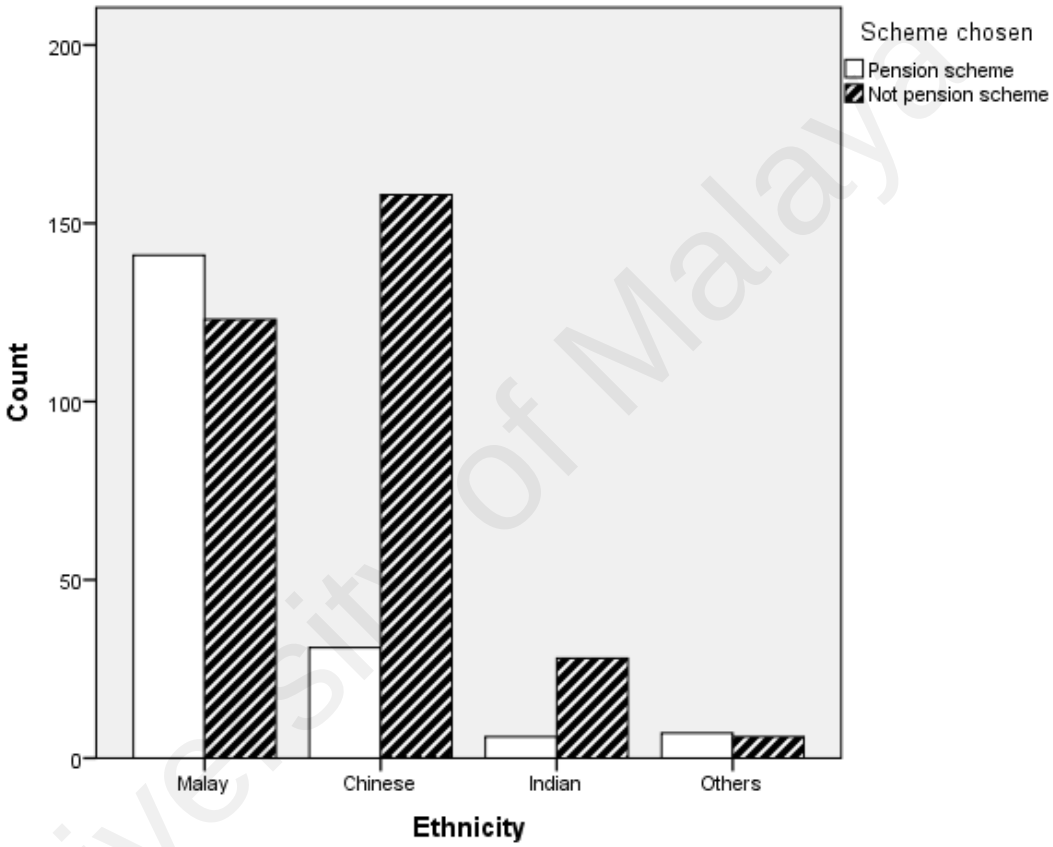

Figure 4.4: Respondents' ethnicity profile

(e) ***Religion***

As for religion, most of the respondents are Muslims (52.80%) and Buddhists (26.8%). The other religions are Christianity (13.4%), Hindus (4.8%) and others (atheists, Sikhs, Taoism) (2.2%), which total 20%. Similar to ethnicity, the Muslims dominate the sample, with the Buddhist coming in as second. As for those that have opted for the government pension scheme, majority are Muslims (77.3%), follow by Buddhists (11.4%), Christians (8.1%), Others (2.2%) and Hindus (1.1%). Similarly, for those not in the pension scheme,

majority are also Muslims (38.4%) and Buddhists (35.9%), followed by the Christians (16.5%), Hindus (7%) and Others (2.2%).

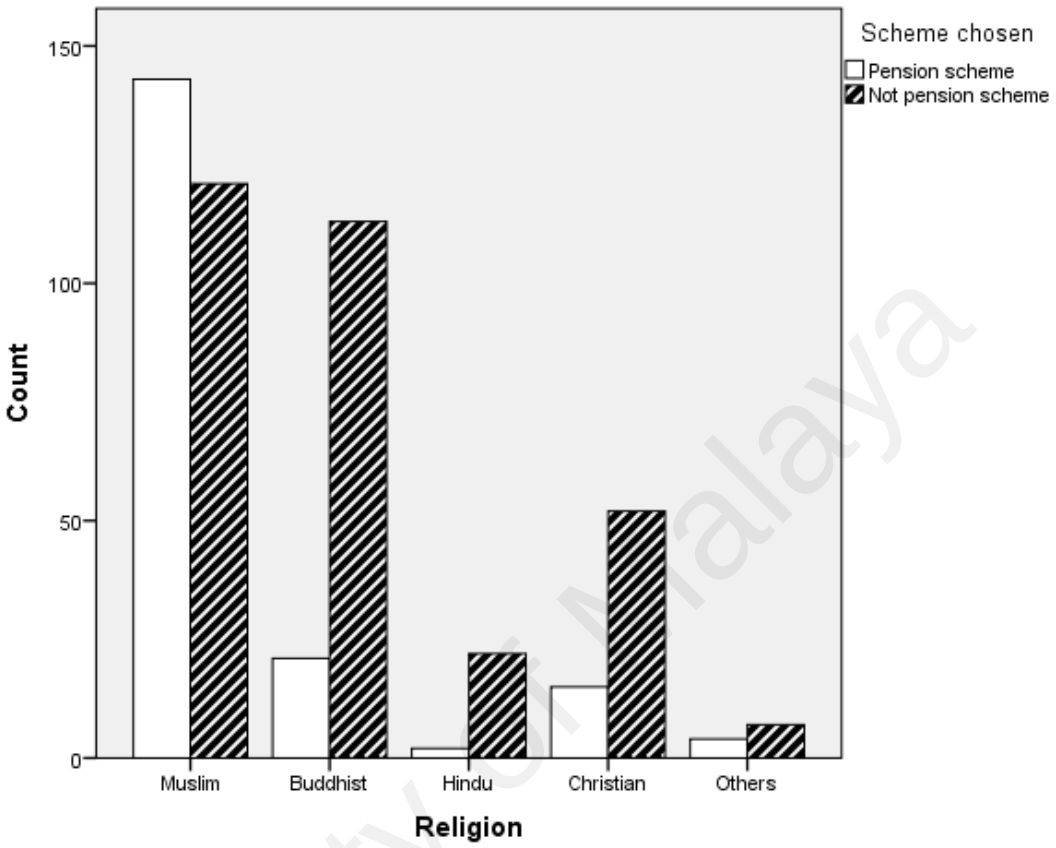

Figure 4.5: Respondents' religion profile

(f) ***Marital status***

On marital status, majority of respondents are either married (62.8%) or single (34.2%). 3% are from the widowed (0.6%) or divorced/separated (2.4%) category. For those in the government pension scheme, majority are married (74.6%), follow by the unmarried (19.5%). The other categories total only about 5.9% (widowed, divorced/separated). Similarly, for those not in the pension scheme, majority are also married (55.9%), with the unmarried (42.9%) very close behind. The other categories total only about 1.3% (widowed, divorced/separated).

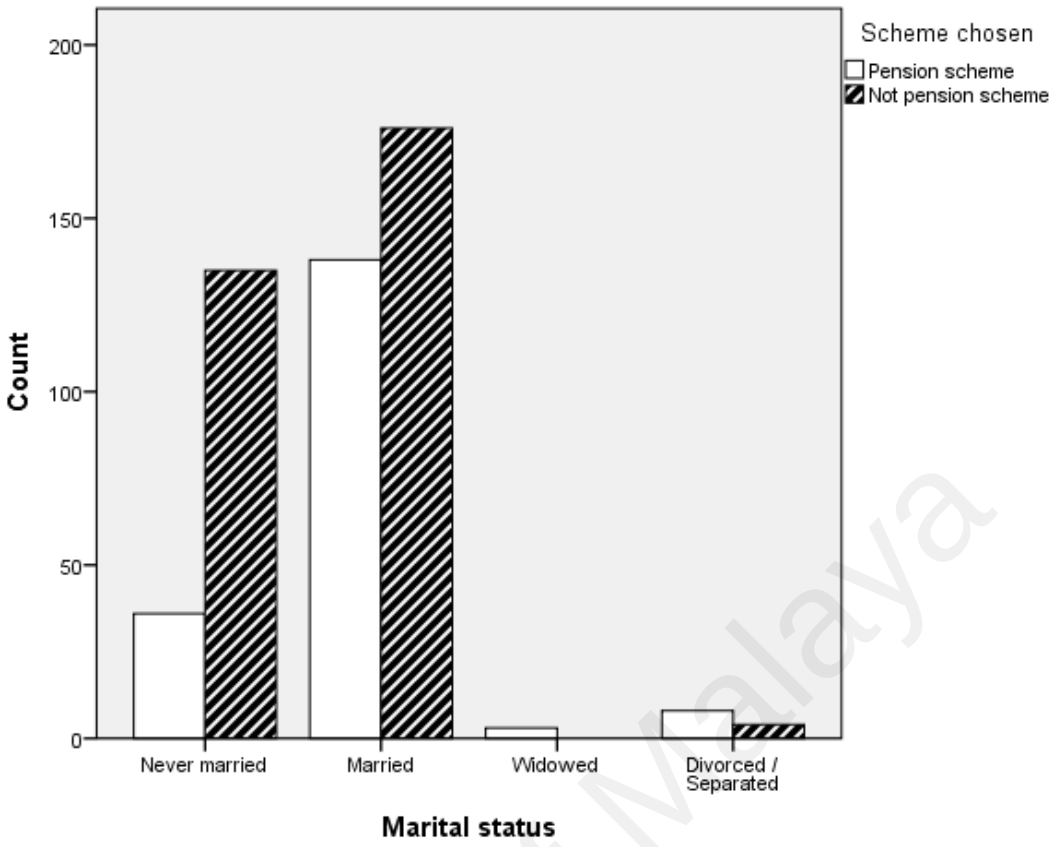

Figure 4.6: Respondents' marital status profile

(g) ***Occupational details***

Occupational details are also collected from the sample respondents. Most of the respondents (69.2%) are academics (lecturers, researchers and teaching staff) while the rest (30.8%) are non-academics (2% top management, 18.6% management and professionals and 10.2% are support staff). Similarly, those in the pension scheme (70.8%) and not pension schemes (68.3%) are also academics. Only 29.2% of the non-academics are in the pension scheme, in comparison to 31.7% in the non-pension scheme.

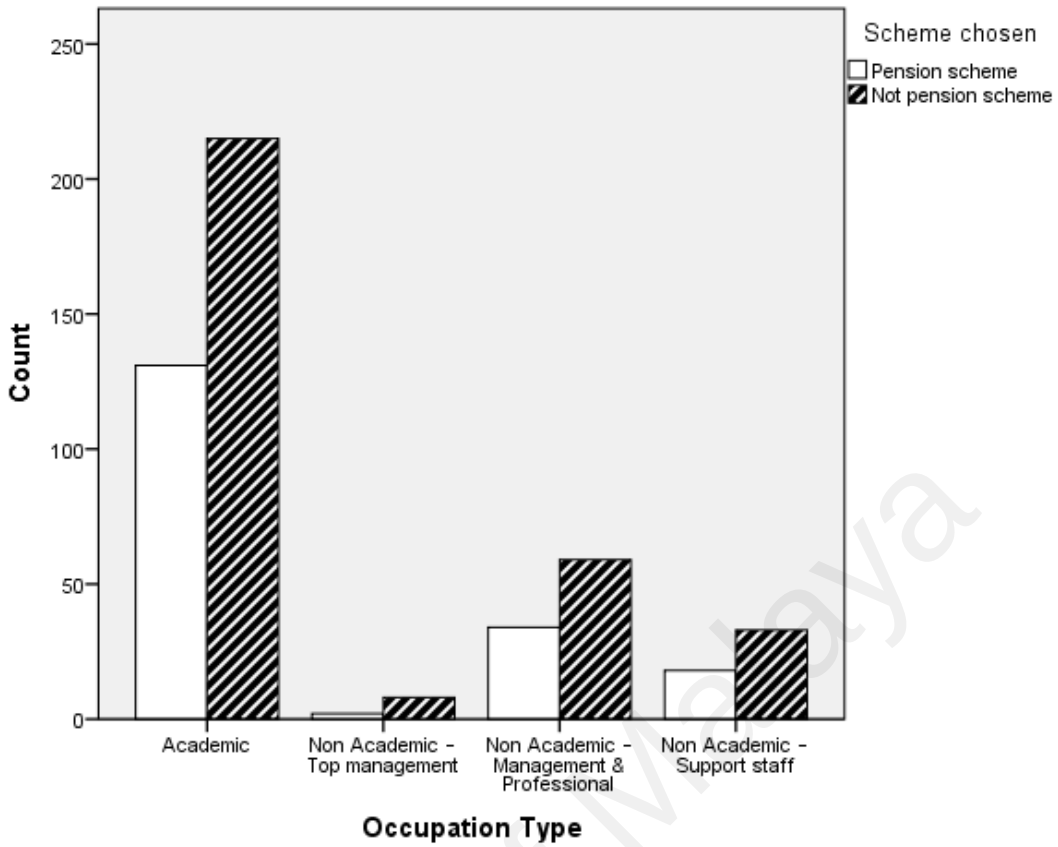

Figure 4.7: Respondents' occupation type profile

(h) ***Financial information***

As for financial information, respondents' annual household income varies from less than RM30,000 (13.4%) to above RM150,000 (3.2%). 67.4% have an average annual household income of less than RM30,000 to 70,000, with majority from the RM30,000-50,000 range (30.8%) while the RM50,001-70,000 (23.3%) comes second and those with income of less than RM30,000 are about 13.40%. As for those with annual incomes above RM90,000, there are only about 32.6%.

As for those in the pension scheme, 54% of the respondents are from of the income range of RM30,000-90,000 (RM50,001-70,000 - 24.3%, RM30,000-50,000 - 16.2% and RM70,001-90,000 - 13.5%). The remainder are from the income range of less than RM30,000 (12.4%), RM90,001-110,000 (12.4%), RM110,001-130,000 (11.9%), above RM150,000 (4.9%) and RM130,001-150,000 (4.3%). As for the non-pension scheme,

75.9% are from the income range of less than RM30,000 to 70,000 (RM30,000-50,000 - 39.4%, RM50,001-70,000 - 22.5%, less than RM30,000 - 14%). The remainder are from the income range of RM70,001-90,000 (10.8%), RM90,001-110,000 (7.3%), RM110,001-130,000 (3.2%), above RM 150,000 (2.2%) and RM130,001-150,000 (0.6%).

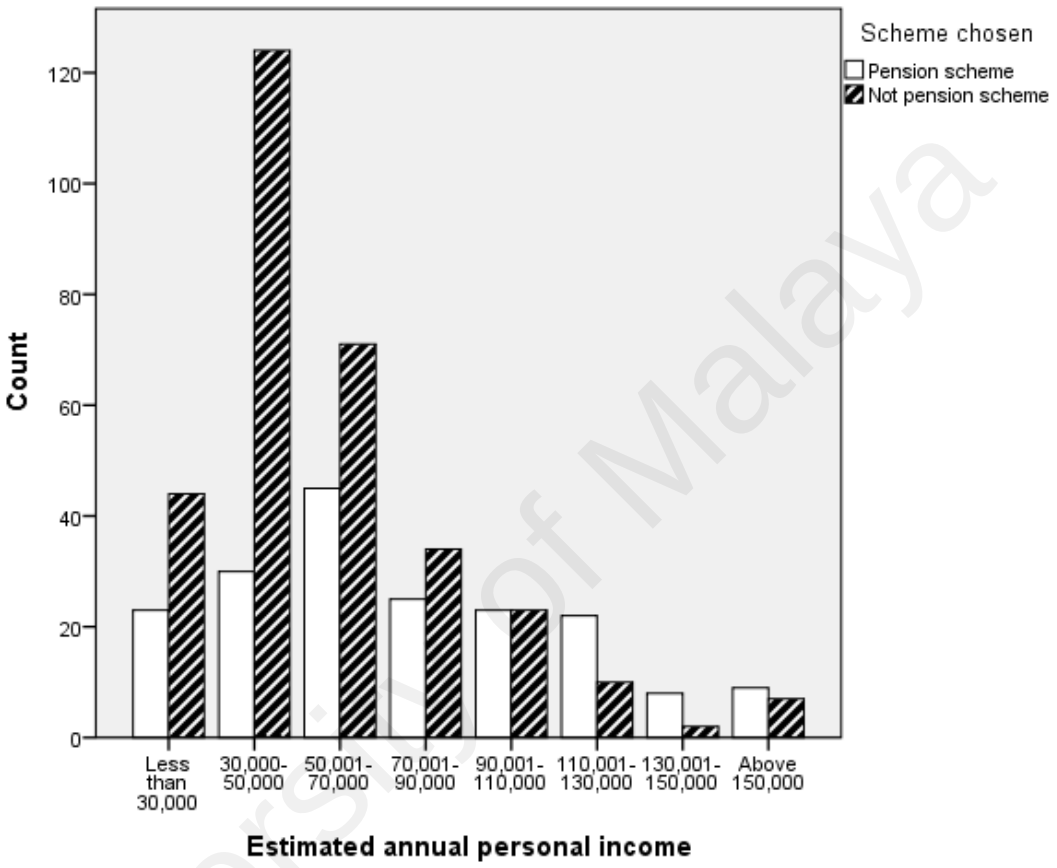

Figure 4.8: Respondents' annual personal income profile

Additional information is also obtained on the monthly household debt repayment to financial institutions. Only 10.2% has no debt. Most respondents report a monthly debt commitment of RM1,001-3,000 (47.4%). This is followed by the debt range of RM3,001-5,000 (18%) and less than RM1,000 (14.4%). This is also similar for both the pension and non-pension scheme groups, where the debt range between less than RM1,000-5,000.

