



Faculty of Economics and Business

**The Impacts of Saving Habits on the Retirement Savings and Retirement
Well-Being**

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The Impacts of Saving Habits on the Retirement Saving and Retirement Well-Being

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DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



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ABSTRACT

This research study covers a mixed method with the aim to examine habits that instigate the tendency of society to save and society's pre-retirement well-being. The issue matter of low personal rates that has been observed and reviewed across the globe over the years have triggered the interest of this research been conducted. Inspired by the aforementioned phenomena, this research is conducted with three (3) main objectives. Firstly, the research attempts to identify the elements that contribute to the generalisation of society's saving habits, by analysing society's socio-demographic and behavioural elements that influence their habits to save. Secondly, the research pursues to determine the elements that impact the society's tendency to save. Thirdly, the research aims to evaluate the elements that impact the pre-retirement well-being that the societies save in, by analysing their happiness, prosperity, good health, comfort and security. The Partial Least Squares Structural Equation Modeling (PLS-SEM) using SMART-PLS is selected to execute the statistical analysis of relationships under the research investigation. The outcome of the research study analysis revealed financial literacy, savings habits, financial risk tolerance, future time perspective, retirement saving and retirement well-being appeared as significant and meaningful (close correlations) and hence supported the decision of the outcomes via the active participation of the research study survey.

Keywords: Financial literacy, savings, habits, retirement, well-being

Kesan Tabiat Menabung terhadap Simpanan Persaraan dan Kesejahteraan Persaraan

ABSTRAK

Kajian ini merangkumi kajian penjelasan dengan tujuan untuk mengkaji tabiat yang menimbulkan kecenderungan masyarakat untuk berjimat dan kesejahteraan pra-persaraan masyarakat. Masalah seperti kadar bunga yang rendah yang telah diperhatikan dan dikaji semula di seluruh dunia sejak beberapa tahun yang lalu telah mencetuskan minat kajian ini. Diilhamkan oleh fenomena yang disebutkan di atas, kajian ini dijalankan dengan tiga (3) objektif utama. Pertama, penyelidikan untuk mengenal pasti unsur-unsur yang menyumbang kepada generalisasi tabiat berjimat masyarakat, dengan menganalisis unsur sosio-demografi dan tingkah laku masyarakat yang mempengaruhi kebiasaan mereka untuk berjimat. Kedua, kajian ini bertujuan untuk menentukan unsur-unsur yang memberi kesan kepada kecenderungan masyarakat untuk berjimat. Ketiganya, penyelidikan ini bertujuan untuk menilai unsur-unsur yang memberi kesan kepada kesejahteraan pra-persaraan masyarakat ekoran berjimat dengan menganalisis kebahagiaan mereka; kemakmuran; kesihatan yang baik; keselesaan; dan keselamatan. “Partial Least Squares Structural Equation Modeling” (PLS-SEM) menggunakan SMART-PLS dipilih untuk melaksanakan analisis statistik sehubungan penyelidikan ini. Hasil analisis kajian penyelidikan mendedahkan celik kewangan, tabiat menyimpan, toleransi risiko kewangan, perspektif masa hadapan, simpanan persaraan dan kesejahteraan persaraan kelihatan penting dan bermakna (kaitan rapat) dan seterusnya menyokong keputusan keputusan melalui penyertaan aktif daripada tinjauan kajian penyelidikan.

Kata kunci: Celik kewangan, simpanan, tabiat, persaraan, kesejahteraan

TABLE OF CONTENTS

	Page
DECLARATION	i
ACKNOWLEDGEMENT	ii
ABSTRACT	iii
<i>ABSTRAK</i>	iv
TABLE OF CONTENTS	v
LIST OF TABLES	xiii
LIST OF FIGURES	xv
LIST OF ABBREVIATIONS	xvi
CHAPTER 1: INTRODUCTION	1
1.1 Study Background	1
1.2 Problem Statement	3
1.3 Research Questions	7
1.4 Objectives	7
1.5 Scope of Study	8
1.6 Significant of the Study	8
1.7 Thesis Structure	11
1.8 Chapter Summary	13

CHAPTER 2: LITERATURE REVIEW	14
2.1 Overview	14
2.2 Habits as an Antecedent	14
2.2.1 Definition of Habits	15
2.2.2 Habits and Behaviour (<i>A Theoretical View</i>)	18
2.2.2.1 Theory of Reasoned Action (1975)	19
2.2.2.2 Theory of Planned Behaviour (1985)	21
2.2.2.3 Self-Efficacy Theory (1997)	22
2.2.2.4 Model of Goal-Directed Behaviour (2001)	23
2.2.2.5 Behavioural Reasoning Theory (2005)	25
2.2.3 Other Factors	27
2.3 The Act of Savings	29
2.3.1 Definition	29
2.3.2 Factors Affecting Saving Behaviour	31
2.4 Reasons of Savings Habits (Why)	35
2.4.1 Life-Cycle	37
2.4.2 Precautionary	38
2.4.3 Bequest	39
2.4.4 Profit	39
2.5 Chapter Summary	40

CHAPTER 3: METHODOLOGY	42
3.1 Overview	42
3.2 Conceptual Research Framework	43
3.3 A Model of Savings Behaviour	44
3.3.1 Savings Habits (core of study)	44
3.3.2 Determinant of Saving Habits (RSQ1a)	46
3.3.3 Relationship between Self-Efficacy and Savings Habits (RSQ1b)	48
3.3.4 Relationship between Savings Habits and Retirement Savings (RSQ2)	49
3.3.5 Relationship between Savings Habits and Retirement Well-Being (RSQ3)	51
3.3.6 Classification of Main Hypotheses	53
3.4 Research Method	54
3.4.1 Quantitative Survey (Questionnaires)	54
3.4.2 Qualitative Survey (Interviews)	55
3.5 Instrument Design	55
3.5.1 Questionnaires	55
3.5.2 Interviews	56
3.6 Sampling Technique	56
3.7 Sample Size	59
3.8 Pilot Testing	60
3.9 Method of Data Collection	63

3.10	Measurement of Variables	63
3.10.1	Structural Equation Modeling	69
3.10.2	Partial Least Squares Structural Equation Modeling	70
3.11	Ethical Considerations	71
3.12	Chapter Summary	72
	CHAPTER 4: QUANTITATIVE ANALYSIS	73
4.1	Overview	73
4.2	Quantitative Survey Results	73
4.2.1	Descriptive Analysis	73
4.2.2	Median for Discrete and Continuous Frequency Type Data (Grouped Data)	76
4.3	Advanced Statistical Tests Based Analysis	80
4.4	Structural Modeling	84
4.5	Multi Variance Reliability	86
4.5.1	Assessment of Normality	87
4.5.2	Structural Model Assessment	90
4.6	Reflective Measurement Model Assessment	91
4.6.1	Overview	91
4.6.2	Results of SmartPLS Graphical Output	93
4.6.3	Confirmatory Factor Analysis	96
4.6.4	Internal Consistency Reliability	96

4.6.4.1 Cronbach's Alpha (α)	97
4.6.4.2 Composite Reliability (CR)	97
4.6.4.3 Dijkstra-Henseler's Rho (ρ_A)	97
4.6.5 Convergent Validity	98
4.6.5.1 Factor Loadings (Indicator Reliability/Outer Loading)	99
4.6.5.2 Average Variance Extracted (AVE)	103
4.7 Discriminant Validity	103
4.7.1 Fornell & Larcker Criterion	105
4.7.2 Cross Loadings	106
4.7.3 Heterotrait-Monotrait Ratio of Correlations (HTMT)	107
4.8 Significance and Relevance of Formative Indicators	108
4.8.1 Convergent Validity	109
4.8.1.1 Redundancy Analysis	109
4.8.2 Collinearity	111
4.8.2.1 Variance Inflation Factor (VIF)	113
4.8.3 Formative Indicators	116
4.8.3.1 Outer Weight Significance (Bootstrapping)	117
4.9 Assessments of the Structural Model	121
4.9.1 Assessment of the Collinearity Issues (Step 1)	122
4.9.2 Assessment of the Path-Coefficient (Step 2)	123

4.9.3	Assessment of the Level of R^2 or Adjusted R^2 (Step 3)	125
4.9.4	Assessment of the Level of Effect Size, f^2 (Step 4)	126
4.9.5	Assessment of the Predictive Relevance, Q^2 and Effect Size, q^2 (Steps 5 & 6)	128
4.9.6	Assessment of the Goodness-of-Fit	134
4.10	Discussion of the Findings	136
4.10.1	Relationship between Financial Literacy and Savings Habits	138
4.10.2	Relationship between Financial Risk Tolerance and Savings Habits	139
4.10.3	Relationship between Future Time Perspective and Savings Habits	140
4.10.4	Relationship between Self-Efficacy and Savings Habits	141
4.10.5	Relationship between Savings Habits and Retirement Savings	142
4.10.6	Relationship between Savings Habits and Retirement Well-Being	143
	CHAPTER 5: QUALITATIVE ANALYSIS	145
5.1	Overview	145
5.1.1	Data Collection	146
5.1.2	Interview Structure	147
5.2	Methods	149
5.2.1	Qualitative Analysis	149
5.2.2	Data Analysis	151
5.2.3	Theoretical Thematic Analysis	152
5.2.4	Coding Data	153

5.3	Results	154
5.3.1	Financial Literacy	156
5.3.2	Saving Habit	157
5.3.3	Financial Security	158
5.3.4	Saving Behaviour	160
5.3.5	Retirement Well-Being	161
5.4	Chapter Summary	163
	CHAPTER 6: DISCUSSION	164
6.1	Overview	164
6.2	Relationships between Variables of the Framework	164
6.2.1	Financial Literacy on Savings Habits	164
6.2.2	Savings Habits on Retirement Savings	165
6.2.3	Savings Habits on Retirement Well-Being	166
6.2.4	Financial Risk Tolerance on Savings Habits	166
6.2.5	Future Time Perspective on Savings Habits	167
6.2.6	Self-Efficacy on Savings Habits	168
6.3	Chapter Summary	169
	CHAPTER 7: CONCLUSION AND RECOMMENDATIONS	170
7.1	Conclusion	170
7.2	Implication of the Research Study	171

7.2.1	Policy	171
7.2.2.	Retail Banks	173
7.2.3	Theoretical	174
7.3	Limitations and Future Direction	175
REFERENCES		177
APPENDICES		205

LIST OF TABLES

	Page
Table 2.1 Motives for Saving Habits	16
Table 3.1 Main Hypotheses of the Research Study	54
Table 3.2 List of Sarawak Population in 2020 by Projection	58
Table 3.3 Pilot Test Measurement Model	61
Table 3.4 Pilot Test Discriminant Validity	62
Table 3.5 List of Measurement Variables Relevant to the Questionnaire	64
Table 4.1 Description of Samples (Gender, Age and Race)	74
Table 4.2 Description of Samples (Education and Monthly Income)	74
Table 4.3 Description of Samples (Marital Status and Location)	75
Table 4.4 Description of Samples (Employment and Length of Service)	76
Table 4.5 Continuous Frequency Distribution	78
Table 4.6 Measures of Variables	80
Table 4.7 Excess Kurtosis and Skewness	87
Table 4.8 Indices for Measurement Model Analysis using PLS-SEM	91
Table 4.9 Results of Outer Loadings of the Reflective Constructs	94
Table 4.10 Results of Constructs Reliability and Validity	98
Table 4.11 Measurement Model/Factor Loadings	100
Table 4.12 Discriminant Validity using Fornell and Larcker Criterion	105
Table 4.13 Cross Loadings	106
Table 4.14 HTMT Criterion	107
Table 4.15 Global Reflective Measures	109
Table 4.16 Outer Weight Results (Loadings for Formative Measurement)	112
Table 4.17 Outer VIF Values	114

Table 4.18	Bootstrapping Results on the Outer Weights	117
Table 4.19	Outer Loadings Result	118
Table 4.20	Measurement Properties for Formative Constructs	121
Table 4.21	Result of Inner VIF Values	123
Table 4.22	Results of Bootstrapping for Path-Coefficient	124
Table 4.23	Results of R^2 and R^2 Adjusted (Coefficient of Determination)	126
Table 4.24	Results of Effect Size, f^2	127
Table 4.25	Predictive Relevance, Q^2	129
Table 4.26	Related Effect Size Results	133
Table 4.27	Fit Summary Result using PLS Algorithm	134
Table 4.28	Lateral Collinearity Assessment	136
Table 4.29	Hypothesis Testing	138
Table 5.1	Interview Structure	147
Table 5.2	Background of Participants	149
Table 5.3	Summary of Themes and Categories	156

LIST OF FIGURES

	Page
Figure 2.1 The Theory of Reasoned Action and Theory of Planned Behaviour	20
Figure 2.2 The Theory of Planned Behaviour	21
Figure 2.3 The Model of Goal-Directed Behaviour	24
Figure 2.4 The Behavioural Reasoning Theory	26
Figure 3.1 Concise Conceptual Research Framework	43
Figure 3.2 Model of Savings Behaviour	46
Figure 3.3 PLS-SEM Path Model	71
Figure 4.1 Stages of Assessing Measurement Model to Structural Model	91
Figure 4.2 Model based on Savings Habits Datasets (n=400)	93
Figure 4.3 Results of SmartPLS Graphical Output	96
Figure 4.4 Formative Measurement Model	108
Figure 4.5 (i) Retirement Saving_G (ii) Retirement Well-Being_G	110
Figure 4.6 PLS Algorithm Result from Collinearity Assessment Performance	111
Figure 4.7 Drawing and Assessment of Structural Model	122
Figure 4.8 Model of Blindfolding before the Construct Deletion	130
Figure 4.9 First Result on Q^2 Excluded for Future Time Perspective	130
Figure 4.10 Second Result on Q^2 Excluded for Self-Efficacy	131
Figure 4.11 Third Result on Q^2 Excluded for Financial Literacy	132
Figure 4.12 Fourth Result on Q^2 Excluded for Financial Risk Tolerance	132
Figure 5.1 Thematic Analysis	155

LIST OF ABBREVIATIONS

AVE	Average Variance Extract
CB-SEM	Covariance-Based Technique Structural Equation Modeling
CR	Composite Reliability
CV	Convergent Validity
DV	Discriminant Validity
DVR	Dependent Variable
FNL	Financial Literacy
FNL1	Knowledgeable about financial planning for retirement
FNL2	Know more than most people about retirement
FNL3	Confident in own ability to do retirement planning
FNL4	Know exactly where to obtain financial services
FNL5	Knowledgeable about Social Security, EPF and Socso
FRT	Financial Risk Tolerance
FRT1	Willing to risk losses
FRT2	Prefer investment that have higher returns even though riskier
FRT3	Growth potential of retirement investment
FRT4	Willing to make risky investments
FRT5	Never choose safest investment
FTP	Future Time Perspective
FTP1	Follow advice to save for rainy day
FTP2	Thinking how will live years from now in the future
FTP3	Distant future is too uncertain to plan for

FTP4	Future seems very vague and uncertain
FTP5	Pretty much live on a day-to-day basis
FTP6	Living for the moment and not knowing what tomorrow brings
GDP	Gross Domestic Product
GoF	Goodness-of-Fit
HTMT	Heterotrait-Monotrait Ratio
IVR	Independent Variable
NFI	Normed Fit Index
OECD	Organisation for Economic Cooperation and Development
PLS-SEM	Partial Least Square Structural Equation Modeling
RSQ	Research Study Question
RTS	Retirement Saving
RTS1	Made meaningful contributions to a voluntary retirement savings
RTS2	Have saved a great deal for retirement
RTS3	Accumulated substantial savings for retirement
RTS4	Made a conscious effort to save for retirement
RTS5	Plan to live life in retirement and save accordingly
RWB	Retirement Well-Being
RWB1	Have everything needed
RWB2	Satisfied with having everything
RWB3	Feel the way it is
RWB4	Satisfied with life
RWB5	Happy person
RWB6	Feeling fulfilled with life
RWB7	Uncomfortable with amount owed

RWB8	Constantly worried about paying debts
RWB9	Discuss with others about debts
SEM	Structural Equation Modeling
SFE	Self-Efficacy
SFE1	Difficult to stick to spending plan
SFE2	Challenging to make progress toward financial goals
SFE3	Use credit when unexpected expenses occur
SFE4	Hard time for solution when faced with financial challenges
SFE5	Worry about running out of money when retire
SRMR	Standardised Root Mean Square Residual
SVH	Savings Habit
SVH1	Follow monthly budget
SVH2	Prepare list before shopping
SVH3	Assure to purchase item that are reasonable price
SVH4	Not spending on item that is not required
SVH5	Always bring small amount of cash to prevent impulsive spending
SVH6	Never bring credit/debit card out
VIF	Variance Inflation Factor

CHAPTER 1

INTRODUCTION

1.1 Study Background

The standard of living and quality of life are the drivers of economic and social well-being. It is the responsibility of households to manage their expenses to meet their expected standard of living. Education, health care, and other factors affect a person's pleasure and are some traits to enhance the quality of life. As the costs of living rises and household income fails to keep up, the standard of living deteriorates. In light of this, it is critical to save money because the future cannot be predicted. Savings also protects and secures one's assets as precautionary spending such as medical expenses and unexpected loss of job.

Savings is essential for socioeconomic development as it often involves the well-being (prudential value or life quality) of a nation, region, community or just an individual. Savings are regarded as a pillar of numerous economic sectors in most countries. The increase in lifespan and longevity has also prompted a large increase in savings behaviour (Curtis et al., 2017). Low fund rate has also become a major monetary issue in Malaysia and has also been stated and shown that many Malaysians have insufficient retirement savings (Shagar, 2016).

Few examples of international countries around the globe that this can be related to are of the United States of America ("the U.S."), China, Ghana and others. The personal savings rates across the globe has been long been a serious concern. Looking at the savings rate of the U.S for instance, the saving rate of households has generally declined from the twentieth century into the twenty-first century, leaving many households

incapable of handling coincidental expenditures or the loss of employment and income during economic downturns (Bucks et al., 2009). Obviously both China and the U.S have displayed developing pattern. Household savings rate in China expanded from 30.7% in 2006 to 37.9% in 2014 while the U.S household savings rate additionally expanded from 4.72% in year 2004 to 5.77% in 2014 (OECD, 2017).

The Malaysian household savings rates in between 2006 and 2014 have unveiled an average of 1.6% (Kok, 2016). Nevertheless, the household savings rate of Malaysia is viewed as low in comparison with both China and the U.S. The declining pattern of the household savings rate of Malaysia is regarded as one of the major concerns of policymakers. About 88% of Malaysians had zero profit in their reserve funds, and Malaysia is endeavouring to be a developed country, yet the saving rate among Malaysians is relatively low (Shukry, 2014). This situation still is happening where the interest return on savings account is low and unfavourable (Gockel & Akoena, 2002). In precise, the society or individual saving benefits the entire nation not just for the benefit of the households as per se. Hence, knowledge is one component that influence society's saving behaviour as it is crucial in maintaining the growth of economy as it contributes to the benefit of households; government; financial institutions; banks; stakeholders; and others.

Retirement is a normative process of older workers with available saving plans and available pensions that are of ease for their financial burdens of retirement; and also referring to the lifestyle transition to the early adulthood of the individuals (Feldman & Beehr, 2011). Nonetheless, retirement is also linked to work stress and family in late midlife and that among these individuals of the midlife; which they are reported to have high levels of work stress that hamper the family life in their midlife (Coursolle et al., 2010).

Commonly, well-being is strongly associated to happiness and life satisfaction. It is also described as how an individual feel about his or her life in which is it a positive outcome that relates to good living conditions such as housing and employment which are fundamental to well-being. The positive experiences in high subjective well-being are vital because they make a person's life more enjoyable. Subjective well-being is described as a person's cognitive and it includes pleasant feelings; low levels of bad moods; and high life satisfaction (Diener et al., 2010).

1.2 Problem Statement

The reality hits when people in the society have inadequate saving for retirement, do not have proper savings account and not saving enough to even last more than five (5) years after leaving the working world is quite alarming. In addition, 90% of rural households have zero savings while in the urban households, 86% do not have savings (Malaysian Digest, 2016). Due to the advances in the provision of healthcare to the general population, increased longevity among retirees within the society is predicted to have profound impacts on family and social dynamics (Abdul Hamid, 2015).

The society savings is significant as it also does affect the family's lifestyle and level of comfort, emergency withholds as well as the ability to meet financial goals and aims i.e. making purchases using cash rather than credit (Anong & Devaney, 2010; Hira, 1987; Lee et al., 2000). Ordinary savers have unexpected mental inspirations in comparison to borrowers in which the obligation is either a disappointment or a typical piece of regular daily existence and gets from adjusting different obligations owing monstrous measures of obligations for example charge or credit cards; student loans; individual advance or loan; housing loan; and vehicle loan (Livingstone & Lunt, 1993). An investigation in Malaysia demonstrated that when comparing certain ethnics or races

for instance Malays are bound to have their costs surpassing their pay and additionally tend to fall prey to credit card obligation (Loke, 2014). In some past examinations and studies that have been carried out, additionally affirmed that race is noteworthy in foreseeing individual monetary conduct (Garrison & Gutter, 2010; Hira et al., 2013; Leon & Pfeifer, 2017).

However in recent years, the COVID-19 pandemic has brought about significant economic challenges for households around the world. Issues that many households have faced include the loss of livelihoods and rising prices. Taking for instance, the COVID-19 pandemic has had a particularly negative impact on the economic activities such as declining income, job losses, and unable to saving money among the B40 group, the lowest income group in Malaysia (Thinagar et al., 2021). The COVID-19 pandemic's effects on the economy, which have had a significant influence on people's everyday lives and finances, have made life more difficult for many. To avoid being financially vulnerable, it is important to have adequate financial knowledge, practice sound financial habits, and have high levels of self-efficacy and self-coping. To achieve the greatest success in an eloquent life, one must have both psychological and material well-being (Fei et al., 2020).

Though there have been enormous efforts taken by the government of Malaysia to encourage and nurture higher levels of saving amongst its society, nevertheless the saving rate remains low and what is more distressing is most society are not earning adequate and sufficient income as most of their disposable income went into servicing multiple debts. This situation further leads to ability to save doubts which ultimately could cause harmful effect to the country's economy development. The younger generations are potentially at risk by the on-going socioeconomic condition if this generation are not planning and saving sufficiently for their retirement in the years to come. According to Bank Negara

Malaysia the annual growth of the household debt increased rapidly at the rate of 5.1% in the first half of 2019. The Malaysian household debts have been on escalating mode and increased by 24.6% for the past ten (10) years of 2007 to 2016 in which the Gross Domestic Product (“GDP”) from 63.6% increased to 88.2% respectively. The household debts however plunged by 4% over the past two (2) years of 2017 to 2018, slight decline from 84.2% to 83.8% respectively. Although there is a slight decline in the household debt for the past two (2) years of 2017 to 2018, this situation remains frightening since heap of adult workers hardly reserve funds for their savings as few would not have sufficient money to buy essentials putting them into financial difficulties and end up with financial loans and borrowings (Webley & Nyhus, 2006).

In line with this, previous research studies have reported that almost/nearly nine (9) out of ten (10) Malaysian households do not have adequate emergency savings apart from having considerable debts of their own (Shukry, 2014; Ngui, 2016). Additionally, the bottom line reason why they could not or/and did not adequately was due to the high cost of living in Malaysia (Credit Counselling and Debt Management Agency, 2018). This phenomenal of the financial well-being of society is distressing but it is actually on-going situation which needs the attention to resolve. Some issues associated with saving money specifically in Sarawak, Malaysia include the low income levels, rising cost of living, lack of financial literacy, unpredictable expenses, cultural factors, and lack of retirement planning. Many individuals in Sarawak face lower income levels, which can make it difficult to save substantial amount of money. The cost of living including housing, food, and utilities has been increasing in many parts of Sarawak making it challenging for people to allocate a significant portion of their income to savings. The limited financial education and awareness about the importance of saving can contribute to difficulties in managing

personal finances effectively. Unexpected medical bills, emergencies, or other unplanned expenses can strain individuals' ability to save money. Cultural norms and practices may prioritise immediate spending over long-term saving, making it challenging for individuals to develop a savings habits. Many people may not have access to retirement plans or may not actively plan for their retirement, which can impact their long-term financial security. According to Department of Statistic Malaysia (2022), the household income report also increased Malaysia's average poverty line income from RM2,208 in 2019 to RM2,589 in 2022. Subsequently, this made clear that Malaysia's absolute poverty rate 8.2% in 2021 is now decrease to 6.7% in 2022, and this means that approximately 6 out of 100 Malaysian households in Malaysia still struggled to cover their essentials.

Hence, there is a need for the society to participate in normal and consistent saving in order to have adequate and satisfactory emergency reserves fund to cushion themselves to survive the financial crises either from inflation or even unemployment as well as to beef up their personal savings necessarily and wisely for retirement well-being and security as long-term goal clarity. That being the case, the framework structure of this research study combines several savings habits that are worth to be explored to determine their significance. Hence, in order to understand the issue as per se and as saving habit is very much concern on an individual's discipline and willingness to curb spending and even hard to stick to their spending plan (budgetary plan) due to their inability to save due to self-control problems, therefore this issue requires some policies, programmes as well as plans to nudge them to save. One potential research gap in saving behaviour studies could be a deeper exploration of the psychological and cultural factors that influence attitudes towards saving, and financial decision making especially in different demographic groups or socioeconomic contexts.

1.3 Research Questions

Considering the aforementioned research study objectives, this research study endeavour to explain the general research study question of “WHY Savings Habits?”

Research Study Question No.1 (RSQ1): What is the relationship between behavioural characteristics and savings habits?

Research Study Question No.2 (RSQ2): What is the relationship between savings habits and retirement savings?

Research Study Question No.3 (RSQ3): What is the relationship between the savings habits with retirement savings and retirement well-being?

These research study questions shall be portrayed in the following concise conceptual research framework (Figure 3.1) which outlines the relationships for the research study

1.4 Objectives

Considering the objectives of the research study as aforementioned, this research study shall consider a thorough study on the savings habits of the society with the following objectives:

- i. To identify the fundamental elements of savings habits.
- ii. To explore the personality of society that build up their savings habits.
- iii. To investigate the outcome of savings habits.

1.5 Scope of Study

The scope of saving habits on retirement savings and retirement well-being involves a comprehensive analysis of how individuals' financial behaviours throughout their lives influence their financial security, quality of life, and overall well-being in retirement. Such research can provide valuable insights for individuals, policymakers, and financial institutions to make informed decisions that enhance retirement outcomes.

1.6 Significant of the Study

This current research study constructs on previous research studies by combining several savings habits into a distinct research study model, exploring the impact on the retirement well-being of society. Most research studies have explored and scrutinised saving habits in connection with life-cycle; precautionary; bequest; and profit. Nevertheless, the self-efficacy however can also be considered as a component to savings habits. Hence, this research study shall also include the self-efficacy as one of the components to savings habits and initiate the pertinent influence of a certain habit as to some extent, previous researchers from past studies have proposed extra indicator of effective budgetary conduct that is the self-efficacy (Farell et al., 2016; Lown et al., 2015). Likewise, it is shown that in Bandura's self-efficacy hypothesis has also turn out to be broadly recognised to improve money related conduct (Lown, 2011). However, there are restricted research studies in relation to self-efficacy with money related conduct (Lown et al., 2015). Predominantly, minor research study has concentrated on different components that perhaps contribute comprehension of the essential monetary conduct or savings behaviour for example the private savings habit.

In terms of practical contribution, results of this research study will likely benefit the financial services providers and policy makers as a tool to cultivate and foster saving habits of the society by developing better tax incentives; social security programs; and other retirement programs. By desirable understanding the reasons that urge society to save as well as encouraging the society to pursue specific savings habits and involve in saving decisions can improve not only the economic growth as a whole, but also the retirement well-being of the society as well as to expand the habitual savings behaviour to sustain higher level of personal savings. Despite, pedagogue such as educators and teachers might need to be considered as well and this include parents and guardians in the exertion of financial savings by stressing the need to it as well as the significance of savings at early stage in terms of age throughout the years. The financial planners; financial advisors; related organiser; and budgetary guides may also be taken into consideration in this study whenever and wherever suitable (Hira et al., 2013).

Also, this research study can contribute to a better understanding of personal financial behaviour leading to insights for individuals and policy makers. It can help identify factors that influence saving behaviour to promote healthier financial habits. Additionally, this research study can shed light on the impact of saving habits on economic stability and long-term financial well-being. The policymakers can use insights from saving habits studies to create policies that encourage responsible financial behaviour and economic stability, by creating more effective financial education programmes and policies by considering cultural nuances and generational trends. The current research study also provide insight into behavioural economics by uncovering the psychological factors that affect people's decisions to save or spend such as social influences i.e. highlight the changing socioeconomic trends, assisting businesses and policymakers adapt strategies and

policies to accommodate the evolving behaviours of individual. One of the most unique aspects of studying saving habits is its potential to reveal cultural and generational insights. This aspect explores how different cultures and generations approach saving, spend, and invest money. Understanding these variations can provide a deep understanding of societal values, economic behaviours, and the evolution of financial practices. The cultural and generational insights from studying saving habits can predict future trends by analysing how different generations approach saving can offer predictions about future economic trends and behaviours of individual or consumer.

By analysing saving behaviours, researchers can gain insights on how individuals manage debt, which can be crucial for addressing issues saving to financial stress and indebtedness. Studying saving habits can also assist to predict consumer spending patterns, allowing businesses to adjust their marketing and production strategies accordingly. With the rise of fintech and digital tools, studying saving habits can aid in the development of innovative solutions that encourage saving through user friendly apps and platforms. In terms of crisis and emergency preparedness, knowledge of saving behaviours can reveal the resilience of individuals or household during economic downturns and assist government plan for financial crises especially during the economic shocks such as recessions or unexpected events like a pandemic (COVID-19), can disrupt individual plans. These shocks can impact income stability and job security, affecting people's ability to save. Hence, by studying how society responds to such events, researcher can assess the resilience of saving habits (preparedness for unexpected expenses and emergencies), and the effectiveness of safety nets (financial cushions) in maintaining overall well-being for a comfortable retirement after they stop working.

1.7 Thesis Structure

The introduction in first chapter of this research study comprises the overview of the current research study focusing on the main concern and unresolved issues for this research study to be executed. It also consists of the research study objectives; research study questions; and significant of the study.

The literature review in second chapter of this research study discusses about the present empirical studies of the proposed research study. There are issues that will be included within the second chapter that comprise of Part One; Part Two; and Part Three. Part One shall explain the definition of savings and related terms; and review the related literature that pertains to society savings behaviour. Part Two contains the definition of habit which is also known as motives in most past studies by defining the term; review the general and common theories associated with habits and behaviour; and thereafter re-examine the literature on saving habits. There are four (4) saving habits that shall be highlighted in this chapter mainly (i) Life-cycle; (ii) Precautionary; (iii) Bequest; and (iv) Profit. Part Three of this chapter recites about the literature that pertains to the retirement well-being. This part shall narrate the theoretical subjects by deliberating its constraints and provide substitute hypotheses. Statement and heuristic testimonials derived from past researches shall also be incorporated for supporting and justifying the theory of this research study.

The research model and hypotheses in third chapter shall discuss detailed hypotheses of the research study objectives. Suggested relationships between variables shall be presented and justified based on the earlier associated works. The research study questions shall then be delivered together with hypotheses for testing.

The research study methodology in fourth chapter of this research study shall elucidate and prove the methodology selected able to answer the research study questions. The philosophy of the research study shall also be discussed within this chapter and thereafter justification for adopting primary data as well as the basis for the collection of data shall also be provided. The collection of primary data shall be a set of questionnaire for gathering useful information from the society for the construct of this research study. This chapter shall then denote the survey methods. This chapter shall also include variables of interest to the research study and descriptive statistics of the variables pertinent to the research study.

The qualitative analysis in fifth chapter of this research study shall details about the interviews conducted with working adults giving understanding of the qualitative data analysis. In this chapter it also elucidate about the data gathering process that include timing, location and categories of participants. Subsequently, the quantitative phase also include the essential step by classifying the information that is by downsizing the chunk of information collected into smaller class or categories during the qualitative analysis process in the research study. The outcomes during this phase of the research study will be analysed in the final section of the chapter with the results being classified into key themes to provide a greater understanding of savings and retirement goals and strategies.