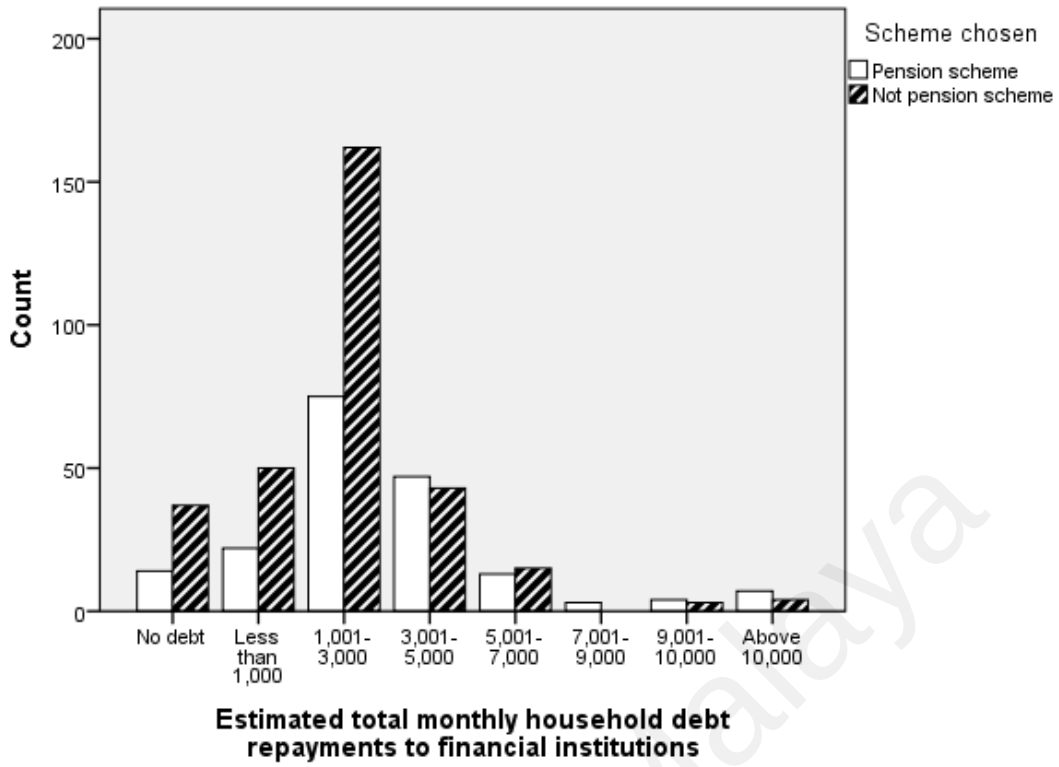

Figure 4.9: Respondents' monthly household debt repayment profile

Respondents were also asked if they were satisfied with the current financial situation. Ten persons did not respond to this question. 73.6% of the respondents were either slightly (24.0%) or moderately satisfied (49.6%). Only 12.4% were not at all satisfied, whereas those who were very satisfied or extremely satisfied totals 12%.

The results are also similar for the respondents in the pension scheme and non-pension scheme. 70.2% the respondents in the pension scheme and 75.5% from the non-pension scheme reported to be either slightly or moderately satisfied with their current financial situation. For those who were not at all satisfied, 9.7% were from the pension scheme and 14% from non-pension scheme. Meanwhile, for those who were very satisfied or extremely satisfied, 18.9 % were from in the pension scheme and 7.9% from non-pension scheme.

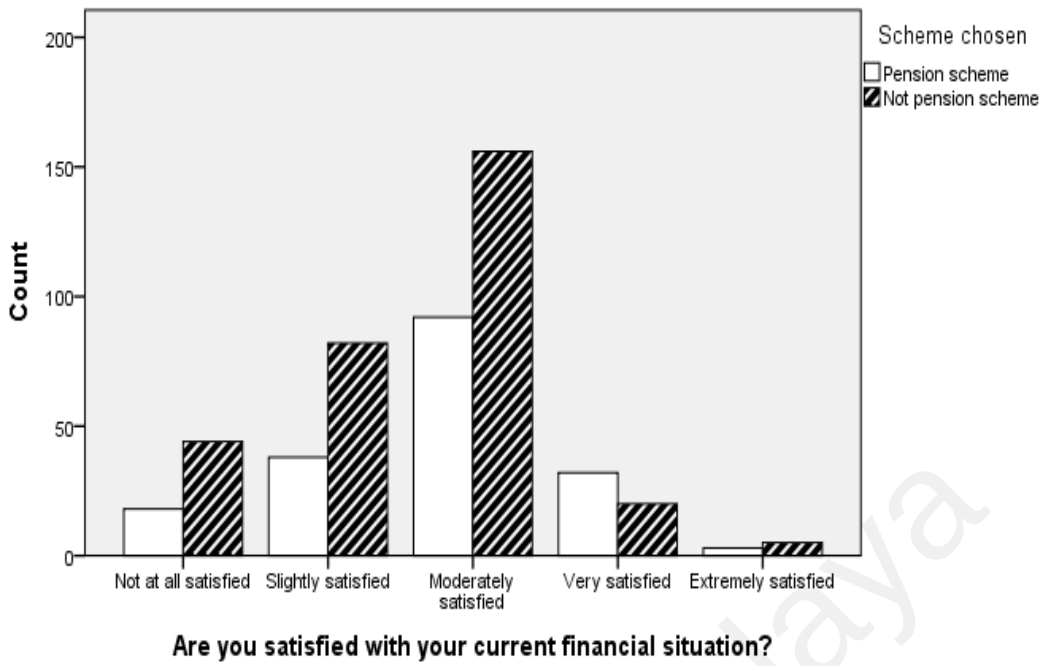

Figure 4.10: Respondents' satisfaction with current financial situation

In summary, most of the respondents in the pension scheme are satisfied with their financial situation, where they are either slightly, moderately, very or extremely satisfied. Only a minority were not satisfied at all. Although most of the respondents in the non-pension scheme also reported almost similar results, those that are not at all satisfied are slightly higher (14.3%).

4.3 Descriptive Analysis

A preliminary analysis of the responses was initiated for all the variables in the theoretical framework. Preliminary analysis is an important feature in most empirical studies, as they provide a summary of the survey data. Tabachnick and Fidell (2013) argued that describing and making inferences about the data set are important for empirical research. It will help to explain each variable through its measures. This will provide researcher an overview of the responses of the survey. Details of the results are available in Appendix N.

The items in the survey are measured using semantic differential and Likert scales. Attitudes are measured using semantic differential scales. Beliefs, subjective norms, perceived behavioural control and intentions are measured by a set of Likert scales, ranging from 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree and 5-Strongly agree to reflect the level of agreement of the respondents (Vagias, 2006).

(a) *Behavioural beliefs*

Behavioural beliefs link a behaviour to the probability that it will produce a given outcome. The combination of all accessible beliefs will determine the attitude towards the behaviour (Ajzen, 2019). However, beliefs differ amongst populations and context, and it is recommended to identify them from pilot studies. For this purpose, preliminary interviews were conducted. Three outcomes related to autonomy (BA1, BA2, BA3), coping (BC1, BC2, BC3) and self-control (BSC1, BSC2, BSC3_r) were identified to be important behavioural beliefs for the respondents.

For the outcomes related to autonomy, most respondents (54.6%) agree with the first statement; that planning would help them imagine their future financial situation (BA1). Only less than 1% strongly disagree. In summary, those that agree with the statement (respondents who chose to agree or strongly agree) total 85% while those who chose to disagree (either disagree or strongly disagree) are less than 4%. Only 12.4% took a neutral stand. Similarly, 87% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 4.3% disagreeing (or strongly disagreeing) with 8.6% remaining neutral. Although, most of the respondents in the non-pension scheme also agree (or strongly agree) with the statement (87%), a higher proportion chose to remain neutral (14.6%) whilst those that disagree (or strongly disagree) amounts to 2.6%.

As to whether planning will help them set directions and provide them with flexibility and choices in life (BA2), most respondents agree with the statement (56%). It recorded the lowest responses (0.8%) in the strongly disagree scale. In total, 87.4% believe that this is possible (agree or strongly agree), with less than 3% that disagree (or strongly disagree). Only 10% are neutral. Similarly, 88.7% of the respondents that opted for the pension scheme also agree (or strongly agree) with the statement, with only 3.8% disagreeing (or strongly disagree) and 7.6% remaining neutral. Although, those that are in the non-pension scheme also agree (or strongly agree) with the statement (86.6%), a higher proportion also chose to remain neutral (14.6%) whilst those that disagree (or strongly disagree) amounts to 1.9%.

As for whether planning will help respondents to be independent and self-sufficient (BA3), most respondents agree with the statement (53.2%). Only about 0.8% strongly disagree. In total, those who have chosen to agree (or strongly agree) totals 86% of the respondents, with only 11.4% remaining neutral. Only less than 3% disagree (or strongly disagree) that planning will help them achieve independence and be self-sufficient. Similarly, 88.1% of the respondents that opted for pension scheme also agree (or strongly agree) with the statement, with only 1.6% disagreeing (or strongly disagree) and 10.3% remaining neutral. Those that are in the non-pension scheme which agree (or strongly agree) with the statement are at 84.8%, 12.1% are neutral with those that disagree (or strongly disagree) at 3.2%.

The next three set of statements measures respondents' beliefs that planning will help them cope with life (BC1, BC2, BC3). For BC1, most respondents (49.6%) agree with the statement that planning will help them cope with life's uncertainties. Only about 0.8% strongly disagree. In total, 88.2% agree (or strongly agree), with about 8.6% remaining neutral. Only less than 4% disagree (or strongly disagree) with the statement. Similarly,

90.2% of the respondents that opted for pension scheme also agree (or strongly agree) with the statement, with only 3.7% disagreeing (or strongly disagree) and 5.9% remaining neutral. Although, those that are in the non-pension scheme also agree (or strongly agree) with the statement (87%), a higher proportion chose to remain neutral (10.2%) whilst those that disagree (or strongly disagree) amounts to 1%.

As to whether planning provides them with the financial support required for their remaining years (BC2), most of the respondents agree with the statement (52.6%). Only a small minority strongly disagree (0.4%). In total, 86.4% of the respondents agree (or strongly agree), while those who disagree (or strongly disagree) are less than 3%. 10.8% remain neutral. Similarly, 88.1% of the respondents that opted for pension scheme also agree (or strongly agree) with the statement, with only 2.2% disagreeing (or strongly disagree) and 9.7% remaining neutral. Although, those that are in the non-pension scheme also agree (or strongly agree) with the statement (85.4%), a higher proportion chose to remain neutral (11.4%) whilst those that disagree (or strongly disagree) amounts to 3.1%.

Most of the respondents (49.8%) agree that planning will help them maintain their quality of life during retirement (BC3). Only 0.4% strongly disagree with the statement. Similarly, in total, 84% agree (or strongly agree) with the statement. Only 13.2% are neutral, while less than 3% disagree (or strongly disagree) with the statement. Similarly, 86.4% of the respondents that opted for pension scheme also agree (or strongly agree) with the statement, with only 3.8% disagreeing and 9.7% remaining neutral. Although, many of the respondents from the non-pension scheme also agree (or strongly agree) with the statement (82.6%), a higher proportion chose to remain neutral (15.2%) whilst those that disagree and strongly disagree amounts to 2.2%.

Three statements are also developed to measure respondents' belief in self-control. 49.6% of the respondents agree with the statement that planning can help in resisting unnecessary spending while 0.8% strongly disagree (BSC1). In total, 85.4% agree (or strongly agree) that planning helps them maintain discipline when spending, while about 10.6% remain neutral. Only 4% disagree (or strongly disagree) with the statement. Similarly, 84.3% of the respondents that opted for pension scheme also agree (or strongly agree) with the statement, with only 4.3% disagreeing (or strongly disagree) and 11.4% remaining neutral. Meanwhile, those that are in the non-pension scheme also have similar opinions, where the agree (or strongly agree) are 86%, neutral are 10.2% and disagree (or strongly disagree) amounts to 3.8%.

As for the second statement on self-control 'Even though saving for retirement limits the money I have currently, the money I have saved and invested will benefit me after I leave the workforce' (BSC2), 48.2% agree with the statement while only about 0.6% strongly disagree. In total, those who agree (or strongly agree) were about 82%, with only 15% remaining neutral. Less than 3% disagree (or strongly disagree). Similarly, 83.7% of the respondents that opted for the pension scheme also agree (or strongly agree) with the statement, with only 2.2% disagreeing (or strongly disagree) and 14.1% remaining neutral. Meanwhile, those that are in the non-pension scheme are also in similar proportions, where the agree or strongly agree were 81.9%, neutral were 15.6% and disagree or strongly disagree amounts to 2.6%.

For the third statement 'Planning financially for retirement is a burden - it prevents me from enjoying my life now' (BSC3_r), a majority of 53.6% agree or strongly agree to it. Those that disagree or strongly disagree (24.8%) and neutral (21.6%) totals 46.4%. Similarly, 57.9% of the respondents that opted for pension scheme also agree or strongly agree with the statement, whilst those that disagree (24.3%) and neutral (17.8%) totals

42.1%. Meanwhile, those that are in the non-pension scheme are also in similar proportions, where the agree or strongly agree with the statement are 51.1%. The ones that are neutral (23.8%) and disagree or strongly disagree (25.1%) totals 48.9%. It can be seen that the proportion of those that agrees with the statements are almost similar to the ones that are neutral or disagree with the statement.

In summary, the overall mean of behavioural beliefs ranges from 3.43 to 4.23. The standard deviation ranges from 0.732 to 1.190. As for those who opted for pension scheme, the means ranges from 3.45 to 4.33 (standard deviation from 0.707 to 1.206) whilst those from the non-pension scheme, the mean ranges from 3.42 to 4.17 (standard deviation from 0.722 to 1.182). The results reflect that most respondents agree that planning will help them achieve autonomy and cope with life challenges. It will also help them in self-control and to foster discipline.

Table 4.6: Descriptive statistics for behavioural beliefs

Behavioural beliefs items	Pension		Non-pension		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
BA1	4.19	0.767	4.05	0.755	4.10	0.762
BA2	4.22	0.744	4.11	0.722	4.15	0.732
BA3	4.26	0.707	4.09	0.769	4.15	0.751
BC1	4.33	0.776	4.17	0.757	4.23	0.768
BC2	4.26	0.721	4.12	0.750	4.17	0.742
BC3	4.23	0.777	4.10	0.754	4.15	0.765
BSC1	4.19	0.842	4.15	0.774	4.16	0.799
BSC2	4.19	0.755	4.11	0.787	4.14	0.776
BSC3_r	3.45	1.206	3.42	1.182	3.43	1.190

(b) *Normative beliefs*

Normative beliefs refer to the perceived behavioural expectations of important referents to the population of study. The combination of a person's motivation to comply with these referents will determine subjective norms (Ajzen, 2019).

In this study, four groups of important referents are identified from the preliminary interviews. They are spouses, immediate family (siblings, parents, children), friends and relatives (family members other than spouse, parents, children, siblings). These groups play a role in influencing the respondents, either through their expectations (injunctive normative beliefs) or their actions (descriptive normative beliefs). However, for some individuals these important referents may not be applicable at all.