The discussion in sixth chapter of this research study will recaps the outcomes derived from both quantitative and qualitative research studies and thereafter providing the meaning of the research study explored in terms of its fundamental commitments and in what manner it associates with the current research study. The chapter shall also include the outcomes from both these method stages of the research study including the recommendations and ideas for society in relation to saving habits and retirement well-

being. In view of the research study's objective, the key outcomes will also be discussed in this chapter. The implication of the outcomes for future research about saving habits among the society shall also be discussed here.

The conclusion and recommendations in seventh chapter of this research study discuss about the implications for policy and future research study, limitations and also to propose future direction as a way forward for policy makers, regulatory bodies and society (working adults) that focus on the well-being of working adults for the retirement well-being of the society.

1.8 Chapter Summary

Chapter 1 has discussed about the overview of the research study emphasising on society savings habits and retirement well-being which motivated the execution of this research study. The matters to which were emphasised comprising various patterns in savings behaviour across the globe as well as disparities between saving theories and empirical data. Acknowledging these matters for the execution of the present research study, the chapter then journeyed on by detailing the research study objectives; research study questions; and plotting the research study framework structure.

In the preceding Chapter 2 shall discuss pertaining to past empirical researches relevant to this field of research study and some related contribution to it as well as the theory that is to be adopted. The chapter shall also identify the gaps in the literature.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

The issue of society savings habits (behaviour) is still an unresolved matter. This research investigates the elements and determinants of society's savings behaviour. In consonance with this, the research study was planned to be executed by reviewing the associated and relevant literatures in recognising the key issues concerning to savings behaviour; savings habits; and financial determination.

The remaining of this chapter shall consider the aforementioned key issues of the literature in a chronological manner. Section 2.2 describes and explains related terminology of the society savings behaviour associated with this research study and thereafter reviewing earlier research studies on society savings. Section 2.3 covers about savings in general context that includes the habits overview and its relevant ideologies. Section 2.4 scrutinises the literature pertaining to savings.

2.2 Habits as an Antecedent

Habits in the perspective of savings behaviour are viewed as pertinent. The subject of habits in understanding human behaviour has been long the interest and attention to researcher as well as theorists from vast range of disciplines and school of thoughts. Attitudes and intentions; expectancy and value; and reasons are few part of the elements that have been proposed as the antecedents of behaviour (Fishbein & Ajzen, 1975; Ajzen, 1985; Mitchell, 1974; Westaby & Fishbein, 1996). Not only elements provide novelty

toward theoretical knowledge, but they also contribute toward the practice to assist involvement programmes by policy makers.

Habits as an extend to behaviour have also been considered as the interest of research study as it is sighted as being able to impart in depth understanding into the basis of why people behaving in certain manner. Various theories anticipated to describe the relation between behaviour and its antecedents. These have been included in theories such as Theory of Reasoned Action; Theory of Planned Behaviour; Reasons Theory; and Behavioural Reasoning Theory (Fishbein & Ajzen, 1975; Ajzen, 1985; Westaby & Fishbein, 1996; Westaby, 2005). The remaining of the sections shall provide overview pertaining to habits explaining the meaning of the terminology and related ideologies. Sub-section 2.2.1 shall define habits from a psychological perspective and subsequently sub-section 2.2.2 shall scrutinise some ideologies in terms of habits and behaviour.

2.2.1 Definition of Habits

Generally, savings habits are defined as a frequently practices behaviour which is executed without any sense of awareness with the aim of increasing funding and wealth for life values in the future for example retirement, education, health and others. However, some literature reviews habits as two (2) types i.e. the naïve (myopic) and the rational in the context of demand system in which the people whom are the consumers are aware that their habits are the forming effect of their consumption (Pollak, 1970; Spinnewijn, 2015). There are eight (8) motives that are actually connected to savings habits i.e. precautionary; life-cycle; intertemporal substitution; improvement; independence; enterprise; bequest; and avarice (Keynes, 1936) and this understanding have been adopted in subsequent journals and periodicals. Savings habits or savings motives are used for a variety of purposes, including crises, set aside funds for necessities, retirement (old age), children's needs, and

purchasing a home or durable items and for vacations (Katona, 1975). Savings motives are also related to savings habits that pertain to three (3) categories such as save regularly; save irregularly; and do not save (Fisher & Anong, 2012).

Savings habits often been associated with the volume and amount of money saved and reserved aside which affect a person's standard of living, unexpected incidents or emergency needs and the reservation of cash funds whereby credit terms are prioritised (Anong & DeVaney, 2010). On the other hand, savings habits are actually associated to savings motives (Fisher & Anong, 2012). Also, there were research studies that had classified the psychological classification of savings such as the regular savings (discretionary); irregular savings (residual); and not saving (dissaving) (Katona, 1975). Further to this, the motives behind saving habits vary from person to person and are influenced by a combination of factors, and some common motives for saving habits are presented in Table 2.1 as follow:

Table 2.1: Motives for Saving Habits

Motive	Statement
i. Financial security	People save to have a safety net and be prepared for unexpected expenses or emergencies. The perception of people about financial security and standard of living is when they are able to settle expenses such as debt and have some money left over from income for savings (Powell et al., 2023).
ii. Future goals	Saving is often done to achieve specific long-term goals, such as buying a house, funding education, or retirement. As people gets older and aged, they are more keen and interested about long-term financial planning, which also increases their financial knowledge (Sims et al., 2023).

Table 2.1: continued

iii. Investment	People may save to invest in assets or ventures that can generate returns and grow their wealth. Several investment options include saving money in bank account, which is the common type of saving, and other type of saving include Tabung Haji, Employee Provident Fund, fixed deposit, Skim Simpanan Pendidikan Nasional, and the Sijil Simpanan Premium (Sabri et al., 2020).
iv. Retirement planning	Saving for retirement ensures a comfortable and financially stable post-work life. Pensioners who pre-planned for their retirement adjusted to post-retirement life more easily than those who did not. The implication of this is that pre-retirement preparation helped pensioners adjust to their life after retirement for instance overcoming the mental trauma and stress that come with retirement, and in this regard, pre-retirement planning and post-retirement adjustment are strongly connected (Egboh et al., 2021).
v. Debt management	Saving helps individuals pay off debts and avoid financial burdens. The youthful employees' financial well-being may improve and their burden of debt might decrease as a result of increased financial management awareness. Younger people in Malaysia are generally more financially vulnerable, and that is worrisome considering financial issues at a young age could be extremely costly, and adversely impact a person's lifetime financial welfare (Fei et al., (2020).
vi. Legacy and inheritance	Some save to leave a financial legacy for their loved ones. Older adults' views can affect their decision-making and financial behaviours. Older

Table 2.1: continued

	consumers represent an ideal demographic for new and specific financial choices as they are more educated, actively engaged, and invested in sociocultural activities. As a result, their purchasing power and access to information are growing, and they are becoming more conscious of and knowledgeable about their choices Guido et al., (2020).
vii. Lifestyle choices	Saving can support certain lifestyle choices for instance early retirement. Early retirement can be a positive life change which indicates a person's ability financially to prevent them from being paid from their employment. This choice may be driven by health issues, job satisfaction, or financial literacy Naziman et al., (2022).

2.2.2 Habits and Behaviour (*A Theoretical View*)

Prior to the section discussed, habits are often associated with behaviour. In view of this, the concept of habits has attained abundant attention and interest from pragmatic psychologist and theorist to describe and characterise human behaviour. Diverse theoretical frameworks were actually have been used such as the Theory of Reasoned Action; Theory of Planned Behaviour; Self-Efficacy Theory; Model of Goal-Directed Behaviour; and Behavioural Reasoning Theory are few of the notable theories that have been used and applied in examining human behavioural actions (Ajzen & Fishbein, 1975; Ajzen, 1985; Bandura, 1997; Perugini & Bagozzi, 2001; Westaby, 2005).

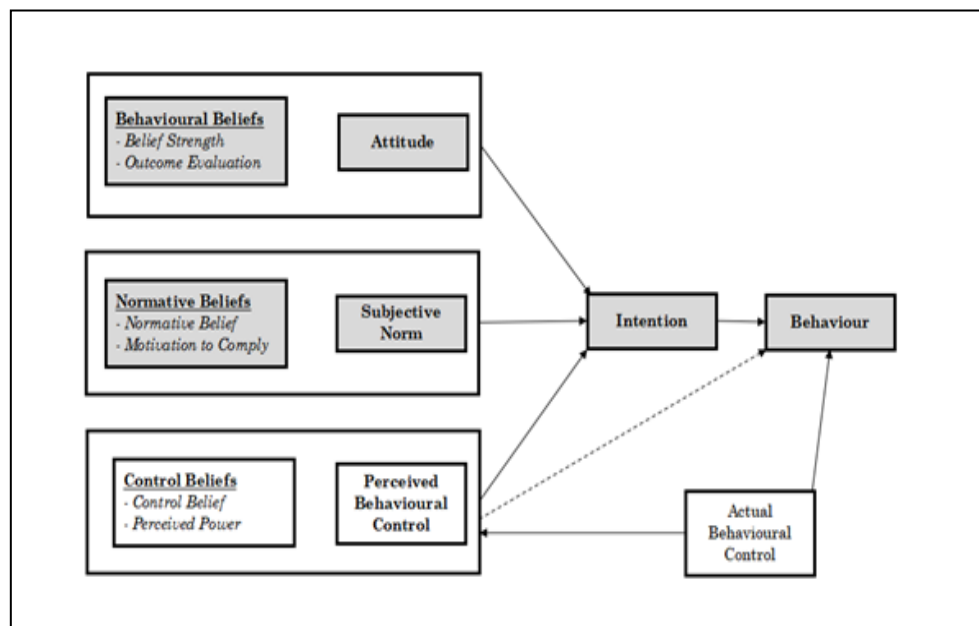
Behavioural economics is a field that incorporate psychology and economic concepts to understand how people make decisions from a robust situation and help to

better explain human behaviour (Vlaev et al., 2019). There are few prominent theories in the behavioural economics. It is a prospect theory whereby it suggests that people value potential losses and gains differently, often making decisions based on perceived gains rather than overall value. Loss aversion is a theory when people tend to weigh losses more heavily than gains, which can lead to irrational decision-making. The loss aversion biases cause individuals to disproportionately allocate money to low-risk assets, which results in inadequate investment allocation. Additionally, framing effects have an impact on decision-making by influencing how people perceive and prioritise risk (Awais et al., 2023). Anchoring is a theory whereby people tend to rely heavily on the first piece of information they receive when making decisions, even if it is irrelevant (Flyvbjerg, 2021). In other words, people use an “anchor point” of an event or a value that they know in order to make a decision or estimation. Thus, in the economic context, anchoring is best explained when people often purchase things because it is a good deal although discounted products still require people to spend money. The discount from the higher price (the anchor) makes people feel like they are saving money, although they are still spending. In some cases, discounts can cause people to spend more money instead of less money. The concept of nudge theory, which is a component of behavioural economics often, explains how psychology affects the decision making process of a person such as consuming, saving, investing and productivity (Leal & Oliveira, 2021).

2.2.2.1 Theory of Reasoned Action (1975)

The Theory of Reasoned Action was developed to provide a framework pertaining to behaviour with intention as an antecedent (Ajzen & Fishbein, 1975). According to the Theory of Reasoned Action, the conduct or act of behaviour is the result of a person's desire to do the behaviour, which is in turn decided by two (2) factors: the person's attitude

toward the behaviour and the subjective norm. The attitude is defined as a person's overall opinion of the performance of certain behaviour; with the more favourable the person's evaluation of the behaviour, the more likely the intention to perform the act of behaviour would be positively influenced. The subjective norm, on the other hand, refers to the opinions of a person's close friends about a given activity. Perceptions are thought to have an impact on a person's decision to engage in specific behaviours. Thus, the influence from the significant others positively affect the behaviour of another person. This is shown in the conceptualised Theory of Reasoned Action (shaded boxes) together with the Theory of Planned Behaviour (non-shaded boxes) as diagrammed in Figure 2.1 as follow.



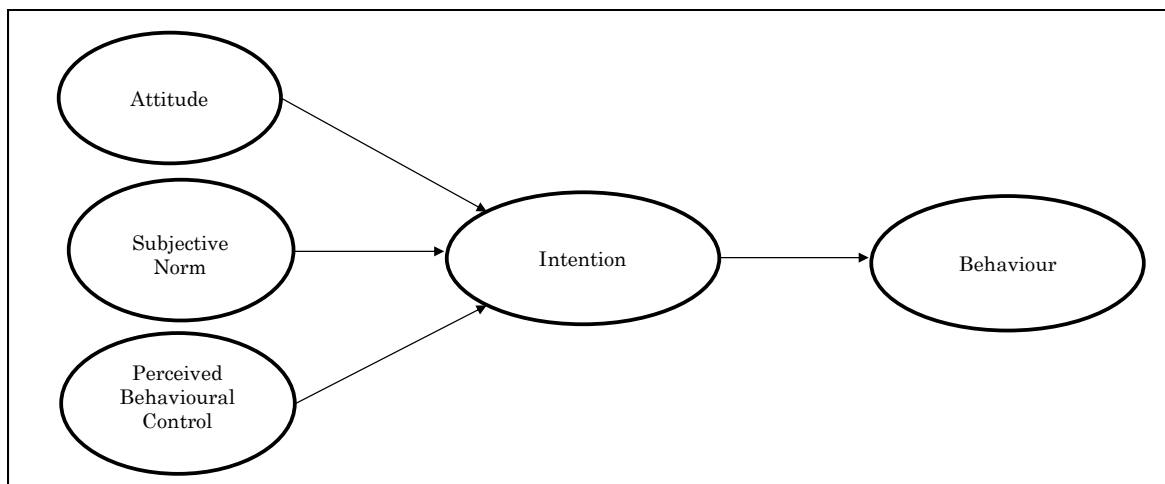
Source: Fishbein & Ajzen, 1975 (shaded boxes); and Ajzen, 1985 (all boxes)

Figure 2.1: The Theory of Reasoned Action and Theory of Planned Behaviour

The Theory of Reasoned Action can be a valuable basis for understanding and promoting savings habits that lead to well-being. By addressing attitudes, subjective norms, perceived behavioural control, and well-being outcomes, the positive financial behaviours can be fostered to enhance overall life quality.

2.2.2.2 Theory of Planned Behaviour (1985)

The Theory of Planned Behaviour (1985) is an extension to the Theory of Reasoned Action (1975). This theory also included another antecedent that makes it the third antecedent of intention namely behavioural control despite the former two consists of attitude and subjective norm (Ajzen, 1985). In this theory, beliefs within comprise of behavioural beliefs (beliefs about the likely outcomes of the behaviour and the evaluations of these outcomes) that influence attitudes; normative beliefs (beliefs about the normative expectations of others and motivation to comply with these expectations) that affect subjective norms and control beliefs (beliefs about the presence of factors that may facilitate or interfere the performance of the behaviour and the perceived power of these factors) that shape perceived behavioural control. The Theory of Planned Behaviour is shown in the following Figure 2.2.



Source: Ajzen (1985)

Figure 2.2: The Theory of Planned Behaviour

According to the Theory of Planned Behaviour, an individual's attitude toward behaviour significantly influences their likelihood of engaging in that behaviour. Hence, in

the context of savings that lead to well-being, this means that if a person holds positive attitude toward saving money for example seeing it as means of securing their future and reducing financial stress, they are more likely to develop and maintain effective savings habits.

2.2.2.3 Self-Efficacy Theory (1997)

Self-efficacy is referred to the belief of a person with potential and confidence to execute and accomplish a particular behaviour with no attempts in executing unsuccessful behaviour which he or she believes. The belief and confidence of a person internally will affect how the person feels; thinks; behaves; and motivates themselves, and this in turn developed through four (4) stages of process namely cognitive; motivational; affective; and selection. Furthermore, this notion has been described as the most important requirement in terms of behavioural shift as it influences the conscious and intentional reactions derived from emotions and cognitive actions. Individuals who have a higher level of self-efficacy are more confidence in their abilities to execute and complete activities with higher determination of optimism and aggressive to achieve an outcome and consequence successfully. Meanwhile, those individuals with low levels of self-efficacy are tamer and lack of confidence level to execute and perform challenging tasks (Bandura, 1994).

The self-efficacy theory classified the belief in two (2) categories such as (i) outcome expectations which refers to the ideologies whereby particular action or conduct will develop specific consequences; and (ii) efficacy expectations which refer to the beliefs that an individual can successfully execute and perform the behaviour to churn out a desired outcome and consequence. This theory further describes that the self-efficacy mould the habits mindfulness of individual whereby they have set this as an obligation and

target for themselves. As the saying of Gandhi about the pivotal element in any person lives:

“Your beliefs become your thoughts. Your thoughts become your words. Your words become your actions. Your actions become your habits. Your habits become your values. Your values become your destiny.”

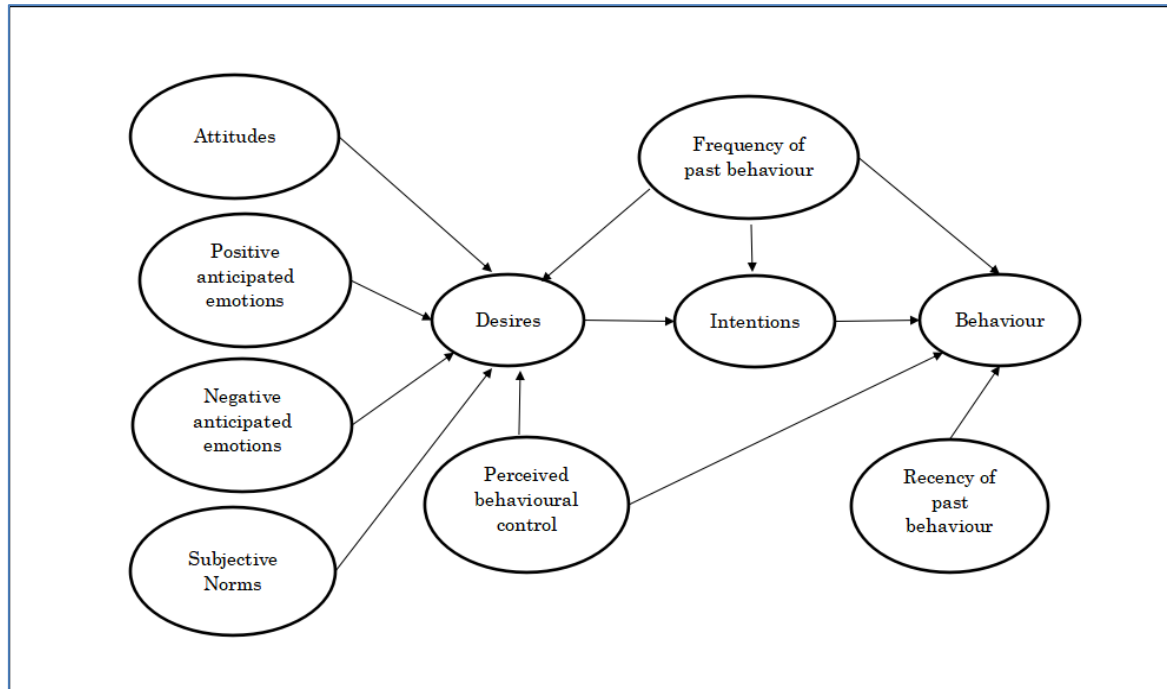
Further to this, Bandura’s Theory of Self-Efficacy had also elaborated that expectation such as habits; performance; and feelings such as frustration in connection with repetitions of failures will have influence over affect and behavioural actions. The self-efficacy theory has explained in detail about the relationship and links between belief; attitude; intention; and behaviour and these have been the base of various researched in most of thoughts and various field of research studies.

Incorporating self-efficacy theory or principle into the financial education programmes, personal finance apps, and financial counselling can enhance individual’s confidence in their ability to save effectively, ultimately leading to improving financial well-being.

2.2.2.4 Model of Goal-Directed Behaviour (2001)

The Model of Goal-Directed Behaviour (2001) is the enhancement of the Theory of Planned Behaviour of Ajzen. This model has two (2) variables being included namely the explanatory variable and mediating variable to the latter. Emotion and desire are forecasted as the key determinants of behaviour based in the Model of Goal-Directed Behaviour. As in the former explanation which pertains to the Theory of Planned Behaviour in the preceding sub-section had explained that attitude; subjective norms; and

perceived behavioural control influence the intentions which in the end predicts behaviour (Perugini & Bagozzi, 2001). The relationships of these are shown in Figure 2.3.



Source: Perugini & Bagozzi (2001)

Figure 2.3: The Model of Goal-Directed Behaviour

Based on the model of Goal-Directed Behaviour, one of the improvements made to the Theory of Planned Behaviour is the integration of the intended sentiments and feelings added as an additional variable to the former antecedents of the earlier Theory of Planned Behaviour. Figure 2.3 portray the relationships between variables in the Model of Goal-Directed Behaviour the intended sentiments and feelings. In the Model of Goal-Directed Behaviour, both positive (realisations of goals achieved) and negative (realisations of goals failed) intended sentiments and feelings are inclusive.

In the Model of Goal-Directed Behaviour the frequency of past behaviour and recency of past behaviour are also included. The frequency of past behaviour is hypothesises to impact the desires; intention; and behaviours. As portrayed in Figure 2.3

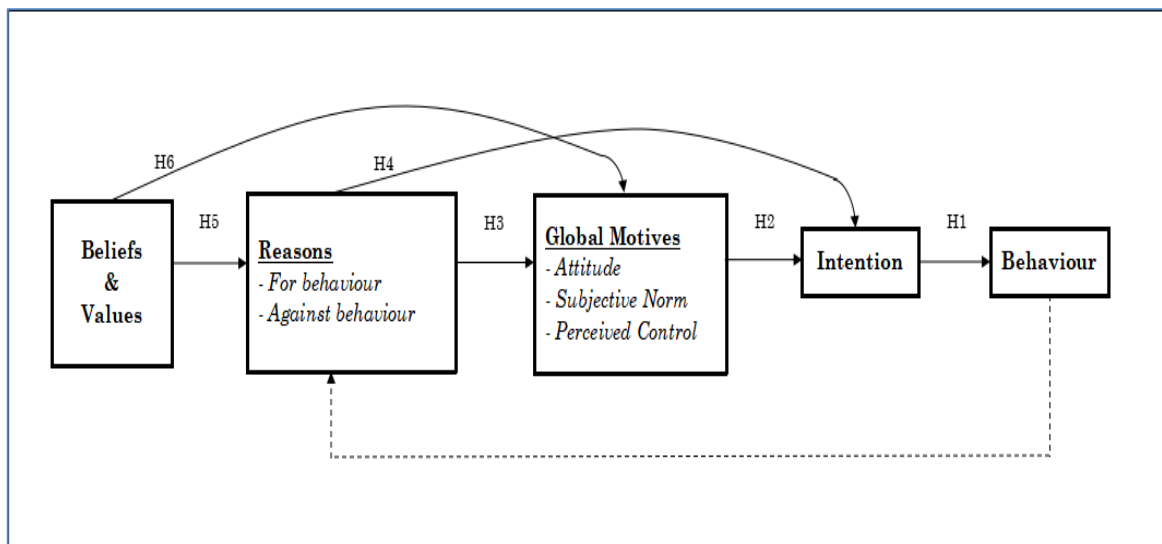
the recency of past behaviour influences the behaviour alone. In addition, the behaviours that are repetitively performed and frequently practices are actually reflecting the habit strength. In short, the Model of Goal-Directed Behaviour postulates that the intended sentiments and feelings together with attitudes; subjective norms; and perceived behavioural are mediated by desires to form intentions. Hence the main proposition of the Model of Goal-Directed Behaviour Theory is that the emotions of individuals are channelled through desires that consequentially lead to habits directing to the strength of the antecedents toward intentions and then behaviour.

Consequently, by applying the Model of Goal-Directed Behaviour to savings habits and well-being, it clearly define individual's savings goals whether it is an emergency fund, a major purchase or retirement, having well-defined goals provide motivation and direction. In summary, individual can effectively establish and maintain savings habits that contribute to their overall well-being and financial security.

2.2.2.5 Behavioural Reasoning Theory (2005)

The Behavioural Reasoning Theory (2005) is an extended version of earlier behavioural intentions Theory of Planned Behaviour Model that posits reasons associated with belief; global intention (e.g. attitudes; subjective norms; and perceived control); intentions; and behaviour (Westaby, 2005). This said theory also assumes that the reason that influence the global intention by justifying as well as rationalising the person's actions and that the behavioural intention model such as the Theory of Planned Behaviour is based on the belief concepts (e.g. behavioural; normative; and control beliefs) that give understanding toward certain factor affecting behavioural.

Based on the following Figure 2.4, parallel to other behavioural theories, the intention is hypothesised to have significant influence over behaviour. Subsequently in prior models, intentions can be predicted by global motives. The novelty of this theory i.e. reasons have been included to the model and that it is a predictor to the global motives also known as habits. In addition, reasons are the consequences outcome resulted from an individual's beliefs and values. The dotted lines arrow connecting behaviour and reasons reflect the reasons after the conduct of behaviour.



Source: Westaby (2005)

Figure 2.4: The Behavioural Reasoning Theory

Further to this Behavioural Reasoning Theory, the relations between the global motives and belief concepts incorporated to reasons are important to give more of comprehensive understanding of behavioural study. In summary the common and general importance of all these said behavioural theories postulated that behaviour happens chronologically after an intention is formed and shaped, inferring that intentions are the main element of planned behaviour (Westaby, 2005).

In summary, when applying the Behavioural Reasoning Theory in the context of savings habits and well-being, it can offer insights into why people save, how they make savings-related decisions, and how these decisions contribute to their overall well-being.

2.2.3 Other Factors

The general definition of financial literacy refers to the understanding of how money is made; spent; saved; skills and ability to use financial resources to make decisions such as how to generate; invest; spend; and save money wisely. Financial literacy refers to how an individual understands and uses his or her own personal financial-related information which consist of financial decision making. The older an individual gets, their financial matters grow because to them this is vital and fundamental to put savings aside for purposes such as retirement; paying loans; funding children's education; and other investments (Huston, 2010). Financial literacy is also described as the sufficient knowledge pertaining to facts on personal finance which is the key to personal finance management. The lack and insufficient knowledge in personal finance, complicated financial situations, complex choices for decision making on finance as well as time constraints about personal finance are the hindrances to financial literacy (Garman & Fogue, 1997).

Financial literacy also concerns on the retirement security, having the financially literate that are more likely to plan for retirement; having said that women are less financially literate than man, the young and old are less financially literate than the middle-age and more educated people are more financially knowledgeable (Lusardi & Mitchell, 2011). On the other hand financial literacy is defined as "having the knowledge; skills; and confidence to make responsible as well as rational financial decision by considering all

matters pertaining to individual's personal circumstances and make optional choices” (Shanmugam & Abidin, 2013). Financial literacy is also about a person's personal money management in their daily life within the changing society in pursuing to achieving the necessary perception, developing financial literacy skill or financial knowledge and understanding the impact of their financial decision making on themselves, others as well as the environment (Remund, 2010). The majority of individuals who are financially savvy are likely to have substantial saving habits for their retirement well-being and for planning for their retirement years as they could comprehend what would happen if they didn't have sufficient funds to sustain themselves during old age (Adee & Lau, 2022).

Other study had encountered that low level of financial literacy is a problem that caused individuals to suffer credit problems which also leads to bankruptcy, and concluded that by having a higher level of financial literacy an individual can ensure that their spending and saving activities are well prioritised and concerned in order to achieve satisfactory level of financial well-being (Ali et al., 2013). In a past research study actually reveals that insufficient level of financial literacy, no knowledge of money management and intention to spend cash as soon as people receiving it are part of the factors that lead to insufficient savings (Der Hovanesian, 1999). This can eventually lead to significant financial stress early in their daily lives as many living beyond their means and they are tangled in emotional spending as the study by some scholars showed that Generation Y for example make up the large number of pool with a high spending power (Asian Institute of Finance, 2015). People with higher level of education are found to save more of their income (Liberda & Tokarski, 1999).

It has also been concluded that higher education leads to less financial concern and also people with higher education have less or lower savings rate due to their expectations of higher income earning in the future (Cude, 2010; Rha et al., 2006). However, other study revealed that the relationship between both education level and financial concerns have been rejected as it shows no correlation between these two (2) variables (Taft et al., 2013). The appointment of savings among educationists exhibited the rates of savings are greater as compared to the group of individual who have acquired higher levels of education (Browning & Lusardi, 1996). Having these stated, the outcomes are non-remarkable as education and income seem to be immensely correlated to each other. Having reviewed the various theories of behaviour and other elements that are associated with behaviour, the following section discusses the issue of society's savings habits.

2.3 The Act of Savings

2.3.1 Definition

In the layman term, saving is defined as a reduction in the amount of money that is used or needed as well as the money that one has saved in a bank, financial institution, coin box, safe box, and other mode or method for their future use.

According to Keynesian economic terms in the macroeconomics, savings is referred to what a person has left over after a person's cost of consumer expenditure, the spending deducted from the total amount of disposable income earned in a given time frame which is equated as $Y = I + C$, also $S = Y - C$ or $Y = S + C$ where these two (2) equations can be derived to a conclusion as $S = I$ where Y ; I ; and S are income; investment; and saving respectively. Hence, the saving can be used to multiply income through investing in various investment methods (Keynes, 1936). On the other note, it can

be argued that saving has double taxation notably by Fisher “when people decide to save, they are being taxed first on the income they use to buy capital goods and later on the income they use to buy capital goods” (Fisher, 1930). In the microeconomics aspect, based on the Keynesian economics theory marginal propensity to save (MPS) is equated as $MPS = \text{Change in saving} \div \text{Change in Income}$. The MPS refers to the proportion of an aggregate raise in income that a consumer saves rather than spends on the consumption of goods and services. In another word, MPS is the proportion of each added ringgit of income that is saved rather than spent.

Meanwhile, the definition of saving was equated in which the budget condition for financial assets is given as $A_{t+1} = (1 + r) A_t + Y_t - C_t$ where A ; r ; Y ; and C are financial assets, real interest rate; earning; and consumption respectively (Browning and Lusardi, 1996). Thus, the saving is equivalent as $A_{t+1} - A_t$ and reflects the second saving definition subtract the first definition (excess of income over consumption), saving is equivalent as $rA_t + Y_t - C_t$ where $rA_t + Y_t$ which equals the earned plus capital income. This definition of saving according to them both implies passive behaviour as it can be referred as the result of the residuals of income over consumption.

Saving differs from savings. Hence, distinguishing both this terms is crucial. According to the layman term, the former refers to the act of increasing one’s assets, whereas the latter refers to one part of one’s assets such as deposits in savings accounts, or to all one’s assets suggested that both saving and savings are not synonymous whereby there is a distinction between these two (2) consumption at the present moment in order to be able to consume at a later period of time whereas savings (hereafter wealth) refers to an amount of assets (Reinsdorf, 2004; Poole, 2007). A money box or best known as coin box,

special hiding place in drawers or even some other private location or spot could be considered decent to keep saving (Rendon & Kranz, 1992).

2.3.2 Factors Affecting Saving Behaviour

The fact of the declining rate of savings create attention to the current research study in scrutinising the various researches which exploring as well as investigating the savings behaviour at the society level. Throughout the years, level of the household debt has increased significantly in many countries. The households are spending more than what they can actually afford or worst still they are using all or most their income to pay off their debts (Rahman et al., 2016). According to CEIC data (2021), the habitual patterns of lacking in savings awareness is seen on the results of debts amount derived from the overuse of credit; poor budgeting; over spending; inadequate shopping and spending skills; low salary; as well as lack of financial literacy pertaining to money management.

The number of accounts can also influence the society savings and spending decisions. Individuals would actually save more with only a single account as compared to multiple accounts (Mishra, 2013). Meanwhile, in some other case, it was examined that the factors influence the decision making of society investment making comprise of how much to contribute, which fund to invest in and how much to allocate to each of the funds (Goldstein et al., 2008). Part of the key interest of research study on society savings pertains to the investigation in the savings tendencies among demographic groups of the population whole. Data and information that pertains to the demographic elements or antecedents can actually explains the variations as well as transitions in savings (Banks & Tanner, 1999). There were also discoveries made and those three (3) demographic variables namely age; gender difference; and age differences are said to have indication in

the hypotheses and being the most powerful predictor of savings and spending habits (Furnham, 1999).