For injunctive normative beliefs of the referent spouses (INB1), it is applicable to those that are married. For this sample, 25% of the respondents are single (comprising of 8% from the pension group and 17% from the non-pension group). Most of the respondents strongly agree that these are important referents (33.6%), where only 1.8% disagree. Those who agree or strongly agree that their spouses think they should plan for retirement are 60.6%, while 10.2% are neutral. Only 4.2% disagree or strongly disagree. For those in the pension scheme, 63.8% of the respondents agree or strongly agree with the statement, with only 7.6% disagreeing (or strongly disagree) and 5.9% remaining neutral. However, for those that are in the non-pension scheme only 58.7% agree (or strongly agree) with the statement, with a higher proportion choosing to remain neutral (12.7%) whilst those that disagree (or strongly disagree) amounts to 2.3%.

As for immediate family (siblings, parents, children) (INB2), this group is influential to a majority to the respondents (97.8%). Only 0.6% of the pension group and 1.6% of the non-pension group reported that this group is not applicable to them. About 39.4% agree these are important persons while only 2.2% strongly disagree. In total, those who agree or strongly agree that these are important referents to them are 72.8%, while only 18% remain neutral. 7% disagree or strongly disagree. For those in the pension scheme, 76.2% of the respondents agree or strongly agree with the statement, with only 9.7% disagreeing (or strongly disagree) and 12.4% remaining neutral. However, for those that are in the non-

pension scheme only 70.8% agree or strongly agree with the statement, with a higher proportion choosing to remain neutral (21.3%) whilst those that disagree or strongly disagree amounts to 5.4%.

As for friends (INB3), this group is not applicable to only 6% of the respondents (or 1% of the pension group and 5% of the non-pension group). A majority of the respondents are neutral (31.4%), while 8% deemed them not influential. In total, those who agree or strongly agree that friends are important referents total 41.8% while 20.8% disagree or strongly disagree with the statement. For those in the pension scheme, only 47% of the respondents agree or strongly agree with the statement, with only 20% disagreeing or strongly disagree and 30.3% remaining neutral. However, for those that are in the non-pension scheme, only 38.7% agree or strongly agree with the statement, with the neutral (38.7%) and those that disagree or strongly disagree (21.3%) amounts to 53.4%. Overall, most of the respondents are either neutral or disagree that this group influence their intentions to plan financially for retirement.

Relatives (family members other than spouse, parents, children, siblings) have lesser influence on the respondents (INB4). This group is not applicable to 9.2% of the respondents (or 2.4% of the pension group and 6.8% of the non-pension group). Most respondents are neutral about the statement (30.6%) while 9.2% strongly disagree. In total, 36.6% of the respondents reported that they agree or strongly agree that they are influence by what their relatives think they should do about retirement planning. About 23.6% disagree or strongly disagree with the statement. For those in the pension scheme, only 40.5% of the respondents agree and strongly agree with the statement, with only 22.1% disagreeing and 30.8% remaining neutral. However, for those that are in the non-pension scheme only 34.2% agree or strongly agree with the statement, with the neutral (30.5%) and those that disagree and strongly disagree (24.4%) totalling 54.9%. Although, most of

the respondents agree with the statement, and almost equal proportion are neutral or disagree.

Sections were also provided to respondents to list the important people other than the ones listed. Less than 14% responded with lists of other important people in their lives, which include financial services providers, reading sources, role models, the community they live in and people in their work environment.

In summary, the mean results are between 3.19 to 4.17 with standard deviation between 0.962 to 1.173. As for those who opted for pension scheme, the means ranges from 3.31 to 4.08 (standard deviation from 0.986 to 1.138) whilst those from the non-pension scheme the mean ranges from 3.57 to 3.95 (standard deviation from 0.943 to 1.025). Most respondents are agreeable that the important persons listed are influential in their lives. However, as not all the important persons listed are applicable to all respondents, this element of missingness has somewhat influence the results.

For descriptive normative beliefs of spouses (DNB1), this group is not applicable to 26.4% of the respondents (or 8.4% of the pension group and 18% of the non-pension group). From those that have responded, 28% agree that they are influence by what these important referents do, with only a minority that strongly disagree (2.4%). Those who agree or strongly agree are 51.6%, while 15.8% are neutral. Only 6.2% disagree or strongly disagree. For those in the pension scheme, 52.4% of the respondents agree or strongly agree with the statement, with only 7.1% disagreeing (or strongly disagree) and 17.8% remaining neutral. However, for those that are in the non-pension scheme only 51.1% agree or strongly agree with the statement, with 14.6% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 5.7%.

As for immediate family (siblings, parents, children) (DNB2), this group is influential to a majority to the respondents (97.4%). Only 0.6% of the pension group and 2% of the non-pension group reported that this group is not applicable to them. About 41.6% agree these are important referents while only 3.2% strongly disagree. In total, those who agree or strongly agree that they are important referents in planning for retirement total 67.8%, while only 21.4% remain neutral. 8.2% disagree or strongly disagree. For those in the pension scheme, 66.5% of the respondents agree or strongly agree with the statement, with only 10.8% disagreeing (or strongly disagree) and 21.1% remaining neutral. However, for those that are in the non-pension scheme only 68.6% agree and strongly agree with the statement, with 21.6% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 6.7%.

As for friends (DNB3), this group is not influential to 5.8% of the respondents (or 1% of the pension group and 4.8% of the non-pension group). Most of the respondents agree with the statement (36.2%), while only 3% are not influence by these referents' actions. In total, those who agree or strongly agree that friends are important referents total 52.2% while 7.4% disagree or strongly disagree with the statement. 34.6% remain neutral. For those in the pension scheme, only 52.4% of the respondents agree or strongly agree with the statement, with only 8.6% disagreeing (or strongly disagree) and 36.2% remaining neutral. However, for those that are in the non-pension scheme only 52.1% agree or strongly agree with the statement, with the neutral (33.7%) and those that disagree or strongly disagree (6.7%) amounts to 40.4%.

Relatives (family members other than spouse, parents, children, siblings) are also influential to the respondents (DNB4). This group is not applicable to 8.4% of the respondents (or 1.6% of the pension group and 6.8% of the non-pension group). Most respondents are neutral about the statement (38.2%) while 3% strongly disagree. In total,

45.8% of the respondents reported that they agree or strongly agree that they are influence by what their relatives do for retirement planning. About 7.6% disagree or strongly disagree with the statement. For those in the pension scheme, only 46.5% of the respondents agree or strongly agree with the statement, with only 8.1% disagreeing (or strongly disagree) and 41.1% remaining neutral. However, for those that are in the non-pension scheme only 45.4% agree and strongly agree with the statement, with the neutral (36.5%) and those that disagree and strongly disagree (7.3%) amounts to 43.8%.

In summary, the mean results for injunctive normative beliefs are between 3.19 to 4.17 with standard deviation between 0.962 to 1.173. As for those who opted for pension scheme, the means ranges from 3.31 to 4.08 (standard deviation from 0.986 to 1.138) whilst those from the non-pension scheme the mean ranges from 3.57 to 3.95 (standard deviation from 0.943 to 1.025). Meanwhile, the mean results descriptive normative beliefs are between 3.56 to 3.90 with standard deviation between 0.929 to 1.014. As for those who opted for pension scheme, the means ranges from 3.54 to 3.84 (standard deviation from 0.904 to 1.032) whilst those from the non-pension scheme the mean ranges from 3.57 to 3.95 (standard deviation from 0.943 to 1.025). From the results, most respondents are agreeable that they are influence by the expectations and actions of the important persons in their lives. However, as not all the important persons listed are applicable to all respondents, this have somewhat influenced the overall results.

Table 4.7: Descriptive statistics for Normative beliefs

Normative beliefs items	Pension			Non-Pension			Total		
	Missing Value	Mean	Std. Deviation	Missing Value	Mean	Std. Deviation	Missing Value	Mean	Std. Deviation
Injunctive normative beliefs									
INB1	42	4.08	1.095	90	3.95	1.025	125	4.17	0.971
INB2	3	4.02	0.986	10	3.89	0.955	11	3.99	0.962
INB3	5	3.36	1.102	24	3.65	0.944	30	3.28	1.128
INB4	12	3.31	1.138	34	3.57	0.943	46	3.19	1.173
Descriptive normative beliefs									
DNB1	42	3.84	0.998	90	3.95	1.025	132	3.90	1.014
DNB2	3	3.79	1.032	10	3.89	0.955	13	3.85	0.984
DNB3	5	3.56	0.904	24	3.65	0.944	29	3.61	0.929
DNB4	8	3.54	0.948	34	3.57	0.943	42	3.56	0.944

(c) *Control beliefs*

Control beliefs reflects the beliefs of individuals on the perceived presence of factors that may facilitate or impede the performance of a behaviour. The combination of the perceived power of each control factor will determine the prevailing perceived behavioural control (Ajzen, 2019).

During the preliminary interviews, competence, resources and risk are identified as the control beliefs for this study. Three statements document the responses pertain impediments in regards to competence. For the first statement (CC1_r), a majority of 37.8% agree that that one of the impediments is the reliability of the information received. Only 3.8% strongly disagree. In total, 44% of the respondents agree or strongly agree with the statement, while 30.8% are neutral. Meanwhile, 25.2% disagree or strongly disagree with the statement and feels that the information received are reliable and useful for planning (CC1_r). Similarly, 43.8% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 29.2% disagreeing and 27% remaining neutral. Although, those that are in the non-pension scheme also agree or strongly agree with the statement (44.1%), a higher proportion chose to remain neutral (33%) whilst those that disagree and strongly disagree amounts to 22.9%.

As for whether the differing viewpoints and financial products received is an impediment to planning decisions (CC2_r), 41.4% agree with the statement, with only 2% that strongly disagree. In total, 49% of the respondents agree or strongly agree with the statement. 30.4% remain neutral, with 20.6% disagree or strongly disagree with the statement. Similarly, 43.7% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 25.9% disagreeing (or strongly disagree) and 30.3% remaining neutral. Those that are in the non-pension scheme also agree or strongly agree with the statement (52.1%), with 30.5% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 17.5%.

The third statement pertains effort to learn financial management skills (CC3_r). 49% agree that a lot of effort is required to learn these skills. Only 2% strongly disagree. In total, 64.2% agree or strongly agree that it takes a lot of effort to learn these skills, while 20% remain neutral. Less than 16% disagree or strongly disagree with the statement. Similarly, 63.2% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 18.9% disagreeing (or strongly disagree) and 17.8% remaining neutral. Those that are in the non-pension scheme also agree or strongly agree with the statement (64.8%), with 21.3% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 14%.

Five statements have been developed pertaining to challenges respondents faced while managing resources. The first statement is on the difficulty of managing expenses and commitments when planning (CR1_r). A majority of 31.6% agree that it is difficult to manage expenses and commitments when planning, while only 6% strongly disagree. In total, 39.2% agree or strongly agree that managing expenses and commitments is a challenge while 26.4% are neutral. About 34.4% disagree or strongly disagree and do not find it difficult to manage their expenses and commitments. For those in the pension

scheme, both the agree (or strongly agree) equals those that disagree (strongly disagree) (37.3%). The remainder 25.4% are neutral. As for those in the non-pension scheme, 40.3% agree or strongly agree with the statement, with 27% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 32.7%.

Managing resources also involve setting aside extra income for retirement purposes (CR2_r). 40.8% find this difficult, with only 3.4% having no problem at all. In total, 54% agree and strongly agree that this is a difficult endeavour, with 25.4% remained neutral. Only 20.6% disagree or strongly disagree, and find it easy to set aside extra income for retirement purposes. Similarly, 50.2% of the respondents that opted for pension scheme also agree or strongly agree that it is difficult, with only 26.4% disagreeing (or strongly disagree) and 23.2% remaining neutral. Those that are in the non-pension scheme, 56.2% also agree or strongly agree that it is difficult, with 26.7% choosing to remain neutral whilst those that disagree and strongly disagree amounts to 17.2%.

When it comes to the stability of their income source (CR3_r), 31.8% are neutral, with 4.6% strongly disagree that the stability of their income is a challenge. In total, those who agree or strongly agree that the stability of their income source is a problem are 39% while 29% disagree or strongly disagree and do not face such difficulty. Similarly, 32.9% of the respondents that opted for pension scheme also agree and strongly agree that they face difficulties, with only 34% disagreeing and 33% remaining neutral. Those that are in the non-pension scheme, 42.6% also agree and strongly agree with the statement, with 31.1% choosing to remain neutral whilst those that disagree and strongly disagree amounts to 26.4%.

As to the challenge of being aware of all the financial and retirement benefits when planning, 39.8% agree that it is difficult (CR4_r). Only 2.8% strongly disagree. In total, 47.2% of the respondents agree or strongly agree that it is difficult to be aware of all the financial and retirement benefits that are important to any planning efforts while 29.2% remain neutral. Only 23.6% disagree or strongly disagree, and are of the opinion that they are aware of the opportunities that will aid them in planning. Similarly, 40.5% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 32.4% disagreeing (or strongly disagree) and 27% remaining neutral. Those that are in the non-pension scheme, 51.1% also agree or strongly agree with the statement, with 30.5% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 18.5%.

For the final statement on managing resources, 40.8% finds it difficult to be flexible with the lifestyle changes required in financial retirement plans, with about 3.2% strongly disagree (CR5_r). In total, 50.2% find it challenging to be flexible with the lifestyle changes required, while 25% are neutral. The remainder (24.8%) either disagree or strongly disagree that it is difficult to be flexible with the lifestyle changes required. Similarly, 48.6% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 27.6% disagreeing (or strongly disagree) and 23.8% remaining neutral. Those that are in the non-pension scheme, 51.1% also agree or strongly agree with the statement, with 25.7% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 23.2%.

Three statements are developed pertaining to the risks faced when planning. For the first statement, about 39.4% agree that they find it hard to gauge areas which may bring financial risk to the planning efforts made (CRS1_r). Only about 3.2% strongly disagree with the statement. In total, 46.4% agree or strongly agree that it is hard to gauge areas which may

bring financial risk, with 33% remaining neutral. 20.6% reported they disagree or strongly disagree. Similarly, 44.9% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 24.3% disagreeing (or strongly disagree) and 30.8% remaining neutral. Those that are in the non-pension scheme, 47.3% also agree or strongly agree with the statement, with 34.3% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 18.4%.

For the second statement, about 31.4% agree that they are confident of what will happen to their investments in the future (CRS2). Only about 4% strongly disagree with the statement. In total, 36.8% agree or strongly agree with the statement, with 40% remaining neutral. 36.8% reported they disagree or strongly disagree. Similarly, 40.5% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 21.6% disagreeing (or strongly disagree) and 37.8% remaining neutral. Those that are in the non-pension scheme, 34.6% also agree or strongly agree with the statement, with 41.3% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 24.1%.

Finally, 33.2% agree that planning is difficult because the future is uncertain (CRS3_r), with only 3.2% strongly disagree. In total, 43.8% agree or strongly agree that planning is difficult. However, 32% remain neutral with less than 24.2% disagree or strongly disagree with the statement. As for the respondents that opted for pension scheme, 38.4% agree or strongly agree with the statement, with only 28.1% disagreeing (or strongly disagree) and 33.5% remaining neutral. Those that are in the non-pension scheme, 47% also agree or strongly agree with the statement, with 31.1% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 21.9%.

In summary, the mean results are between 2.71 to 3.62 with standard deviation between 0.928 to 1.069. As for those who opted for pension scheme, the means ranges from 2.45 to 3.23 (standard deviation from 0.906 to 0.842) whilst those from the non-pension scheme the mean ranges from 2.34 to 3.10 (standard deviation from 0.906 to 1.068).

Table 4.8: Descriptive statistics for control beliefs

Control beliefs items	Pension		Non-Pension		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
CC1_r	2.87	0.997	2.74	0.959	3.21	0.974
CC2_r	2.79	0.958	2.58	0.911	3.34	0.933
CC3_r	2.45	1.016	2.34	0.939	3.62	0.969
CR1_r	3.01	1.068	2.89	1.068	3.06	1.069
CR2_r	2.70	1.035	2.49	1.020	3.43	1.029
CR3_r	2.98	1.008	2.78	1.050	3.14	1.038
CR4_r	2.92	1.035	2.60	0.906	3.28	0.968
CR5_r	2.76	1.016	2.64	1.013	3.32	1.015
CRS1_r	2.79	0.990	2.66	0.926	2.71	0.951
CRS2	3.23	0.894	3.10	0.946	3.15	0.928
CRS3_r	2.85	0.994	2.66	1.017	2.73	1.012

(d) *Attitudes*

Attitudes reflects individual's response, where they evaluate a behaviour with some degree of favourableness or unfavourableness. In an overall evaluation of how respondents feel about making financial preparations for retirement (DA1_r), most respondents rate an overall 3 in the semantic differential scale. Only a minority (1.8%) rate it as bad (Scale 1). Those that rate it as good (Scale 4 or 5) totals 61.6% with 29.4% being neutral and 9% felt that it is bad (Scale 1 or 2). Similarly, for the pension group, 66.5% rate it as good (Scale 4 or 5), 29.4% neutral and 9% bad (Scale 1 or 2). As for the non-pension group, 58.7% rate it as good (Scale 4 or 5), 33% neutral and 8.3% bad (Scale 1 or 2).

In a more in-depth evaluation, respondents are also asked further on the experiential part of their evaluation, that is whether planning for retirement is an enjoyable or interesting experience (DA2_r). 39% have neutral feelings, rating it 3, while a minority (1.6%) rate it uninteresting (Scale 1). In total, most of the respondents (51%) rated it interesting and enjoyable (Scale 4 or 5), with 10% rating it as uninteresting (Scale 4 or 5). Similarly, this is reflected in both the pension and non-pension groups. For the pension group, 57.3% rate it as enjoyable (Scale 4 or 5), 31.9% neutral and 10.8% bad (Scale 1 or 2). As for the non-pension group, 47.3% rate it as good (Scale 4 or 5), 43.2% neutral and 9.6% bad (Scale 1 or 2).

Respondents were also asked another experiential question (DA5) that is whether the experience was pleasant or unpleasant. 34.6% have neutral feelings, rating it 3, while a minority (7.2%) rate it unpleasant (Scale 1). In total, most of the respondents (49.6%) rated it pleasant (Scale 4 or 5), with 15.8% rate it as unpleasant (Scale 4 or 5). Similarly, this is reflected in both the pension and non-pension groups. For the pension group, 51.9% rate it as pleasant (Scale 4 or 5), 26.5% neutral and 21.6% bad (Scale 1 or 2). As for the non-pension group, 48.2% rate it as good (Scale 4 or 5), 39.4% neutral and 12.4% bad (Scale 1 or 2).

As for the instrumental part of the evaluation (DA4_r), respondents were required to rate retirement planning in a scale, based on whether it is beneficial or harmful. Most of the respondents (42.6%) rate it as beneficial. Only a minority (2.2%) thinks it is harmful. In total, those who rate it as 1 or 2 totals 68.8%, while 21.2% have neutral feelings. 10% rate it 4 or 5, and find financial planning for retirement somewhat harmful. Similarly, this is reflected in both the pension and non-pension groups. For the pension group, 76.2% rate it as beneficial (Scale 4 or 5), 14.1% neutral and 9.7% harmful (Scale 1 or 2). As for the

non-pension group, 64.4% rate it as beneficial (Scale 4 or 5), 25.4% neutral and 10.2% harmful (Scale 1 or 2).

Another question was also asked on the instrumental part of the evaluation (DA3), that is whether retirement planning is useful or not. Most of the respondents (30%) rate it as useful. Only a minority (9.2%) thinks its worthless (Scale 2). In total, those who rate it as 4 or 5 totals 54.6%, while only 22.2% have neutral feelings. 23.2% rate it 1 or 2, where they find financial planning for retirement somewhat worthless. For the pension group, 54.1% rate it as useful (Scale 4 or 5), 16.2% neutral and 29.8% worthless (Scale 1 or 2). As for the non-pension group, 54.9% rate it as useful (Scale 4 or 5), 25.7% neutral and 19.4% worthless (Scale 1 or 2). A higher percentage of the pension group has deemed it worthless.

In summary, the mean results range from 3.47 to 3.99 with standard deviation between 0.982 to 1.37. As for those who opted for pension scheme, the means ranges from 3.34 to 4.16 (standard deviation from 1.062 to 1.535) whilst those from the non-pension scheme the mean ranges from 2.11 to 3.81 (standard deviation from 0.927 to 1.259). Most respondents are agreeable that financial planning for retirement is good, an interesting experience and beneficial to them.

Table 4.9: Descriptive statistics for attitudes

Attitudes items	Pension		Non-Pension		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
DA1_r	4.03	1.130	3.81	1.004	3.89	1.056
DA2_r	3.74	1.062	3.56	0.927	3.63	0.982
DA3	3.34	1.535	3.55	1.259	3.47	1.370
DA4_r	4.16	1.081	2.11	1.056	3.99	1.072
DA5	3.43	1.301	3.52	1.038	3.49	1.142

(e) *Subjective Norms*

Subjective norms are the perceived social pressure to engage or not to engage in a behaviour. Social pressure comes from the social environment of a person. It has an injunctive and descriptive component. Injunctive norms are concerned with gaining approval from important groups or individuals whereas descriptive norms are related to one's perception of what important others do in relations to the behaviour of study (Ajzen, 2019).

Two statements are developed to measure injunctive norms. The first is 'I feel the pressure to plan financially for retirement' (IN1). 33% agree that they feel the social pressure to plan financially for retirement, while only about 8.6% strongly disagree. In total, those who agree and strongly agree total 42.6%, while 32% reported neutral feelings. 25.4% do not feel the pressure to plan. However, 38.3% of the respondents that opted for pension scheme agree and strongly agree with the statement, with another 31.9% disagreeing while 29.7% remaining neutral. As for those that are in the non-pension scheme, 45.1% agree and strongly agree with the statement, while 33.3% choose to remain neutral and those that disagree and strongly disagree amounts to 21.6%.

The second statement on injunctive norms is 'Most people who are important to me think I should plan financially for retirement' (IN2). 48.8% agrees with the statement, with 2.2% strongly disagree. In total, those who agree or strongly agree total 61.8% with about 26.8% being neutral. A minority (11.4%) disagree that important people in the lives thinks they should plan financially for retirement. Similarly, 60.6% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 13.5% disagreeing (or strongly disagree) and 25.9% remaining neutral. Although, those that are in the non-pension scheme also agree or strongly agree with the statement (62.5%), a higher

proportion chose to remain neutral (27.3%) whilst those that disagree or strongly disagree amounts to 10.2%.

As for descriptive norms, for the statement 'Most people who are important to me plan financially for retirement' (DN1), 41.8% agree with the statement. Only 1.2% strongly disagree. In total, 52% agree or strongly agree that important people in their lives plan financially for retirement whereas 38.2% are neutral. Less than 10% disagree or strongly disagree with the statement. Although, 48.7% of the respondents that opted for pension scheme also agree or strongly agree with the statement, about 41.6% choose to remain neutral, with only 9.7% disagreeing. A wider majority of those in the non-pension scheme agree or strongly agree with the statement (54%), with 36.2% choose to remain neutral whilst those that disagree or strongly disagree amounts to 9.9%.

In summary, the mean results for injunctive norms is 3.18 and 3.61 with standard deviation of 1.093 and 0.903, respectively. For those who opted for pension scheme, the means is 3.05 and 3.54 (standard deviation 1.192 and 0.938, respectively) whilst those from the non-pension scheme the mean is 3.26 and 3.66 (standard deviation 1.025 and 0.88, respectively). Most respondents are agreeable that they feel the social pressure to plan financially for retirement.

As for descriptive norms, the mean result is 3.51 with a standard deviation of 0.836. Those who opted for pension scheme, the means is 3.49 and standard deviation 0.822 whilst those from the non-pension scheme the mean is 3.53 and standard deviation 0.846. Most respondents are agreeable that important people in their lives are also planning financially for retirement.

Table 4.10: Descriptive statistics for subjective norms

Subjective norms items	Pension		Non-Pension		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
IN1	3.05	1.192	3.26	1.025	3.18	1.093
IN2	3.54	0.938	3.66	0.880	3.61	0.903
DN1	3.49	0.822	3.53	0.846	3.51	0.836

(f) *Perceived Behavioural Control*

Perceived behavioural control refers to the extent to which a person believe that they are capable and have control over their ability to perform a given behaviour (Ajzen, 2019). It takes into account a person's perception of the availability of information, skills, opportunities and resources required to perform the behaviour as well as possible barriers or obstacles that may have to be overcome.

In terms of self-efficacy, a majority of 39.6% are confident that they can effectively plan financially for retirement (DPBC1). Only a minority of 2.8% strongly disagree with the statement. In total, those who agree or strongly confident of their planning abilities totals 45.8%. At the same time, 39.2% are neutral on their confidence level. 15% have a low level of confidence in their effectiveness to plan. Similarly, 51.3% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 15.1% disagreeing (or strongly disagree) and 33.5% remaining neutral. Although, those that are in the non-pension scheme also agree or strongly agree with the statement (42.5%) and equivalent proportion also choose to remain neutral. Those that disagree or strongly disagree amounts to 14.9%.

As for whether it is easy for the respondents to plan financially for retirement or not (DPBC2), 37.8% of the respondents are neutral, with only a small proportion (4.2%) strongly agreeing with the statement. In total, 25.4% agree that it is easy, while 36.8% feel it is hard. Those that opted for pension scheme are almost of similar proportions with 31.9%

of the respondents agree or strongly agree that planning for retirement is easy, with only 31.9% disagreeing and 36.2% remaining neutral. For those that are in the non-pension scheme, those that agree or strongly agree with the statement are lower (21.6%), with 38.7% remaining neutral whilst those that disagree or strongly disagree amounts to 39.6%. A higher proportion seems to deem planning for retirement hard.

As for whether the decision to plan financially for retirement is beyond control (DPBC3_r), most respondents are neutral (34.8%), with a minimal of 4.2% that feels it is beyond their control. Overall, about 43% feels that retirement planning is still within their control, whilst 22.2% feel that the decision to plan is beyond their control. Most of those that opted for pension scheme disagree or strongly disagree with the statement, with 38.4% remaining neutral and 17.8% agreeing that retirement planning is beyond their control. For those that are in the non-pension scheme, those that disagree or strongly disagree with the statement are 42.6%, with 32.7% remaining neutral whilst those that agree and strongly agree amounts to 24.8%.

As for whether it is up to the individual to plan financially for retirement or not (DPBC4), 49.4% agree to the statement with only a small proportion (1.6%) strongly disagreeing with the statement. In total, 68.2% agree that they are in control, while 21.4% are neutral and 10.4% thinks retirement planning is not up to them. Most of the respondents that opted for pension scheme agree or strongly agree with the statement (70.8%), with only 12.4% disagreeing (or strongly disagree) and 16.8% remaining neutral. For those that are in the non-pension scheme, 66.7% of the respondents agree or strongly agree with the statement, with 24.1% remaining neutral whilst those that disagree or strongly disagree amounts to 9.3%.

In summary, the mean results for perceived behavioural control ranges from 2.85 and 3.75 with standard deviation of 0.873 to 0.99. As for those who opted for pension scheme, the means ranges from 3.02 to 3.76 (standard deviation from 0.869 to 0.973) whilst those from the non-pension scheme the mean ranges from 2.76 to 3.75 (standard deviation from 0.874 to 1.035). Most respondents are neutral or agreeable to this statement.

Table 4.11: Descriptive statistics for Perceived behavioural control

PBC items	Pension		Non-Pension		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
DPBC1	3.42	0.869	3.3	0.874	3.34	0.873
DPBC2	3.02	0.958	2.76	0.978	2.85	0.978
DPBC3_r	3.29	0.910	3.23	1.035	3.25	0.990
DPBC4	3.76	0.973	3.75	0.881	3.75	0.915

(g) ***Intentions***

Intention is an indication of a person's readiness to perform a given behaviour, and it is considered to be the immediate antecedent of behaviour (Ajzen, 2019). Three items are used to measure intentions. The first item measures the respondents desire to act (DINT1). Most of the respondents agree that they want to plan (47.4%). 2.2% strongly disagree to the statement. In total, 77% agree or strongly agree that they want to plan financially for retirement. 17% are neutral while 5.8% disagree or strongly disagree with the statement. Similarly, 76.7% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 6.5% disagreeing (or strongly disagree) and 16.8% remaining neutral. Those that are in the non-pension scheme also agree or strongly agree with the statement (77.2%), with 17.5% remain neutral whilst those that disagree or strongly disagree amounts to 5.4%.

For the second measure of intentions, 47.2% agree that they have intentions to plan, with only 2.8% strongly disagreeing with the statement (DINT2). In total, 72.8% agree or strongly agree that they have intentions to plan while 7.4% reported that they disagree or strongly disagree with the statement. 19.8% are neutral about their intentions. Similarly, 74.1% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 7.5% disagreeing (or strongly disagree) and 18.4% remaining neutral. Those that are in the non-pension scheme also agree or strongly agree with the statement (72.1%), with 20.6% remaining neutral whilst those that disagree or strongly disagree amounts to 7.3%.

As for whether they will try to plan or not (DINT3), 44.8% agree that they will try to plan, with 4.2% strongly disagree. In total, 69% agree or strongly agree that they will try to plan, while 21.2% are neutral. 9.8% are not willing to try. Similarly, 70.2% of the respondents that opted for pension scheme also agree or strongly agree with the statement, with only 7.6% disagreeing (or strongly disagree) and 22.2% remaining neutral. 68.3% of the respondents in the non-pension scheme also agree or strongly agree with the statement, with 20.6% choosing to remain neutral whilst those that disagree or strongly disagree amounts to 11.1%.

In summary, the mean results for intentions ranges from 3.79 to 3.99. The standard deviation is from 0.901 to 1.007. For those who opted for pension scheme, the means ranges from 3.86 to 3.98 (standard deviation from 0.878 to 0.951) whilst those from the non-pension scheme the mean ranges from 3.75 to 3.99 (standard deviation from 0.915 to 1.039). Most respondents have intentions and will try to plan financially for retirement.

Table 4.12: Descriptive statistics for intentions

Intentions items	Pension		Non-pension		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
DINT1	3.98	0.878	3.99	0.915	3.99	0.901
DINT2	3.91	0.911	3.86	0.953	3.88	0.937
DINT3	3.86	0.951	3.75	1.039	3.79	1.007

4.4 Partial Least Square (PLS) SEM Assessment

The data collected is further analysed using PLS. A two-step process will be used. The first step would involve assessing the measurement model. Once the data satisfy the requirement of the measurement model, the structural model is evaluated (Hair et al., 2017).

4.5 Measurement Model Assessment

In the previous section, EFA was conducted. The results reveal an 8-factor structure and recommended the removal of 6 items (DA3, DA5, DPBC3_r, DPBC4, IN1, BSC3_r,). In this section, the initial theoretical framework is tested using PLS-SEM (SmartPLS 3.0). The objective is to assess the psychometric properties of the measurement model and estimates the parameters of the structural model. The research model comprise of reflective indicators, hence the testing of the measurement model would encompass assessing its convergent validity, internal consistency reliability and discriminant validity (Gefen et al., 2000). The results would provide a level of assurance of the validity and reliability of the constructs in the theoretical framework.

4.5.1 Convergent Validity

To determine convergent validity, two measures are examined. Firstly, outer loadings are evaluated to ascertain indicator reliability. The threshold level is to accept the indicators with loadings above 0.707. The results of the analysis, available in the table below, shows that a major proportion of the constructs display outer loadings above 0.707.

However, there are a few indicators that are between 0.40 to 0.707. Chin (1998b) have advised that indicators such as these are to be removed only if it results in improvements in composite reliability (CR) and average variance extracted (AVE), as they may still have content validity. These improvements should result in CR level to be at least 0.60 while the acceptable threshold level for AVE is 0.50.

Based on these guidelines, all constructs have CR above 0.60; with three constructs having AVE below 0.50 (Control Beliefs, Attitudes, PBC). From these constructs, a total of three items are identified for removal, one each from Control Beliefs (CRS2), attitudes (DA3) and PBC (DPBC4). These items have both low loadings (below 0.707) and AVE (below 0.50) (Bagozzi et al., 1991; Hair et al., 2011). Another indicator from behavioural beliefs (BSC3_r) have loadings below 0.40 and is also identified for removal.

Upon removal of these items, all items load well and are within acceptable threshold levels. Results of the indicators (after running the bootstrapping procedure) are available in Appendix O. Indicator loadings are significant at 0.05, indicating that the overall model is preserved.