Few studies however revealed that the credit mentality of “own now, pay later” was spreading among younger people and have suggested that savings trends fluctuate significantly among households although other socio-demographic background of households are consistent (Urbis et al., 2008; Venti & Wise, 1998). The variances have been ascribed based on preferences and attitudes such as risk tolerance; time preferences; future uncertainties; occupational choices and lifetime earnings (Bernheim et al., 2001). Hence, triggered by these various disparities associated with the household savings, the current research study aims to determine the elements that influence savings by examining the savings habits of society.

There have been suggested that in some literature on other socio-demographic and socioeconomic aspects which also determine the savings trends across households in term of occupational status; type of family and size; cultural and racial; as well as marital status. The occupational status; biological type of family and size of household; cultural; as well as racial differences are part of the other socioeconomic aspects that are associated with savings patterns being studied previously and found to be correlated to the savings behaviour of society (Guariglia, 2001; Liberda, 1999; Gutter et al., 1999).

It has also been suggested that the children’s behavioural of savings appeared to be significant whereby as the children are grown up, they emerged to understand the practices and advantages in savings and that they gain much from savings and required to be mentored and nurtured to learn the habits of savings (Sonuga-Barke & Webley, 1993).

Married couple for instance are said to be more prone to contribute to the higher savings rate whereby this has been identified as one of the determinants of savings (Alessie et al., 1999). The existence of children in most married couple result in negative effect on savings that the higher expenses experienced by families with children will leave them with lesser amount for their savings (Browning & Lusardi, 1996). It has also been proven that households of married couples tend to save more (Avery & Kennickell, 1991). However on the other hand, some empirical research study proved that household with children tend to save less due to the need to struggle with the expenses to support the children (Douthitt & Fedyk, 1989). In a research study analysis indicated that marital status transitions and children have significant effects on optimal households' savings decisions (Love, 2010).

Some vast research study showed that society had indicated that they have been cutting down on their monthly expenditures and forgoing important expenditures which inclusive children's education; private medical care; and entertainment expenditures; as well as society switching and diverting to cheaper brands of goods and reducing number of trips to town and that these are also the cause indicators of society cutting down their expenses (Ling & Wong, 2012).

Both age and saving have been reported to have positive relationship in many research studies in which the aspect that correlating and affecting the peak of savings behaviour can be seen in old age that is between the age of 60 and 65 years old. As a person ages or grows older, his or her savings rate is relatively higher or stronger (Browning & Lusardi, 1996). This is also in line with other research and analysis of the financial behaviour that pertained to British house which supported the positive correlation

between ages and savings behaviour, savings rate was positive and it grew in older age (Demery & Duck, 2006). However, some literature reviewed that the relationship between both age and savings are quite vague as discrepancy seems to exist in between the hypothetical suggestions (theoretical) and observational proof (empirical).

Both male and female have distinctive risk or hazard management which influence the savings as well as spending choices they make but it is however unclear and not much information pertaining to how the savings behaviour differ between both the males and females as per se (Croson & Gneezy, 2004). Nevertheless, in the case of studies conducted in the United States of America found that the financial behaviour and the level of savings are essentially distinct between genders as women commonly have lower level of savings as well as wealth if compared to men (Gottschalek, 2008).

Also recent factors that also influence society's savings behaviour include digital banking and financial technology (fintech) platforms that offer automated savings options that encourage individuals to set aside money regularly. The impact on saving behaviour is influenced by an individual's level of financial literacy in the digital age whereby the higher the individual's level of digital financial literacy, the better effect on saving behaviour (Morgan et al., 2019; Setiawan et al., 2020; Rahayu et al., 2022). Apart from the digital banking and fintech, behavioural economics and nudging are also the factors that influence society's savings behaviour for instance setting default options for saving portion of income, providing incentives for achieving savings goals, and using reminders are part of the nudging systems used towards saving.

Hence, it is pertinent to studying society's saving habits as it provides a broader and more comprehensive understanding of financial behaviours and economic trends. While

both the individual/ household-level and societal-level studies have their merits, focusing valuable insights for several reasons such as comprehensive on society's saving habits can yield or macroscopic perspectives that allow researchers to analyse saving habits in terms of patterns, trends, and correlations that might not be apparent when looking solely at individual behaviours. In the context of socioeconomic factors, saving habits can be influenced by cultural norms, societal pressures, and economic conditions and with these it provide more complex and detail understanding of the broader context. In addition, when the study is conducted at a society-level, policymakers can better tailor their interventions to address systematic issues related to savings and financial stability and develop strategies to encourage saving on a society scale.

Pursuant to these, the subsequent section reviews the literature relating to habits in general, prior to the matter associated with society savings habits.

2.4 Reasons of Savings Habits (Why)

In the preceding section, the general definition and meaning of habits have been explained as well as the theoretical reviews of behaviour and habits were addressed. Commonly, the habits have its basis in psychology and have been described as the indication of instinctual need that has the power of driving the behaviour of an individual. Savings habits encompass three (3) categories, and is said that savings habits are for making routine instalment payments for asset such as mortgage, a forced or obligatory savings (this savings habits is also known as contractual savings), discretionary savings whereby a person purposefully saves; and residual savings whereby a person does spend all of his or her income but saves by default (Katona, 1975). The savings habits of individual are the cushions for future's unforeseen as well as upcoming circumstances of life and that they also found the average monthly income and income from family

members have the direct relation with the savings habits among the society. Further to this, the research study had also recommended that educating people as well as creating job opportunities actually improve the savings habits in the community where the society lives in (Fenta et al., 2017).

The behavioural economics provides insight into savings habits by shedding light on the psychological factors that influence individuals' decisions about how much to save and when to save. Few behavioural economic theories that play a role in understanding saving habits consist of hyperbolic discounting and present bias, mental accounting, anchoring and framing, social norms and peer effects, and self-control problems. In hyperbolic discounting and present bias, people often prioritise immediate rewards over future ones, leading to under covering for the long-term. According to Herrnstein (1961), the founder of hyperbolic discounting theory a person decides to take out a high-interest loan while knowing that it would be wiser to wait and accumulate their savings slowly because they need the money immediately. The behavioural economics idea of mental accounting claims that people have different opinions for money, which causes them to make irrational decisions. Based on Thaler (1999), the mental accounting is treating all money equally and as a fungible commodity, regardless of where it came from or what it was utilised on. Anchoring and framing whereby saving options are presented can impact decisions. These occur when people support their saving decisions to a reference point, and how people perceive the importance of saving in different levels. The anchoring and adjustment heuristic is frequently used by individuals to adjust their estimations depending on past knowledge and reference data, suggesting people are not always rational when making decisions (Tversky & Kahneman, 1974). The anchoring effect is a solid theory that has been supported in a variety of fields, such as bank lending (Dougal et al., 2015),

value evaluation and economic decision-making (Chang et al., 2016). In the context of social norms and peer effects, people may adjust their saving behaviour to match perceived social norms or the behaviour of their peers. If saving is seen as socially desirable, individuals might save more to uphold for instance it was discovered that retirement savings behaviour was influenced by the employment situation. The proactive approach from the employer offering retirement benefits and the employees' belief of the employees in their employer had a beneficial impact on the levels of membership and contributions (Roberston, 2019).

Hence, it is reasonable to forecast that society seek to achieve promising and favourable outcomes when savings instead of psychological system or approach affirming and influencing their savings behaviour.

2.4.1 Life-Cycle

Over the course of a person's lifespan, their earning and spending contribute to the life-cycle savings (Keynes, 1936). In most cases, the changes and situation of earning and spending occur based on the chronology of life such as during when they are either single, married, upgrading standard of living or lifestyle, have children expenses and other. Both savings and consumption are a choice whereby household have to ponder the consumption now and afterward (Gough & Sozou, 2005). In short, if household consider instant consumption better than afterward, then the households would prefer to consume now better than savings afterward and in the future. However, in some past literature, there have been aspects of argument, that ordinary individual or person may not always be acting and behaving as rationally as they are, as claimed by the Life-Cycle Hypothesis assumes and predicts, very affected the emotions and their "bounded rationality" (Simon, 1955).

Life-Cycle Hypothesis, a salient economic ideology founded by Modigliani and Brumberg (1954) believed that as the nations' incomes grew, it would show savings result; hence savings are non-related to age. Further to this, the savings of society increases over the Life-Cycle until the utmost or highest level at peak and thereafter declines when they retire. Households with higher income uncertainty tend to save more (Bartzsch, 2008). Savings behaviour is influenced by the current income (Hufner et al., 2010). Those reviews were also supported by some researchers in their research studies that concluded both income and savings play significant role whereby the household savings behaviour is greatly influenced by the income factor as per se (Rengarajan et al., 2016). Meanwhile, the income factor determines the savings of household that an increase in income will also increase the tendency of propensity to save (Schmidt et al., 1992).

The extended and enriched hypotheses of Life-Cycle or Behavioural Life-Cycle incorporate the attributes of human behaviour and their attitude. This comprises three (3) components such as the self-control; mental accounting; and framing. The lack of self-control will stimulate individuals fail to save regularly as well as to accumulate and increase their wealth for future consumption. The mental accounting on the other hand, refers to the tendency of individuals to gather and group their assets in to mental accounts and use cognitive operations to organise; evaluate; and keep track financial activities (Shefrin & Thaler, 1988). However, in some recent observations pertaining to actual savings behaviour is not gel with the life-cycle model (Schooley & Worden, 2013).

2.4.2 Precautionary

Savings for precautionary is when people planning for unexpected incidents that might happen. This refers to the risk of income variation, unexpected out-of-pocket health

and medical expenses, as well as length of life uncertainties (Kotlikoff, 1988). At some point, precautionary demand for saving arises due to the individual does not know the future of his or her life and that he or she may want to avoid the low levels of consumption in the event that he or she lives longer than expected (Abel, 1985). The precautionary wealth is the variance between both the wealth that the consumers would hold in the absence of uncertainty and the amount in which they would hold when the uncertainty is present (Kimball, 1990). These include unemployment risk and unexpected medical expenditures that will cause the consumption now to decrease and at the same time increase the level of savings. This is also known as an action of self-insuring of an individual.

2.4.3 Bequest

Bequest is the action of reserving fund and money aside to be generated to beneficiary and future generation (Bernheim et al., 1985). It had also been suggested that the unplanned bequests were set up to cater for substantial funds among beneficiaries (Davies, 1981).

2.4.4 Profit

Profit for savings is one of the savings motives with the hope to obtain return in terms of incentive or reward from the action of savings (Warneryd, 1999). Individual decisions on savings come in two (2) aspects namely the (i) propensity to consume; and (ii) liquidity preference (Keynes, 1936, cited in Warneryd, 1999). The tendency to consume is a choice of saving and consumption that often involves the prudence of savings and vigilance of spending.

2.5 Chapter Summary

The literature part of this chapter discusses on the theoretical research studies in term of habits as an antecedent of behaviour defining the habits, with series of discussions about motives that are associated to the savings habits. The section also proceeded by discussing about habits and behaviours on the basis of a theoretical review pertaining to the evolution of savings theories over the years from the seventies to millennial such as Theory of Reasoned Action; Self-Efficacy Theory; Theory of Planned Behaviour; Model of Goal-Directed Behaviour; and Behavioural Reasoning Theory. The act of savings which is more on to the empirical results such as the trends on society savings as well the reasons of savings habits have also been discussed on a classical perspective of savings.

Recapping this chapter, the study of individual savings habits can provide valuable insights into understanding society's overall savings and well-being as the individual behaviour and decisions regarding saving money can collectively influence the economic health and well-being of a society. The aforementioned theories especially in the context of behavioural economics studies how psychological factors affect economic decisions. This approach highlights that individual savings behaviour is not always rational and can be influenced by cognitive bias, emotions, and social pressures, Understanding these behavioural aspects it helps to explain why certain segments of the population may not have save adequately and how societal interventions are able to promote better saving habits. If a society experiences high levels of wealth inequality, with small proportion of the population holding a significant portion of the wealth, it might impact overall savings patterns. Those with lower incomes might struggle to save, while those with higher incomes could save more. This disparity in savings could affect the overall economic well-being of the society. In conclusion, having reviewed the relevant literature to the

society savings habits and retirement well-being, the subsequent chapter shall proposes a conceptualisation of the research study by presenting a model of savings behaviour and the hypotheses to be tested.

CHAPTER 3

METHODOLOGY

3.1 Overview

The purpose of this chapter is to provide a framework structure for savings behaviour subject to numerous components discovered and recognised in the literature by gauging the savings behaviours, which hypothesises the relations between society characteristics savings habits; tendency to save; and retirement well-being. The remaining of this chapter shall be structured in chronological order whereby Section 3.1 recaps both the research study objectives and research study questions that initiate the research study framework. Section 3.2 presents the conceptual research framework considering the main variable (constructs) of interest. Section 3.3 shall then provide the savings behaviour model of saving behaviour as well as the list of hypotheses that are to be measured.

Earlier chapters of the research study presented the significance and motivation for it to be executed. It was also denoted in preceding chapters that, extensive research study examining the savings behaviour and retirement well-being is necessary for the financial decision making by the society. The literature scrutinises that there is plentiful of leeway for expanding the common views about savings behaviour, disclosed by leveraging knowledge gaps based on previous research studies done. In line with this, a research study model has been created incorporating diverse savings behaviour to be explored in the current study, as detailed in the chapter.

Furthermore, this chapter aspires to clarify and at the same time to support the approach used in the conduct of this research study methodology that was chosen to

explain the questions in this research study. Hence, this chapter will begin by presenting the research approach or design. As driven by the research study objectives, support in terms of justification for the research study design will also be provided in the remaining chapter of this present research study which will continue to elucidate the research study methodology initiated, compromising the selection among primary and secondary data or information, sampling technique, sample size, method of data collection and analysis, as well as measurement of variables.

3.2 Conceptual Research Framework

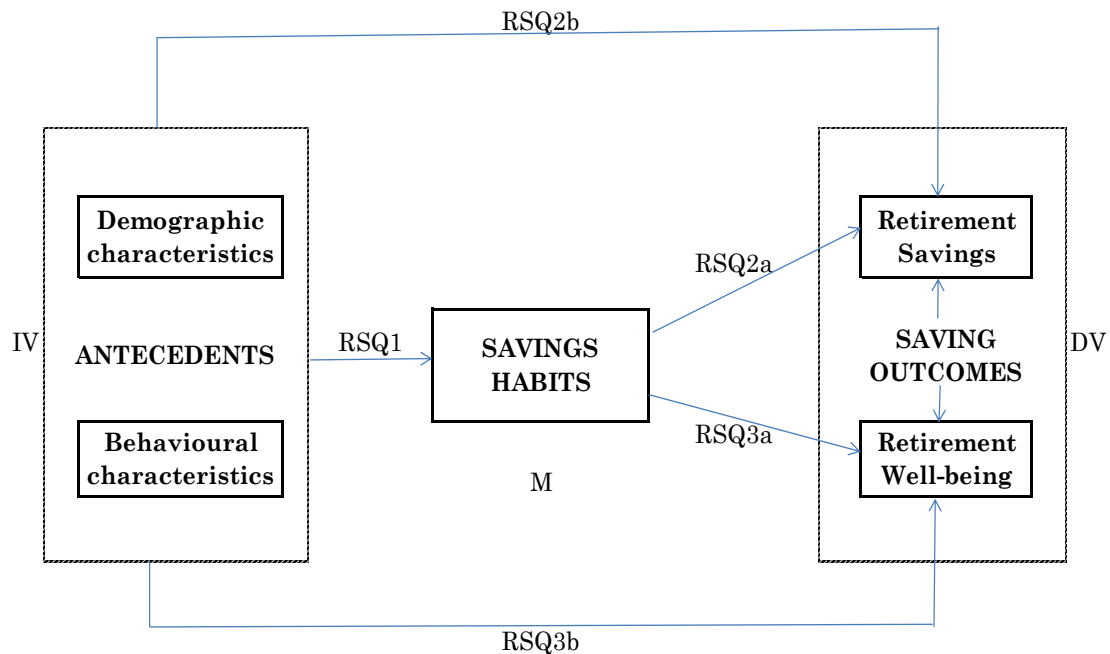


Figure 3.1: Concise Conceptual Research Framework

Based on the conceptual research framework shown in Figure 3.1 above, the dotted frame marked as IV (*Independent Variable*) comprise the antecedents of saving, which include the demographic characteristics and behavioural characteristics of the society. The arrow marked as RSQ1 denotes the first research study and targets to form the dynamics that construct the society's saving habits. The two (2) arrows which are marked as RSQ2a

and RSQ2b denote the second research study question that (i) studies the role of savings habits on the society's retirement savings and indicates *planned savings*; and (ii) investigates the unintentional role of society's characteristics to save and indicates *unplanned savings*. Meanwhile, arrows marked as RSQ3a and RSQ3b denote the third research question to the role of savings habits as well as its consequences on the retirement well-being arrow marked as RSQ3a whereas RSQ3b denotes the relationship of antecedents and the retirement well-being. The dotted frame marked as DV (*Dependent Variable*) comprises the retirement savings and retirement well-being in which these both are suggested to be the consequences i.e. saving outcomes that connect both retirement savings and retirement well-being of the society. Further elucidation of the said concept shall be presented in Chapter 3.

3.3 A Model of Savings Behaviour

3.3.1 Savings Habits (core of study)

Fishbein and Ajzen (1975); Ajzen (1985); and Westaby and Fishbein (1996) are among the theorists and researchers that have recommended that attitudes; intentions; and reasons are part of the elements that significantly influence and affects behaviour. With these, constant efforts have been conducted by social science and researchers to determine; explore as well as to understand the elements that influence and impact the human behaviour. In view of this, it is essential to fathom the elements of behaviour among the society in terms of the strategies development, policies and programs intervention betterment of society; economy; and nation as a whole.

Habit as an antecedent of behaviour has also obtained much of research study interest and attention, as discussed and detailed in the previous chapter. Knowledge in

regards with habits and intention provide in depth understanding toward the reasons for specific human conduct. In this aspect, the main objective of this research study is to add to the body of knowledge on savings behaviour by concentrating on savings habits as the underlying determinants of society savings behaviour and their tendency to save.

The life-cycle events such as advancing education; marriage; improving home; and others, are potential to the increase of the likelihood of having life-cycle savings habits. Furthermore, the socio-demographic elements and behavioural characteristics (risk tolerance; time preference; and expectations) of the society also influence savings habits. The risk attitudes have influences on the precautionary savings (Lusardi, 1998). For instance, the expectations pertaining to the future economic conditions of the society shall also influence the habits to save whereby if one foresees the society's financial conditions to improve in the future, this will likely reduce the probability of having a life-cycle or/and precautionary savings habits.

Chapter 2 initially discussed about the various savings habits that are interrelated to savings motives originated from Keynes (1936) and in which this research study on savings habits has also adopted some of Keynes suggestion that influence savings. The present research study shall focus on the life-cycle; precautionary; bequest; profit; and self-efficacy habits as these reflect the condition of betterment i.e. improvement financially in terms of capital gains or interest.

As what have been studied by both Browning and Lusardi (1996) especially on motives; hence this present research is inspired to research on habits in the angle of society savings framework, as denoted in the following text box (shown in the centre) of Figure 3.2. The plus point of having these gathered is that it may be able to interpret the relative

significance of each habit. Also, the self-efficacy is incorporated by the researcher under the component of savings habits. The Model of Savings Behaviour is exhibited in Figure 3.2 with specified explanatory variables.

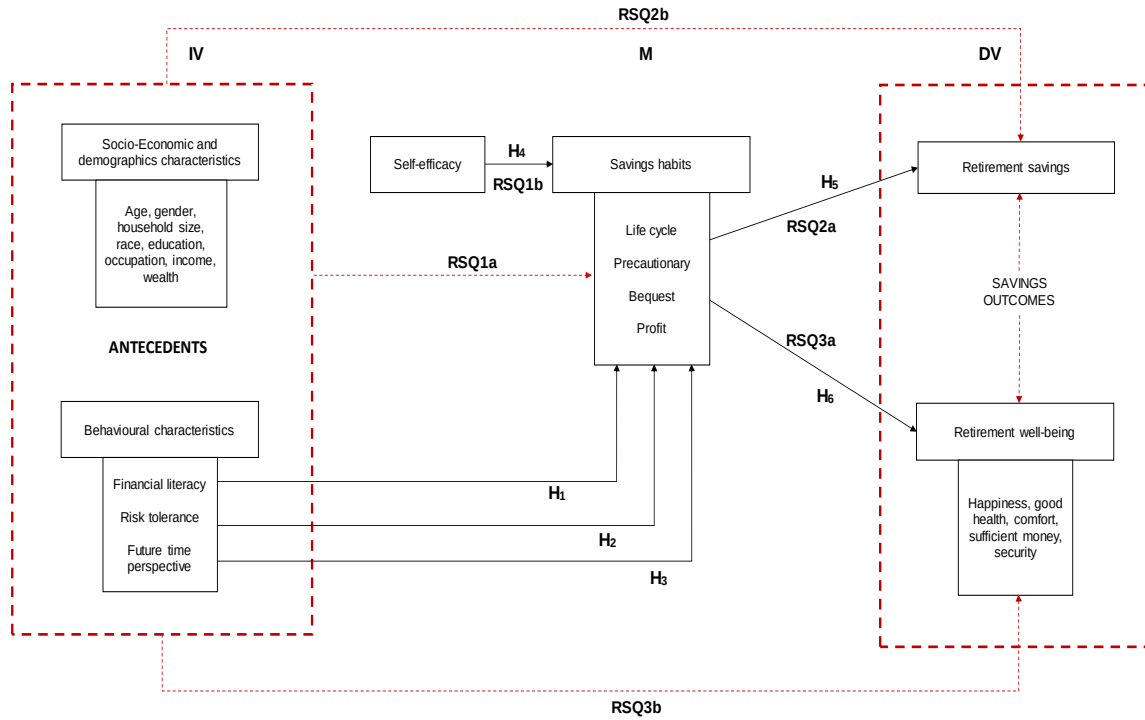


Figure 3.2: Model of Savings Behaviour

3.3.2 Determinant of Saving Habits (RSQ1a)

In order for the dimension of savings habits to be included within the model, the subsequent target of this research study is to investigate the habits determinants. In view of this, socio-economic and demographic characteristics shall be looked into as it plays significant role in the formation and strength of society's savings habits. External factors such as economic and social are likely influential to savings habits. Meanwhile, demographic characteristics such as ethnicity, educational background, age and many others are likely influential to savings as well.

The senior and elderly society is predicted to concern and care about savings as this age group are vulnerable and sensitive to unexpected incidents. Those with children are more prone to plan and think for the future of their generation or next of kin by leaving inheritance for their surviving children. The habits of spending and savings of individual are explained in the life-cycle theory as these habits are evolving activities in the lifetime of a person. When a person ages and gains more experience, his or her income typically increases until he or she reaches retirement. On the other hand, an individual may spend less when he or she is at a younger age, and that his or her spending increases during prime working years, and then become more conservative again during retirement.

Savings habits are part of the financial aims that society wish to achieve. Hence, the time horizon which is also known as financial planning horizon is likely to influence the society's savings habits as well. Pertaining to this, the society that has vision is prone to have savings habits whereby they have the anticipation that their savings promise high returns. Furthermore, in consonance to the socio-economic and demographic characteristics, the behavioural characteristics such as risk tolerance; time preference; and expectations of society are also influential factors to savings habits. The society's expectation on the situation of economic is likely to influence the habits to save for instance if the individual foresees that his or her financial conditions to be better in the future, this will likely to reduce the probability of precautionary savings habits (life-cycle).

The time horizon which is the financial planning vision is anticipated to influence the society's savings habits as different planning vision correlate to different aims in one person's life. The savings habits are similar to the financial targets that the society hopes to accomplish. In addition, society those have longer financial planning vision will likely

to have the profit habit to save, for instance savings for more returns or higher rewards. Hence, this will likely concern on the life-cycle i.e. the reduction and decrease in income that occurs during their retirement. The higher level of financial literacy of an individual, the wiser the individual is in determining savings habit for instance financial and investment planning and decision (Senda et al., 2020). The relationship between financial literacy and financial risk tolerance as well as between financial literacy and debt anxiety vary and are more complex based on group (Noviarini et al., 2021). The future time perspective is positively associated with retirement planning behaviour in terms of savings habits (Tomar et al., 2021). Therefore, these aforementioned notes shape the structure objectives of this research study i.e. to identify the society's characteristics that influence the habits to save. Generally, the socio-economic and demographic characteristics as well as the behavioural characteristics of society are influential to their savings habits, "*what is the relationship between the predicted antecedents (constructs) of behavioural characteristics and the society's savings habits?*" The arrow denoted as RSQ1a in Figure 3.2 generates the following hypotheses relationship to be examined in this research study:

H₁: Financial literacy has a positive relationship with savings habits.

H₂: Financial risk tolerance has positive relationship with savings habits.

H₃: Future time perspective has positive relationship with savings habits.

3.3.3 Relationship between Self-Efficacy and Savings Habits (RSQ1b)

Self-efficacy is the belief of an individual where they succeed in a particular task or situation. The psychological moods of an individual influence their behaviour and motivation in terms of their sense of self-efficacy for example from the process of goal or

objective that they have set for themselves until its accomplishment are determined by the self-efficacy of the individual themselves (Bandura, 1977). When the self-efficacy of a person is stronger, their tendency is also stronger to make greater savings decision making as they believe that they could contribute adequately to accomplish their savings goal. The self-efficacy in terms of financial self-efficacy was found to be strongly associated with less financial problems whereby individual able to control their finances and cultivate savings habits and good savings management (Lapp, 2010). Self-efficacy is the dominant component in financial behavioural model (Chong et al., 2021). High levels of self-efficacy in financial matters can lead individuals to feel more confident and capable of managing their finances effectively. Individual with high self-efficacy in finance are more likely to take risks, invest, and engage in long-term financial planning. That being the case, the hypothesis to be examined is denoted as *“what is the linkage between self-efficacy and savings habits?”* Hence in connection to this, the arrow denoted as RSQ1b in Figure 3.2 generates the following hypothesis to be examined in this research study:

H₄: Self-efficacy has a positive relationship with savings habits

3.3.4 Relationship between Savings Habits and Retirement Savings (RSQ2)

The next objective of this research study is to investigate the influence of savings habits on society's savings, which is associated with the second hypothesis research question i.e. *“what is the relationship between savings constructs and habits and the society's retirement savings?”* In another word, the context of this research study “retirement savings” refers to the strength of individuals setting or reserving aside a portion of income as savings for their retirement. The arrow is labelled as RSQ2a in Figure 3.2. The perception of this hypothesis is that if an individual has a habit to save i.e. precautionary habit, the usual way of behaving whereby the individual has settled into a

positive manners or actions. This action normally emphasised on the behavioural and reasoned action theories such as Ajzen and Fishbein's (1975); and Ajzen's (1985) respectively. The Theory of Planned Behaviour which predicted that advantageous intentions comes first the successful behaviour, subject to sufficient level of behaviour control. Hence, the arrow labelled as RSQ2b indicates planned savings and the mechanism hypothesises outcomes resulted from the Theory of Planned Behaviour by Ajzen.

The arrow labelled as RSQ2a denotes a developing intention into an act or planned savings. The arrow labelled as RSQ2b therefore indicates that there is a direct and non-intentional outcome between the socio-economic and demographic variables and savings, which signifies the unplanned savings. Factors that may result unplanned behaviour in savings can be looked into the society's capability to implement their savings habits, in which the indication that denotes even if there is a certain habit to save, the non-performance of savings could be the result of lacking the capability of doing such. The demographic characteristics such as educational level and age can influence the capability to implement savings habits whereas the level side of it indicates the ability to make decisions of spending and income.

Meanwhile, age which denotes the level of knowledge and wisdom of the society that may influence the ability of sourcing information and understanding financial matters related. Apart from these demographic characteristics, the individual's degree of self-control requires an individual to refrain from spending in order for the money to be kept aside for future use (Lunt & Livingstone, 1991). Also, in order to save money, an individual must be able to practice self-control in resisting temptation as well as delaying the gratification to spend (Rabinovich & Webley, 2007). A similar approach that was

suggested by Ajzen (1985), in the Theory of Planned Behaviour affirmed that the scarcity (insufficiency) of behavioural control may sequel in unplanned behaviour i.e. the unsuccessful behaviour. In a survey conducted in Turkey, the people have not been saving and investing regularly for retirement as well as no current plans to save and invest for their retirement period and also lack of in-depth knowledge to decide on appropriate saving and investment (Ozyuksel & Gunay, 2019).

At the meantime, the other factor that relates to unplanned behaviour associates to the certain financial products of the financial institutions that they offer to the society in the savings industry. Even though an individual may have his or her savings habits advantage and likelihood to save due to their entitlement and availability limitations demarcations that the financial institutions and regulators imposed as well as enforced. This society may have the bequest habit to save and allocate savings into certain insurance policies. Nevertheless, the imposition by some insurance companies may hinder the elderly group of individuals from investing and entering in the market. Thus, in consonance to the aforementioned, the arrow labelled as RSQ2b in Figure 3.2 develops the following hypothesis relationship to be examined in this research study:

H₅: Savings habits have positive relationship with retirement savings.

3.3.5 Relationship between Savings Habits and Retirement Well-being (RSQ3)

In the preceding as mooted in Chapter 2, Keynes (1936) which pertains to the decision by individual i.e. relates to the tendency to save on how changes in income relate to the change in consumption in which influence the proportion allotted between both consumption and savings. Furtherance, the retirement well-being of the individual, and relates to the decision shaped in which the saving retained from the first decision is to be

held. Drew on these related perspectives, this research comes up with an extensive model of savings behaviour, and links the retirement well-being as a second order decision, following the decision to save.

Therefore, the third part of the research study correlates the antecedents of savings with retirement well-being and recognising the third research study question and the hypothesis to be examined is denoted as “*what is the relationship between the saving antecedents and habits; and the society’s retirement well-being?*” This third research study question that pertains to the third part of the model is portrayed by the arrows labelled as RSQ3a and RSQ3b exhibit in Figure 3.2. Further to this, arrow RSQ3a predicts that there is a relationship between savings habits and retirement well-being, while RSQ3b indicates that there is presence of direct relationship between the socio-demographic elements and the retirement well-being. RSQ3b indicates that there is non-motivated which is also known as no relation between the demographic elements and the retirement well-being, similar to the non-motivated relationship labelled as arrow RSQ2b connecting the same explanatory variable, the constructs with the retirement savings.

The non-motivated part indicates the potential on the part of the society level of human value in their retirement well-being. Though that the habits to save will likely to exist among the society to save for their retirement well-being generally, the society perhaps may not ending up well-being due to certain hindrances. In addition, there may be unhappiness, non-prosperous and others hindering retirement well-being. Hence this shall be elaborated in the other chapter of this research study, as there will be certain groups of population who are unhappy and miserable in their retirement well-being.

The hypothesised relationship between savings habits and retirement well-being is based on the conceptions made in the development of Theory of Planned Behaviour (Ajzen, 1985) i.e. the model of goal-directed behaviour (Perugini & Bagozzi, 2001) which suggest that positive anticipated emotions are perceived emotional consequences that arise from successful realisation of aims whereas the negative anticipated emotions are the probable emotional consequences resulting from the failure to achieve the aims. These emotions are posited to influence the retirement well-being. Savings habits can be implied as desires considering that the habits to save, like desires, actually representing an aspiration for achieving a particular aims in life. On that account, the society's savings habits are predicted to have an influence over the retirement savings and retirement well-being. In one previous studies conducted, there is a complimentary mediation between habits and financial well-being whereby it was found that the behavioural changes will improve the financial well-being of an individual (Feng & Reich, 2021).

In connection to the third research study question, the hypothesis to be examined in this research study is stated as:

H₆: Savings habits have a positive relationship with retirement well-being.