Table 4.13: Convergent validity analysis

Constructs	Items codes	Initial model			Revised model		
		Outer loading	Composite Reliability	AVE	Outer loading	Composite Reliability	AVE
Attitudes	DA1_r	0.779	0.812	**0.473**	0.832	0.842	0.578
	DA2_r	0.795			0.844		
	DA3	**0.428**					
	DA4_r	0.755			0.798		
	DA5	0.612			0.522		
Subjective Norms	DN1	0.835	0.772	0.547	0.835	0.772	0.547
	IN2	0.859			0.859		
	IN1	0.454			0.454		
Injunctive Norms	IN1	0.627	0.753	0.612	0.627	0.753	0.612
	IN2	0.911			0.911		
Descriptive Norms	DN1	1.000	1.000	1.000	1.000	1.000	1.000
PBC	DPBC1	0.795	0.685	0.395	0.747	0.753	0.505
	DPBC2	0.778			0.737		
	DPBC3_r	0.564			0.644		
	DPBC4	0.155					
Intentions	DINT1	0.865	0.924	0.802	0.864	0.924	0.802
	DINT2	0.952			0.952		
	DINT3	0.867			0.868		
Behavioural Beliefs	BA1	0.810	0.921	0.578	0.811	0.937	0.651
	BA2	0.845			0.849		
	BA3	0.815			0.824		
	BC1	0.842			0.848		
	BC2	0.851			0.860		
	BC3	0.835			0.845		
	BSC1	0.663			0.664		
	BSC2	0.732			0.731		
	BSC3_r	**0.255**					
Normative Beliefs	DNB_A	0.696	0.764	**0.621**	0.696	0.764	0.621
	INB_A	0.871			0.871		
Control Beliefs	CC1_r	0.634	0.900	**0.458**	0.641	0.911	0.508
	CC2_r	0.636			0.658		
	CC3_r	0.575			0.583		
	CR1_r	0.677			0.707		
	CR2_r	0.740			0.744		
	CR3_r	0.762			0.782		
	CR4_r	0.750			0.765		
	CR5_r	0.750			0.765		
	CRS1_r	0.743			0.745		
	CRS2	0.358					
	CRS3_r	0.712			0.711		

4.5.2 Internal Consistency Reliability

Cronbach's alpha is traditionally the indicator used for the evaluation of reliability. Measures of reliability are important as it indicates the extent that a variable is consistent with what is measured. However, Cronbach's alpha is a more conservative measure, as it tends to underestimate reliability. In PLS-SEM, composite reliability (CR) is used. Values can range from 0 (completely unreliable) to 1 (perfectly reliable) (Straub, Boudreau & Gefen, 2004).

The threshold value for composite reliability is above 0.70 (Bagozzi & Yi, 1988; Gotz et al., 2010; Urbach & Ahlemann, 2010). The following table shows the CR for each construct used in this study. The Cronbach's alpha ranges from 0.40 to 1.00, while the CR is between 0.753 to 1.00. The rho A scores are between 0.439 to 1.00. The CR scores are above 0.70, which indicates that the constructs have internal consistency reliability.

Table 4.14: Internal consistency reliability

Constructs	Cronbach's Alpha	rho_A	Composite Reliability
Attitudes	0.739	0.741	0.842
Subjective Norms	0.568	0.663	0.772
Injunctive Norms	0.400	0.502	0.753
Descriptive Norms	1.000	1.000	1.000
PBC	0.519	0.484	0.753
Intentions	0.876	0.888	0.924
Behavioural Beliefs	0.922	0.926	0.937
Normative Beliefs	0.404	0.439	0.764
Control Beliefs	0.891	0.898	0.911

4.5.3 Discriminant Validity

The first criterion to evaluate discriminant validity involves assessing the cross-loadings of the indicators. To establish discriminant validity, the loadings must load highly on its respective construct (Barclay et al., 1995; Chin, 1998b; Chin, 2010; Urbach & Ahlemann, 2010). The cross-loadings were examined across each row in the table. Using the cross-

loading table, each indicator has loaded higher on its respective constructs. This indicates that the indicators have discriminant validity.

Table 4.15: Cross loadings output

Items	Constructs [1]								
	BB	**CB**	**ATT**	**INT**	**DN**	**SN**	**PBC**	**IN**	**NB**
BA1	0.811	0.014	0.309	0.301	0.160	0.135	0.216	0.077	0.314
BA2	0.849	0.002	0.302	0.303	0.195	0.178	0.228	0.115	0.317
BA3	0.824	0.026	0.320	0.264	0.209	0.186	0.254	0.115	0.285
BC1	0.848	-0.010	0.292	0.257	0.217	0.190	0.229	0.114	0.352
BC2	0.860	0.000	0.328	0.239	0.260	0.219	0.268	0.124	0.305
BC3	0.845	-0.066	0.296	0.201	0.237	0.187	0.236	0.092	0.278
BSC1	0.664	-0.035	0.240	0.259	0.165	0.188	0.175	0.157	0.208
BSC2	0.731	0.045	0.286	0.292	0.217	0.181	0.231	0.101	0.245
CC1_r	0.041	0.641	0.134	0.037	-0.063	-0.100	0.278	-0.112	0.001
CC2_r	-0.075	0.658	0.074	-0.093	-0.110	-0.154	0.314	-0.157	-0.056
CC3_r	-0.121	0.583	0.013	-0.127	-0.082	-0.167	0.311	-0.201	-0.115
CR1_r	0.024	0.707	0.224	0.007	-0.017	-0.121	0.365	-0.184	-0.013
CR2_r	0.003	0.744	0.179	-0.076	-0.061	-0.192	0.371	-0.260	-0.080
CR3_r	0.035	0.782	0.166	-0.057	-0.058	-0.170	0.427	-0.228	0.004
CR4_r	-0.013	0.765	0.148	-0.067	-0.052	-0.128	0.347	-0.166	-0.017
CR5_r	0.006	0.765	0.164	-0.043	0.000	-0.127	0.380	-0.207	0.024
CRS1_r	-0.027	0.745	0.117	-0.059	-0.079	-0.155	0.324	-0.188	-0.038
CRS3_r	0.062	0.711	0.227	-0.012	-0.052	-0.159	0.468	-0.215	0.005
DA1_r	0.260	0.181	0.832	0.120	0.068	0.031	0.255	-0.011	0.100
DA2_r	0.269	0.216	0.844	0.194	0.087	0.087	0.245	0.059	0.134
DA4_r	0.316	0.127	0.798	0.117	0.007	0.035	0.207	0.046	0.180
DA5	0.259	0.110	0.522	0.171	0.133	0.116	0.165	0.070	0.134
DINT1	0.298	0.013	0.257	0.864	0.260	0.291	0.147	0.242	0.239
DINT2	0.316	-0.095	0.173	0.952	0.318	0.375	-0.029	0.327	0.319
DINT3	0.260	-0.100	0.107	0.868	0.253	0.319	-0.044	0.293	0.268
DN1	0.258	-0.078	0.097	0.311	1.000	0.835	0.139	0.482	0.346
DN1	0.258	-0.078	0.097	0.311	1.000	0.835	0.139	0.482	0.346
IN1	-0.089	-0.429	-0.116	0.128	0.137	0.454	-0.312	0.627	-0.015
IN2	0.217	-0.113	0.132	0.332	0.526	0.859	-0.054	0.911	0.279
DPBC1	0.284	0.262	0.214	0.069	0.232	0.080	0.747	-0.074	0.119
DPBC2	0.098	0.379	0.163	0.005	0.179	0.038	0.737	-0.096	0.021
DPBC3_r	0.244	0.408	0.236	0.001	-0.065	-0.148	0.644	-0.183	0.043
IN1	-0.089	-0.429	-0.116	0.128	0.137	0.454	-0.312	0.627	-0.015
IN2	0.217	-0.113	0.132	0.332	0.526	0.859	-0.054	0.911	0.279
INB_A	0.327	-0.104	0.154	0.257	0.276	0.297	0.021	0.235	0.871
DNB_A	0.229	0.081	0.139	0.233	0.278	0.203	0.122	0.086	0.696

Note:
[1] List of abbreviations used
ATT – Attitude, SN - Subjective Norms, IN - Injunctive Norms, DN - Descriptive Norms, PBC - Perceived Behavioural Control, INT - Intentions, BB - Behavioural beliefs, NB - Normative beliefs, CB -Control beliefs

The second approach to assessing discriminant validity involves using the Fornell-Larcker criterion. The square root of the AVE of each construct is compared to the correlations of all other constructs. The correlation tables reveal that the diagonal elements are larger than the off-diagonal elements. These results confirm that each indicator have discriminate validity, and it correlates only with its own measures. Using the Fornell-Larcker criterion, the result confirms that the measures have discriminant validity.

Table 4.16: Fornell-Larker's criteria

Constructs[1]	ATT	BB	CB	DN	IN	INT	NB	PBC	SN
ATT	0.760								
BB	0.369	0.807							
CB	0.211	-0.003	0.713						
DN	0.097	0.258	-0.078	1.000					
IN	0.057	0.137	-0.274	0.482	0.782				
INT	0.202	0.327	-0.067	0.311	0.321	0.896			
NB	0.185	0.359	-0.036	0.346	0.219	0.309	0.788		
PBC	0.290	0.286	0.513	0.139	-0.176	0.028	0.077	0.711	
SN	0.090	0.227	-0.208	0.835	0.884	0.368	0.323	-0.034	0.740

Note:
[1] List of abbreviations used
ATT – Attitude, SN - Subjective Norms, IN - Injunctive Norms, DN - Descriptive Norms, PBC - Perceived Behavioural Control, INT - Intentions, BB - Behavioural beliefs, NB - Normative beliefs, CB -Control beliefs

The final approach to assessing discriminant validity involved the use of HTMT as a criterion. The HTMT values are compared with a predefined threshold level. For this study the threshold level is 0.85 or $HTMT_{.85}$. The HTMT values in the following table ranges from 0.086 to 0.518. All the values are below the threshold value and the results further support that satisfactory discriminant validity is achieved.

Table 4.17: HTMT values

Constructs[1]	ATT	BB	CB	DN	IN	INT	NB	PBC	SN
ATT									
BB	**0.446**								
CB	0.256	**0.088**							
DN	0.115	0.269	**0.086**						
IN	0.286	0.318	0.568	**0.663**					
INT	0.248	0.365	0.107	0.330	**0.490**				
NB	0.335	0.574	0.205	0.550	0.471	**0.518**			
PBC	0.464	0.421	0.708	0.309	0.526	0.140	**0.228**		
SN	0.242	0.354	0.395	1.005	1.910	0.496	0.617	**0.504**	

Note:
[1] List of abbreviations used
ATT – Attitude, SN - Subjective Norms, IN - Injunctive Norms, DN - Descriptive Norms, PBC - Perceived Behavioural Control, INT - Intentions, BB - Behavioural beliefs, NB - Normative beliefs, CB -Control beliefs

In summary, the validity and reliability tests conducted has indicated that the measurement model has internal consistency reliability, convergent and discriminant validity. This model is valid and can be used for further testing in the structural model.

4.6 Structural Model Assessment

Upon validating the measurement models, the structural models were evaluated. This would provide support for the theoretical model developed. The structural model illustrates the relationships between constructs that were hypothesized. As the primary objective of the PLS SEM model is prediction, the strength of each structural path and the combined predictiveness (R^2) is evaluated (Chin, 1998b). Bootstrapping re-sampling procedures were also applied to examine the stability of the estimates. The bootstrap re-sampling procedure using 5,000 sub-samples was run in PLS SEM. The results were used to assess the significance levels of the PLS estimates.

4.6.1 Path Coefficients

Before assessing the path coefficients, a bootstrapping routine of 5,000 re-samples is used. The significance level is set at 0.05, which is in line with many social science studies (Hair et al., 2017). Subsequently, the path coefficients' direction, magnitude and significance are evaluated to assess the relationships between the independent and dependent variables.

Most of the path coefficients displayed the expected positive sign and is significant ($p<0.05$). Only PBC displayed a negative sign (-0.011) and did not have significant influence on intentions ($p=0.842$). Hence, this indicates that most of the theoretical assumptions about the model are supported and significant, except for the path from PBC to intentions.

The magnitude of the path coefficient is also evaluated. Each significant relationship has a path coefficient of more than 0.1 and therefore cannot be neglected (Sellin & Keeves, 1994; Urbach & Ahlemann, 2010). Two constructs are hypothesised to influence intentions. They are attitudes and subjective norms. Of these two constructs, subjective norm has demonstrated the highest path coefficient of $\beta = 0.352$, $p<0.05$, followed by attitudes ($\beta = 0.173$, $p<0.05$).

As for beliefs (behavioural, normative and control beliefs), all three demonstrated influence on the respective construct of attitudes, subjective norms and PBC. Of the three constructs, Control Beliefs appear to exert the most significant influence on PBC. Control Beliefs displayed a positive influence on PBC ($\beta = 0.513$, $p<0.05$). This is followed by positive influences of behavioural beliefs on attitudes ($\beta = 0.369$, $p<0.05$) and positive normative influences on subjective norms ($\beta = 0.323$, $p<0.05$). The following table summarises the results of the bootstrapping routine.

Table 4.18: Path Coefficients, t-Statistics and p-value hypothesized path

Path	Original Sample (β)	Sample Mean (M)	Standard Deviation	t value	p Values
Influences on intentions					
Attitudes -> Intentions	0.173	0.175	0.050	3.441	0.001
Subjective norm -> Intentions	0.352	0.354	0.044	7.971	0.000
PBC -> Intention	-0.011	-0.011	0.053	0.200	0.842
Influence of beliefs					
Behavioural Beliefs -> Attitudes	0.369	0.375	0.044	8.336	0.000
Normative Beliefs -> Subjective norms	0.323	0.327	0.046	7.038	0.000
Control Beliefs -> PBC	0.513	0.520	0.032	16.140	0.000

Note: Critical value 1.96 (Significant Levels 5%) two tailed

4.6.2 Effect Size (f^2)

The effect size (f^2) is examined to determine the significance of the constructs on the model. Using the guidelines given by Cohen (1988), the effect size (f^2) are evaluated. Values of 0.02, 0.15 and 0.35 reflect small, medium and large effects, respectively.

All the values are above 0.02 except PBC, which has no effect on intentions. The two remainder independent constructs, attitudes (0.032) and subjective norms (0.147) have medium effects on intentions. Similarly, normative and behavioural beliefs also have medium effects on subjective norms (0.117) and attitudes (0.158), respectively. Only control beliefs have large effects on perceived behavioural control (0.357).

Table 4.19: Effect size

Constructs	Attitudes	PBC	Subjective Norms	Intentions
Attitudes				0.032
Subjective Norms				0.147
PBC				0.000
Behavioural Beliefs	0.158			
Control Beliefs		0.357		
Normative Beliefs			0.117	

4.6.3 Coefficient of Determination (R^2)

Coefficient of Determination (R^2) measures the predictive accuracy of the model. It represents the combine influence of the exogenous variables on the endogenous variable(s), with higher levels indicating higher levels of predictive accuracy (Barclay et al., 1995; Hair et al., 2017).

Using the rule of thumb by Cohen (1988), the adjusted R^2 levels of 0.26, 0.13 and 0.02, is deemed substantial, moderate and weak, respectively. For this study, the adjusted R^2 of the dependent variable, intentions, is 0.159, which is deemed moderate. It indicates that the combined direct and indirect effects (beliefs, attitudes, subjective norms and PBC) accounts for 15.9% of the variance in the intention construct. Similarly, Behavioural Beliefs explains 13.5% of the variance in attitudes (moderate). As for control beliefs, it explains 26.2% of the variance in PBC, which is substantial. Finally, the variance in subjective norms is the weakest, where only 10.3% is explained by normative beliefs.

In summary, most of the adjusted R^2 is greater than 0.10, which is the minimal requirement stipulated by some researchers (Falk & Miller, 1992; Santosa et al., 2005). However, some researchers also opines that there is no generalisable value for R^2, as it depends on the study and the respondents (Backhause et al., 2003; Gotz et al., 2010). In reviewing the literature on other financial behaviour studies, most also exhibited similar results. Hence, for this study, the adjusted R^2 of 0.159 is considered acceptable.

Table 4.20: Coefficient of Determination (R^2)

Constructs	R^2	Adjusted R^2
Attitudes	0.136	0.135
Subjective Norms	0.105	0.103
PBC	0.263	0.262
Intentions	0.164	0.159

4.6.4 Predictive Relevance (Q^2)

In addition to adjusted R^2, the predictive relevance (Q^2) of the theoretical framework is also ascertain using the blindfolding procedure. Q^2 can be calculated using the cross-validated redundancy and cross-validated communality approach. Hair et al. (2017) recommends using the cross-validated redundancy approach, as it indicates the quality of the structural model.

For this study, the omission distance chosen is 7. In order to have predictive relevance, Q^2 values must be larger than 0. From the following table, all values are larger than 0, hence confirming that the model has predictive relevance.

Table 4.21: Predictive relevance

Constructs	Cross-validated Redundancy	Cross-validated Communality
Attitudes	0.073	0.302
Subjective Norms	0.051	0.165
Injunctive Norms	0.457	-0.011
Descriptive Norms	0.680	1.000
Intentions	0.127	0.582
PBC	0.113	0.012
Behavioural Beliefs		0.548
Normative Beliefs		-0.030
Control Beliefs		0.395

4.7 Hypotheses Results

In the preceding sections, the measurement and structural models were evaluated and the found to be adequate. The path coefficients, t-statistics and p-value are also use in evaluating the hypothesis. Each path that connects the variables, represents a hypothesis, is presented in Table 4.29.

Hypothesis 1, states that attitudes have a positive influence on intentions to plan financially for retirement among University employees. This hypothesis was fully supported, with the paths linking attitudes to intentions being positive and significant (β = 0.173, t = 3.441, $p < 0.05$). The results are consistent with the TPB, which posits that attitudes are the immediate antecedent of intentions.

Hypothesis 2, which evaluated the effects between subjective norms and intentions, displayed a significant positive effect on intention (β = 0.352, t = 7.971, $p < 0.05$), and is supported. This is as predicted by TPB, which states that positive subjective norms have a positive influence on intentions to plan financially for retirement among University employees.

Hypothesis 3 addressed the effects between PBC and intentions to plan financially for retirement. Perceived behavioural control is hypothesized to have a positive influence on the intentions to plan financially for retirement among University employees. The hypothesis was not supported (β = -0.011, t = 0.200, $p > 0.05$). TPB suggests that an individual's perceptions of control will influence intentions to plan financially for retirement. Unfortunately, the outcome of this study suggests that these factors do not affect intentions.

Hypotheses 4a, 4b and 4c addressed the influence of beliefs. Hypothesis 4a, which stated that behavioural beliefs have a positive influence on attitudes, is fully supported by the model. A positive and significant influence is displayed (β = 0.369, t = 8.336, $p < 0.05$). Similarly, Hypothesis 4b is also supported. This hypothesis states that normative beliefs have a positive influence on subjective norms (β = 0.323, t = 7.038, $p < 0.05$). Hypothesis 4c which states that control beliefs have a positive influence on perceived behavioural control also displayed a positive and significant influence (β = 0.513, t = 16.140, $p < 0.05$). Overall, the results were shows that beliefs have a significant and positive influence over

attitudes, subjective norms and perceived behavioural control, which supports the TPB model.

In summary, the assessment of the path coefficient shows that all proposed hypotheses are supported, except for hypothesis H3. All supported hypotheses are significant at the level of 0.05 and have expected sign directions (i.e. positive). The following table summarises the hypotheses established for this study.

Table 4.22: Results of Hypothesis Testing

No.	Hypothesis statement	Result
1	Attitudes have a positive influence on intentions to plan financially for retirement among University employees.	Supported
2	Subjective norms have a positive influence on intentions to plan financially for retirement among University employees.	Supported
3	Perceived behavioural control has a positive influence on intentions to plan financially for retirement among University employees.	Not Supported
4a	Behavioural Beliefs has a positive influence on attitudes among University employees.	Supported
4b	Normative Beliefs has a positive influence on subjective norms among University employees.	Supported
4c	Control Beliefs has a positive influence on perceived behavioural control among University employees.	Supported

The path model is also reflected in Figure 4.1. The circles represent the latent variables or constructs. The arrows between the latent variables indicate influences between the constructs. The effects of PBC on intentions (in italics) is not supported.

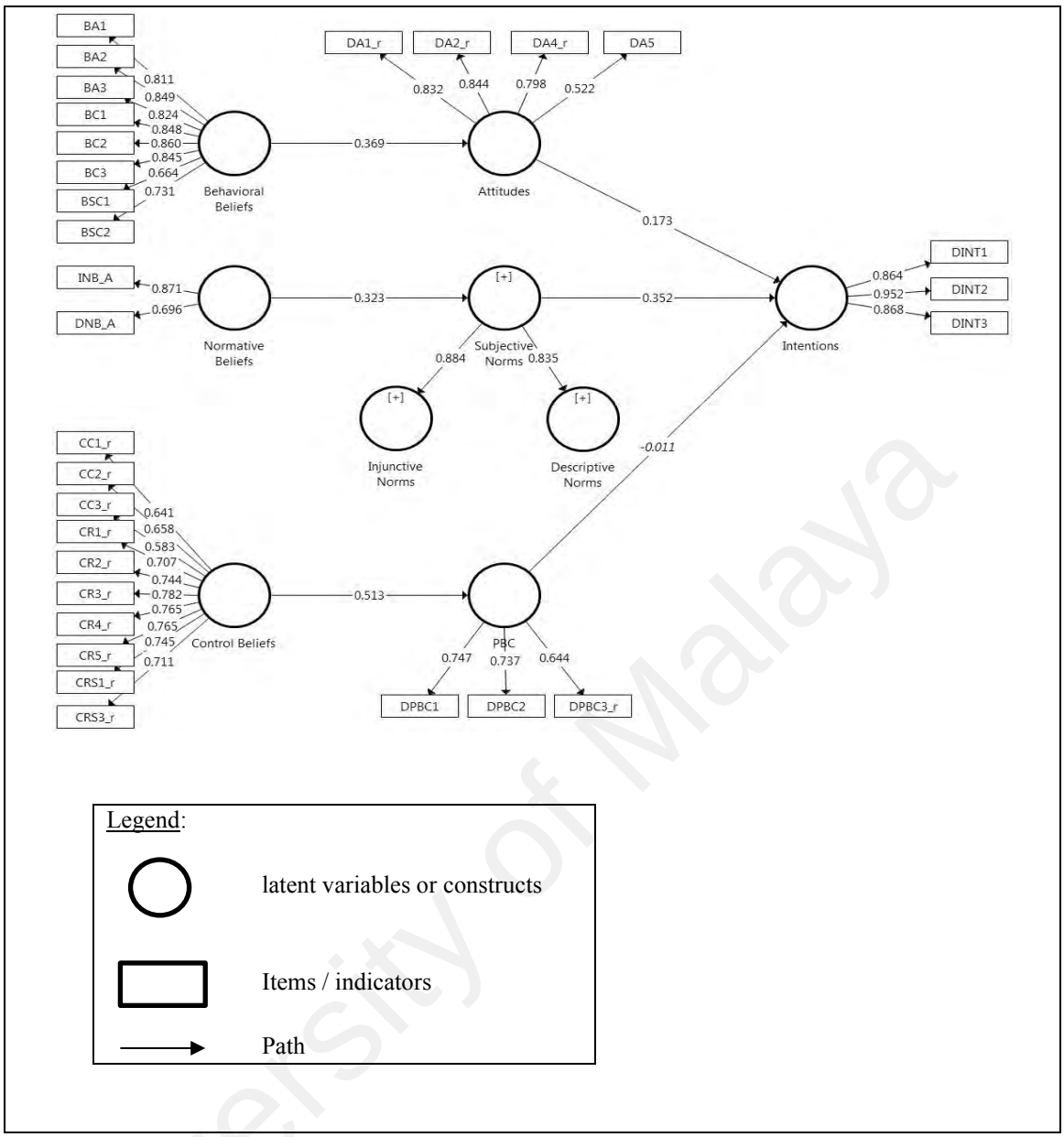

Figure 4.11: PLS Results of the Path Analysis

4.8 Summary

This chapter reports the results of the study. A preliminary analysis was performed. Information on missing values, normality, outliers and collinearity are reported. Details on the Exploratory Factor Analysis conducted were discussed. Subsequently, the results of the statistical analysis for CMV is reported. There is no common method variance for this study.

Subsequently, the respondents' profile was analysed. This include demographic information such as age, education background, gender, race or ethnicity, religion and marital status. Descriptive analysis was also conducted on the items in the constructs. Both the respondents' profile and descriptive analysis also compare those opting for the government pension scheme and those not in the pension scheme.

The model also undergoes measurement and structural model assessments using PLS-SEM. Results of the measurement model assessment reveal that the model has internal consistency reliability, convergent and discriminant validity. In the structural model assessment, path coefficients' direction, magnitude and significance were evaluated to assess the influence between the independent and dependent variables. Subsequently, the coefficient of determination (R^2), effect size (f^2) and predictive relevance (Q^2) was assessed.

The final section reported the hypothesis results. Five hypotheses were developed. All the hypothesis was supported except for Hypothesis 3, where perceived behavioural control was discovered to have no influence on intentions to plan financially for retirement among University employees.

CHAPTER 5: DISCUSSION

Retirement is recognised as a life stage where a person's ceases his or her working life (Denton & Spencer, 2009). The decision to retire may be voluntary or forced. Regardless of the circumstances surrounding one's retirement decisions, when a person retires, their regular income stream ceased and reliance on alternatives means of support begins. However, the alternatives available to an individual is greatly dependent the preparation and planning done in their earlier lives. These initiatives are voluntary in nature, and very much dependent on the efforts and capabilities of the individual and whether it is facilitated (or impeded) by developments in the environment (Morgan & Eckert, 2004).

With that in mind, this study aims to understand the various determinants and processes of retirement planning. The Theory of Planned Behaviour (TPB) is used as the underpinning theory. TPB assumes that behaviour is influence by a similar set of constructs. These constructs are beliefs, attitudes, subjective norms and perceived behavioural control. Beliefs about financials, planning and retirement lead to the formation of attitudes, subjective norms and perceived behavioural control, which in turn influence intentions to plan financially for retirement (Fishbein & Ajzen, 1975; Fishbein & Ajzen, 2010). However, the relative importance of these determinants varies from one population to another.

A quantitative method using survey is employed to investigate the determinants of financial planning for retirement amongst a sample of 500 public and private universities employees in Malaysia. The questionnaire developed used validated scales and qualitative interviews, with stringent validity and reliability checks. Procedural remedies were also incorporated to reduce common method variance (CMV). Data is cleaned and screened before final analysis. This chapter discuss in greater depth the result of the analysis of data.

5.1 Demographic Results

The sample respondents are analysed based on demographics such as age, education background, gender, marital status, ethnicity and religion. The demographic details of the respondents have been discussed in the previous chapter and its details available in Appendix M.

The age of the sample ranges from below 20 to above 60 years old. Age has always been an important factor in retirement planning. Generally, as one grows older, the level of preparation is expected to increase (Hershey et al., 2007; Hershey et al., 2007; Padawer et al., 2007).

Overall, more than 60% of the sample respondents are below 40 years old. However, those who have opted for the pension schemes are almost similar in proportions (below and above 40) whilst more than 70% of the non-pensions group are from the younger age groups.

The respondents hold various responsibilities in the universities. Most of them are academics, responsible for teaching, lecturing and research activities. The rest of the employees holding non-academic positions such as management, administrative, student related activities and support staff. These proportions are reflective of a university environment.

The survey respondents have various education background, ranging from basic entry level qualifications such as SPM / Certificate Level, Diploma to tertiary and postgraduate degrees. As the main respondents are academics, it is unsurprising that this sample comprise of educated individuals where most of them have at least been through tertiary education. Those that are more educated are reported to plan more as they have the means

and capacity to do so. Generally, as a majority of the respondents are form the non-pension group, they also dominate most of the educational categories. As for the pension group, most of the respondents are of the postgraduate categories.

Gender also has its influences, with men reported to be more likely to engage in financial planning. However, the respondents for this sample are mostly female. This is reported to be common for the education industries in Malaysia, where around 60% are females (Ministry of Education Malaysia, 2014b; Department of Statistics Malaysia, 2016b).

For ethnicity and religion, most of the respondents are Malay Muslims, followed by Chinese Buddhists and Indians Hindus. This is somewhat reflective of Malaysia's ethnic groups and, which is around 60% for Malay Muslims, 25% Chinese Buddhists and 15% Indians Hindus or others religions (Department of Statistics Malaysia, 2015).

The income level is another important determinant in financial planning for retirement (Ekerdt et al., 1996; Ekerdt, 2010; Ekerdt & Baker, 2014). Generally, Malaysia has classified its income levels into three categories. Those that earn less than RM4,360 per month is categorised as B40. They represent the lower-class earners, or the bottom 40% income earners of the country. The second category are the middle classes also known as M40, which earn between RM4,361 to RM9,619 per month and represent the middle 40% of the population, or M40. The final category earns above RM9,619 per month. They represent the upper class earners, and is known as the top 20% earners of the population, or T20 (Khazanah Research Institute, 2016).

Using the above guide, the respondents are classified accordingly. Those earning less than RM30,000 to RM50,000 annually are classified as B40. They represent 44.2% of the sample, where 28.6% are of the pension group and 53.4% are of the non-pension group. The middle classes or M40 are from the income range between RM50,001 to 130,000

annually. They represent 50.6% of the sample. 62.1% of the pension group and 43.8% of the non-pension group are of this income range. The remainder (5.2%), the T20, has an income range of RM130,001 to above RM150,000. 9.2% of the pension group and 2.8% of the non-pension group are of this income range. In summary, a major proportion of the sample respondents are from the middle classes (M40), follow by the B40 group. Most of the middle-income earners are from the pension group.

5.2 Data Analysis

The sample were tested using the Structural Equation Modelling (SEM) approach, in particular, Partial Least Squares (PLS). Results of the hypothesis testing reveal that five out of the six proposed paths within the structural model were supported. The adjusted R^2 reveals that most of the variables can explain intentions to plan financially for retirement. Each of the variables is analysed and compared with the literature and theory.

5.2.1 Influence on Intentions

This study aims to evaluate the suitability of TPB as a generic model of planning for financial retirement, contextualised among University employees in Malaysia. TPB is a social psychology model which postulate that behaviour is a reasoned action which can be predicted and explained using a set of determinants (attitudes, subjective norms, perceived behavioural control) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977; Ajzen & Fishbein, 1980). For this study, these determinants have predictive relevance (Q^2 = 0.127) with moderate influence on intentions to plan financially for retirement (adjusted R^2 =15.9%).

Findings for this study is mostly consistent with the prediction of the theory. Both attitudes and subjective norms can predict intentions to plan financially for retirement for

university employees in Malaysia, with subjective norms having relatively higher values. However, perceived behavioural control (PBC) did not show any influence on intentions. Although this contradicts with the predictions of the theory, it is consistent with the results of many empirical studies in TPB. The results of the study were discussed in greater detail with the research questions, literature, theory and context of the research.

(a) ***Research Question 1 - What is the influence of attitudes on the intention to plan financially for retirement among University employees?***

The objective of this research question is to examine the influence of attitudes on intention to plan financially for retirement among University employees. In TPB, attitudes is expressed as the evaluation of a person on an object or behaviour (Zimmerman, Canale, Britt & Seay, 2015). Evaluation would encompass instrumental and experiential aspects of a behaviour. Instrumental aspects consider the rewards (or punishment) and experiential aspects refers to a person's feelings or emotions towards the behaviour. Generally, individuals are more likely to perform behaviours that are evaluated positively.

The results reveal that the attitudes of university employees in Malaysia toward retirement planning are generally positive, both instrumentally and experientially, where most of the factor loadings are above 0.80. Only one item is removed due to low convergent validity (DA3). University employees acknowledged that retirement planning is good for them and will benefit them in the long term. Planning provides direction and clarity in goals, which helps one navigate over life many challenges, making the overall activity enjoyable.

Attitudes also has statistically significant influence on intention to plan financially for retirement. However, both its path ($\beta = 0.173$, $p<0.05$) and effect size ($f^2=0.032$) is relatively lower when compared to subjective norms, indicating that the influence is

weaker. Respondents are also wary of the possibility that plans may fail if it were not implemented well, which will lead to unpleasant experiences. This would somewhat influence the motivation to plan, resulting in a lower effect size.

From the descriptive analysis of the items, the overall importance of financial planning for retirement is acknowledged. Instrumentally, retirement planning is beneficial and is even experientially enjoyable to some. However, there are mixed feeling about their experiences. There are also those who find the experience unpleasant. The pattern of evaluation is similar between the pension and non-pension group.

The influences of attitudes on intentions is consistent with the literature discussed in earlier chapters. Van Deventer et al. (2014) found attitudes to be important to influencing intentions towards financial planning for retirement among the student population in South Africa. Binswanger and Carman (2012); Brucker and Leppel (2013) illustrated that having clear and formal plans is essential for retirement planning.

Positive attitudes are also important in other forms of financial behaviours. Croy et al. (2010b) reported that attitudes have positive effects on the likelihood to save. This is in line with studies by Joo and Grable (2005) which discover attitudes, in particular, positive attitudes, play an important role in a successful savings plan. Savings have been frequently used as a proxy for financial planning for retirement and wealth accumulation effort (Hershey et al., 2007).