3.3.6 Classification of Main Hypotheses

The classification of main hypotheses of the research study is discussed on this subsection, based on the literature. The classification of the main hypotheses to be examined in this research study are summarised and tabulated as shown in Table 3.1 as follow:

Table 3.1: Main Hypotheses of the Research Study

No.	Hypotheses (H)	Statement
i.	H ₁	Financial literacy has a positive relationship with savings habits
ii.	H ₂	Financial risk tolerance has positive relationship with savings habits
iii.	H ₃	Future time perspective has a positive relationship with savings habits
iv.	H ₄	Self-efficacy has a positive relationship with savings habits
v.	H ₅	Savings habits have a positive relationship with retirement savings
vi.	H ₆	Savings habits have a positive relationship with retirement well-being.

3.4 Research Method

3.4.1 Quantitative Survey (Questionnaires)

Questionnaires were chosen for this research study as this method is dependable and quick technique to gather and accumulate data from the distinct respondents in an effective and efficient approach as it deemed necessary. This is especially substantial with regards to bigger research study, with a few complex objectives in which time is one of the significant limitations (Greenfield 2002; Silverman, 2004). This research study was no exception and questionnaires is considered as a quick and effective method for the researcher to reach out distinct respondents within several months although some have indicated that one of the general disadvantages of the questionnaires include its fixed, stringent and stern format arrangement, that eliminates the likelihood for additional in-

depth and abstract perception as well as observation (Bell, 2005; Sarantakos, 2013). Nevertheless, this research study does not restrict itself from this rule, as the questionnaire is of research methods that provides linear and clear results and as well as outcomes.

3.4.2 Qualitative Survey (Interviews)

In order to cover more abstract aspects of the present research study, the structured interviews consisting of several questions was selected as a supporting complementary research study method as well. The interviews are frequently used as complementary research study method due to the opportunity for a more in-depth, open discussion and more informal, free interaction between the interviewer and the interviewee (Sarantakos, 2013; Potter, 2002; Winchester, 2004). Despite interviews do have disadvantages but due to it produces subjective results and outcomes, the flexible format of the interviews is a major advantage for most school of thoughts be it the social sciences, business, economics and many more as some nuances of the research study such as exploring well-being and emotion could not be properly captured with the questionnaires design. Hence, the results from the interview are not generalised due to the subjectivity of data obtained. The flexibility format of the interview contributes deeper explanation and understanding of the connection between savings habits and retirement well-being for instance.

3.5 Instrument Design

3.5.1 Questionnaires

The questionnaire is chosen as the instrument for this present research study. Hence, a questionnaire with written set of questions is designed and developed for the purpose of this research study whereby respondents will record their responses for this research study survey. The language reflected on the questionnaire shall be in English

Language and a translated version of Bahasa Malaysia would also be used. The Likert-type scale is used in the questionnaire of this research study. A five-point scales (1 = Strongly Agree to 5 = Strongly Disagree) which is to examine and measure the attitude level of respondents on how strongly they agree or disagree with the statements raised in the questionnaire for this research study. Closed ended questions which require pre-assigned answer shall also be applied in the questionnaire for gathering the necessary data required to conduct the study.

Part of the questionnaire consists of socio-economic and demographic profile in relation to age; gender, marital status; race; educational background; monthly gross income and others. Some core questions are also reflected in the questionnaire that include questions such as respondents' expectations; self-efficacy; retirement well-being and others that can be used as the data to address the objectives of the research study, through predicting and generalising the outcome of the research study. The design of the proposed questionnaire is appended as Appendix A.

3.5.2 Interviews

The interview script consists of several open questions, which is in reaction to the savings habits of society. Questions for the respondent (interviewee) is designed to reflect their tendency to save as well as their retirement well-being in terms of their happiness; good health; comfort; having enough money; and security. The design of the proposed interview question sheet is appended as Appendix B.

3.6 Sampling Technique

In this research study the savings habits; tendency to save; and retirement well-being of society in Sarawak were sought based on a simple random sampling technique,

also known as method of chance whereby every item within the population has the even chance as well as likelihood of being selected in the sample, and that every sample has the probability of being chosen. Researching the savings habits of Sarawak specifically retirement savings and retirement well-being potentially notable for several reasons. Sabah, Sarawak, Kelantan and Kedah have been recorded as the states to have the highest increases in poverty rates by virtue of the inequality and imbalanced development of the nation in terms of wealth, income, education and infrastructure (Free Malaysia Today, 2022). Following the implementation of the poverty line income and the implications of the COVID-19 pandemic, it is anticipated that the poverty rate in Sarawak will rise.

Sarawak, as one of the states in Malaysia, has its own unique cultural, social, and economic characteristics that can significantly influence people's attitudes and behaviours towards savings and retirement planning. Studying these differences can help in designing targeted interventions and policies that are better aligned with the specific needs and preferences of the population. The geographical location and demographic composition of Sarawak could potentially show distinct savings patterns. Factors such as urbanisation, rural communities, indigenous populations, and economic activities specific to the region can impact the way people save for retirement. Researching these factors can provide insights into how to adapt financial education and retirement planning strategies to cater to the region's circumstances. Sarawak's population potentially have unique financial literacy challenges and educational needs when it comes to retirement planning. Understanding these specific challenges can help in developing educational materials and initiatives that address the concerns and improve the financial knowledge of residents. The factors such as employment trends and economic growth can impact people's income and their capacity to save. Researching these factors can inform strategies to promote better

financial preparation for Sarawakian's retirement, looking at the distinct economic challenges that affect individual's ability to save for retirement. The population of the Sarawak is detailed in Table 3.2 as follows:

Table 3.2: List of Sarawak Population in 2020 by Projection

No.	Division	Population by Projection	
		Year 2010	Year 2020
1.	Kuching	705,546	812,900
2.	Samarahan	159,023	187,500
3.	Serian	91,599	105,800
4.	Sri Aman	94,774	111,400
5.	Betong	108,225	128,000
6.	Sarikei	118,758	139,400
7.	Mukah	110,024	134,900
8.	Sibu	299,768	349,700
9.	Kapit	112,762	134,800
10.	Bintulu	220,048	266,200
11.	Miri	364,561	433,800
12.	Limbang	86,571	103,100

Source: Department of Statistics Malaysia

Conducting research on Sarawak's retirement savings can contribute to the long-term sustainability of the state's economy and social systems. By understanding and addressing potential challenges in retirement planning, policymakers can work towards ensuring the well-being of retirees and reducing the burden on future generations.

3.7 Sample Size

Lenth (2001), a sample size should not be undersized or oversized. A sample size that is too small will result to less scientific significant result whereas a sample size that is too big will cause to waste of resources in terms of time and energy. Hence, the researcher determines the sample size through three (3) methods namely (i) formula and table method; (ii) G*Power 3.1.9.2; and (iii) sample size calculator via SurveyMonkey in order to analyse and calculate an optimum sample size for this research as to ensure the strength of proposition of the sample size statistically.

The sample size calculation resulted from the three (3) aforementioned methods are as follows:

- i. The calculation for the sample size result based on formula and table method is as follows:

$$n = \frac{X * N * P * (1 - P)}{[ME^2 * (N - 1)] + [X^2 * P * (1 - N)]} \quad \text{Equation 3.1}$$

Where:

n = Sample size

X^2 = Chi-square for the specified confidence level at 1 degree of freedom

N = Population size

P = Population proportion (0.50 in the table shown below)

ME = Desired margin of error (expressed as a proportion)

As a result, from this formula and table method, hence a sample size of 384 is derived upon and the calculation result of formula and table method is appended (see Appendix 1).

- ii. The calculation result obtained from the G*Power 3.1.9.2 shows the minimum total sample size of 107 respondents (see Appendix 2). However, assuming that the power is set lower than 0.95, let's say 0.75 and 0.85 when estimating the G*Power respectively, the total sample size shall decline. In short, the lower the power is, the lesser sample size is derived (see Appendix 3).
- iii. The calculation for the sample size calculator result via SurveyMonkey (see Appendix 4).

Hence, from the sample size results according to different methods as shown in Appendices 1, 2, and 3, the present research study shall consider a sample size of ± 384 (in this case whichever sample size is greater). This result of sample size also complies with the recommendation of Tabachnick and Fidell (2007) in which sample size of a study should be higher or greater than 300 cases as the number is considered as comfortable and presentable. This is also in line with Roscoe (1975) as cited in Sekaran and Bougie (2009) that in determining the sample size i.e. sample size > 30 and < 500 are actually found to be appropriate in most studies.

3.8 Pilot Testing

Pilot testing was also conducted to eliminate bias within the research study; and to ensure questions reflected in the questionnaires used are understood by the respondents (no ambiguity and misinterpretations). As there is no correct way to determine the sample size for pilot study, hence a 10% of the sample size of this research study will be taken into

consideration to work on the required sample size for pilot study. “A pilot study sample should be 10% of the sample projected for the larger parent study” (Connelly, 2008). Thus, $38.5 \approx 39$ pilot respondents will be required for the pilot testing of this research study. Necessary modifications and amendments have to be done in the case there is difficulty to understanding the ambiguity of some items reflected in the questionnaire for instance the level of English Language used.

Nevertheless, 70 questionnaires have been randomly disseminated to working adults for the pilot study which has yielded in 47 feasible responses. It should be noted that the 70 working adults were also not considered in the actual research study carried out with the convergent validity (CV) and discriminant validity (DV) via PLS-SEM. The seven (7) constructs namely financial literacy, financial risk tolerance, future time perspective, retirement saving, retirement well-being, self-efficacy and saving habits fulfilled the threshold values or minimum cut-off values for composite reliability (CR) and average variance extract (AVE), whereby all the CRs and AVEs as tabulated in Table 3.3 are greater than 0.70 and 0.50 respectively. Therefore, at this stage, the constructs meet the reliability and CV requirements.

Table 3.3: Pilot Test Measurement Model

Constructs	Items	Loadings (λ)	AVE	CR
Financial Literacy	FNL1	0.828	0.670	0.859
	FNL2	0.782		
	FNL3	0.845		
Financial Risk Tolerance	FRT1	0.747	0.594	0.745
	FRT3	0.794		

Table 3.3: continued

Future Time Perspective	FTP1	0.801	0.643	0.783
	FTP2	0.803		
Retirement Saving	RTS2	0.784	0.653	0.849
	RTS4	0.792		
Retirement Well-Being	RWB3	0.906	0.778	0.875
Self-Efficacy	SFE1	0.814	0.662	0.796
	SFE5	0.813		
Savings Habits	SVG1	0.816	0.652	0.903
	SVG2	0.870		
	SVG3	0.795		
	SVG4	0.809		
	SVG5	0.741		

The following Table 3.4 displays that all constructs exhibit sufficient or satisfactory DV where the square root of AVE (diagonal) is larger than the correlations (off-diagonal) for all reflective constructs (Fornell & Larcker, 1981).

Table 3.4: Pilot Test Discriminant Validity

	FNL	FRT	FTP	RTS	RWB	SVH	SFE
Financial Literacy	0.813						
Financial Risk Tolerance	0.087	0.719					

Table 3.4: continued

Future Time Perspective	0.256	0.418	0.649				
Retirement Savings	0.325	0.285	0.593	0.762			
Retirement Well-Being	0.197	0.242	0.372	0.509	0.789		
Savings Habits	0.510	0.326	0.665	0.692	0.417	0.767	
Self-Efficacy	0.001	0.433	0.362	0.186	0.092	0.242	0.749

3.9 Method of Data Collection

As this research study adapts the mixed method methodology, the data were obtained directly through primary sources (original sources) from surveys and interviews. The questionnaire was administered via electronically distributed questionnaire. Interview sessions were conducted physically (face-to-face session) to collect necessary data and information from the respondents.

3.10 Measurement of Variables

The following Table 3.5 exhibits a list of measurement variables relevant to the questions asked in the questionnaire of the research study.

Table 3.5: List of Measurement Variables Relevant to the Questionnaire

Variable description	Variable Name	Question asked in the survey	Source
Age	Continuous variable	How old are you? 1. 21-30 2. 31-40 3. 41-50 4. 51-60 5. 61-65 6. 66 & above	Shanmugam & Abidin (2013); Rider (2014); Mahdzan (2013)
Gender	Dummy variable	1. Male 2. Female	
Marital status	Dummy variable	1. Married 2. Separated 3. Divorced 4. Widowed 5. Never married	
Ethnicity	Dummy variable	1. Malay 2. Chinese 3. Native 4. Indian 5. Other	
Type of place	Dummy variable	1. Kuching 2. Samarahan 3. Serian 4. Sri Aman 5. Betong 6. Sarikei 7. Mukah 8. Sibu 9. Kapit 10. Bintulu 11. Miri 12. Limbang	Mikolajczak & Golas, (2014) <i>Note:</i> 1. Village 2. Town (with population up to 100 thousand inhabitants) 3. City (with population over 100 thousand inhabitants)

Table 3.5: continued

Education Level	Continuous variable	1. Primary school 2. Secondary school 3. Degree 4. Postgraduate	Mahdzan (2013); Shanmugam & Abidin (2013); Mikolajczak & Golas, (2014)
Occupational status	Dummy variables	1. Private sector 2. Public sector 3. Self-employed 4. Retired 5. Unemployed	Mahdzan (2013)
Monthly gross salary	Continuous variable	1. Below RM1500 2. RM1500-RM2000 3. RM2001-RM2500 4. RM2501-RM3000 5. RM3001-RM3500 6. RM3501-RM4000 7. RM4001-RM4500 8. RM4501-RM5000 9. RM5001-RM5500 10. Above RM5500	Hira & Sabri (2013); Gutter & Copur (2011)
Expectations of the economy	Dummy variable	Over the next 5 years, how do you expect Sarawak economy would be as it has over the past 5 years? 1. Better 2. Worse 3. About the same	Mahdzan (2013)

Table 3.5: continued

Expectations of interest	Dummy variable	5 years from now, how would you rate the interest rates? 1. Higher 2. Lower 3. About the same	-
Expectations of income	Dummy variable	Over the next year, how do you expect your income to be? 1. Up more 2. Up less 3. About the same	-
Financial planning horizon	Dummy variable	In planning saving and spending, which of these time periods is most important to you? 1. Next few months 2. Next year 3. Next few years 4. Next 5-10 years 5. Longer than 10 years	-
Risk tolerance level	Dummy variable	Which of the following statements come closest to the amount of financial risk that you are willing to take when you save or invest?	-

Table 3.5: continued

		1. Take substantial financial risks expecting to earn substantial returns 2. Take above average financial risks expecting to earn above average returns 3. Take average financial risks expecting to earn average returns 4. Not willing to take any financial risks	
Self-efficacy	Five-likert scale 1=Strongly Agree & 5=Strongly Disagree 6 items	1. Stick to spending plan 2. Progress towards my financial goals 3. Use credit for unexpected expenses 4. Hard time solving financial challenge 5. Lack confidence in managing finances 6. Worry about money in retirement	Goi et al. (2019); Lown (2011); Gutter & Copur (2011)
Financial literacy	Five-likert scale 1=Strongly Agree & 5=Strongly Disagree 6 items	1. Knowledgeable about financial planning and retirement 2. Know more than most people about retirement planning 3. Confident to do retirement planning 4. Know where to obtain information 5. Knowledgeable about Social Security works 6. Knowledgeable about private investment plans work	Shanmugam & Abidin (2013); Lawson & Hershey (2005)
Saving habits	Five-likert scale	1. Follow a monthly budget	Stawski et al. (2007);

Table 3.5: continued

	1=Strongly Agree & 5=Strongly Disagree 6 items	2. Prepare list ahead of time before shopping 3. Purchase items which are reasonable price 4. Do not spend on item not require 5. Bring small cash to prevent impulsive spending 6. Never bring credit/debit card out	Goi et al. (2019)
Future time perspective	Five-likert scale 1=Strongly Agree & 5=Strongly Disagree 6 items	1. Save for rainy day 2. Will live years from now in the future 3. Distant future is too uncertain 4. Future seems vague and uncertain 5. Live on day-today basis 6. Living for the moment and not knowing what tomorrow will bring	Lawson & Hershey (2005)
Financial risk tolerance	Five-likert scale 1=Strongly Agree & 5=Strongly Disagree 5 items	1. Willing to risk financial losses 2. Prefer investments with higher returns though riskier 3. Growth potential of retirement investment more important than level of risk investment 4. Willing to make risky investment to ensure financial stability in retirement 5. Never choose the safest investment plan when planning for retirement	Lawson & Hershey (2005)

Table 3.5: continued

Retirement saving	Five-likert scale 1=Strongly Agree & 5=Strongly Disagree 5 items	1. Meaningful contributions 2. Saved great deal 3. Accumulated substantial savings 4. Made conscious effort 5. Have saved accordingly	Lawson & Hershey (2005)
Retirement well-being	Five-likert scale 1=Strongly Agree & 5=Strongly Disagree 11 items Item 1-7 (overall life satisfaction) Item 8-11 (financial/retirement well-being)	1. Have everything you need 2. Like your life 3. Satisfied with the things you have 4. Feel the way you are 5. Satisfied with your life 6. You are a happy person 7. Feel fulfilled by the life you lead 8. You feel comfortable with the amount you owe 9. You are constantly worried about paying your debts 10. You think a lot of your debts 11. You have had discussions with other people (parents, friends, spouse and other) about your debts	Campara, Vieira & Potrich (2017); Rider (2014); Hira & Sabri (2013) Gutter & Copur (2011)

3.10.1 Structural Equation Modeling

Bollen (1989, cited in Hair et al. 2012), structural equation modeling (SEM) has given the researchers the opportunity and advantage to test theories and concepts, in which has made the quasi-standard for researchers and studies in many school of thoughts. Hair

et.al (2012), accentuated that the SEM include regression-based approaches such as multiple regression, logistic regression and variance analysis for confirmatory research study. Despite, SEM can also be applied and used for exploratory research study with its factor analysis, cluster analysis as well as multidimensional scaling. Kline (2011), recommended that six-steps approach to be followed when the structural equation modeling is used as an analysing tool for the research, and these include (i) model specification; (ii) evaluation of model identification; (iii) selection of measures and collect, prepare and screen the data; (iv) estimation of model i.e. evaluation of model, interpretation of parameter estimations, and consideration of equivalent or near-equivalent models; (v) re-specification of model; and (vi) result reporting.

Two (2) types of method when it comes to SEM application namely the covariance-based technique (CB-SEM) and variance-based partial least squares (PLS-SEM). Henseler et. al (2012), PLS-SEM focus and concentrate on maximising the explained variance of the endogenous latent variables in front of reproducing theoretical covariance matrix. PLS-SEM has latent variables that relate the relationships between the latent variables and the relationships between the latent variables and their indicators.

3.10.2 Partial Least Squares Structural Equation Modeling

According to Ramayah et al. (2018), if the research goal is to predicting key target constructs or identifying the key “driver” constructs; and that if the research is of exploratory or extension of an existing structural theory, hence the PLS-SEM is selected. Meanwhile Henseler et al. (2012) stated that in PLS-SEM there are two (2) types of variables namely (i) endogenous (internal) variable; and (ii) exogenous (external) variable. The endogenous latent variable serves as dependent; or either independent or dependent

variable while the exogenous latent variable serves as independent variable only. Thus, the PLS-SEM is applied to this research study as its research goal is to predict the outcome of the society e.g. the well-being if the individual is happy at the end of the day when they practice habitual savings behaviour in their daily life. The expected PLS-SEM path model of the current research study is crafted and exhibited in Figure 3.3 as follow.

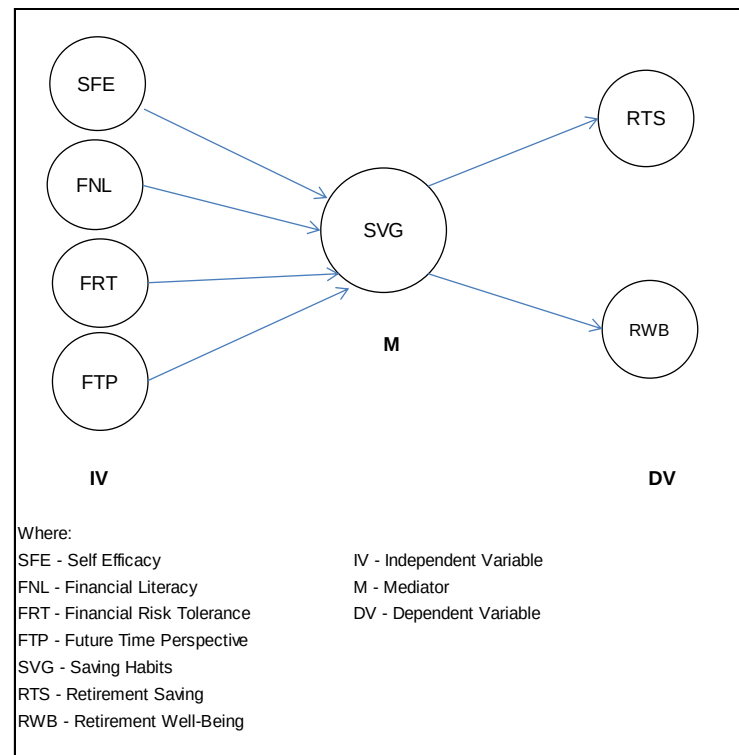


Figure 3.3: PLS-SEM Path Model

3.11 Ethical Considerations

Research study is indeed not straightforward as it often involves several ethical considerations that should be considered during the data and information collection process in order to respect the respondents' privacy and confidentiality. Hence, the prior permission has to be obtained in order to execute the data collection processes as well as adhere to the policy of the university. In addition, permission and approval of respondents shall also be sought as to ensure that there is no force and compulsion on any of

respondents when responding to the questionnaires; and interviews. Considering these, the academic nature of this research study was informed to all participating respondents and anonymous nature of this research study shall be maintained throughout in ensuring the respondents are capable to respond with ease and comfort without any fear and pressure of implications.

3.12 Chapter Summary

The current chapter proposed a conceptual model of saving behaviour which was based on the literature on saving as the objectives of the research study. This chapter also discussed on the categories of savings habits to be adopted in the research study, subsequently by rationalisation as well as explanations on the three (3) stated main research study questions which shaped the research study model. Also, the main hypotheses were also presented, though the detail for these shall be mooted further in the subsequent chapters. The research methodology applied in this research study has also been discussed accordingly by explaining about the quantitative and qualitative methods which are also known as the mixed methods or triangulation methods of the research study. The chapter also detailed about the methods relate to the current research study, the mixed method approach to data gathering is also discussed in detail as well as its advantages and disadvantages.

CHAPTER 4

QUANTITATIVE ANALYSIS

4.1 Overview

This chapter puts forward the presentation of the findings and data analysis derived from the survey conducted via online. A total of 400 responses were received out of the 700 targeted potential respondents, which constitutes a 57% response rate for the survey disseminated, completed the questions that were required to be answered in the questionnaire. The responses gathered from the online survey have been analysed using the embedded tool from Google Form and Excel as well as PLS-SEM software. Apart from the quantitative survey result, the result findings from the qualitative survey via interview have also been gathered and analysed via Quirkos software.

Subsequently, this chapter also outsets a comprehensive and extensive overview of the results of the study and is organised into two (2) sections. The first section provides an analysis of the descriptive statistics of the sample in the study while the second section includes an analysis of the results of each hypothesis based on advanced statistical tests. As such, tables and diagrams are incorporated to facilitate a simplistic reader-friendly writing. Hence, this chapter solely focuses on presenting the gathered data in a meaningful way to facilitate with the discussion, which later be presented in the proceeding Chapter 5.

4.2 Quantitative Survey Results

4.2.1 Descriptive Analysis

The demographic characteristic data of the respondents is tabulated in the following Tables 4.1, 4.2, 4.3 and 4.4.

Table 4.1: Description of Samples (Gender, Age and Race)

Gender	Male			Female		Total
	190			210		400
Age	≤ 20	21 - 30	31 - 40	41 - 50	≥ 51	Total
	0	142	112	100	46	400
Race	Malay	Chinese	Native	Indian	Other	Total
	70	170	146	4	10	400

Under the gender section of the demographic data of the samples as tabulated in Table 4.1, comprised of 190 (48%) of the respondents are male and 210 (52%) are female taking part in this survey study. As can be seen from Table 4.1 above, under the age group section 142 (36%) respondents are in the range of 21 to 30 years, 112 (28%) respondents are in the range of 31 to 40 years, 100 (25%) respondents are in the range of 41 to 50 years and 46 (11%) respondents are above 51 years. There is no respondent at the age 20 years and below taking part in this survey study. With regard to the race of the 400 respondents as tabulated in Table 4.1 above, Chinese recorded the most participation with a majority of 170 (42%) respondents followed by 146 (37%) respondents are Native, 70 (17%) respondents are Malay, 10 (3%) respondents are of other race and 4 (1%) respondents are Indian.

Table 4.2: Description of Samples (Education and Monthly Income)

Education	No formal	Secondary	STPM / Pre-university	Diploma / Vocational	Degree	Master / PhD	Total
	0	36	15	126	181	42	400
Monthly income (RM)	1,500 and below	1,500 - 2,499	2,500 - 3,499	3,500 - 4,499	4,500 - 5,499	5,500 and above	Total
	25	129	63	46	28	109	400

Looking at the proportion in terms of the monthly income earning by these 400 respondents in Table 4.2 above, majority of the respondents whereby 192 (48%) of them

are earning income from RM1,500.00 to RM3,499.00 per month, followed by 74 (19%) are earning income from RM3,500.00 to RM5,499.00 per month, 25 (6%) are earning income below RM1,500.00 per month and 109 (27%) are earning income above RM5,500.00 per month.

Assessing the respondents in terms of their educational background as shown in Table 4.2 above, majority of the respondents accomplished degree study which is 181 (45%). Out of the 400 respondents, 42 (11%) respondents accomplished master or PhD study, 126 (31%) respondents accomplished diploma or vocational study, 15 (4%) respondents accomplished STPM or pre-university study and 36 (9%) respondents accomplished secondary school. There is no respondent that have not attended any formal education in the data sampling for this survey study.

Table 4.3: Description of Samples (Marital Status and Location)

Marital status	Single			Married			Divorced			Widowed			Total
	200			186			9			5			400
Location	Kuching	Samarahan	Serian	Sri Aman	Betong	Sarikei	Mukah	Sibu	Kapit	Bintulu	Miri	Limbang	Total
	78	20	12	34	21	41	20	54	21	55	32	12	400

In terms of the marital status of the 400 respondents participated in this survey study, 200 (50%) respondents are single, 186 (47%) respondents are married, 9 (2%) are divorced and 5 (1%) are widowed as reflected in Table 4.3 above.

As reflected in Table 4.3 above, most of the respondents are from Kuching which records 78 (20%) followed by 55 (15%) respondents are from Bintulu, 54 (14%) respondents are from Sibu, 41 (10%) respondents are from Sarikei, 34 (8%) respondents are from Sri Aman, 32 (8%) respondents are from Miri, 21 (5%) respondents are from Kapit, 21 (5%) respondents are from Betong, 20 (5%) respondents are from Samarahan, 20

(5%) respondents are from Mukah, 12 (3%) respondents are from Serian and 12 (3%) respondents are from Limbang.

Table 4.4: Description of Samples (Employment and Length of Service)

Employment	Private sector	Public sector	Self-employed	Unemployed	Retired	Student	Other	Total
	267	42	81	1	5	1	3	400
Length of service (years)	Less than 5	5 - 10	11 - 15	16 - 20	21 - 25	26 - 30	More than 30	Total
	44	152	77	53	35	28	11	400

Table 4.4 above presents the employment and length of service of the 400 respondents. Most of the respondents are employed in the private sector which records the highest number with 267 (67%) respondents, followed by 81 (21%) respondents are self-employed, 42 (11%) respondents are employed in the public sector, 5 (1%) respondents are retired, 1 (0.3%) respondent is a student and the others 1 (0.3%) is unemployed. As for the length of service, 44 (11%) respondents have worked less than 5 years, 152 (38%) respondents have worked between 5 to 10 years, 77 (19%) respondents have worked between 11 to 15 years, 53 (13%) respondents have worked between 16 to 20 years, 35 (9%) respondents have worked between 21 to 25 years, 28 (7%) respondents have worked between 26 to 30 years and 11 (3%) respondents have worked for more than 30 years.

4.2.2 Median for Discrete and Continuous Frequency Type Data (Grouped Data)

For the grouped frequency distribution of a discrete variable or a continuous variable the calculation of the medium involves identifying the median class i.e. the class containing the median. This can be done by calculating the less than type cumulative frequencies. It should be recalled that less than type cumulative frequencies correspond to the upper class boundaries of the respective classes.

First we calculate the $N/2$ and find out the less than type cumulative frequency just greater or equal to $N/2$. Let that less than type cumulative frequency be denoted by F_k . Now, we find out the class boundary corresponding to which the less than type cumulative frequency is equal to F_k . Let's denote that class boundary by X_k . The median class will be that class for which the upper class boundary is X_k . Now that the median class can be calculated using the formula as follow:

$$\text{Median or } \bar{x} = \ell + \frac{\frac{N}{2} - C}{f} \times h$$

Where:

X_ℓ = is the lower class boundary of the median class

N = is the total frequency

F_ℓ = is the less than type cumulative frequency corresponding

f_m = is the frequency of the median class

C = is the class width of the median class

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Here, the cumulative frequency just greater than or equal to 200 is 254

$\therefore F_k = 254$ and

F_k is the less than type cumulative frequency corresponding to the class boundary 40.5

In other words, 30.5 – 40.5 is the median class, i.e. the class containing the median value.

∴ Using the above formula for median we have,

$$\text{Median or } \bar{x} = 31 + \frac{\frac{400}{2} - 142}{112} \times 10 \quad \text{Equation 4.1}$$

Where $X_1 = 30.5$ (lower class boundary of the median class),

$N = 400$ (total frequency)

$F_{\ell} = 142$ (less than type cumulative frequency corresponding to $X_1 = 30.5$)

$f_m = 112$ (frequency of the median class)

$C = 10$ (class width of the median class)

The data set collected for age is not continuous; hence it has to be converted into continuous frequency distribution by subtracting 0.5 from the lower limit and adding 0.5 to the upper limit of each class interval. These are formed as detailed in Table 4.5 as follow:

Table 4.5: Continuous Frequency Distribution

Age	Class boundaries	Frequency f_i	Cumulative frequency (less than type)	Mid-point X_i	$ X_i - \text{Median} $	$f_i X_i - \text{Median} $
21-30	20.5-30.5	142	142	25.5	10.5	1,491
31-40	30.5-40.5	112	254	35.5	0.5	56
41-50	40.5-50.5	100	354	45.5	-9.5	950
51-60	50.5-60.5	38	392	55.5	19.5	741

Table 4.5: continued

61-70	60.5-70.5	8	400	65.5	29.5	236
Total		400	-	-	-	3,474

The class interval containing the $N^{\text{th}}/2$ which is the $400^{\text{th}}/2$ or 200^{th} item is 30.5 – 40.5. Therefore, 30.5 – 40.5 is the median class.

Where:

$\ell = 30.5$; $C = 142$; $f = 112$; and $h = 10$

$$\text{Median or } \bar{x} = 30.5 + \frac{\frac{400}{2} - 142}{112} \times 10 \quad \text{Equation 4.2}$$

$$\text{Median or } \bar{x} = 35.7$$

$$\approx 36$$

So, the median age of these 400 respondents in this study is $35.7 \approx 36$ years old i.e. there are 200 respondents for whom their age group are either below 36 or above 36 years old. Take note that it is quite clear that in calculating the median of any grouped frequency distribution using this method, the nature of the variable (i.e. discrete or continuous) is of little consequence. Whatever be the nature of the variable, for grouped frequency distributions, this method is exhaustive and will ensure correct calculation of the median.

Thus, mean deviation about the median is given by:

$$M = \frac{1}{N} \sum f_i |X_i - \text{Median}|$$

4.3 Advanced Statistical Tests Based Analysis

The measures of each variable within this study are based on living literature (Goi, 2019; Loi, 2011; Shanmugam, 2013; Lawson, 2005, Stowski, 2007; Campara, 2017; Rider, 2014; Hira, 2010). However, some of the items are modified and some are specifically created to suit with the context of the present study. In this study, the antecedents comprised of seven (7) themes such as (i) self-efficacy, (ii) financial literacy, (iii) future time perspective, (iv) financial risk tolerance, (v) saving habits, (vi) retirement saving and (vii) retirement well-being. These seven (7) themes are based on the scores of respondents via the five-likert scale and are exhibited in Table 4.6 as follow:

Table 4.6: Measures of Variables

Items	Statements
<i>Self-Efficacy</i>	
SFE1	It is hard to stick to my spending plan when unexpected expenses arise.
SFE2	It is challenging to make progress toward my financial goals.
SFE3	When unexpected expenses occur, I usually have to use credit card.
SFE4	When faced with financial challenge, I have a hard time figuring out a solution.
SFE5	I am worry about running out of money when retire.

Table 4.6: continued

Items	Statements
<i>Financial Literacy</i>	
FNL 1	I am very knowledgeable about financial planning for retirement.
FNL2	I know more than most people about retirement planning.
FNL3	I am confident in my ability to do retirement planning.
FNL4	When I have a need for financial services, I know exactly where to obtain information on what to do.
FNL5	I am knowledgeable about Social Security i.e. EPF & SOCSO.
FNL6	I am knowledgeable about how private investment plans work.
<i>Savings Habits</i>	
SVH 1	I always follow a monthly budget.
SVH 2	I prepare a list of required items ahead of time before shopping.
SVH3	I assure that I purchase item which are reasonable price.
SVH4	I do not spend on item, which I do not require.
SVH5	I always bring small amount of cash to prevent impulsive spending.
SVH 6	I never bring credit/debit card out.
<i>Future Time Perspective</i>	
FTP1	I follow the advice to save for a rainy day.

Table 4.6: continued

Items	Statements
FTP2	I enjoy thinking about how I will live years from now in the future.
FTP3	The distant future is too uncertain to plan for.
FTP4	The future seems very vague and uncertain to me.
FTP5	I am pretty much live on a day-to-day basis.
FTP6	I enjoy living for the moment and not knowing what tomorrow will bring.
<i>Financial Risk Tolerance</i>	
FRT1	I am willing to risk financial losses.
FRT2	I prefer investments that have higher returns even though they are riskier.
FRT3	The overall growth of a retirement investment is more important than the level of risk of the investment.
FRT4	I am very willing to make risky investment to ensure financial stability in retirement.
FRT5	As a rule, I would never choose the safest investment when planning for retirement.
<i>Retirement Saving</i>	
RTS1	Made meaningful contributions to a voluntary retirement savings plan.

Table 4.6: continued

Items	Statements
RTS2	Comparing myself to my peers, I have saved great deal for retirement.
RTS3	Accumulated substantial savings for retirement.
RTS4	Made conscious effort to save for retirement.
RTS5	Based on how I plan to live my life in retirement, I have saved accordingly.
<i>Retirement Well-Being</i>	
RWB1	You have everything you need.
RWB2	You are satisfied with the things you have.
RWB3	You feel the way you are.
RWB4	You are satisfied with your life.
RWB5	You are a happy person.
RWB6	You feel fulfilled by the life you lead.
RWB7	You feel uncomfortable with the amount you owe.
RWB8	You are constantly worried about paying your debts.
RWB9	You have had discussions with other people such as parents, friends, spouse and others about your debts.

4.4 Structural Modeling

The researcher at this stage considers all the Partial Least Square Structural Equation Modeling (PLS-SEM) analysis possibilities when applying the said method. According to Hair et al. (2017), the rules of thumb that the researcher adhere to for this research study include the following:

- i. Research objective is exploratory or confirmation of theory based on total variance.
- ii. Objective of the analysis is prediction.
- iii. Measurement philosophy is estimation with the composite factor model using total variance.
- iv. Research objective is to explain the relationships between exogenous and endogenous constructs.
- v. Structural and/or measurement models are complex (many constructs i.e. 6 plus and many indicators i.e. 50 plus).
- vi. Formatively measured constructs are specified in the research.
- vii. Preferred method when samples size is for larger sample.
- viii. Data is not normally distributed.
- ix. Scaling of responses is ordinal or nominal.
- x. Data is secondary/archival, particularly single item measures.
- xi. Research objective is to use latent variable scores in subsequent analyses.
- xii. Structural model will be estimated with a higher order construct that has only two (2) first order constructs.
- xiii. Analysis involves a continuous moderator.

xiv. Investigation will examine the model for unobserved heterogeneity.

When the researcher is selecting and deciding whether PLS-SEM is the appropriate structural modelling approach with questions raised either the research study is a confirmatory/exploratory, this current research study is a confirmatory/exploratory research based on the rules of thumb for choosing the appropriate PLS-SEM method as mentioned above (Hair et al., 2017).

As the problems in this research study have not been clearly defined, thus the exploratory research is carried out as the problems have not been clearly defined and not enough information for conceptual distinctions and to propose explanatory relationships and the approach to the problem must be flexible (Hair et al., 2010). Therefore, the researcher in this study shall test hypotheses using the quantitative research generated by past researches in other context that focus and address various research questions comprise of what, when, why and how.

As this research examines previous specified hypotheses which predicts specific outcome based on underlying causal theory and that the hypotheses usually are derived from established causal theories or previous research studies conducted within the same context (Hair et al., 2010).

At this stage, it is also vital for the researcher to clarify the different types of modeling. The predictive modeling is another process of adapting and applying a statistical model to examine the data with the objective of predicting new and future observations (Shmueli, 2010). Subsequent to this statistical modeling process, it shall lead to the statistical conclusions which explain the variance, statistical significance and relevant effect sizes as these are in relation to theoretical hypotheses. Despite statistical

modeling is not only confine as a predictive modeling, it is also an explanatory modeling, therefore this research study also applies to statistical modeling to data test for the explanation to hypotheses pertaining to theoretical constructs and structural paths.

Hence, this research study will examine the relationships between data structures such as the independent variables and dependent variables by exploring the possible relationships not based on theoretical and causal justification, but by examining the potential correlations which may lead to theory development instead.

4.5 Multi Variance Reliability

This section reports about each variable or known as the available indicator in the data set i.e. sample size of 400 responses used for conducting this research study. In order to validate and assess the normality level, each variable or available indicator in the said data set is provided with the following information:

- i. Variable number
- ii. Number of missing values
- iii. Mean value
- iv. Minimum and maximum values
- v. Standard deviation
- vi. Excess kurtosis
- vii. Skewness

4.5.1 Assessment of Normality

At this stage, the researcher shall be looking into the excess kurtosis and skewness values obtained. The “skewness assess the extent to which a variable’s distribution is symmetrical. Thus, if the distribution of responses for a variable stretch towards the right or left tail of the distribution, then the distribution is referred to as skewed. On the other hand, kurtosis is a measure of whether the distribution is too peaked whereby very narrow distribution with most of the responses in the centre” (Hair, Hult Ringle & Sarstedt, 2017, p.54).

Based on the Table 4.7 exhibited below, there are no value of zero obtained for both the kurtosis and skewness in this research study. Hence, this means that the pattern of responses is considered as non-normal distribution and this situation is common among researchers to encounter. The kurtosis values obtained consist of kurtosis greater than +1.0 which indicates a very peaked distribution while kurtosis less than -1.0 which indicates a very flat distribution; and kurtosis that is neither lesser than +1.0 and greater than -1.0 which indicates a non-normal distribution. As for the skewness, if the value obtained is greater than +1.0 or lesser than -1.0 these values indicate a substantially skewed distribution. Likewise, if the skewness is neither lesser than +1.0 or greater than -1.0, the distribution is considered as a non-normal (Hair et al., 2017).

Table 4.7: Excess Kurtosis and Skewness

Indicators	No.	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
SFE1	1	0	1.68	1.00	1.00	5.00	1.01	1.74	1.54

Table 4.7: continued

Indicators	No.	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
SFE2	2	0	1.98	2.00	1.00	5.00	1.02	0.85	1.10
SFE3	3	0	3.03	3.00	1.00	5.00	1.09	-0.77	0.07
SFE4	4	0	3.09	3.00	1.00	5.00	1.01	-0.52	-0.11
SFFE5	5	0	1.94	2.00	1.00	5.00	1.06	0.71	1.12
FNL1	6	0	3.16	3.00	1.00	5.00	0.89	-0.20	-0.34
FNL2	7	0	3.26	3.00	1.00	5.00	0.91	-0.37	-0.29
FNL3	8	1	2.91	3.00	1.00	5.00	0.84	0.30	0.12
FNL4	9	0	2.75	3.00	1.00	5.00	0.85	0.64	0.48
FNL5	10	1	2.64	3.00	1.00	5.00	0.86	0.63	0.18
FNL6	11	0	3.20	3.00	1.00	5.00	0.91	-0.70	-0.15
SVH1	12	1	2.16	2.00	1.00	5.00	0.97	0.83	0.95
SVH2	13	0	2.29	2.00	1.00	5.00	0.97	0.90	1.04
SVH3	14	1	2.09	2.00	1.00	5.00	0.86	2.24	1.23
SVH4	15	0	2.14	2.00	1.00	5.00	0.93	1.04	0.98
SVH5	16	0	2.28	2.00	1.00	5.00	0.96	0.52	0.84
SVH6	17	0	3.93	4.00	1.00	5.00	0.96	1.77	-1.20

Table 4.7: continued

Indicators	No.	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
FTP1	18	0	1.97	2.00	1.00	5.00	0.99	0.82	1.03
FTP2	19	0	2.39	2.00	1.00	5.00	0.84	1.20	0.87
FTP3	20	0	2.36	2.00	1.00	5.00	0.92	1.17	1.09
FTP4	21	0	2.22	2.00	1.00	5.00	1.06	0.17	0.83
FTP5	22	0	2.68	3.00	1.00	5.00	1.02	-0.10	0.44
FTP6	23	0	2.69	2.00	1.00	5.00	1.00	0.02	0.87
FRT1	24	0	4.14	5.00	1.00	5.00	1.06	-0.12	-0.97
FRT2	25	1	3.93	4.00	1.00	5.00	1.04	0.07	-0.85
FRT3	26	0	2.13	2.00	1.00	5.00	0.92	0.91	0.91
FRT4	27	0	4.02	4.00	1.00	5.00	1.05	0.16	-0.93
FRT5	28	0	4.03	4.00	1.00	5.00	0.95	0.70	-0.99
RTS1	29	0	2.31	2.00	1.00	5.00	0.74	2.26	1.20
RTS2	30	0	2.87	3.00	1.00	5.00	0.84	0.23	0.05
RTS3	31	2	2.11	2.00	1.00	5.00	1.09	0.13	0.85
RTS4	32	0	2.18	2.00	1.00	5.00	0.83	1.46	0.96
RTS5	33	0	2.75	3.00	1.00	5.00	0.81	0.34	0.31

Table 4.7: continued

Indicators	No.	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness
RWB1	34	0	3.05	3.00	1.00	5.00	1.07	-0.80	-0.29
RWB2	35	0	2.97	3.00	1.00	5.00	1.04	-0.62	-0.18
RWB4	36	0	2.37	2.00	1.00	5.00	0.79	0.38	0.39
RWB5	37	1	2.98	3.00	1.00	5.00	1.02	-0.75	-0.18
RWB6	38	1	2.15	2.00	1.00	5.00	0.74	2.63	1.11
RWB7	39	0	2.95	3.00	1.00	5.00	1.02	-0.76	-0.06
RWB8	40	0	2.18	2.00	1.00	5.00	0.92	0.81	0.89
RWB9	41	0	2.18	2.00	1.00	5.00	1.07	0.20	0.87
RWB10	42	0	2.62	2.00	1.00	5.00	0.98	0.33	0.88

4.5.2 Structural Model Assessment

This research study discussed three (3) stages of assessing measurement model to structural model namely (i) Reflective Measurement Model Assessment; (ii) Formative Measurement Model Assessment; and (iii) Assessment of the Structural Model. The flow of assessing measurement model to structural model is exhibited in Figure 4.1 as follow.

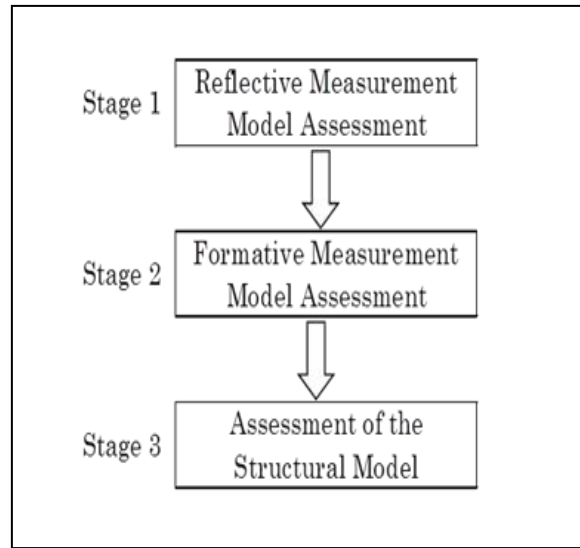


Figure 4.1: Stages of Assessing Measurement Model to Structural Model

4.6 Reflective Measurement Model Assessment

4.6.1 Overview

During this stage 1 in regard with assessment of reflective measurement model within this study, three (3) main assessment criteria such as the internal consistency reliability, convergent validity (indicator reliability/outer loading and average variance extracted) and discriminant validity are required at the outset. Table 4.8 as follow summarises the indices for measurement model analysis using PLS-SEM.

Table 4.8: Indices for Measurement Model Analysis using PLS-SEM

No.	Assessment	Name of Index	Guidelines
1.	Internal consistency	Composite reliability (CR)	CR > 0.90 (Not desirable) CR < 0.70 – 0.90 (Satisfactory) CR > 0.60 (for exploratory research)

Table 4.8: continued

2.	Indicator reliability / Factor loadings	Indicator loadings	Loadings > 0.708 or higher is recommended. Loadings < 0.70, 0.60, 0.50 or 0.40 is adequate if other items have high scores of loadings to component AVE or CR.
3.	Convergent validity	Average variance extracted (AVE)	AVE > 0.50
4.	Discriminant validity	Cross loading	Loadings of each indicator are the highest for their designated constructs.
		Fornell & Larcker's Criterion	The square root of AVE of a construct should be larger than the correlations between the construct and other constructs in the model.
		HTMT Criterion	HTMT 0.85 (Stringent criterion) HTMT 0.90 (Conservative criterion) $-1 \leq \text{HTMT} < 1$ (Liberal criterion)

Source: Ramayah, Cheah, Chuah, Ting & Meman (2018)

At this phase, the researcher is using datasets (n=400) to assess the reflective measurement model. The exogenous variables in the data are Future Time Perspective consisting of six (6) indicators comprising FTP1, FTP2, FTP3, FTP4, FTP5, and FTP6; Self Efficacy consisting of five (5) indicators comprising SFE1, SFE2, SFE3, SFE4, and SFE5; Financial Literacy consisting of six (6) indicators: comprising FNL1, FNL2, FNL3,

FNL4, FNL5, and FNL6; as well as Financial Risk Tolerance consisting of five (5) indicators comprising FRT1, FRT2, FRT3, FRT4, and FRT5.

On the other hand, the endogenous variables in the data are Saving Habits consisting of six (6) indicators comprising SVH1, SVH2, SVH3, SVH4, SVH5, and SVH6; Retirement Saving consisting of five (5) indicators comprising RTS1, RTS2, RTS3, RTS4, and RTS5; as well as Retirement Well-Being consisting of nine (9) indicators comprising RWB1, RWB2, RWB4, RWB5, RWB6, RWB7, RWB8, RWB9, and RWB10. The drawing of the model is illustrated in Figure 4.2 as follow:

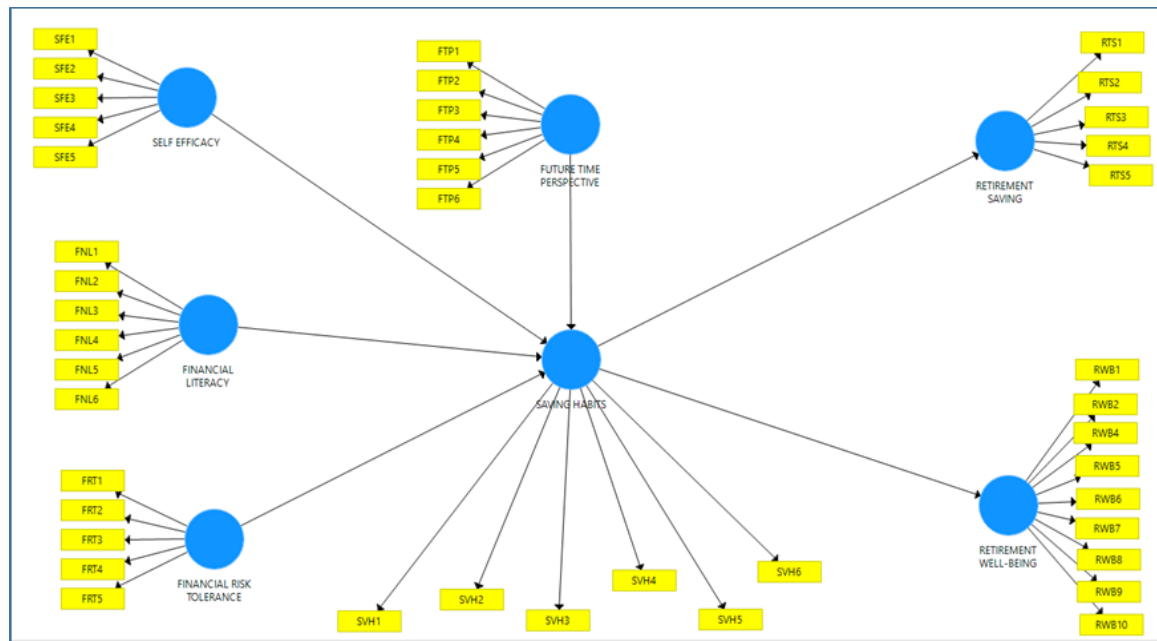


Figure 4.2: Model based on Savings Habits Datasets (n=400)

4.6.2 Results of SmartPLS Graphical Output

At this stage, the researcher shall be looking at the quality criteria. The quality criteria include loadings in term of correlation of the latent constructs and their perspective indicators, which is also known best as items; path-coefficient in term of the strength of relationship between latent constructs; and R-square in term of the coefficient of

determination which denotes how much of the variance in the endogenous latent construct is explained by the exogenous latent constructs. Based on these three (3) aforesaid quality criteria, several adjustments on the calculation results of the outer and construct is required to be carried out by the researcher.

Subsequently, the researcher ensures that all outer loadings of the reflective constructs meet the minimum threshold of 0.708 (Hair et al., 2014). Based on the results as shown in Table 4.9 below, it is evident that FNL2, FRT3, FTP1, FTP2, FTP5, RTS2, RTS5, RWB1, RWB2, RWB5, RWB7, RWB10, SFE3, SFE4, SVH5 and SVH6 as they do not meet the minimum threshold value of 0.708. Therefore, in order to achieve satisfactory indicator reliability, the researcher is required to delete these said items in the model.

Table 4.9: Results of Outer Loadings of the Reflective Construct

Financial Literacy	FNL1	FNL2	FNL3	FNL4	FNL5	FNL6				
	0.727	0.706	0.830	0.883	0.820	0.761				
Financial Risk Tolerance	FRT1	FRT2	FRT3	FRT4	FRT5					
	0.822	0.769	-0.651	0.797	0.711					
Future Time Perspective	FTP1	FTP2	FTP3	FTP4	FTP5	FTP6				
	0.684	0.537	0.719	0.770	0.584	0.717				
Retirement Savings	RTS1	RTS2	RTS3	RTS4	RTS5					
	0.741	0.526	0.861	0.842	0.649					
Retirement Well-Being	RWB1	RWB2	RWB3	RWB4	RWB5	RWB6	RWB7	RWB8	RWB9	RWB10
	-0.198	-0.120	0.000	0.458	-0.196	0.559	-0.153	0.774	0.801	0.707
Self-Efficacy	SFE1	SFE2	SFE3	SFE4	SFE5					
	0.901	0.872	0.230	0.321	0.789					
Savings Habits	SVH1	SVH2	SVH3	SVH4	SVH5	SVH6				
	0.816	0.841	0.805	0.855	0.684	0.029				

However, there are few points to be taken into consideration by the researcher prior to the deletion process of the indicators or also known as items. Firstly, in order to ensure that if more than one indicator in a construct that does not meet the minimum threshold value of 0.708, the researcher should only delete indicator one at a time from one construct to another, starting with the indicator that carries the lowest loading value and subsequently re-run the PLS algorithm analysis after each deletion and check the new results again.

Nevertheless, the allowable deletion percentage cannot be more than 20% of the indicators. Hence, at this stage, the researcher deleted 19% whereby eight (8) indicators out of forty-two (42) were deleted namely FRT3 with value of -0.654; RWB1 with value of -0.198; RWB2 with value of -0.120; RWB5 with value of -0.196; RWB7 with value of -0.153; SFE3 with value of 0.230; SFE4 with value of 0.321; and SVH6 with value of 0.029.

However, considering that the allowable deletion percentage cannot be more than 20% of the indicators as mentioned above, therefore the researcher considered for indicators with loadings value above 0.5 are to be retained. Therefore, FNL2 with value of 0.706; FTP1 with value of 0.684; FTP2 with value of 0.537; FTP5 with value of 0.584; RTS2 with value of 0.526; RTS5 with value of 0.649; and SVH6 with value of 0.684 are retained for the next PLS algorithm re-run process and the result are exhibited in Figure 4.3 below.

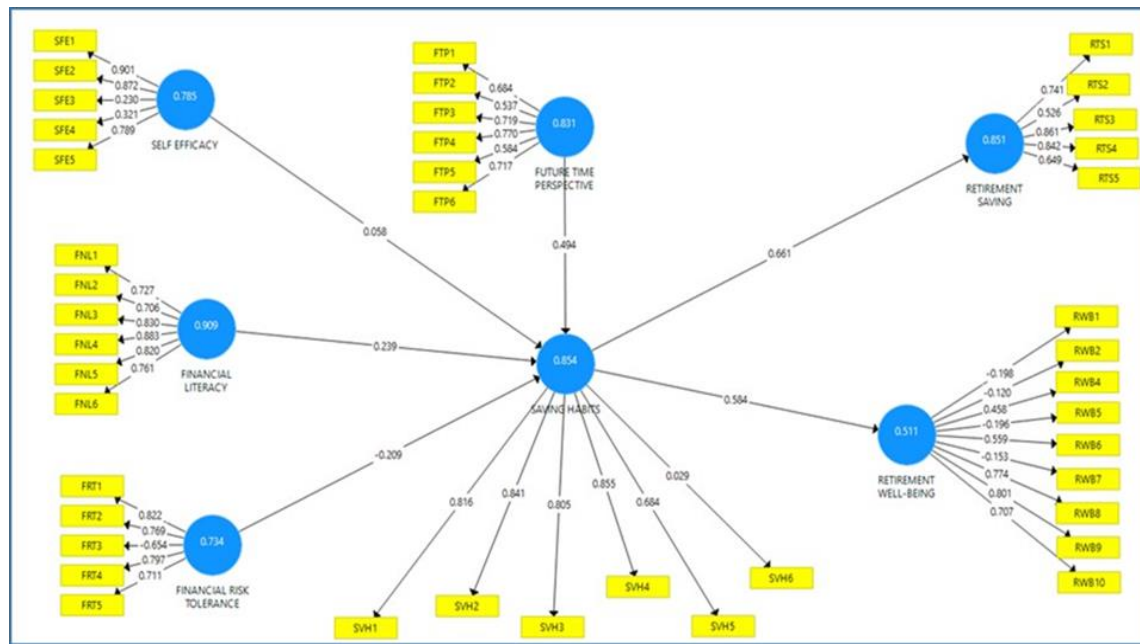


Figure 4.3: Results of SmartPLS Graphical Output

4.6.3 Confirmatory Factor Analysis

In this section, the confirmatory factor analysis is performed. Since some measures are enhanced and included to suit the study, the confirmatory factor analysis was prior performed while running the measurement model with PLS-SEM as to examine the reliability and validity of the measures. In view of this, the study assesses the confirmatory factor analysis with PLS-SEM for the measurement model and the metrics applied are comprise of internal consistency (reliability), convergent reliability (loading and average variance extracted) and discriminant validity for reflective indicators that shall be discussed in the upcoming section of this chapter research study.

4.6.4 Internal Consistency Reliability

The internal consistency reliability that is the first assessment criteria outset in the assessment of reflective measurement model shall include the cronbach's alpha (α), composite reliability (CR) and Dijkstra-Henseler's rho (ρ_A). These three (3) internal

consistency reliability measurements of the research study analysis are explained as follows:

4.6.4.1 Cronbach's Alpha (α)

The cronbach's alpha measures the reliability of a set of indicators. It increases with the numbers of indicators. A value of 0.7 is regarded as acceptable at the early stage of the research study and then at a later stage the threshold value should be greater i.e. 0.8 or 0.9 (Nunnally, 1978). From the result derived in this research study portray in Table 4.10, all the cronbach's alpha values of the indicators are found to be greater 0.7 and that these are regarded as acceptable for the research study (Henseler et al., 2015).

4.6.4.2 Composite Reliability (CR)

The composite reliability which is also known as Joreskog's rho measures the reliability of a set of indicators. Interpretation and threshold of the composite reliability is similar to cronbach's alpha. Hence, the result derived as shown in Table 4.10, under the composite reliability of this research study has shown that all values of the indicators are greater than 0.7 and even greater than the values of 0.8 and 0.9. Subsequently, these values are regarded as acceptable (Henseler et al., 2015; Nunnally, 1978). However, in some cases where the composite reliability results value is greater than 0.6, they are regarded as acceptable (Huang et al., 2013). These value resulted in this research study as shown in Table 4.10 are all greater than 0.7 and these values indicated adequate convergence or internal consistency (Gefen et al., 2000).

4.6.4.3 Dijkstra-Henseler's Rho (P_A)

The Dijkstra-Henseler's rho measures the reliability of composite as created by the PLS consistent for reflective model. It consists the measure of construct scores and the

interpretation as well as the thresholds are like cronbach's alpha whereby value of 0.7 and greater than 0.7 or any of the value under Dijkstra-Henseler's rho that are greater than the values of 0.8 and 0.9 are favourable acceptable (Nunnally, 1978). The Dijkstra-Henseler's rho results derived in this research study as shown in Table 4.10 all are found to be greater than 0.7 and even greater than the values of 0.8 and 0.9. Hence all these are acceptable (Henseler et al., 2015).

4.6.5 Convergent Validity

Convergent validity which is a degree to which indicators of a specific construct focus a high proportion of variance in common and that factor loadings as well as average variance extract are used to assess the convergent validity (Hair et al., 2014; Shaffer et al., 2016). The indicator loadings, composite reliability and average variance extracted of the reflective constructs are presented in Table 4.10 as follow.

Table 4.10: Results of Construct Reliability and Validity

	Cronbach's Alpha (a)	Dijkstra- Henseler's rho (P _A)	Composite Reliability (CR)	Average Variance Extracted (AVE)
FINANCIAL LITERACY	0.902	0.971	0.908	0.624
FINANCIAL RISK TOLERANCE	0.858	0.874	0.903	0.701

Table 4.10: continued

FUTURE TIME PERSPECTIVE	0.764	0.765	0.831	0.454
RETIREMENT SAVINGS	0.792	0.843	0.850	0.539
RETIREMENT WELL-BEING	0.696	0.702	0.805	0.457
SAVINGS HABITS	0.860	0.868	0.900	0.645
SELF- EFFICACY	0.816	0.818	0.891	0.733

4.6.5.1 Factor Loadings (Indicator Reliability/Outer Loading)

Looking at the factor loadings that concerns on the indicator reliability or outer loading, the results of loadings which are greater than 0.708 the latent variables can explain at least 50% of its indicator's variance. However, any loadings result that derive to the values of 0.4, 0.5, 0.6 and 0.7 are also acceptable provided that the average variance extracted is greater than 0.5 and 0.6 respectively (Hulland, 1999; Byrne, 2016). Nevertheless, some researchers have made their points that loading values which are equal to and greater than 0.7 (Hair et al., 2010) and loading values which are equal to and greater than 0.708 indicate that a latent variable is able to explain at least 50% of the indicator's variance (Hair et al., 2017). Hence, from the loading results derived from this research

study, all the loading values are within the indicator's variance which is greater than 0.5 and greater than 0.708. These results are exhibited in Table 4.11 as follow. However, items FRT3, RWB1, RWB2, RWB5, RWB7, SFE3, SFE4 and SVH6 were deleted due to low loadings as the threshold value (minimum is 0.708) was not achieved.

Table 4.11: Measurement Model/Factor Loadings

CONSTRUCT	ITEMS	LOADINGS	Average Variance Extracted (AVE)	Composite Reliability (CR)
FINANCIAL LITERACY	FNL1	0.725	0.624	0.908
	FNL2	0.704		
	FNL3	0.830		
	FNL4	0.884		
	FNL5	0.821		
	FNL6	0.760		
FINANCIAL RISK TOLERANCE	FRT1	0.866	0.701	0.903
	FRT2	0.840		

Table 4.11: continued

	FRT4	0.872		
	FRT5	0.767		
FUTURE TIME PERSPECTIVE	FTP1	0.682	0.454	0.831
	FTP2	0.535		
	FTP3	0.720		
	FTP4	0.771		
	FTP5	0.587		
	FTP6	0.719		
RETIREMENT SAVINGS	RTS1	0.741	0.539	0.850
	RTS2	0.525		
	RTS3	0.861		
	RTS4	0.843		
	RTS5	0.648		

Table 4.11: continued

RETIREMENT WELL-BEING	RWB4	0.526	0.457	0.805
	RWB6	0.623		
	RWB8	0.747		
	RWB9	0.763		
	RWB10	0.691		
SAVINGS HABITS	SVH1	0.815	0.645	0.900
	SVH2	0.843		
	SVH3	0.804		
	SVH4	0.855		
	SVH5	0.685		
SELF-EFFICACY	SFE1	0.901	0.733	0.891
	SFE2	0.873		
	SFE5	0.790		

4.6.5.2 Average Variance Extracted (AVE)

The average variance extracted varies from the values of 0 to 1, and represents the ratio of total variance that is due to the latent variable. Average variance extracted value of 0.5 or greater indicates that the satisfactory convergent validity, which means that the latent construct accounts for 50% or more of the variance within the observed variables on the average. However, if the average variance extracted for the constructs of Future Time Perspective and Retirement Well-Being at the values of 0.454 and 0.457 respectively which are lesser than the value of 0.5. Hence, the variances for these said constructs were at such due to the measurement error that is greater than the variance captured by the construct and the validity of the individual indicator. The average variance extracted is a more conservative measure as compared to the composite reliabilities.

Therefore, in this research study findings, the research concludes that the convergent validity of the construct is adequate and acceptable as 28% (the 28% is derived from 2/7 constructs that their AVE is less than 0.5 i.e. $2/7 \times 100\% = 28.5$ or close to 28%) only of the variance is due to error i.e. future time perspective and retirement well-being with their average variance extracted values at 0.454 and 0.457 respectively, if compared to some researches that although more than 50% of the variance are due to error, the convergent validity of the construct can still be considered as adequate and acceptable (Malhotra & Dash, 2011).

4.7 Discriminant Validity

Subsequently, the discriminant validity of the model is assessed as well. The indicators are expected to load more strongly on their own constructs than on other constructs within the model and that the average variance shared between the construct and

its measures should be greater than the variance shared between the construct and other constructs (Henseler et al., 2015). Table 4.11 below displays that all constructs are sufficient and satisfactory discriminant validity where the square root of average variance extracted (diagonal) is larger than the correlations (off-diagonal) for all reflective constructs (Fornell & Larcker, 1981; Roldan & Sanchez-Franco, 2012).

The discriminant validity, a measure of the degree whereby items that represent a particular construct is differentiated from other constructs within a study. Discriminant validity is measured by using three (3) methods such as the Fornell and Larcker criterion, heterotrait-monotrait ratio of correlations (HTMT) technique as well as cross loadings (Hair et al., 2011; Henseler et al., 2009; Henseler et al., 2015). In order to achieve the acceptable discriminant validity based on Fornell and Larcker criterion, indicators should load more strongly on their own constructs within the model and the average variance extracted values shared between the construct and its measures should be greater than the as compared to the squared correlation of all other latent constructs (Fornell & Larcker, 1981; Roldan & Sanchez-Franco, 2012).