Attitudes play an important role in encouraging investments. Investments are important considerations in financial planning. Sivaramakrishnan et al. (2017) discovered that investors attitudes have an impact on the intention to invest in equity markets. Nosi et al. (2017) also discovered that attitudes influence the purchase of longevity annuity coverage

in a private pension plan. Attitudes also influence an individual to manage their debts better in a study done by Xiao, Tang, Serido and Shim (2011).

Vyvyan, Blue and Brimble (2014), in exploring the influence of attitudes on financial capabilities, identified important aspects of financial behaviour such as money management, managing risk, having a planning horizon and money consciousness. Croy et al. (2010b) highlighted that positive attitudes are important in influencing the contributions to superannuation funds and to actively manage their investment strategy.

(b) ***Research Question 2 - What is the influence of subjective norms on the intention to plan financially for retirement among University employees?***

The objective of this research question is to explain the influence of subjective norms on the intention to plan financially for retirement among University employees. Subjective norms reflect social norms that are deemed acceptable. These norms exert social pressure. The stronger the social norms are, the more likely an intention to perform the behaviour will be formed (Ajzen & Fishbein, 2005; Ajzen, 2005a; Fishbein & Ajzen, 2010).

Subjective norms have injunctive and descriptive components (Cialdini et al., 1991; Cialdini et al., 2006; Cialdini, 2007). Injunctive norms refer to perceptions of important referents or groups concerning what should be done with respect to a behaviour, whereas descriptive norms refer to perceptions of what important others are doing in regards to the behaviour. Both injunctive and descriptive norms among university employees in Malaysia have high loadings (above 0.80), thus indicating that both of these components are influential.

The path from subjective norms to intentions for University employees in Malaysia is statistically stronger ($\beta = 0.352$, $p<0.05$), with higher effect size ($f^2=0.147$), in comparison to attitudes. Respondents are motivated to conform to the expectations of the important

referents in their lives. The activities of these important referents also serve as a guide for respondents to begin or continue their planning activities.

From the descriptive analysis of the items, the injunctive and descriptive norms have positive influences (mean above 3.5), except for IN1, which indicates the perception of social pressure to plan (M=3.18). The pattern is similar for the pension and non-pension group.

The positive influence of subjective norms is consistent with the results from numerous researchers (Xiao & Wu, 2008; Croy et al., 2010b; Yang & Devaney, 2012; Nosi, D'Agostino, Pagliuca & Pratesi, 2014; Vyvyan et al., 2014; Nosi et al., 2017). Social pressures from important referents are effective in influencing intentions. Referents from the immediate surroundings of the individual, such as parents, are often emulated by children and the future generation (Friedman & Scholnick, 1997a; Binswanger & Carman, 2012; Wang et al., 2014). Literature have also supported the subjective influences of important referents such as colleagues and friends (Taylor-Carter et al., 1997; Hershey et al., 1998; Jacobs-Lawson & Hershey, 2003; Bayer et al., 2009; Wang & Shultz, 2010; Croy et al., 2012; Zheng et al., 2012; Zhan et al., 2013). Spouses are also known to frequently coordinate retirement plans together (Borsari & Carey, 2003; Street & Desai, 2011). These important referents also play a role in influencing other forms of responsible financial behaviours besides financial planning such as savings and investment (Koposko & Hershey, 2014; Tang et al., 2015; Koposko & Hershey, 2016; Koposko et al., 2016; Kimiyaghalam et al., 2017).

Sources not immediately present to the individual environment such as various professionals and social groups also play a role in influencing financial planning for retirement (Taylor-Carter et al., 1997; Hershey et al., 1998; Hershey et al., 2003; Bayer et al., 2009; Croy et al., 2012). Professional advisers (such as financial planners, lawyers,

accountants and counsellors) dispense advice and influence the financial decision making process of their clients (Joo & Grable, 2005; Grable et al., 2011; Marsden et al., 2011)

(c) ***Research Question 3 - What is the influence of perceived behavioural control on the intention to plan financially for retirement among University employees?***

The objective of this research question is to determine the influence of PBC on the intentions to plan financially for retirement among University employees. PBC measures an individual perception of their ability to perform a behaviour. Two aspects are important considerations in the measures of PBC. The first is self-efficacy, which is the degree of confidence a person has towards performing a behaviour. A person with high self-efficacy would be inclined to deem a task easy and are confident of being able to successfully execute a behaviour. The other aspect is perceived controllability where a person believes the ability and resources required for the behaviour is within their control (Ajzen, 2002b). The higher the self-efficacy and perceived controllability a person has, the higher would be the degree of PBC (Ajzen, 1991). High degrees of PBC are expected to form strong behavioural intentions (Ajzen & Fishbein, 2005; Ajzen, 2005a; Fishbein & Ajzen, 2010).

However, in this study, PBC do not to have any significant effect on intentions to plan of University employees. The factor loadings for self-efficacy is high (above 0.7), but perceived controllability is weak. Items DPBC3_r and DPBC4, which addressed controllability, was recommended for removal during EFA; and in the analysis using PLS-SEM, item DPBC4 was removed. Although item DPBC3_r was retained, it has the lowest loadings in comparison to the other items. From the descriptive analysis, the overall results reveal that most of the respondents are neutral (M=3.15). The pattern is similar between the pension (M=3.24) and non-pension (M=3.10) group. Self-efficacy aspects have overall mean of 3.10, with those of pension group (M=3.22) having higher means in comparison

to the non-pension group (M=3.03). Perceive controllability has mean of 3.25, where the pension group has mean of 3.29 and the non-pension group has mean of 3.23.

University employees are confident in their ability to plan and manage their retirement future. However, they also believe that they are already preparing for old age via the existing pension and contribution schemes that they are in. For those in the pension schemes, they would be receiving regular income from the government in their retirement days. Those in the non-pensions scheme, they are mandated to make regular contributions to EPF, which they believe would give them adequate income in their old age. These schemes are mandated by the laws of Malaysia in which the respondents are required to comply to. Unfortunately, the adequacy of the retirement income generated from these schemes are questionable.

Most of the respondents in this sample are below 40 years old. Literature has documented that most individuals start preparing or thinking about retirement after 40. This is due to the fact that many of those below 40 are still struggling with the various commitments of life such as paying mortgage, household and dependents expenses (Harrison, 2005; Harrison et al., 2006; Davis & Hustvedt, 2012; Griffin, Loh & Hesketh, 2013). Hence, university employees may not have thought about preparing for retirement or even have enough resources to plan.

Although the results contradict with TPB, many empirical studies have similar results. It was reported to have weak results in the usage of the Earned Income Tax Credit (Zimmerman et al., 2015) and teenagers' willingness to volunteer with elderly persons (Reuveni & Werner, 2015). Study by Trivedi, Shehata and Mestelman (2005) on PBC and tax compliance intentions also did not find any significant influences in their student sample. A survey conducted by Bobek and Hatfield (2003) using three different scenarios

also have mixed results. Two of the scenarios fail to find any effects between PBC and intentions.

5.2.2 Influence of beliefs

Attitudes, subjective norms and PBC can be analysed further to its antecedents, beliefs. Beliefs guide a person's intentions to perform (or not perform) the behaviour in question (Fishbein & Ajzen, 1975; Fishbein & Ajzen, 2010). Beliefs may be formed directly (from observation) or indirectly (from formal sources of information, interactions with family and friends or through self-generated inference processes).

(a) ***Research Question 4 - What is the influence of beliefs on attitudes, subjective norms and perceived behavioural control among University employees?***

The objective of this research question is to determine the influence of beliefs on attitudes, subjective norms and PBC among University employees. According to TPB, individuals have many beliefs, but only the accessible ones are influential. Different population also hold different types of beliefs. Hence, it is recommended to conduct preliminary pilot work to elicit these beliefs (Fishbein, 1963; Fishbein & Ajzen, 1975; Ajzen, 2011). For this study, interviews were conducted amongst a representative sample of university employees.

Three types of beliefs are identified in TPB. They are behavioural beliefs, normative beliefs and control beliefs. Behavioural beliefs influence attitudes; normative beliefs influence subjective norms while control beliefs will help in understanding PBC. From the results, the beliefs elicited have predictive relevance among University employees. Control belief have a substantial influence and large effect size on PBC (adjusted R^2=0.262, f^2=0.357, Q^2=0.113). This is followed by behavioural beliefs with moderate influence and

effect size on attitudes (adjusted R^2=0.135, f^2=0.158, Q^2=0.073) and normative beliefs with weak influence but moderate effect size on subjective norms (adjusted R^2 =0.103, f^2=0.117, Q^2=0.051). The results are discussed in greater detail in the following sections.

(b) *Influence of Behavioural Beliefs on Attitudes*

Behavioural beliefs link intentions to plan financially for retirement to expected outcomes. Generally, if individuals believe that performance of the behaviour will result in positive outcomes, positive attitudes toward a behaviour will be formed (Ajzen & Fishbein, 2005; Ajzen, 2015).

Nine behavioural beliefs items were identified during preliminary pilot work and its influence on attitudes tested. These items are related to autonomy (BA1, BA2, BA3), coping (BC1, BC2, BC3) and self-control (BSC1, BSC2, BSC3_r) outcomes.

Autonomy outcomes is related to the degree of freedom a person have in making choices in life. Every individual desire the freedom to act and make decisions for themselves (Weinstein et al., 2012). The three items linked to autonomy outcomes are highly valued and have high factor loadings (above 0.80). University employees believe that by planning they would be able to visualise their future, which would help them build goals (Stawski et al., 2007), set directions (Noone, Stephens & Alpass, 2009; Noone, Stephens & Alpass, 2010) and be independent and self-sufficient in old age (Harrison, 2005; Grable et al., 2011).

Planning also helps a person cope with uncertainties, problems and the emotional challenges in life (Atkinson et al., 2007). Items BC1, BC2 and BC3 measure the role of planning in coping. These items have factor loadings above 0.80. The foremost concerns during retirement is the loss of regular income (Croy et al., 2010b). University employees believe that by planning they would have the confidence to cope with this loss. Retirement

planning would help ensure that they have adequate resources to maintain their quality of life during retirement.

The third outcome, self-control, highlight some of the inner conflict faced when planning (Thaler & Benartzi, 2004; Benartzi & Thaler, 2007). Planning involved delayed gratification, where a person has to suppress emotions or behaviour in pursuit of long-term goals (Baumeister et al., 2007). Self-control outcomes are represented by three items (BSC1, BSC2, BSC3_r). However, these items have low to moderate loadings. One of the items, BSC3_r, is eventually removed due to low convergent validity. This item is also recommended for removal during EFA. The remaining items have factor loadings below 0.80. University employees acknowledged the importance of planning as a tool of self-discipline and to exercise restraint when spending (Hayes-Roth & Hayes-Roth, 1979; Friedman & Scholnick, 1997a). While this form of restraint may be deemed burdensome by some, the money saved or invested will be beneficial for the future.

Behavioural beliefs items have statistical influence on attitudes. The path coefficient is supported ($\beta = 0.369$, $p<0.05$). One of the items, BSC3_r, which has the lowest mean value and low convergent validity is eventually removed. With the removal, overall mean ranges from 4.10 to 4.23. Result are also similar for the pension (mean range: 4.19 to 4.33) and non-pension groups (mean range: 4.05 to 4.17). University employees believe that financial planning for retirement will help to achieve autonomy, coping and self-control outcomes with results showing moderate adjusted R^2 and effect size (adjusted R^2=0.135, f^2=0.158, Q^2=0.073).

(c) *Influence of Normative Beliefs on Subjective Norms*

Normative beliefs reflect the perceived expectations and behaviours of important referent individuals or groups. These beliefs influence the perceived social pressure or subjective norms towards a behaviour. Generally, if individual value the expectation and

behaviours of these important referents, positive subjective norms are formed (Ajzen & Fishbein, 2005; Ajzen, 2015).

Normative beliefs have injunctive and descriptive components. Injunctive normative beliefs identifies the important referents' beliefs and expectations whereas descriptive normative beliefs identifies the important referents that are performing the behaviour in question (Fishbein & Ajzen, 1975). During the preliminary interviews, four categories of important persons are identified to have injunctive (INB1, INB2, INB3, INB4) and descriptive influences (DNB1, DNB2, DNB3, DNB4). They are spouse, immediate family members, friends and relatives. Factor loadings generated are high (around 0.70).

However, not all of the four categories of important people identified are applicable to university employees. As a result, normative beliefs have positive but weak predictive influence on subjective norms (adjusted R^2=0.103). Nevertheless, the path from normative beliefs to subjective norms is supported (β=0.323, p<0.05) and it has predictive value (Q^2=0.051) with moderate effect size (f^2=0.117).

From the descriptive analysis, spouse (M=4.17) and immediate family members (M=3.99) display stronger injunctive normative beliefs, with those from the pension schemes (mean range: 4.02-4.08) displaying higher means in comparison to the non-pension group (mean range: 3.89-3.95). The findings indicate that university employees are more likely to comply with the expectations of these two groups. As for friends and relatives, mean is at 3.28 and 3.19, respectively, where the pension group has a mean range of 3.31-3.36 and non-pension group at 3.57-3.65. This indicates that most of the respondents would either take a neutral stance and are less likely to comply to latter two groups.

Results for descriptive normative beliefs for the four groups of important referents have similar patterns as injunctive normative beliefs, but the differences are less pronounced. The overall mean for spouse (M=3.90) and immediate family members (M=3.85) have higher means compared to friends (M=3.61) and relatives (M=3.56). Similar results are obtained for the pension and non-pension groups.

Literature is supportive of the findings of the study. The first category, spouse, is influential to a majority of the married respondents. Wang et al. (2011) documented that spouses would frequently coordinate their financial and social plans together. Similarly, Street and Desai (2011) recorded that spouses plans also influence retirement transitions and decision making.

The second category are immediate family members. Parents' retirement plan have a significant effect on a person (Koposko & Hershey, 2014; Koposko & Hershey, 2016; Koposko et al., 2016). Kimiyaghalam et al. (2017) discover that children emulate efforts by parents. Tang et al. (2015) further reported that parents also influence responsible financial behaviour, serving as a reference for future behaviour. Also, Kim and Moen (2001) discussed that having dependent children are some reasons why retirees' continue to work. Conversely, some may retire early to take care of grandchildren or dependents with illness.

The third influential category are friends. Friends influence retirement planning and activities as people are more receptive and trusting towards individuals close to them. They may provide support, opportunities, and a desirable social environment (Wang & Shultz, 2010; Zheng et al., 2012; Zhan et al., 2013). Bayer et al. (2009) reported that individuals seem more likely to plan after being exposed to financial preparation seminars with colleagues in their workplaces. Similarly, many seems more willing to engage in financial preparation acquired during seminars with friends (Hershey et al., 1998; Hershey et al.,

2003). Croy et al. (2012) reported that peer effects have influence saving decisions and the formulation of saving plans in United States.

The final influential category are relatives. They represent the family network and are important providers of support and care for people in retirement in many Eastern countries (Yoo & Kim, 2010). However, such traditional family structures are slowly breaking, giving way to smaller families (Teh, Ng, Tey & Siti-Norlasiah Ismail, 2013).

(d) ***Influence of Control Beliefs on Perceived Behavioural Control***

The third beliefs concern control beliefs. These beliefs refer to the perceived presence of factors that facilitate or impede intentions to plan financially for retirement. If more facilitating control beliefs are identified than inhibiting factors, perceived behavioural control should be high and vice versa. Eleven control beliefs items are identified to influence perceived behavioural control during preliminary pilot work, and they are related to competence (CC1, CC2, CC3), resource (CR1, CR2, CR3, CR4, CR5) and risk management (CRS1_r, CRS2 and CRS3_r).

Competence refers to the tools, equipment, training and support a person have in order to perform a behaviour (Deci & Ryan, 2000). In the case of financial planning for retirement, issues of financial literacy, preliminary interviews have uncovered that reliability of sources and choices of financial products has inhibit financial planning for retirement. Such challenges is also reported to be an issue to financial planning for retirement behaviour in similar studies (Mermin, Johnson & Murphy, 2007; Gerrans & Hershey, 2013; Hershey et al., 2013; Lusardi & Mitchell, 2017). Although University employees were influenced by issues of competencies, the factor loadings are moderate (0.58-0.65).

The objective of financial planning is to ensure that there are adequate resources during the retirement phase (Balasuriya et al., 2014; Chou et al., 2015). However, the process involved in managing resources (income, expenses and commitments) are challenging for university employees. Similarly, this is a problem to many individuals worldwide (KRC Research, 2016; Employee Benefit Research Institute, 2018). The items linked to managing resources also have higher factor loadings in comparison to competencies (0.70-0.80). University employees voice concerns in sustaining their cost of living in view of the raising expenses and stagnated income. These challenges drained their financial resources, and even with lifestyle changes, it is difficult for them to plan for their retirement requirements.