During this process, the researcher also carefully took into account the PLS characteristics of consistency at large as at this stage of process it is vital to decide carefully on the elimination or deletion of an indicator. Indicator which reliability is low is more sensible to be eliminated (Henseler et al., 2009). Subsequently, this will make substantial increase of the average variance extracted and composite reliability (Henseler et al., 2009). Thus, in the second loading process all indicators are retained and none being eliminated as all loading values are favourable and acceptable within the indicator's variance.

4.7.1 Fornell and Larcker Criterion

Table 4.12 below displays that all constructs exhibit sufficient and satisfactory discriminant validity whereby all the square root of average variance extract in diagonal manner is greater than the correlations in the off-diagonal manner for all the reflective constructs (Fornell & Larcker, 1981). The average variance extract of the latent variable as exhibited in the following Table 4.12 is found to be greater than the squared correlations between the latent variable and all the other variables as well (Chin, 2010; Chin 1998; Fornell & Larcker, 1981).

Table 4.12: Discriminant Validity using Fornell and Larcker Criterion

	FINANCIAL LITERACY	FINANCIAL RISK TOLERANCE	FUTURE TIME PERSPECTIVE	RETIREMENT SAVINGS	RETIREMENT WELL-BEING	SAVINGS HABIT	SELF- EFFICACY
FNL	0.790						
FRT	0.094	0.837					
FTP	0.055	0.463	0.674				
RTS	0.339	0.298	0.594	0.734			
RWB	0.143	0.441	0.628	0.589	0.676		
SVH	0.254	0.384	0.663	0.659	0.580	0.803	
SFE	0.072	0.432	0.668	0.581	0.581	0.476	0.856

Note: Diagonal represents the square root of the AVE while the off-diagonal represents the correlations

4.7.2 Cross Loadings

Table 4.13 below detailed a method of discriminant analysis by means of comparing the cross loadings between constructs when using the cross loadings application to assess the discriminant validity. During this process, it is vital to note that each indicator should load high on its own constructs but low on other constructs. Hence, as indicated in Table 4.13 below, the values for all the indicators have load high on its own constructs however low on the other constructs. Having said this, it is therefore indicating that the discriminant validity is achieved as the constructs are distinctly different from each other. These results (as shaded) shown in Table 4.13 below reveal neither the lower nor the upper confidence interval include a value of 1.000. Furthermore, these cross-loadings results are to be retained as none of them are of less than the value of 0.100. Cross loadings of less than the value of 0.100 should be deleted (Chin, 1998, and Snell & Dean, 1992).

Table 4.13: Cross Loadings

Financial Literacy	FNL1	FNL2	FNL3	FNL4	FNL5	FNL6
	0.725	0.704	0.830	0.884	0.821	0.760
Financial Risk Tolerance	FRT1	FRT2	FRT4	FRT5		
	0.866	0.840	0.872	0.767		
Future Time Perspective	FTP1	FTP2	FTP3	FTP4	FTP5	FTP6
	0.682	0.535	0.720	0.771	0.587	0.719
Retirement Savings	RTS1	RTS2	RTS3	RTS4	RTS5	
	0.741	0.525	0.861	0.843	0.648	
Retirement Well-Being	RWB4	RWB6	RWB8	RWB9	RWB10	
	0.526	0.623	0.747	0.763	0.691	
Savings Habits	SVH1	SVH2	SVH3	SVH4	SVH5	
	0.815	0.843	0.804	0.855	0.685	
Self-Efficacy	SFE1	SFE2	SFE5			
	0.901	0.873	0.790			

4.7.3 Heterotrait-Monotrait Ratio of Correlations (HTMT)

Further to the other method which the research applied was by using the Heterotrait-Monotrait Ratio of Correlations (HTMT) technique which was developed by Henseler, Ringle and Sarstedt (2015). The criterion of HTMT_{.90} and HTMT_{.85} were applied to yield the sensitivity levels of 95% or higher under all simulation conditions. Table 4.14 below shows that all the values obtained fulfil the criterion of HTMT_{.90} (Gold et al., 2001) as well as the HTMT_{.85} (Kline, 2011). Therefore, from the HTMT results obtained it indicates that the discriminant validity has been ascertained. In addition, the result of HTMT inference obtained in this research study also shows that the confidence interval does not show any value of 1.000 on any of the constructs and with this it also confirms the discriminant validity, and generally these two (2) HTMT approaches detect the discriminant issues reliably (Henseler et al., 2015).

Table 4.14: HTMT Criterion

	FINANCIAL LITERACY	FINANCIAL RISK TOLERANCE	FUTURE TIME PERSPECTIVE	RETIREMENT SAVINGS	RETIREMENT WELL-BEING	SAVINGS HABIT	SELF- EFFICACY
FNL							
FRT	0.192						
FTP	0.349	0.575					
RTS	0.431	0.300	0.681				
RWB	0.312	0.572	0.849	0.725			
SVH	0.195	0.435	0.763	0.729	0.738		
SFE	0.184	0.514	0.875	0.383	0.763	0.568	

4.8 Significance and Relevance of Formative Indicators

Subsequent to the reflective measurement model assessment, the researcher continues the stage 2 process to execute the formative measurement model assessment. At this stage, the researcher conducted three (3) steps required for the assessment of formative measurement model i.e. (i) assess convergent validity of formative measurement models; (ii) address collinearity issues; and (iii) assess the significance and relevance of the formative indicators.

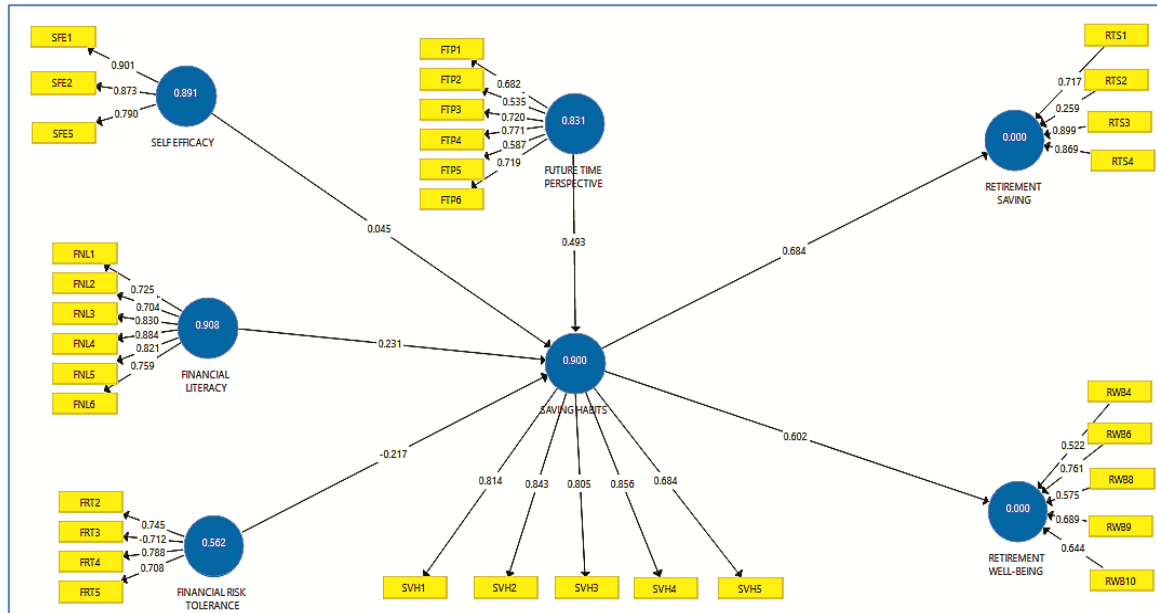


Figure 4.4: Formative Measurement Model

To explain this section, the researcher is still using the datasets (n=400) to assess the formative measurement model. The researcher changes the measurement mode to formative whereby arrow pointing to the construct i.e. endogenous constructs of saving habits. This process step is shown in the model drawn as exhibited in Figure 4.4 as above. The variables in the data comprise of Future Time Perspective, Self-Efficacy, Financial Literacy and Financial Risk Tolerance. Savings Habits will be constructed as formative

endogenous variable while Retirement Saving and Retirement Well-Being will be constructed as single-item construct of endogenous variable. The formative measurement model drawn is exhibited in Figure 4.4 as above. As a result from the assessment of the reflective measurement model, all the indicators reflected on the constructs such as Self-Efficacy, Financial Literacy, Financial Risk Tolerance, and Future Time Perspective have resulted loadings greater than 0.500, none of them shall be removed in this research study.

4.8.1 Convergent Validity

The researcher at this stage also changed the measurement mode to formative on the endogenous constructs i.e. retirement saving and retirement well-being. Based on the data set, there are formal global reflective measures which are labelled as Retirement Saving_G and Retirement Well-being_G as shown in the following Table 4.15.

Table 4.15: Global Reflective Measures

Global Reflective Measures-Convergent Validity	
Indicators	Statements
Retirement Saving_G	“Please assess to what extent the retirement saving is cultivated by individual”
Retirement Well-being_G	“Please assess to what extent the retirement well-being is achieved by individual”

4.8.1.1 Redundancy Analysis

At this stage, the researcher also conducted the redundancy analysis and created a new path model. Each of the new path models were created and drawn separately as

shown in the following Figures 4.5(i) and 4.5(ii). Hence, the researcher ensures that all the exogenous constructs were drawn as formative mode in order to predict the global indicator, a single item measurement.

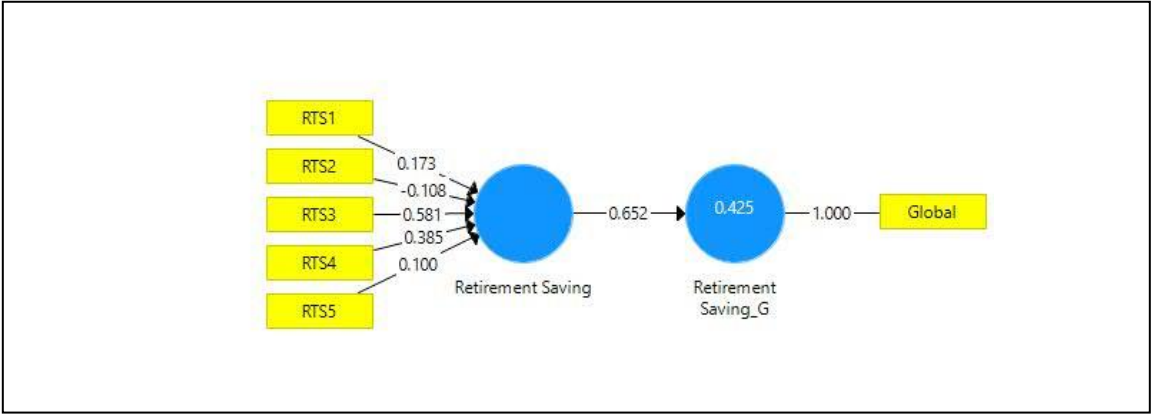


Figure 4.5(i): Retirement Saving_G

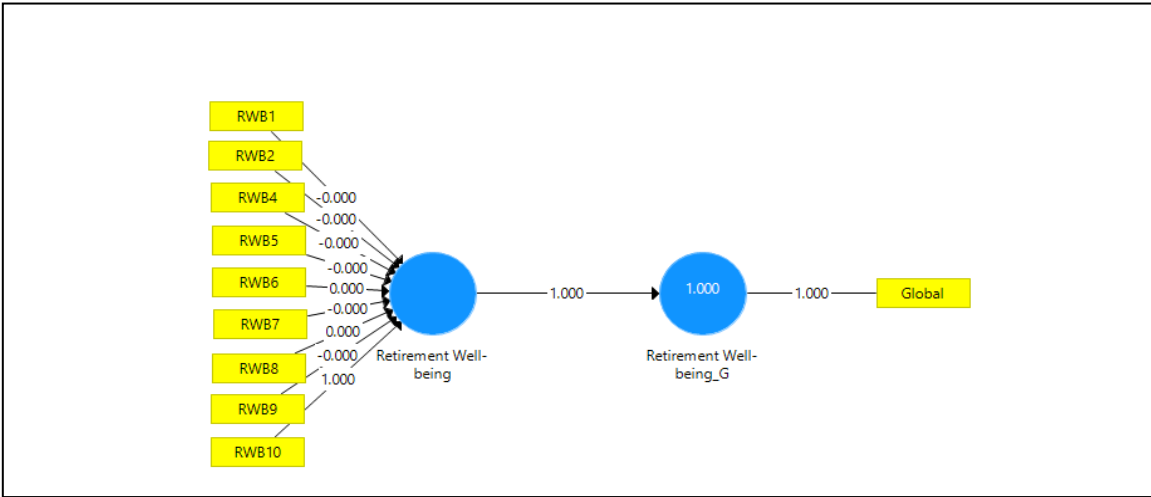


Figure 4.5(ii): Retirement Well-Being_G

Based on the above result as presented in Figure 4.5(i), it was found that the path coefficient value at 0.652 is lesser than the required value of 0.70. Hence, this means that the formative measured construct did not really have sufficient degrees of convergent validity. Having said that, the path coefficient that results value of 0.60 are still acceptable if the nature of study is exploratory based (Hair et al., 2017). In regard to this, the path

coefficient value of 0.652 obtained and as presented in Figure 4.5(i) is acceptable for the study. However, the result as presented in Figure 4.5(ii) has a path coefficient value at 1.000 which is greater than the required value of 0.70 and this value means that the formative measured construct has sufficient degrees of convergent validity (Ramayah et al., 2018).

4.8.2 Collinearity

This section reports on the collinearity assessment performed by the researcher in terms of getting the variance inflation factor based on the PLS algorithm. The PLS algorithm result from the collinearity assessment performance is exhibited in Figure 4.6 below.

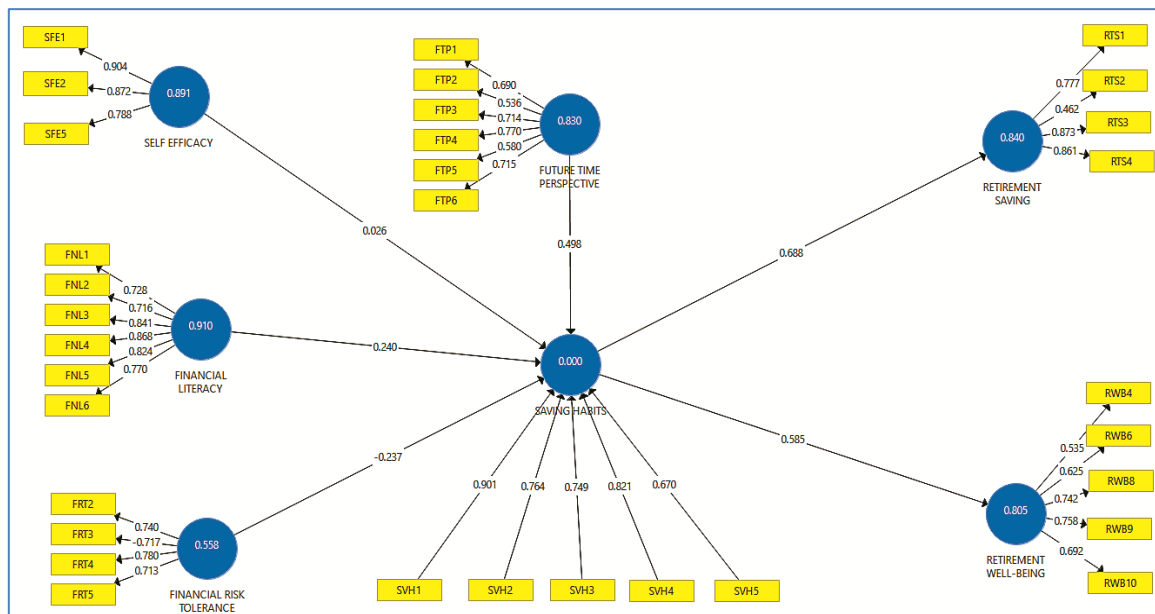


Figure 4.6: PLS Algorithm Result from Collinearity Assessment Performance

Hence, in order to achieve this, loadings for formative measurement on the outer weight result is to be extracted by the researcher for reporting purpose on the collinearity assessment i.e. variance inflation factor. This is shown in Table 4.16 as follow.

Table 4.16: Outer Weight Results (Loadings for Formative Measurement)

	FINANCIAL LITERACY	FINANCIAL RISK TOLERANCE	FUTURE TIME PERSPECTIVE	RETIREMENT SAVINGS	RETIREMENT WELL-BEING	SAVINGS HABIT	SELF- EFFICACY
FNL1	0.030						
FNL2	0.068						
FNL3	0.300						
FNL4	0.375						
FNL5	0.331						
FNL6	0.101						
FRT2		0.266					
FRT3		-0.502					
FRT4		0.330					
FRT5		0.261					
FTP1			0.369				
FTP2			0.280				
FTP3			0.190				
FTP4			0.266				
FTP5			0.160				
FTP6			0.227				
RTS1				0.322			
RTS2				0.126			

Table 4.16: continued

RTS3				0.407			
RTS4				0.390			
RWB4					0.254		
RWB6					0.351		
RWB8					0.262		
RWB9					0.317		
RWB10					0.304		
SVH1						0.533	
SVH2						0.053	
SVH3						0.182	
SVH4						0.233	
SVH5						0.226	
SFE1							0.421
SFE2							0.361
SFE5							0.386

4.8.2.1 Variance Inflation Factor (VIF)

At this stage, the researcher assessed the outer variance inflation factor. Based on the result obtained from the collinearity statistic, the outer variance inflation factor values are assessed and these values are shown in Table 4.17 as follow.

Table 4.17: Outer VIF Values

	VIF
Financial Literacy 1	2.977
Financial Literacy 2	3.168
Financial Literacy 3	2.390
Financial Literacy 4	2.094
Financial Literacy 5	1.987
Financial Literacy 6	2.841
Financial Risk Tolerance 1	2.182
Financial Risk Tolerance 2	2.136
Financial Risk Tolerance 4	2.165
Financial Risk Tolerance 5	1.664
Future Time Perspective 1	1.337
Future Time Perspective 2	1.234
Future Time Perspective 3	2.216
Future Time Perspective 4	2.432
Future Time Perspective 5	1.606
Future Time Perspective 6	1.994
Retirement Savings 1	1.555

Table 4.17: continued

Retirement Savings 2	1.603
Retirement Savings 3	1.994
Retirement Savings 4	1.909
Retirement Savings 5	1.769
Retirement Well-Being 4	1.346
Retirement Well-Being 6	1.367
Retirement Well-Being 8	2.371
Retirement Well-Being 9	2.812
Retirement Well-Being 10	1.516
Self-Efficacy 1	2.622
Self-Efficacy 2	2.454
Self-Efficacy 5	1.432
Savings Habit 1	1.902
Savings Habit 2	2.259
Savings Habit 3	2.263
Savings Habit 4	2.580
Savings Habit 5	1.473

Based on the result shown in Table 4.17 above, the variance inflation factor values are consistently below the threshold of 5.0 (Hair et al., 2017) and also 3.3 (Diamantopoulos & Siguaw, 2006). Thus, from this the researcher can conclude that the collinearity does not reach the critical levels in any of the formative constructs and therefore this is not an issue for the estimation of the PLS path model. At this stage, there is no indicator been deleted as the researcher has achieved the rule of thumb for variance inflation factor values below the threshold of 5.0 and 3.3.

4.8.3 Formative Indicators

This section reports on the significance and relevance of formative indicators that are found to be significant. Looking at the significance levels via bootstrapping as presented in Table 4.18, RWB4, RWB6, RWB9, RWB10, SFE1 and SFE5 are found to be significant except (i) RWB8; and (ii) SFE2 which are found to be not significant. In this case, prior research or theory provides support to the relevance of these indicators for capturing the individual saving for retirement planning as (i) individuals are constantly worried about paying their debts (credit card and personal loan) as many individuals carry debts close to their retirement age and these are burdensome to the elderly (Lusardi et al., 2020; Loibl et al., 2022); and (ii) higher self-efficacy leads to retirement goal clarity (Asebedo & Seay, 2018; Hoffmann & Plotkina, 2021). Thus, these indicators are retained in the formative construct even though their outer weights are not significant. Hence, at this point the researcher has to keep the indicators since all items are important, and this method is known as the relative contribution.

4.8.3.1 Outer Weight Significance (Bootstrapping)

This section details about running the bootstrapping procedure for a large number of subsample that is selected and in this case there are 400 subsamples for running the bootstrapping test.

Table 4.18: Bootstrapping Results on the Outer Weights

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
FNL1<-FINANCIAL LITERACY	0.037	0.013	0.106	0.348	0.728
FNL2<-FINANCIAL LITERACY	0.057	0.036	0.096	0.599	0.549
FNL3<-FINANCIAL LITERACY	0.274	0.275	0.067	4.070	0.000
FNL4<-FINANCIAL LITERACY	0.419	0.438	0.132	3.162	0.002
FNL5<-FINANCIAL LITERACY	0.325	0.332	0.082	3.960	0.000
FNL6<-FINANCIAL LITERACY	0.089	0.072	0.087	1.030	0.303
FRT1<-FINANCIALRISK TOLERANCE	0.329	0.330	0.026	12.871	0.000
FRT2<-FINANCIALRISK TOLERANCE	0.270	0.269	0.025	10.755	0.000
FRT4<-FINANCIALRISK TOLERANCE	0.344	0.346	0.033	10.422	0.000
FRT5<-FINANCIALRISK TOLERANCE	0.245	0.244	0.029	8.333	0.000
FTP1<-FUTURE TIME PERSPECTIVE	0.358	0.359	0.036	9.966	0.000
FTP2<-FUTURE TIME PERSPECTIVE	0.282	0.282	0.036	7.737	0.000
FTP3<-FUTURE TIME PERSPECTIVE	0.200	0.199	0.021	9.581	0.000
FTP4<-FUTURE TIME PERSPECTIVE	0.260	0.259	0.019	13.590	0.000
FTP5<-FUTURE TIME PERSPECTIVE	0.166	0.165	0.026	6.291	0.000
FTP6<-FUTURE TIME PERSPECTIVE	0.226	0.226	0.029	7.904	0.000
RTS1<-RETIREMENT SAVINGS	0.285	0.285	0.023	12.304	0.000
RTS2<-RETIREMENT SAVINGS	0.103	0.103	0.027	3.808	0.000
RTS3<-RETIREMENT SAVINGS	0.358	0.359	0.020	17.749	0.000
RTS4<-RETIREMENT SAVINGS	0.346	0.345	0.017	20.012	0.000

Table 4.18: continued

RTS5<-RETIREMENT SAVINGS	0.208	0.207	0.022	9.262	0.000
RWB4->RETIREMENT WELL-BEING	0.167	0.164	0.083	2.016	0.044
RWB6->RETIREMENT WELL-BEING	0.574	0.564	0.088	6.488	0.000
RWB8->RETIREMENT WELL-BEING	-0.035	-0.033	0.125	0.278	0.781
RWB10->RETIREMENTWELL-BEING	0.274	0.272	0.098	2.790	0.005
SFE1->SELF-EFFICACY	0.473	0.468	0.144	3.279	0.001
SFE2->SELF-EFFICACY	0.196	0.191	0.151	1.299	0.194
SFE5->SELF-EFFICACY	0.499	0.495	0.144	3.474	0.001
SVH1<-SAVINGS HABITS	0.283	0.282	0.013	22.228	0.000
SVH2<-SAVINGS HABITS	0.244	0.245	0.010	24.383	0.000
SVH3<-SAVINGS HABITS	0.239	0.239	0.011	21.888	0.000
SVH4<-SAVINGS HABITS	0.260	0.260	0.009	28.291	0.000
SVH5<-SAVINGS HABITS	0.218	0.218	0.013	17.233	0.000

As for further test on retaining the indicators, the researcher has also gone to the extent to look into the outer loadings result. At this stage, if the results of loading are above the value of 0.5 and have t-value result of greater than 1.645, the researcher can retain the indicators in the construct and this method is known as the absolute contribution (Hair et al., 2017).

Table 4.19: Outer Loadings Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
FNL2<-FINANCIAL LITERACY	0.704	0.663	0.138	5.111	0.000
FNL3<-FINANCIAL LITERACY	0.830	0.805	0.088	9.397	0.000

Table 4.19: continued

FNL4<-FINANCIAL LITERACY	0.884	0.877	0.078	11.353	0.000
FNL5<-FINANCIAL LITERACY	0.821	0.807	0.078	10.489	0.000
FNL6<-FINANCIAL LITERACY	0.759	0.723	0.118	6.439	0.000
FRT1<-FINANCIALRISK TOLERANCE	0.866	0.865	0.019	45.489	0.000
FRT2<-FINANCIALRISK TOLERANCE	0.840	0.838	0.023	35.860	0.000
FRT4<-FINANCIALRISK TOLERANCE	0.872	0.872	0.017	52.143	0.000
FRT5<-FINANCIALRISK TOLERANCE	0.767	0.764	0.033	23.021	0.000
FTP1<-FUTURE TIME PERSPECTIVE	0.682	0.683	0.041	16.611	0.000
FTP2<-FUTURE TIME PERSPECTIVE	0.535	0.536	0.057	9.435	0.000
FTP3<-FUTURE TIME PERSPECTIVE	0.720	0.715	0.039	18.323	0.000
FTP4<-FUTURE TIME PERSPECTIVE	0.771	0.767	0.036	21.242	0.000
FTP5<-FUTURE TIME PERSPECTIVE	0.587	0.582	0.056	10.516	0.000
FTP6<-FUTURE TIME PERSPECTIVE	0.719	0.715	0.049	14.615	0.000
RTS1<-RETIREMENT SAVINGS	0.741	0.739	0.038	19.462	0.000
RTS2<-ETIREMENT SAVINGS	0.525	0.522	0.056	9.444	0.000
RTS3<-RETIREMENT SAVINGS	0.861	0.862	0.013	68.698	0.000
RTS4<-RETIREMENT SAVINGS	0.843	0.842	0.024	35.497	0.000
RTS5<-RETIREMENT SAVINGS	0.648	0.644	0.049	13.182	0.000
RWB4->RETIREMENT WELL-BEING	0.522	0.516	0.077	6.806	0.000
RWB6->RETIREMENT WELL-BEING	0.761	0.748	0.066	11.587	0.000
RWB8->RETIREMENT WELL-BEING	0.574	0.567	0.075	7.693	0.000
RWB9->RETIREMENT WELL-BEING	0.689	0.681	0.069	9.980	0.000
RWB10->RETIREMENT WELL-BEING	0.644	0.636	0.080	8.087	0.000
SFE1->SELF-EFFICACY	0.890	0.877	0.056	15.762	0.000
SFE2->SELF-EFFICACY	0.800	0.788	0.074	10.778	0.000
SFE5->SELF-EFFICACY	0.848	0.837	0.071	11.858	0.000
SVH1<-SAVINGS HABITS	0.814	0.813	0.022	37.176	0.000

Table 4.19: continued

SVH2<-SAVINGS HABITS	0.843	0.842	0.021	41.099	0.000
SVH3<-SAVINGS HABITS	0.804	0.804	0.028	28.307	0.000
SVH4<-SAVINGS HABITS	0.855	0.855	0.019	45.585	0.000
SVH5<-SAVINGS HABITS	0.687	0.687	0.041	16.853	0.000

Note: All outer loadings are checked and that all loadings are greater than 0.50 as well as significant at T-value > 1.96. Hence, researcher can retain the indicators in the construct.

From the Table 4.19 above, all the indicators in the construct can be retain as all the outer loadings and t-value results are above the value of 0.500 and 1.645 respectively. There is no formative indicator that been dropped based on the bootstrap outer loading assessment process.

Therefore, to conclude this chapter, in order to validate the formative measures, a convergent validity is assessed using redundancy analysis (Chin, 1998). To recap the earlier, as exhibited in Table 4.20, the formative construct of saving habits yield path coefficient of 0.625, less than 0.70, thus, the formatively measured construct does not has sufficient degrees of convergent validity. However, according to Hair et al., (2017), path coefficients result of 0.60 is still acceptable if the nature of study is exploratory. Hence, the value of 0.625 from the result yielded for path coefficient in this research is still acceptable.

The multi-collinearity between indicators was also assessed and based on the results as shown in Table 4.20 below, all the indicators for formative construct satisfy the VIF values and they are consistently below the threshold value of 5.0 (Hair et al., 2017) and also 3.3 (Diamantopoulos & Siguaw, 2006). Hence, from this it can be concluded that the collinearity does not reach critical level in any of the formative constructs and is not an

issue for the estimation of the PLS path model. Finally, the researcher also examined and assessed on the significance and relevance of the outer weights of the formative constructs. Based on the result, it shows that all formative indicators are significant as p-value for all items namely SVH1, SVH2, SVH3, SVH4 and SVH5 are all value less than 0.05.

Table 4.20: Measurement Properties for Formative Constructs

Constructs	Items	Convergent Validity	Weights	VIF	T-Value weights	Sig
Savings Habits	SVH1	0.625	0.283	1.902	22.228**	0.000
	SVH2		0.244	2.259	24.383**	0.000
	SVH3		0.239	2.263	21.888**	0.000
	SVH4		0.260	2.580	28.291**	0.000
	SVH5		0.218	1.473	17.233**	0.000

Note: >1.96** p-value < 0.05 = significant relationship between 2 variables

4.9 Assessment of the Structural Model

Following to the reflective measurement model assessment and formative measurement model assessment in the previous sections, this section proceeds to the structural measurement model assessment (stage 3). According to Hair et al. (2017) there are six (6) steps to assess the structural model of this research study in the PLS-SEM and they are as follows.

- i. Assessment of collinearity issues
- ii. Assessment of the path-coefficient

- iii. Assessment of level (R^2)
- iv. Assessment of effect size (f^2)
- v. Assessment of predictive relevance (Q^2)
- vi. Assessment of q^2 effect size

In order to achieve this stage 3 process of the assessment structural model, the researcher is still using the data set of Savings Habits Datasets ($n=400$). The variables in the data comprise of Future Time Perspective, Financial Literacy, Financial Risk Tolerance and Self-Efficacy as endogenous variables. On the other hand, Retirement Savings and Retirement Well-Being are exogenous variables.

4.9.1 Assessment of the Collinearity Issues (Step 1)

At this stage, it is vital that the initial stage of assessing reflective measurement model is completed. The drawing and assessment of structural model is illustrated in the following Figure 4.7.

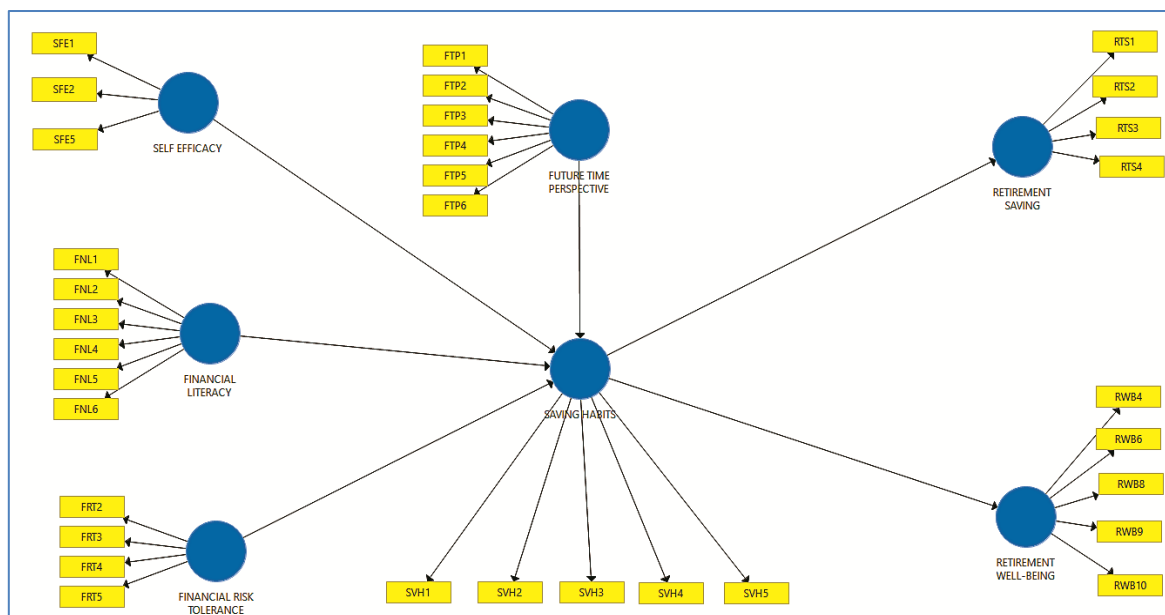


Figure 4.7: Drawing and Assessment of Structural Model

Based on Figure 4.7 above, FRT1, RWB1, RWB2, RWB5, RWB7, SFE3, SFE4 and SVH6 have been dropped during the assessment of reflective measurement model, stage 1. All the inner Variance Inflated Factor (VIF) values as shown in Table 4.21 below for the independent variables such as Financial Literacy, Financial Risk Tolerance, Future Time Perspective and Self-Efficacy are less than 5.0 and 3.3. Hence, this indicates that the collinearity is not a concern (Hair et al., 2017).

Table 4.21: Result of Inner VIF Values

	FINANCIAL LITERACY	FINANCIAL RISK TOLERANCE	FUTURE TIME PERSPECTIVE	RETIREMENT SAVINGS	RETIREMENT WELL-BEING	SAVINGS HABIT	SELF- EFFICACY
FNL						1.025	
FRT						1.629	
FTP						2.114	
RTS							
RWB							
SVH				1.000	1.000		
SFE						1.963	

4.9.2 Assessment of the Path-Coefficient (Step 2)

Based on the Table 4.22 below, observing the relative importance of the exogenous constructs in predicting the dependent construct (Savings Habits), it is evident that Future Time Perspective (FTP = 0.493) is the most important predictors, followed by Financial Literacy (FNL = 0.231) and Self Efficacy (SFE = 0.045). The Financial Risk Tolerance

(FRT = -0.218) shows a negative relationship whereby there could be probably a presence of another very strong predictor. This value negative value could also due to Financial Risk Tolerance is not possible theoretically. However, it is absolutely normal to have negative path coefficients in PLS-SEM as the SmartPLS software standardises the data (Hair et al., 2012). Hence, as a result, the algorithm calculates standardised coefficients between -1.0 and +1.0. The path coefficients close to +1.0 indicates a strong relationship, while path coefficient close to -1.0 indicates a weak relationship or negative relationship. Nevertheless, the most vital decision should be after running the significance test. On the other hand, when examining the endogenous constructs (in this research study there are two endogenous constructs i.e. Retirement Savings and Retirement Well-Being) of Retirement Savings, the factor of Saving Habits has a strong effect on Retirement Savings (SVH = 0.664) and Retirement Well-Being, the factor of Savings Habits also has a strong effect on Retirement Well-Being (SVH = 0.580).

Table 4.22: Results of Bootstrapping for Path-Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
FINANCIAL LITERACY -> SAVINGS HABITS	0.231	0.232	0.042	5.541	0.000
FINANCIAL RISK TOLERANCE -> SAVINGS HABITS	-0.218	-0.216	0.048	4.524	0.000
FUTURE TIME PERSPECTIVE -> SAVINGS HABITS	0.493	0.492	0.058	8.505	0.000
SAVINGS HABITS -> RETIREMENT SAVINGS	0.664	0.665	0.033	19.880	0.000

Table 4.22: continued

SAVINGS HABITS -> RETIREMENT WELL-BEING	0.580	0.586	0.034	17.303	0.000
SELF-EFFICACY -> SAVINGS HABITS	0.045	0.046	0.068	0.658	0.511

4.9.3 Assessment of the Level of R^2 or Adjusted R^2 (Step 3)

In this section, the researcher evaluates the model's predictive accuracy via the coefficient of determination score which is the R^2 , a measure of the model's predictive accuracy and can also be viewed as the combined effect of exogenous variables on endogenous variables. This also means that the R^2 actually represents the amount of variance in the endogenous construct explained by all of the exogenous constructs that are linked to it. The effect ranges from the values of 0 to 1 with higher values indicating higher levels of predictive accuracy. According to Falk and Miller (1992), R^2 values should be equal to or greater than 0.10 in order for the variance explained of a particular endogenous construct to be deemed adequate. Thus, based on Table 4.23 as shown below all the R^2 values are greater than 0.10, complying with the recommendation by Falk and Miller (1992). However, there are few rules of thumbs for researcher and scholars to comply with in regard to an acceptable R^2 . According to (i) Cohen (1988), the acceptable R^2 where 0.26, 0.13, 0.02 describing substantial, moderate, or weak levels of predictive accuracy respectively; (ii) Chin (1998), the acceptable R^2 where 0.67, 0.33, 0.19 describing substantial, moderate, or weak levels of predictive accuracy respectively; and (iii) Hair et al. (2017), where 0.75, 0.50, 0.25 describing substantial, moderate, or weak levels of

predictive accuracy. Thus, the R^2 values as exhibited in Table 4.23 below are substantial and moderate in accordance to Chin (1998) and Hair et al. (2017).

Table 4.23: Results of R^2 and R^2 Adjusted (Coefficient of Determination)

	R Square	R Square Adjusted
RETIREMENT SAVINGS	0.441	0.440
RETIREMENT WELL-BEING	0.337	0.335
SAVINGS HABIT	0.523	0.518

Nevertheless, the researcher should also be aware of the R^2 issue whereby when R^2 increases, this is when the additional predictor constructs are included in the model. This means the more predictors are included in a model; the result of R^2 will apparently increase without any stability. Hence, the R^2 Adjusted is recommended to be used as it controls model complexity during various models comparison (Wherry, 1931). The R^2 Adjusted is also shown in Table 4.23 as above.

4.9.4 Assessment of the Level of Effect Size, f^2 (Step 4)

This section reports about the assessment of effect size (f^2) that allows the researcher to observe the effect size of each exogenous construct on endogenous constructs using the Cohen's (f^2) (Cohen, 1988) which proposed that (f^2) values of 0.35, 0.15 and 0.02 are considered as large, medium and small effect sizes respectively. Table 4.24 below presents the level of effect size (f^2) derived from running the PLS-SEM. Observing these

values in Table 4.24, the exogenous constructs comprising of Future Time Perspective, Financial Literacy, Financial Risk Tolerance and Self-Efficacy level of effect sizes (f^2) values are 0.240, 0.109, 0.061 and 0.002 respectively. Of these values, both the Future Time Perspective and Financial Literacy exogenous constructs have medium effect sizes. Hence from these level effect sizes, the exogenous constructs (Future Time Perspective and Financial Literacy) have averagely contribute to explaining the endogenous constructs (Retirement Saving and Retirement Well-Being), whereby the difference between R^2 included and R^2 excluded are medium, leading to medium effect size (f^2). On the other hand, while both the Financial Risk Tolerance and Self-Efficacy have very small effect sizes, therefore these explain both these exogenous constructs contribute very small to the endogenous constructs (Retirement Saving and Retirement Well-Being), whereby the difference between R^2 included and R^2 excluded are small, leading to small effect size (f^2). Subsequently, endogenous constructs comprising of Retirement Saving and Retirement Well-Being level of effect sizes (f^2) values are 0.708 and 0.508 respectively. However, significance path co-efficient with very minimal effect size (f^2) do not justify scholarly and managerial attentions.

Table 4.24: Results of Effect Size, f^2

	FINANCIAL LITERACY	FINANCIAL RISK TOLERANCE	FUTURE TIME PERSPECTIVE	RETIREMENT SAVINGS	RETIREMENT WELL-BEING	SAVINGS HABIT	SELF- EFFICACY
FNL						0.109	
FRT						0.061	
FTP						0.240	

Table 4.24: continued

RTS							
RWB							
SVH				0.790	0.508		
SFE						0.002	

4.9.5 Assessment of the Predictive Relevance, Q^2 and Effect Size, q^2 (Step 5 & 6)

In this section, the researcher has to assess the predictive relevance (Q^2) of the path model. The Stone and Geisser's Q^2 (Stone, 1974; and Geisser, 1975) are often used to assess predictive relevance and can be calculated using the blindfolding procedure via SmartPLS software packages. At this stage, the researcher runs the blindfolding procedure, a resampling technique that systematically deletes and predicts every data point of the indicators in the reflective measurement model of the endogenous construct. According to Fornell and Cha (1994), predictive relevance (Q^2) values that are greater than 0 indicates that the exogenous constructs have predictive relevance for the endogenous construct under investigation.

Table 4.25 below presents the predictive relevance (Q^2) values obtained that are greater than 0 indicate that the Saving Habits (exogenous construct) have predictive relevance for both Retirement Saving and Retirement Well-Being (endogenous constructs) in this research study.

Table 4.25: Predictive Relevance, Q^2

	SSO	SSE	$Q^2 = 1 - SSE/SSO$
FINANCIAL LITERACY	2400.000	2400.000	0.000
FINANCIAL RISK TOLERANCE	1600.000	1600.000	0.000
FUTURE TIME PERSPECTIVE	2400.000	2400.000	0.000
RETIREMENT SAVINGS	1600.000	1212.420	0.242
RETIREMENT WELL-BEING	2000.000	1712.696	0.144
SAVINGS HABITS	2000.000	1343.034	0.328
SELF-EFFICACY	1200.000	1200.000	0.000

The next procedure that the researcher runs is the blindfolding procedure which is the final assessment that addresses the calculation of the q^2 effect sizes (optional), whereby at this stage the researcher has to delete the exogenous constructs on sequential manner and subsequently calculate as well as re-run the blindfolding procedure for the remaining exogenous constructs. Figure 4.8 below exhibits the model of blindfolding before any construct deletion.

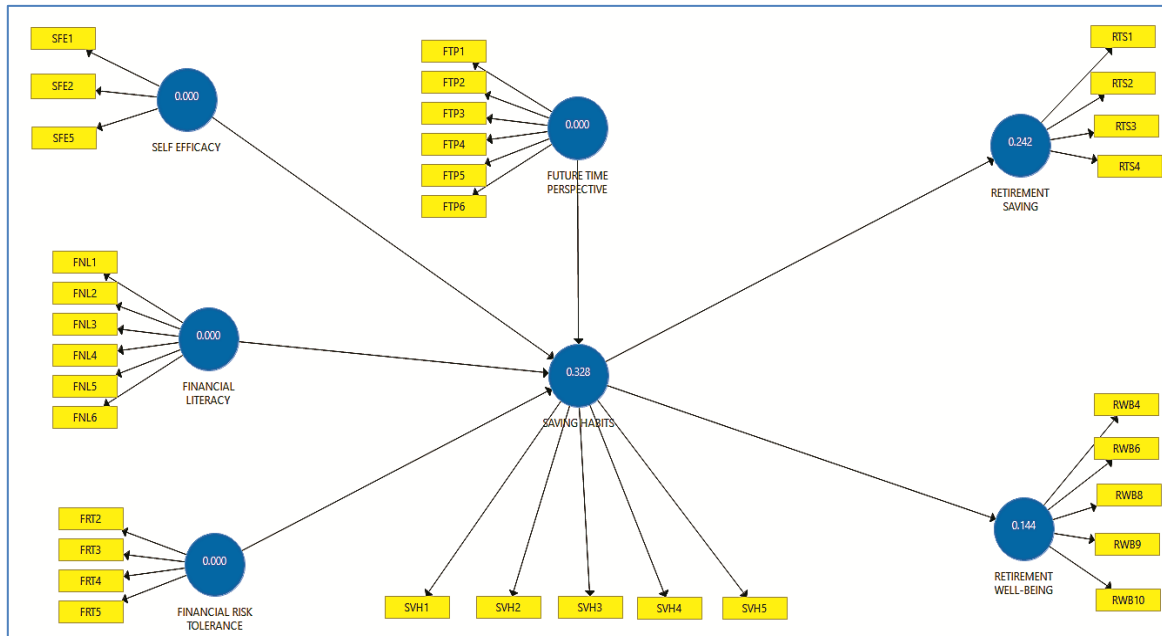


Figure 4.8: Model of Blindfolding before the Construct Deletion

At this stage, the researcher shall delete the first exogenous construct which is Future Time Perspective. Hence, the first result on Q^2 excluded for Future Time Perspective (0.256) will be obtained as shown in Figure 4.9 as follow.

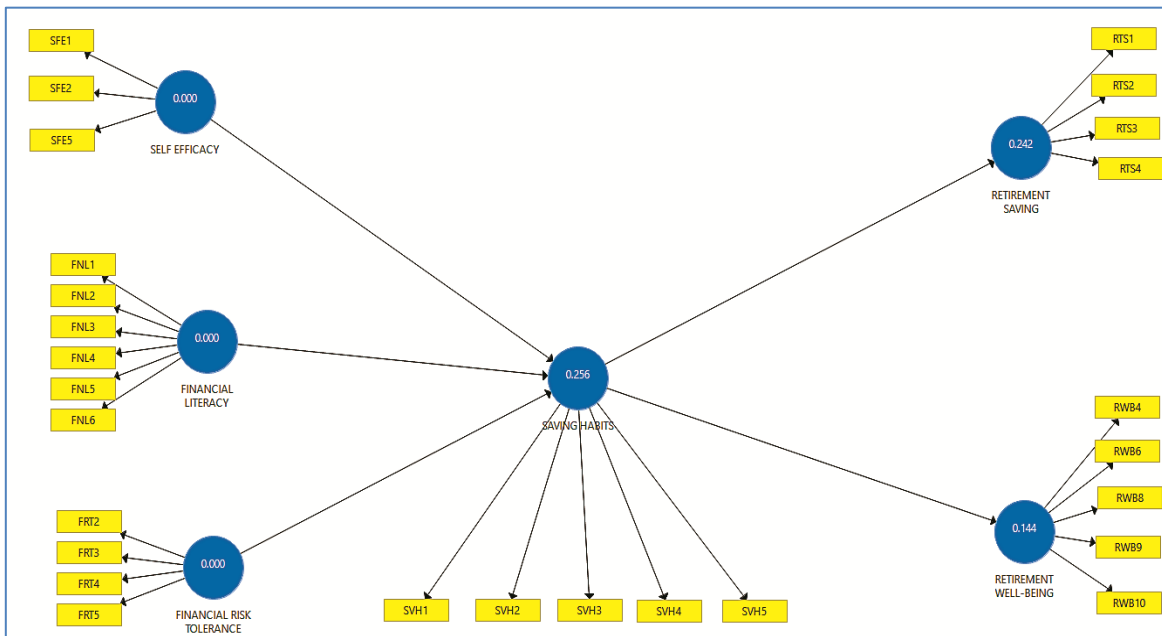


Figure 4.9: First Result on Q^2 Excluded for Future Time Perspective

The second exogenous construct deleted shall be the Self-Efficacy. Hence, the second result on Q^2 excluded for Self-Efficacy (0.328) will be obtained as shown in Figure 4.10 as follow.

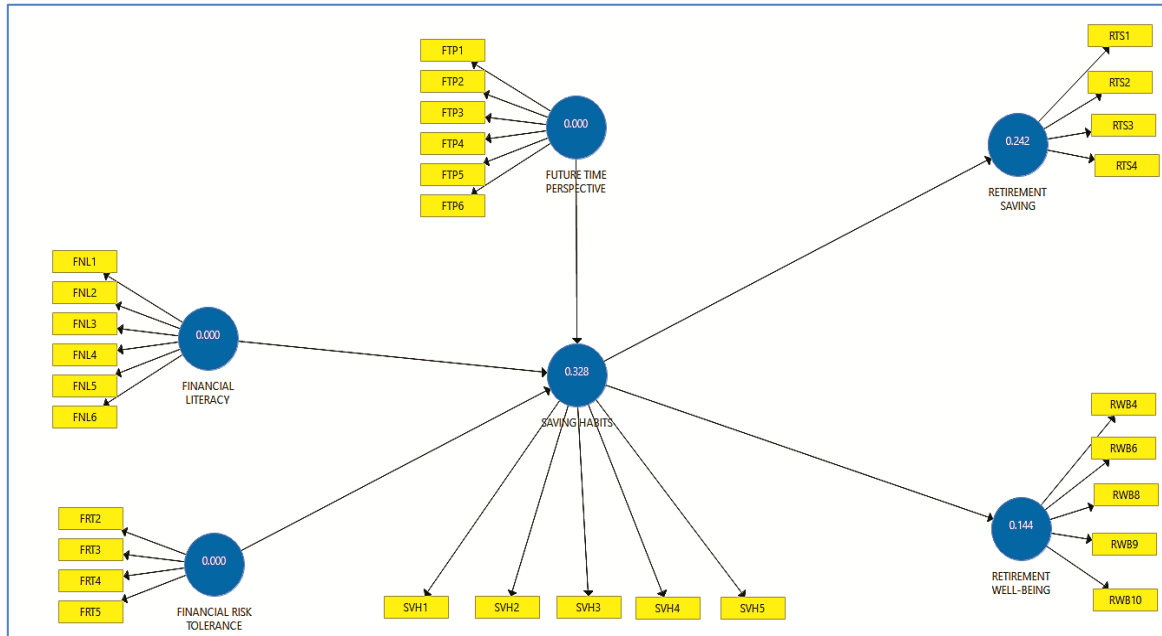


Figure 4.10: Second Result on Q^2 Excluded for Self-Efficacy

The third exogenous construct deleted shall be the Financial Literacy. Hence, the third result on Q^2 excluded for Financial Literacy (0.296) will be obtained as shown in Figure 4.11 as follow.

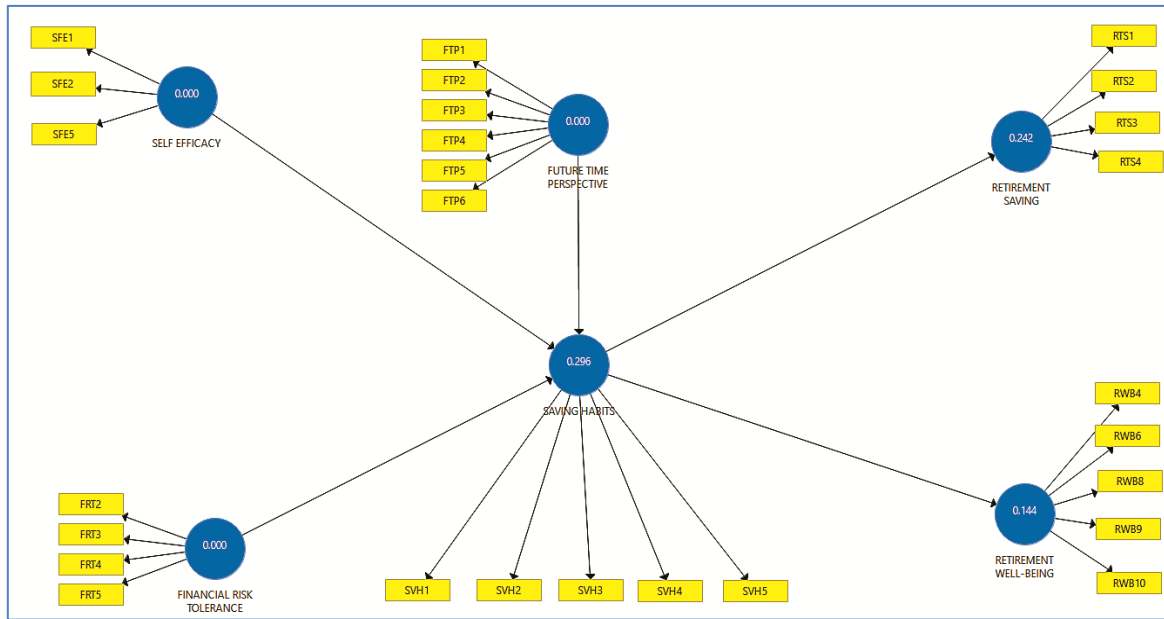


Figure 4.11: Third Result on Q^2 Excluded for Financial Literacy

The fourth exogenous construct deleted shall be the Financial Risk Tolerance. Hence, the third result on Q^2 excluded for Financial Risk Tolerance (0.311) will be obtained as shown in Figure 4.12 as follow.

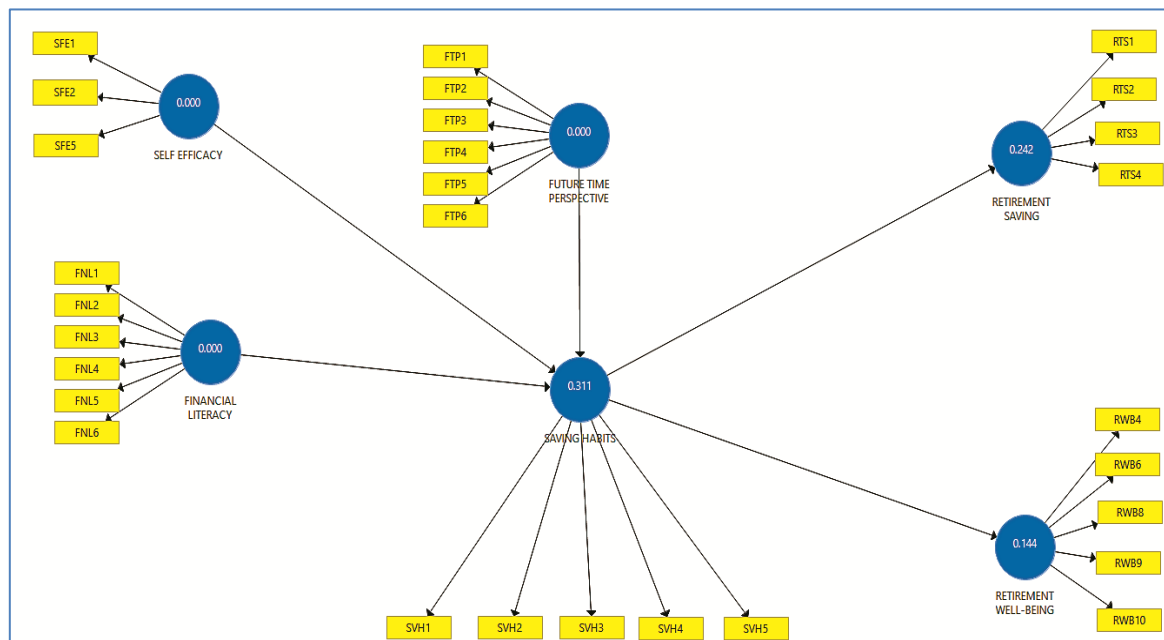


Figure 4.12: Fourth Result on Q^2 Excluded for Financial Risk Tolerance

$$q^2 = \frac{Q^2 \text{ included} - Q^2 \text{ excluded}}{1 - Q^2 \text{ included}} \quad \text{Equation 4.3}$$

Table 4.26: Related Effect Size Results

Item	q^2	Indicator	Effect size
FTP	0.107	Moderate	Small
SFE	0.000	Weak	Small
FNL	0.048	Weak	Small
FRT	0.025	Weak	Small

All the four (4) q^2 effect values derived for Future Time Perspective, Self-Efficacy, Financial Literacy and Financial Risk Tolerance as shown in Table 4.26 above, they all indicate small q^2 effect size (Hair et al., 2014). However, there have been critiques made by Shmueli, Ray, Estrada and Chatla (2016) pertaining to the use of predictive relevance (Q^2) and the effect size (q^2) in PLS models. The predictive relevance (Q^2) provides greater sense of redundancy within the data set and has limitation from using highly correlated data from related items of the same constructs and case as the items being predicted (Shmueli et al., 2016). Nevertheless, the guideline to explain the positive values of Q^2 in order to confirm the sufficient predictive relevance, the rules of thumb that does not take into account the sampling distribution of Q^2 (Chin, 1998). This being said, the predictive relevance (Q^2) and the effect size (q^2) are optional assessment as they do not provide highly interpretable results in terms of prediction error magnitude.

4.9.6 Assessment of the Goodness-of-Fit (GoF)

This section illustrates on the Goodness-of-Fit assessment. During this stage, the researcher used the same data set i.e. Savings Habits Dataset (n=400) and of reflective model as illustrated in Figure 4.2 earlier. The Table 4.27 below presents the fit summary result using PLS algorithm. Based on the result obtained, the Standardised Root Mean Square Residual (SRMR) values are 0.072 which is lesser than the threshold value of 0.08 while 0.108 which is greater than the threshold value of 0.08, indicating that the model has considerably good fit for saturated model but not considerably fit for estimated model. Although there is Chi-Square result obtained from this assessment, the researcher shall not be reporting about this further as this has not yet been determined in any research study, specifically pertaining how to determine the degrees of freedom of composite model, common factor models and mixed models when applying PLS. Additionally, the application of PLS-SEM for theory testing and confirmation is sometimes restricted since it lacks a recognized global goodness-of-fit measure (Hair et al., 2021). With relatively little success, recent research has attempted to advance standard goodness-of-fit metrics within a PLS-SEM framework (Schuberth et al., 2018). In addition, based on the Normed Fit Index (NFI) result obtained, whereby 0.818 (saturated model) and 0.789 (estimated model), did not achieve the criterion as suggested by Byrne, 2016, where NFI values should be above 0.90 in order to be acceptable.

Table 4.27: Fit Summary Result Using PLS Algorithm

	Saturated Model	Estimated Model
SRMR	0.072	0.108

Table 4.27: continued

d_ULS	1.417	3.212
d_G	0.537	0.636
Chi-Square	1069.557	1234.545
NFI	0.818	0.789

To conclude this section, prior to evaluating the structural model, it is vital to ensure that there is no collateral issue within the structural model. Despite the criteria of discriminant validity are met, lateral collinearity issue may sometimes mislead the findings in a discrete mode as it can veil the strong causal effect in the model. This commonly happens when two (2) variables that are hypothesized to be casually related measure the same construct.

Therefore, referring to the result of inner variance inflated factor as presented in Table 4.28 below, all the inner variance inflated factor values for the independent variables (Financial Literacy, Financial Risk Tolerance, Future Time Perspective and Self-Efficacy) are less than 5.0 according to Hair et al., (2017) and less than 3.3 according to Diamantopoulos & Sigouw (2006). Therefore, these inner variances inflated factor values obtained are indicating lateral collinearity is not a concern in the research study (Hair et al., 2017).

Table 4.28: Lateral Collinearity Assessment

CONSTRUCT	VIF		
	SAVINGS HABITS	RETIREMENT SAVINGS	RETIREMENT WELL-BEING
SVH		1.000	1.000
FNL	1.038		
FRT	1.334		
FTP	1.990		
SFE	1.900		

4.10 Discussion of the Findings

This sub section shall discuss the research findings pertaining to the relationships found between self-efficacy, financial literacy, future time perspective, financial risk tolerance, saving habits, retirement saving and retirement well-being. The primary objective of this study is to provide evidence and justification of the savings behaviour among society in Sarawak. Financial literacy, self-efficacy, retirement saving, retirement well-being, financial risk tolerance and future time perspective were among the courses of information for testing several hypotheses involved in this research study which lead to the achievement/accomplishment of the research study objectives. The findings of this research study are discussed based on the research objectives which include hypotheses in line with the research study questions prior developed from the problem statement.

Based on the aforementioned, six (6) direct hypotheses are developed between the constructs. In order to examine the significance level, t-statistics for all the paths are generated via SmartPLS bootstrapping function. Following the assessment of the path coefficient as shown in Table 4.29 as below, five (5) relationships such as (i) Financial Literacy -> Saving Habits; (ii) Saving Habits -> Retirement Saving; (iii) Saving Habits -> Retirement Well-Being; (iv) Financial Risk Tolerance -> Saving Habits; and (v) Future Time Perspective -> Saving Habits are found to have t-value ≥ 1.96 (two-tailed test) at 0.05 level of significance while one (1) relationship which is Self-Efficacy -> Saving Habits is found to have t-value ≤ 1.96 (two-tailed test) at 0.05 level of significance. Specifically, the predictors of Financial Literacy ($\beta = 0.231$, $p < 0.01$), Financial Risk Tolerance ($\beta = -0.218$, $p < 0.01$), Future Time Perspective ($\beta = 0.493$, $p < 0.01$) are positively related on Saving Habits, which explains 52.3% of variance in saving habits. Thus, H_1 , H_2 and H_3 are supported. The R^2 value of 0.523 is greater than the value of 0.260 as suggested by Cohen (1988) which indicates a substantial model. Subsequent results of the effects of Saving Habits on Retirement Saving; and Saving Habits on Retirement Well-Being indicate that Savings Habits ($\beta = 0.664$, $p < 0.01$); and ($\beta = 0.580$, $p < 0.01$) respectively are also positively related to Retirement Saving and Retirement Well-Being, explaining 41.1% and 33.7% of the variances in both Retirement Saving and Retirement Well-Being. Hence, these results support H_5 and H_6 of this research study. The R^2 values of 0.441 and 0.337 are greater than the value of 0.260 as suggested by Cohen (1988) which indicates a substantial model. Hence, these outcomes of R^2 values of endogenous latent variables are generally applicable for all types of PLS-SEM path model specifications and estimations (Hair et al, 2021). However, H_4 is not supported as the t-value resulted lesser than 1.96.

Table 4.29: Hypothesis Testing

Hypothesis	Relationship	Std Beta	Std Error	t-value	Decision	R ²	f ²	Q ²	q ²
H ₁	FNL->SVH	0.231	0.042	5.541	Supported	0.523	0.109	0.328	0.048
H ₂	FRT->SVH	-0.218	0.048	4.524	Supported		0.061		0.025
H ₃	FTP->SVH	0.493	0.058	8.505	Supported		0.240		0.107
H ₄	SFE->SVH	0.045	0.068	0.658	Not supported		0.002		0.000
H ₅	SVH->RTS	0.664	0.033	19.880	Supported	0.441	0.790	0.242	0.242
H ₆	SVH->RWB	0.580	0.034	17.303	Supported	0.337	0.508	0.144	0.144

Note: **p<0.01, *p<0.05

4.10.1 Relationship between Financial Literacy and Savings Habits

The first objective of this research study is to examine the relationship between financial literacy (FNL) and saving habits (SVH) of the society. In order to meet this objective of this research study, hypothesis one (H₁), which predicts a positive relationship between financial literacy and saving habits was tested in line with PLS-SEM. Hence, as predicted it was found that there was significant relationship between these two (2) constructs i.e. financial literacy (FNL) and saving habits (SVH). Therefore, this demonstrates that hypothesis one (H₁) is supported. The significant positive relationship between financial literacy (FNL) and saving habits (SVH) show that as long as the society or individual are literate in terms of financial, their saving habits will also increase as they are more prone to understand that saving is important to them.

On the other hand this shows that a higher level of individual financial literacy would results in a higher level of saving habits among the society and vice-versa. The bootstrapping result against the financial literacy shows that, saving habits revealed a beta coefficient score of 0.231; and t-value of 5.541 which is greater than 1.96 (two-tailed test) at 0.05 or 5% level of significance. The result therefore reveals that financial literacy (FNL) contributes to the saving habits (SVH) among the society in Sarawak.

The significant positive relationship finding between financial literacy (FNL) and saving habits (SVH) is in line and support the study by Huston (2010); Agarwal et al. (2011); and Widjaja et al. (2020) whereby the financial literacy is a measurement of how well the individuals understand and utilise their personal finance as well as making welfare-reducing decision making in terms of failing to refinance mortgages respectively.

4.10.2 Relationship between Financial Risk Tolerance and Savings Habits

In order to examine the relationship between financial risk tolerance (FRT) and saving habits (SVH) of the society that falls under the first objective of this research study, hypothesis two (H_2), which predicts a positive relationship between financial risk tolerance (FRT) and saving habit (SVH) was tested in line with PLS-SEM. Hence, as predicted it was found that there was significant relationship between these two (2) constructs i.e. financial risk tolerance (FRT) and saving habits (SVH). Therefore, this demonstrates that hypothesis two (H_2) is supported.

Based on the aforementioned, the higher level of financial risk tolerance (FRT) would results in a higher level of saving habits (SVH) between the society and vice-versa. The bootstrapping result against the financial risk tolerance (FRT) shows that, saving habits (SVH) revealed a beta coefficient score of 0.218; and t-value of 4.524 which is

greater than 1.96 (two-tailed test) at 0.05 or 5% level of significance. The result therefore reveals that financial risk tolerance (FRT) contributes to the saving habits (SVH) among the society in Sarawak.