The final area of concern relates to managing risk. Risk in financial planning for retirement comes in the form of financial risk and social risk. Financial risk is borne by the individual when they make investments choices in financial planning. An investment may or may not yield the returns desired. Though such risks is inevitable, it inhibits university employees intentions when planning financially for retirement (Ainslie, 2005; Farmer & Geanakoplos, 2009; Ainslie, 2010; Charlton et al., 2011; Teuscher & Mitchell, 2011; Choi & Kim, 2014).

Social risk comes in the form of life course risk, which is related to the retirement lifespan (Denton, French, Gafni, Joshi, Rosenthal & Webb, 2001; Denton, Kemp, French, Gafni, Joshi, Rosenthal & Davies, 2004; Denton & Spencer, 2009). During retirement, individuals face higher life course risk such as poverty, social isolation, loss of independence and autonomy as their earnings and health decline. University employees acknowledges that these are risk of aging, and they may face deteriorating physical and mental conditions during retirement. Such risks are hard to manage, and it is inevitable. Items CRS1_r (0.745) and CRS3_r (0.711) measure the risk management. These items

have similar moderate factor loadings as resource management. One of the items, CRS2, is eventually removed due to low convergent validity.

Control beliefs have predictive value on PBC (Q^2=0.113). The path coefficient also has high statistical influence (β = 0.513, p<0.05). Adjusted R^2 is substantial (0.262) with large effects size (f^2=0.357).

Descriptive analysis based on 10 items have an overall mean range of 2.71 to 3.62, with most of the items reporting means of above 3. Only items of risk management have means below 3. One of the items, CRS2, is eventually removed due to low convergent validity. However, both the pension and non-pension group have means below 3. Further analysis reveals that most of the respondents are either agreeable or neutral on issues of control beliefs. This is similar for both the pension and non-pension groups. Although university employees agree that issues related to competency, resource and risk management has an impact to inhibit financial planning for retirement, they also feel it is difficult to mitigate its effects.

5.3 Summary

Chapter 5 discussed the results reported in the previous chapter. An overview of demographic analysis results is discussed. This include analysis of university employees' age, education background, gender, marital status, ethnicity, religion and income level.

Results from PLS-SEM were also discussed in details. Five out of the six hypothesis were supported. The adjusted R^2 reveals that most of the variables can explain intentions to plan financially for retirement. The influence of attitudes and subjective norms on intentions are supported, which is in line with previous literature. However, the influence of perceived behavioural control (PBC) on intentions is not supported. Although this

contradicts with the predictions of TPB, it is consistent with the results of many empirical studies in TPB. The results of the study were discussed in greater detail with the research questions, literature, theory and context of the research. As for the influence of beliefs, the effects of behavioural beliefs, normative beliefs and control beliefs on attitudes, subjective norms and PBC, respectively, is well supported.

CHAPTER 6: CONCLUSION

The objective of this study is to investigate the determinants of intentions to plan financially for retirement within a selected sample in Malaysia, that is university employees. Retirement planning is deemed as a critical activity worldwide, yet research in this area is fragmented. Investigations has focus on a variety of financial products such as savings, investments, tax or risk management. But financial planning behaviour is not limited to selected products. Focus on only one financial area at the expense of another, would render the findings incomplete. In addition, initial studies have focus on demographics of the individual. Demographic indicators are not explanatory variables and have limited use in theory development (Hershey et al., 2013). Nevertheless, such variables are useful as background factors that indirectly influence intentions and behaviours (Fishbein & Ajzen, 2010; Ajzen & Klobas, 2013).

In view of such limitations, this study attempts to make a contribution to the existing literature by using TPB as a generic model of planning for financial retirement, which can be contextualized to different social contexts and populations. The use of TPB in financial and retirement behaviour studies are limited, but existing studies had shown promising results (Bobek & Hatfield, 2003; Xiao, Sorhaindo & Garman, 2006; Xiao & Wu, 2006; Xiao & Wu, 2008; Croy et al., 2010b; Kimiyaghalam et al., 2017; Nosi et al., 2017). The contributions and limitations of the study was discussed in greater detail in the subsequent sections with recommendations for future research.

6.1 Contributions

This study expanded the use of TPB in financial planning for retirement. Most of the constructs in TPB are able to predict intentions to plan financially for retirement. Several major contributions are addressed in this study.

6.1.1 Empirical Contributions

There is a consensus among researchers that there are a multitude of constructs to explain financial behaviour (Tan & Folk, 2011; Hershey et al., 2013). Using TPB, this study has uncovered that subjective norms and attitudes towards financial planning for retirement are important considerations. Subjective norms have a stronger influence on intentions. Although positive attitudes do influence intention to plan financially for retirement, its effects are weaker when compared to subjective norms. PBC, in turn, was not significant in the final model.

This indicates that University employees are more motivated by the expectations and actions of important referents in their social environment in comparison to attitudes towards financial planning for retirement. For many Eastern countries, the main source of retirement support lies with the family network which provides both formal and informal support.

University employees also have positive attitudes towards financial planning. They recognised the importance and benefits of planning. However, it does not play a major role in motivating behaviour. Instead, University employees tend to rely on the existing legal or formal mechanism to save for their retirement (pension, EPF). Such findings contributes to discoveries in recent studies by Fishbein and Ajzen (2010); Ajzen and Klobas (2013); Klobas and Ajzen (2015) which states that different antecedents are expected to have different effects on intentions. Hence, for this sample of university employees in Malaysia subjective norms and attitudes play an important role.

There are two categories of universities in Malaysia, that is public and private universities. Public universities employees have access to both of the retirement contribution schemes in the country. These would include the government pension schemes; which is a form of defined benefit plan, where a lifelong monthly payment is provided upon retirement. They can also opt for savings through the Employees Provident Fund (EPF), which are similar to defined contribution plans, where the contributions are based on a prescribed rate for employees and employers. Private universities only have access to EPF. The sample enable further analysis into the groups that opt for the pension and non-pension schemes, enabling demographic and descriptive comparisons between these groups.

6.1.2 Theoretical Contributions

According to Whetten (1989); Corley and Gioia (2011), a theoretical contribution is the extension of an existing theory that will fundamentally change any prior understanding of the relationships of the indicators. TPB, the underpinning theory, has been used in many studies such as health behaviour (Conner & Sparks, 2005), leisure choices (Ajzen & Driver, 1992), weight loss (Sparks et al., 1995), fertility intentions (Ajzen & Klobas, 2013) and information technology usage (Taylor & Todd, 1995). However, there is limited research on its use in financial and retirement behaviour studies.

Nonetheless, findings from this study has proven that TPB constructs can be used to explain the complexity of financial planning for retirement. It is able to integrate a small number of constructs (beliefs, attitudes, subjective norms and PBC) to explain planning for financial retirement among university employees, thus providing a valuable generic model to extend the body of knowledge on financial behaviour.

Most research in retirement planning and using TPB is done in developed, western countries, which offer a very different set of contextual variables. Firstly, developed countries has very different social protection initiatives, culture and income level. These countries are also ageing societies, where issues pertaining planning for retirement are critical.

However, for developing countries and non-western societies, there are limited studies on retirement planning. These countries have not reached the ageing population stage; hence issues of retirement planning had not been a major focus. Nonetheless, interest in this topic is increasing. Most countries are expected to have a demographic trend of an aging population eventually, in view of increasing lifespan and a drop in fertility rates among its citizens.

For Malaysia, it is expected to be an aging population in 2035. There is a growing interest on retirement and planning. Yet, most researchers have to rely on existing research in developed countries. Such studies have limitations, as they are based on the respective countries' legislative, administrative, social and cultural environment. It is not practical to adopt the findings of research from other countries.

Nonetheless, TPB have yielded significant findings from this study. Such findings proved that TPB is a useful model that can be contextualized into different population and retirement settings.

6.1.3 Methodological Contributions

Financial planning for retirement is a complex behaviour. To understand its' complexity, a variety of approaches, methodologies and data sources is required. Several methodological choices are made to ensure that the data collected is of quality and able to

address these complexities. These are novel methods that also contributes towards fortifying the validity and reliability of the study.

Firstly, in the development of the survey instrument, two separate methods are used to develop the items (Morgan, 1998; Tashakkori & Teddlie, 1998; Fishbein & Ajzen, 2010). Attitudes, subject norms and perceived behavioural control are adapted from existing validated scales from the literature. Beliefs (behavioural beliefs, normative beliefs and control beliefs), however, are developed from qualitative interviews. This is because beliefs are unique and should be elicited from the population of study (Fishbein, 1963; Ajzen & Fishbein, 1980). Subsequent tests using PLS-SEM reveal that the set of modal beliefs developed are significant indicators. Such steps provide a richer view of the complexity and uniqueness of financial human behaviour.

Secondly, to ensure the 'goodness' of the measures used, all items in the survey instrument are subjected to content validation by a team of experts. Each item is evaluated based on consistency, representativeness, relevance and clarity. These ratings are used to calculate Content Validity Index (CVI) and the Kappa Coefficient (Polit & Beck, 2006). A set of decision rules are used to eliminate items that do not meet with the criteria specified. Such steps ascertains the validity of the items used in the survey.

Many studies on human behaviour have non-normal data distribution. Similarly, this study also has such challenges, necessitating the use of nonparametric techniques. Steps are taken to choose a statistical program that can cater to data that have normality issues. PLS-SEM is chosen as it allows structural equation modelling to be used successfully with non-normal data. The findings are able to explain the effects between the various constructs and also provide information on the contribution of each item. Furthermore, the use of 5,000 re-samples in the bootstrapping technique and the robust validation process enhance the level of confidence on the findings.

6.2 Practical Implications

In view of the external environment challenges (such as an aging population), many governments are increasingly shifting responsibilities of retirement support to individuals. Yet, how prepared the individual is to take such responsibilities is questionable. Governments should not merely depend on the prudent behaviour of individuals to plan for retirement and hope that it will bring its just rewards. Policymakers can use TPB as a framework to understand planning behaviours and introduce policy frameworks that can help individual undertake their planning responsibilities more efficiently. Inadvertently, such efforts will increase the effectiveness of the policies developed and the well-being of individuals (Cohen, 2014).

This study is also beneficial to financial planning practitioners and the financial services industry in general. Financial planners are professionals who offer financial advice and advocate the importance of planning. These professionals charge fees or commission for the financial advisory services they provide to assist clients in planning. The financial planning industry is currently at its infancy stage, but has promising market potential in Malaysia. Unfortunately, the trust level towards these professionals are low, and many are sceptical about their commitment to solving their clients' financial problems.

For the industry to develop, the financial players (financial planners and the financial services sector) need to understand what motivates the mindsets of their clients. TPB offers a framework into the consumers psychology when planning for retirement. Understanding the motivation and needs of their clients will help increase their effectiveness in product development and marketing of appropriate financial products or services.

6.3 Limitations

In this study, these determinants of TPB (beliefs, attitudes, subjective norms and perceived behavioural control) accounts for about 16% of the variance in the intention construct. Although the overall effects are moderate, it also indicates that there are other possible variables that play a role in influencing intentions. However, the inclusion of all possible variables in one model is beyond the scope of this study and is an area for future research.

For this study, primary data is collected via a survey. Initial data collection had a very low response rate. Subsequent attempts were able to generate higher responses, but such steps were bounded by the policy and procedural requirements of the respective institutions (selected locations, within the premises of the universities, during working hours). Some of the survey forms collected were also unusable and had to be excluded.

The survey instrument comes in the form of a self-administered questionnaire. Although strict measures are used during the questionnaire development process and complete anonymity and confidentiality is guaranteed, there are possibilities of biasness and misinterpretations. Respondents may opt to give socially desirable responses, have poor memory or have self-presentation concerns. There are also respondents who perceived the questions as sensitive and personal, which deters them from participating.

This research is a cross-sectional study. It provides a snapshot of the respondents' views on intentions. But behaviours and intentions may change over time. However, many cross-sectional studies on TPB also have useful and insightful discoveries (Notani, 1998; Armitage & Conner, 2001; Schulze & Wittmann, 2003; Rivis & Sheeran, 2004; Rivis et al., 2009). In addition, Fishbein and Ajzen (1975); Ajzen (1991) have maintained that beliefs and attitudes tend to remain stable over time.

In summary, care is taken to minimize the limitations and to ensure quality in the overall study. However, the limitations discussed are unavoidable and are inherent in similar studies. Nonetheless, the findings are still relevant, and is proven significant through rigorous testing.

6.4 Future Research

This study has proven that the key determinants of TPB is able to explain intentions to plan financially for retirement. Yet, at the same time, it also acknowledges that there are other possible variables that play a role in influencing intentions. The sufficiency of TPB in addressing financial and retirement behaviour is an area for future research (Ajzen & Fishbein, 2005; Klobas & Ajzen, 2015). This, coupled with the interdisciplinary nature of planning offers a myriad of research opportunities. Efforts can be directed to gain better insights into the origins of beliefs underlying the theory's predictor variables or inclusion of additional variables to improve explained variance. The direct, indirect, moderator or mediation effects of the variables can also be explored further (Conner & Armitage, 1998; Armitage & Conner, 2001). Further exploration into the influence of PBC on intentions to plan may also yield interesting findings. In some studies, PBC has been reported to influence behaviour directly and even moderates the effects of subjective norms and attitudes (Ajzen, n.d.). Hence, there are many venues that can improve the explanation on financial and retirement planning.

The findings of this research reveal that subjective norms are an important determinant of intentions to plan financially for retirement. The role of families, adult children and the extended family network have traditionally been an important support for elderly people in many Eastern countries (Yoo & Kim, 2010). This support is a form of filial obligation and responsibility. It is also conceptualised as a societal attitude, which deems it as a duty of

adult children to meet the needs of their ageing parents (Walker, 2002). In many countries, it is incorporated as a fundamental religious and moral commandment.

However, with social changes such as the increase in life expectancy, recent changes in divorce, child-bearing, urbanisation and migration and women's employment, filial practices are slowly eroding. Traditional family structures, which not only involve the immediate families but also extended families such as relatives, are breaking, giving way to smaller families (Teh et al., 2013). As a result, there is a reduced number of children to share both social and financial responsibilities. This increased burden of responsibility takes a toll on the existing resources of children, where some may find it increasingly difficult to fulfil their filial obligations. In many Eastern countries, such situations have dire consequences to people in retirement, as the family network is an important provider (sometimes the only provider) of support and care. Currently, studies on filial obligations are limited and with the growing importance of retirement, this is an important area for future research (Lapinski et al., 2017).

The respondents in this study are university employees. They represent a segment of the formal sectors in Malaysia which are protected by the retirement contributions schemes of the country (pension, EPF). However, there are many sub-groups from the informal sector that are not protected by any contribution schemes such as farmers and entrepreneurs. How these individuals handle retirement planning has yet been fully explored. Investigations into this area will yield many intervention opportunities that can influence individuals' behaviour in a desired manner.

6.5 Concluding Comments

The growing importance of financial planning for retirement is undeniable. Effective financial planning is a key component to ensuring quality of life during retirement. Yet, many individuals have not been successful in planning. In general, individuals seem disinterested or unmotivated in managing their retirement affairs (Harrison et al., 2006). In fact, financial planning for retirement is a universal challenge for many individuals and policymakers. Nonetheless, the impact of not preparing for retirement are dire, as evidences of low savings rate and financial problems are already prevalent in many countries (Brady, 2010; Kennedy & Matwijiw, 2010; MacDonald et al., 2011; Croy et al., 2012; Ellen et al., 2012; Pfau & Kariastanto, 2012).

In response to the challenges of planning, this study has applied theories and methodological approaches that have been used successfully in behavioural research. Some of these approaches are not widely applied in financial planning for retirement research, but have proven to be a worthwhile contribution towards understanding this complex behaviour. The findings contributes toward the body of knowledge and has unravel the mysterious world of financial planning for retirement.

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LIST OF PUBLICATIONS AND PAPERS PRESENTED

Articles under review

Choo, S. M., Mansor, N. & Baranovich, D. (2018). The psychology of planning: Financial planning for retirement. *Educational Gerontology*.

Educational Gerontology is a journal indexed by ISI Web of Knowledge.

Papers presented

Choo, S. M., Mansor, N. & Baranovich, D. (2017). *An Explorative Study of Planning for Retirement Activities.* Paper presented at the Third International Conference on Social Protection, University of Malaya, Kuala Lumpur.