The significant positive relationship finding between financial risk tolerances (FRT) and saving habits (SVH) supported the studies by Yao et al. (2011) that revealed about lack and poor financial literacy among individuals have different understanding of financial risk tolerance as compared to those who possess adequate financial literacy. Meanwhile Huhmann and McQuitty (2009) have disclosed that financial literacy has more complications with understanding financial concept, and that the financial risk tolerance and financial risk scores actually are associated with one another. The significant relationship between financial risk tolerance (FRT) and saving habits (SVH) demonstrates how the risk tolerance of an individual affects their ability to make sound financial decision, allowing them to choose the most beneficial option possible (Singh et al., 2023).

4.10.3 Relationship between Future Time Perspective and Savings Habits

In order to examine the relationship between future time perspective (FTP) and saving habits (SVH) of the society that falls under the first objective of this research study, hypothesis three (H_3), which predicts a positive relationship between future time perspective (FTP) and saving habits (SVH) was tested in line with PLS-SEM. Hence, as predicted and found that there was significant relationship between these two (2) constructs i.e. future time perspective (FTP) and saving habits (SVH). Therefore, this demonstrates that hypothesis three (H_3) is supported.

Based on the aforementioned, the higher level of future time perspective (FTP) would results in a higher level of saving habits (SVH) among the society and vice-versa.

The bootstrapping result against the future time perspective (FTP) shows that, saving habits (SVH) revealed a beta coefficient score of 0.493; and t-value of 8.505 which is greater than 1.96 (two-tailed test) at 0.05 or 5% level of significance. The result therefore reveals that future time perspective (FTP) contributes to the saving habits (SVH) among the society in Sarawak. The significant positive relationship finding between future time perspective (FTP) and saving habits (SVH) is in line and supported by some studies such as Jacobs-Lawson and Hershey (2005); Hershfield et al. (2011); and Setiawan et al. (2020) whereby the past, present and future selves do affect the savings habits of individuals.

4.10.4 Relationship between Self-Efficacy and Savings Habits

In order to examine the relationship between self-efficacy (SFE) and saving habits (SVH) of the society that falls under the first objective of this research study, hypothesis four (H_4), which predicts a positive relationship between self-efficacy (SFE) and saving habit (SVH) was tested in line with PLS-SEM. Hence, it was found that there was no significant relationship between these two (2) constructs i.e. self-efficacy (SFE) and saving habits (SVH). Therefore, this demonstrates that hypothesis four (H_4) is not supported.

The bootstrapping result against the self-efficacy (SFE) shows that, saving habits (SVH) revealed a beta coefficient score of 0.045; and t-value of 0.658 which is lesser than 1.96 (two-tailed test) at 0.05 or 5% level of significance. The not significant result therefore reveals that self-efficacy (SFE) does not contribute to the saving habits (SVH) among the society in Sarawak. However, at most time, studies have revealed that self-efficacy can improve saving behaviour habits as individuals can prepare for their emergency funds, managing personal finance or need for the future. This can be seen in studies such as Putri and Hamidi (2019); and Asriyani and Johan (2023). Hence, the not

significant negative relationship between self-efficacy (SFE) and saving habits (SVH) found in this research study somehow worth to research further in future as most studies revealed that there are significant relationship between both self-efficacy (SFE) and savings habits (SVH).

4.10.5 Relationship between Savings Habits and Retirement Savings

The second objective of this research study is to examine the relationship between savings habits (SVH) and retirement savings (RTS) of the society. In order to meet this objective of this research study, hypothesis five (H_5), which predicts a positive relationship between savings habits and retirement saving was tested in line with PLS-SEM. Hence, as predicted it was found that there was significant relationship between these two (2) constructs i.e. savings habits (SVH) and retirement savings (RTS). Therefore, this demonstrates that hypothesis five (H_5) is supported. The significant positive relationship between savings habits (SVH) and retirement saving (RTS) show that as long as the society or individual cultivate and instil saving habits in them, their retirement saving will also increases as they seriously know that they should be saving for their retirement and old age.

Based on the aforementioned, the higher level of savings habits (SVH) would results in a higher level of retirement saving (RTS) among the society and vice-versa. The bootstrapping result against the savings habits (SVH) shows that, retirement saving (RTS) revealed a beta coefficient score of 0.664; and t-value of 19.880 which is greater than 1.96 (two-tailed test) at 0.05 or 5% level of significance. The result therefore reveals that savings habits (SVH) contributes to the retirement saving (RTS) among the society in Sarawak.

The significant positive relationship finding between saving habits (SVH) and retirement saving (RTS) is in line and supported by Fisher and Anong (2012); and Bongini and Cucinelli (2019). They revealed a significant relationship between financial literacy (FNL) and saving habits (SVH) whereby savings habits are associated with the possibility of savings for retirement and that by having savings or savings for emergencies will boost the possibility of regular savings as well. In short, the money management positively influence their intention to invest in a retirement fund.

4.10.6 Relationship between Savings Habits and Retirement Well-Being

The third objective of this research study is to examine the relationship between savings habits (SVH) and retirement well-being (RWB) of the society. In order to meet this objective of this research study, hypothesis six (H_6), which predicts a positive relationship between savings habits (SVH) and retirement well-being (RWB) was tested in line with PLS-SEM. Hence, as predicted it was found that there was significant relationship between these two (2) constructs i.e. savings habits (SVH) and retirement well-being (RWB). Therefore, this demonstrates that hypothesis six (H_6) is supported. The significant positive relationship between savings habits (SVH) and retirement well-being (RWB) show that as long as the society or individual cultivate and instil savings habits (SVH) in them, their retirement well-being (RWB) will also increases as they seriously know that they should be saving for their retirement and well-being.

Based on the aforementioned, the higher level of savings habits (SVH) would results in a higher level of retirement well-being (RWB) amongst the society and vice-versa. The bootstrapping result against the savings habits (SVH) shows that, retirement well-being (RWB) revealed a beta coefficient score of 0.580; and t-value of 17.303 which

is greater than 1.96 (two-tailed test) at 0.05 or 5% level of significance. The result therefore reveals that savings habits (SVH) contributes to the retirement well-being (RWB) among the society in Sarawak.

The significant positive relationship finding between savings habits (SVH) and retirement well-being (RWB) is in line and supported by Quick and Moen (1998); Wang (2007); Barrett and Kecmanovic (2012), whereby they revealed individuals who are more well prepared and have planned ahead by practising savings habits are more likely to enjoy better retirement well-being. The significant positive result of this research study also aligns with the previous literature that has found similar relationships between perceived financial capability and financial well-being where confidence was mostly strongly associated with subjective financial well-being and with positive financial behaviours (Atlas et al., 2019; and Fan & Henager, 2022). Furthermore, the retirement well-being is quantified overall happiness among individuals that is merely associated to the steady stream of retirement savings level.

CHAPTER 5

QUALITATIVE ANALYSIS

5.1 Overview

In this section, the overall qualitative research findings derived from the interview participation among the working adults shall be discussed in view of the antecedents and consequences of savings habits toward retirement. The main purpose of the interviews conducted was to obtain valuable opinions from the working adults within Kuching vicinity who have experience and going through their financial planning for their retirement well-being. The findings from this phase of the research study will be merged together with the results derived from the quantitative research study in order to give a more notable interpretation and justification of this research study.

Qualitative analysis and quantitative analysis serve distinct purposes in research and data analysis, and both have their own strengths and limitations, while quantitative analysis focuses on numerical data and statistical methods, qualitative analysis involves interpreting non-numerical data like test, and observations. While quantitative analysis is powerful for providing numerical evidence and testing hypotheses, qualitative analysis offers a unique perspective that goes beyond numbers. It is not a matter of one method being superior to the other; rather they complement each other and should be chosen based on the research questions, objectives, and the nature of the data being analysed. Incorporating two methods is more likely to contribute profound insights about the subject of the research study that cannot be fully explored and investigated with a single method (Dawadi et al., 2021). The mixed methods design can also integrate and synergise multiple sources which can assist to study complex problems (Poth & Munce, 2020). Both the

mixed methods both complement one another by providing rich contextual understanding whereby the qualitative analysis provides deep understanding of the context and meanings behind the qualitative data. It also supports researchers uncover underlying factors that might not be apparent from quantitative data alone. For instance, in this study, if a quantitative survey indicates a high level of respondents are worry about their savings habits, the interviews can help identify specific reasons and emotions behind those worries.

Purposive sampling method was used whereby participants that consist of working adults were specifically selected based on their characteristics related to the current study conducted. In term of privacy and confidentiality, the participants were assured that their personal information is kept confidential and respecting as well as prioritising their well-being. The data obtained from the interview was recorded through detailed note-taking for in-depth analysis. The interview data are then analysed to identify themes and insights relevant to the research objectives.

5.1.1 Data Collection

In order to permit researcher to collect an open view and opinions of what they have to research and know, semi-structured interview which consist a collection of key questions and open-ended is considered (Bryman, 2012). A complete of 25 in-depth interviews was conducted among the working adults among the society to grasp their experiences and the way they view their savings habits and retirement well-being. The analysis was rather an exploratory in nature. The interview was conducted at cafes, face to face interviews with open ended questions been raised to the interviewees. Each interview session took about half-hour the most and was recorded in written manner which is able to then be transcribed for further analysis and interpretation.

5.1.2 Interview Structure

There are several ways to collect and accumulate information from participants during the interview session. The most common is a one-to-one interview (Alsshenqeeti, 2014). Prior to the one-to-one interview session, the participants were briefed shortly that the interview conducted is on voluntary basis and that their information collected will be strictly kept private and confidential and mainly for academic purposes only. During the one-to-one interview session conducted with the participants, pertinent information pertaining to savings habits and retirement well-being were gathered. Throughout the interview session, participants shared out their opinions and ideas based on their experience. The interview was structured into parts as shown in Table 5.1 as follow.

Table 5.1: Interview Structure

Interview Structure	Items
Part 1: Introduction	• Brief explanation of the research study and interview • Explain about the rights of participants
Part 2: Personal Background	• Profession and job background of the participants • Personal experience of the participants in dealing their financial situation • Savings habits and retirement well-being of the participants

Table 5.1: continued

Part 3: Savings habits and retirement well-being of working adult	• Figure out when they realised the importance of planning their retirement • Figure out the impact of savings habits in planning for retirement
Part 4: Determinants of savings habits	• Identify the effects of financial literacy antecedents, financial security antecedents, savings habits antecedents, financial confidence and stability antecedents and investment products on the retirement well-being
Part 5: Closing	• Clarify any queries • Recap the whole interview session

This section narrates the profiles of 25 participants who have participated in the interview session to impart the background of the participants to supplement the ensuing discourse. Prior to the research study commencement, no real names shall be used throughout as part of the mutual understanding and agreement. The following Table 5.2 presents the background of the 25 participants interviewed for the research study which includes nine (9) females (36%) and 16 males (64%). In terms of their age group, 7 (28%) participants were between 25 and 29 years of age, 4 (16%) participants were between 30 and 34 years of age, 6 (24%) participants were between 35 and 39 years of age, 5 (20%) participants were between 40 and 44 years of age, and 3 (12%) participants were between

45 and 49 years of age. Relating to their marital status, 7 (28%) participants were single, 6 (24%) participants were married and without children, and 12 (48%) participants were married and with children. Regarding their educational background, 2 (8%) participants accomplished Postgraduate study, 16 (64%) participants accomplished Degree study, 5 (20%) participants accomplished Diploma study, 1 (4%) participants accomplished Sijil Tinggi Pelajaran Malaysia (STPM) and 1 (4%) participants accomplished Penilaian Menengah Rendah (PMR). Meanwhile, 24 (96%) participants were employed for wages and 1 (4%) participant was self-employed.

Table 5.2: Background of Participants

Gender	Male			Female		Total
	16			9		25
Age	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	Total
	7	4	6	5	3	25
Marital status	Single		Married		Married with children	Total
	7		6		12	25
Education	PMR	STPM	DIPLOMA	DEGREE	POSTGRADUATE	Total
	1	1	5	16	2	25
Employment status	Self-employed			Employed for wages		Total
	1			24		25

5.2 Methods

5.2.1 Qualitative Analysis

In qualitative research study analysis, the data processing is repetitious and vigorous (Merriam, 2007). The qualitative procedure includes organising and improving interview transcripts systematically to develop the understanding of researcher whereby a situation or fact that is observed to exist or happen, especially one whose cause or explanation is in question (Ritchie et al., 2013). Hence, the difficult task at this stage is to

be of massive amounts of information, reduce the amount of information, identify significant styles and to construct a framework structure for communicating the essence of what the information reveal (Patton, 1990).

Analysing qualitative data is taxing and for this reason it is not fundamentally mechanical and technical practices but rather dynamic, intuitive and artistic procedures of inductive reasoning, thinking and theorising (Basit, 2003). On the other hand, qualitative studies engage various understanding of analysis, vast disciplines and fields of study as well as models from previous work conducted (Ely et al., 1991).

Throughout the analysis, the research study endeavours to gain extensive research study knowledge and to carry on with improving the elucidations. To interpret the findings in a qualitative research study, the researcher outline first-hand records comprising the backgrounds, details and reports to elucidate the information (Taylor & Bogdan, 1998; Basit, 2003). The objective of analysing the information derived from the interview session conducted with the working adult among the society was to bring structure to the data gathering process (McCracken, 1988) and to collate the interview narrative into patterns and themes into patterns and themes in data analysis via clustering, comparing and contrasting processes (Miles & Huberman, 1994).

The data must be prior translated into outcomes in order to be more effective when enhancing records, addressing problems, and evaluating scenarios. This process is known as data analysis whereby the data gathered is converted into short keywords to elucidate, interpret and forecast the research study objective. Qualitative analysis transforms data into findings and that the final destination remains unique (Patton, 2002).

5.2.2 Data Analysis

A variety of analytic methodologies, such as the interpretive phenomenological analysis (IPA), discourse analysis, grounded theory, and thematic analysis, can be used to analyse qualitative data. To analyse the responses to the open-ended interview questions, the current research study used a thematic analysis approach as the ultimate goal of a theme analysis is to find, analyse, and report on the subject issues within the data (Braun & Clarke, 2006; Merriam 2009). Thematic analysis attempts to contribute rich, detail and complicated description of every given data collection, allowing the researcher to gain a better grasp of the topic under investigation. As a result, for both practical and theoretical grounds, this technique proved suited for analysing the current inquiry into the impact of societal savings habits on the tendency to save and retirement well-being.

Thematic analysis is considered as a versatile technique theoretically with set of guidelines and methodology to discover the themes and classification. Hence, the current analysis involves a series of interconnected phases by familiarising the information gathered, assigning initial codes, identifying and labelling the themes. Before any themes can be taken from the information gathered, the familiarisation process for the information gathered has to be done by researcher. The familiarisation process involves browsing and examining the information in repetitive manner.

The researcher's dynamic responsibility in identifying themes, selecting the area of interest, and detailing them to readers is undermined by the submissive passive interpretation of the analysis process (Bazeley, 2009). In order to avoid misconception about the theme's nature and how it is noticeable, the researcher should decide about the theme from the findings. Therefore, it is crucial to retain flexibility as being rigid is not

the solution. The theme pertinence is not relying on the quantity fundamentally but more on pivotal aspects of the entire research study questions (Braun & Clarke, 2006).

5.2.3 Theoretical Thematic Analysis

In a thematic analysis, themes are usually identified in two (2) approaches i.e. inductive or deductive. The inductively discovered themes are greatly associated with the data (Patton, 1990). Nevertheless, since the data were collected purely for the research study, the themes identified were not driven by the interest of the researcher theoretically, but rather by the questions asked among participants as the current research study is driven by a specific observation towards broad generalisation of the research study outcomes. It also involves a method of classifying the information by coding them and not positioning them into earlier framework.

The motivation for this type of thematic analysis is more towards information gathered rather than theory as the method provides more detail to specific aspects of data and that the coding is geared to a specific research question. As a result, this gels in with the hypothetical method without having the research study questions distorted throughout the classification (coding) method. During the theme identification process, it is crucial to determine whether the themes levels are semantic (explicit) or latent (interpretative) (Boyatzis, 1998; Braun & Clarke, 2006). The latent (interpretive) level was used in this research study as it goes beyond the themes determined from the surface meaning associated to the data for discovering and investigating the underlying ideas, assumptions, and conceptualisations within the data, as well as the ideologies that are thought to have formed and moulded the semantic content.

5.2.4 Coding Data

Despite the fact that raw data can be intriguing to analyse, they do not provide insights into the general investigation, or participants' perspectives except the data is analysed carefully and comprehensively to shed light for current condition. Organising data involves dividing it into categories and assigning subcategories. Coding a categorisation process is essentially part of the thematic analysis as it is vital to assign definition and interpretation to elucidate the information collected for a research study (Dey, 1993; Basit, 2003). Generally, codes are associated to a sentence or section of a paragraph whether it is connected or unconnected to the setting. The initial coding conducted with simple code textual data via Excel by "code label" and applied to describe the content of the piece of text for instance "Quite tight, but minimal savings"; or "Not comfortable, tight budget without extras". Based on the sample of interview responds gathered as such, the researcher could use "savings comfort" as a code as this simply describes that the sentences involve savings comfort.

In addition, from the sample of responds gathered via the interview survey conducted asking the interviewees about their savings habits and retirement well-being that end up with a highly condensed response such as "Enough to retire. Making sure kids can complete their tertiary education by then". In this set, researcher could code kids can complete tertiary education as "What" enough to retire as "How", by then as "When". Meanwhile, another sample of respond such as "I would rate my well-being as not as good if I am no longer working. I still need to work and ensure incoming salary so I can live my days" could be coded as I (also known as Interviewee) as "Who", well-being as "What", no longer working as "When" and not as good as "How". Hence building onto these, the qualitative data coding process of creating and assigning codes to categorise the data

extracts into nodes or topics which are represented as colourful bubbles, which grow from the data text transcribed and subsequently emerged in to themes and patterns at the final stage of the thematic analysis.

The thematic analysis conducted was to supplement the fundamental of this current research study and the collective data were analysed via Quirkos software v.2.4. Relevant texts were dragged into a bubble called “Quirks” on the Quirkos software, where the assignment of texts to codes was finished. The researchers then shifted their attention to finding themes at a more general level. The researchers grouped the earlier-created “Quirks” bubbles in this phase by assigning codes to their appropriate themes. Themes are relatively high constructs that can include recurrent patterns in the data (Braun & Clarke, 2009). Words, sentences or paragraphs were highlighted and allocated and then represented as a bubble on the screen. The codes refer to the most basic forms of attributes or elements of data that are meaningful to the researchers. As more codes were added, the bubble became larger and produced an effective visual representation of codes. The identified themes were then summarized and interpreted in a subsequent section. Eventually, each theme was examined multiple times until no new insights could be discovered. This thematic analysis derived five themes: financial literacy, saving habits, financial security, saving behaviour and retirement well-being.

5.3 Results

The biggest bubble (quirk or kirkos), as a result from the thematic analysis via Quirkos software revealed financial security as the most prominent component, followed by financial literacy which comes second, as exhibited in Figure 5.1.



Figure 5.1: Thematic Analysis

Derived from these results, principally many are concern on their financial security for their peace of mind as not worrying about income insufficiency to cover expenses and be able to have enough of money save to cover their emergencies and future financial goals. Some also indicated that when financially secure and stable, stress levels over money issues would also goes down and subsequently would leave a person to have a free mind to focus on other issues in their life. The feeling of financially secure and stable also requires literacy or knowledge pertaining to what assets and liabilities are as well income versus expenses. Several believe that by creating a budget and address current and essential needs such as food, clothing, shelter and long-term goals like settling debt, having savings and insurance are pivotal for true financial security. The overview of the aforesaid themes and their related categories are summarized in Table 5.3.

Table 5.3: Summary of Themes and Categories

Themes	Categories
Financial literacy	• Financial management • Budgeting • Investing
Saving habit	• Create budget • Monitor finance regularly • Think twice before buying • Decide what really matters
Financial security	• Sufficient money for emergencies
Saving behavior	• Family influence • Self-control
Retirement well-being	• Financial status • Physical health • Unemployment before retirement

5.3.1 Financial Literacy

As financial literacy concerns retirement security such as having the likelihood to plan for retirement particularly in acquiring knowledge, skills and confidence to make rational financial decisions by considering all matters about an individual's personal circumstances and making optional choices (Shanmugam & Abidin, 2013). Findings from the in-depth qualitative interview suggested that the respondents' financial literacy was concerned about their old age savings, preparation to cover daily expenses, children's education and healthcare.

"I am very much concern with the effect of inflation, my children's education and also healthcare" (Participant 1, 43 years old, Male).

"I am very concerned about old age savings because I need to be prepared to cover the daily expenses of my special child" (Participant 6, 43 years old, Female).

“I am concern for the savings for my old age, healthcare and hospitalisation”
(Participant 14, 30 years old, Female).

5.3.2 Saving Habit

The older an individual gets, the more their financial matters grow because this is vital and fundamental to put savings aside for purposes such as retirement; paying loans; funding children’s education; and other investments (Huston, 2010). Findings from the in-depth qualitative interview suggested that the respondents’ financial literacy were concerned about their old age savings, preparation to cover daily expenses, children’s education and healthcare.

“When children sick or any unfortunate or sudden unexpected event happens”
(Participant 2, 28 years old, Male)

“I save and pay my instalments such as bank loans and bills, and then only I will spend wisely” (Participant 6, 43 years old, Female)

“Allocate expenses, savings and make monthly budget spending” (Participant 9, 48 years old, Male)

“Start saving little by little although not much and make monthly budget spending”
(Participant 13, 28 years old, Male)

“Start saving diligently and less spending on unnecessary stuff” (Participant 14, 30 years old, Female)

“Live within means and track spending” (Participant 15, 39 years old, Male)

“I can’t really save up as there are some study and car loans to be serviced monthly” (Participant 18, 27 years old, Female)

5.3.3 Financial Security

Financial security impacts an individual life by allocating a portion of income wisely to cover expenses, pay debt and prepare for emergencies and retirement without any fear of running out of money. Financial security is the benefit of fulfilling high-order needs such as a buying house, adequate retirement funds, children's education, and emergency purposes (Howell et al., 2013). Respondents believe that financial security is more connected to their financial freedom, which means happiness, self-sustaining, debt-free, financially stable, comfortable living, etc.

"I would describe my financial security as happiness, not stressful of not having enough money and self-sustaining" (Participant 1, 43 years old, Male)

"My financial freedom means no financial stress and no worries during my retirement" (Participant 5, 44 years old, Male)

"To me I would think it is all about being comfortable but I want more money and able to spend it anytime, anywhere and with any amount" (Participant 7, 35 years old, Female)

"Financial security means my financial is under control, having sufficient money for emergencies which would not disrupt my planned expenses" (Participant 9, 48 years old, Male)

"Comfortable and sufficient to meet end needs by having enough money without work but able to pay my expenses" (Participant 11, 35 years old, Female)

"I would describe it as having enough savings and no stress over money"
(Participant 12, 40 years old, Male)

“I am not quite comfortable with my financial security and stability now as the cost of living is high. To me for having my financial security and freedom it means I must have enough money and I am able to save money even though not having to work” (Participant 13, 28 years old, Male)

“I am quite comfortable with my financial condition at the money and to me financial security and freedom means having lots of money without working at all” (Participant 14, 30 years old, Female)

“I have just sufficient of savings and enough to meet my end needs. As for me, to be financially secure and stable I must have sufficient money to pay my expenses and all in all free from debt” (Participant 15, 39 years old, Male)

“At the moment, I am not quite confident with my financial security as my monthly salary is low but to me if need to be financially secured, it means I must have sufficient money to use” (Participant 16, 28 years old, Male)

“To me financial security is all about comfortable living and lifestyle without any financial burden and commitment” (Participant 17, 36 years old, Male)

“My budget is quite tight and my salary is not high. To have financial security means I should be debt free and able to live my days without worrying over debts” (Participant 18, 27 years old, Female)

“I have minimal savings and hardly save money on certain months of the year. I only have sufficient money to cover my monthly expenses and bills” (Participant 19, 27 years old, Female)

“My financial security means I am able to save enough for my old age, free from any financial debt and loan as well as having enough money to spend without worrying about money matter” (Participant 20, 25 years old, Male)

“Not quite secure as my income is not fixed. To me, financial security is all about being able to live the days with no debt burdens and can afford to spend money without any worry” (Participant 21, 27 years old, Male)

“I am not quite confident and comfortable with my current financial security as my salary is not high and I am doing more than one job, part time job for extra earning to be able to cater for my monthly expenses” (Participant 23, 30 years old, Male)

“My salary is based on commissions and I do not feel comfortable and secure with my financial situation at the moment. In order for me to have financial security means I must be free from debts, not committed to loans and able to increase my savings” (Participant 24, 34 years old, Male)

5.3.4 Saving Behaviour

Saving behaviour is divided into long- and short-term saving. Long-term saving includes gold, certificates, premium and unit trust, whereas short-term saving includes fixed and current deposits (Bosworth et al., 1991). The most common savings derived from the interview are merely regular saving account and insurance protection.

“I would manage my current financial situation by working out a financial budgeting and planning my regular savings each month” (Participant 18, 27 years old, Female)

“Allocate ample percentage for example 50% to 70% of my salary into saving account” (Participant 20, 25 years old, Male)

“Finding ways to increase my income while having sufficient protection via insurance” (Participant 8, 48 years old, Male)

5.3.5 Retirement Well-Being

Individuals who are better prepared and have planned by practicing saving habits are more likely to enjoy retirement well-being in a better way (Quick & Moen, 1998; Wang, 2007). Happiness among individuals also associates with a steady stream of retirement savings level (Barrett & Kecmanovic, 2012).

“I cannot afford to my well-being if I am no longer at work. I still need to work for now” (Participant 2, 28 years old, Male)

“If I am not working anymore, I don’t think I can afford anything and I have to quickly find new job” (Participant 3, 33 years old, Male)

“Enough to retire and making sure kids can complete their tertiary by the time I am not working” (Participant 4, 38 years old, Male)

“When I am retired, I will ensure my life is perfect by having a house, car and well prepared financially for healthcare” (Participant 6, 43 years old, Female)

“I would like to believe I have planned sufficiently especially from the protection perspective. As for wealth, accumulation, it is an on-going process” (Participant 8, 48 years old, Male)

“Still can be independent and sufficient to cover my expenses if I am no longer working” (Participant 9, 48 years old, Male)

“I have faith, I can still survive but at 60% of my current income. My house and car loans will be settled when I am retired but my current car will be so old when I am retired by then” (Participant 10, 46 years old, Male)

“Manageable and from a scale of 1 to 10, I would rate it as 8 for my well-being when I am no longer at work” (Participant 11, 35 years old, Female)

“For my well-being I will rate it as 6 out of 10 as I am still relying on parents if I happen to be jobless one fine day” (Participant 13, 28 years old, Male)

“My well-being when I am no longer at work I shall say 5 out of 10” (Participant 18, 27 years old, Female)

“I would rate my well-being as 4 out of 10 because I do not really have proper and fixed savings at the moment” (Participant 19, 27 years old, Female)

“I will rate my well-being as 5 out of 10 due to don't have enough savings at the moment” (Participant 21, 27 years old, Male)

“I do think that I still have to work for longer years even if I lose my job. I may have to find other jobs to do to ensure a proper living and well-being for myself” (Participant 23, 30 years old, Male)

“I would rate my well-being as not as good if I am no longer working. I still need to work for monthly salary so I can live my days” (Participant 24, 34 years old, Male)

“I may think it is of average if my lifestyle is not upgraded to a high end kind of and with that I would live moderately in order to maintain my financial stability and well-being when I am no longer at work next time” (Participant 25, 40 years old, Female)

5.4 Chapter Summary

In order to recap this chapter, the researcher presented the outcome of in-depth interviews with 25 working adults in the society which had revealed that poor and inadequate savings plans notable in retirement savings plan result in bad financial practices as a general principle. Using the Quirkos software, the interview data was analysed to find the key themes and methods. The thematic analysis of the interview data carried out and analysed via Quirkos has given a deeper knowledge of the underlying subject matters. The qualitative data in this research study shall be used to follow up on the findings from the quantitative data. Both complement each other. Subsequent to the 10 questions in the interview questions, the responses derived from the participants are meaningful for the research study which also further supports the quantitative analysis of the current research study. The qualitative data obtained from the Quirkos for instance, are impactful as the data produces findings about individual's lives, behaviours feelings, emotions and life experiences. All these mean that the qualitative data combines the diverse realities which are subjective (not statistical or numerical).

CHAPTER 6

DISCUSSION

6.1 Overview

The following chapter summarises the outcomes derived from both quantitative and qualitative research studies setting these outcomes in broader literature perspective of behavioural savings. In this section additionally conveys an outline of the meaning of this mixed method research study, its fundamental commitments and in what manner it associates with the current research study i.e. demonstrating the relating reserve funds propensities among the society with regards to the conduct studies. In addition, it also covers the outcomes from both stages of the research study, recommendations and ideas for society in relation to saving habits and retirement well-being. Within this chapter, key outcomes will be discussed in light of the research study's objectives. The implication of the outcomes for future research about saving habits among the society is also discussed.

6.2 Relationships between Variables of the Framework

6.2.1 Financial Literacy on Savings Habits

The qualitative stage of the research study revealed the outcomes that individual's financial literacy; specifically, the financial knowledge had significant relationships with their savings habits. Individuals who believe that with financial knowledge are more likely and prone to cultivate savings habits for the purpose of increasing their wealth and maximising their personal savings for their retirement. The financial literacy is the measurement of how well an individual understands and utilise the personal finance related information (Huston, 2010). In the present research study conducted, 92% of the

respondents claimed that they are cautious with unnecessary spending by managing it smartly, living within their means, invest in mutual funds, savings accounts, unit trusts, public mutual and fixed deposits for gaining favourable returns. 80% of the respondents have indicated concern about their disruptive savings habits derived from high cost of living such as expensive healthcare, hospitalisation, medical insurance and costly education. 60% of the respondents were confident about their retirements planning while 4% of the respondents were not sure about their confidence level for their retirement planning as they are unable to foretell their future and 36% believed that having financial literacy is not helping in increasing their habits of savings and wealth. Financial illiterate individuals however can tend to make welfare-reducing decisions in terms of failing to refinance mortgages when it is optimal to do such (Agarwal et al., 2011).

6.2.2 Savings Habits on Retirement Savings

The present research study showed that savings habits have a positive effect on the retirement savings. Consistent with previous research study, savings habits are related to the possibility of savings for retirement and that having a retirement savings or emergencies savings will increase the possibility of savings regularly (Fisher & Anong, 2012). 28% of the respondents had indicated that they follow monthly budget strictly by living their days within their means without financial burdens and ensuring sufficient fund to cover their monthly expenses and bill payments. 36% of the respondents planned their financial ahead of time by preparing checklist to ensure that they commit to settle necessary items in their list e.g. pay bills, credit card and insurance premium and the remaining that they have will be allocated for personal savings. Meanwhile 36% of the respondents had indicated that they faced difficulties such as feeling burden for settling monthly errands due to unexpected incidents happen e.g. car repair and maintenance,

festive months and children back to school that they have to prepare out of their pocket for these unplanned budget expenses as their salary is inadequate and there is not much or nothing left to be allocated for their personal savings. Drawing from these collective responds it is evident that savings habits are fundamental for retirement savings.

6.2.3 Savings Habits on Retirement Well-Being

The current research study views the relationship between savings habits and retirement well-being as reciprocal relationships that affect the society. The environment which is represented by the well-being within the society refers either individual satisfy with their life overall and feeling fulfilled. The research study shows 16% of the respondents are happy, satisfy and feeling fulfilled while 28% of the respondents are not well prepared to welcome their retirement as they have too much commitments. Individual who are better prepared and have planned by practicing savings habits are more likely to enjoy better retirement well-being (Quick & Moen, 1998; Wang, 2007). The happiness among individuals and that it also associates with the steady stream of retirement savings level (Barrett & Kecmanovic, 2012).

6.2.4 Financial Risk Tolerance on Savings Habits

The current research study showed that financial risk tolerance has a positive effect on the savings habits and this is consistent with previous studies that have shown the relationship between financial risk tolerances that affect the household wealth and financial development. The financial risk tolerance is one vital factor that affects the financial investment decisions of individuals and crucial factor of financial planning (Bayar et al., 2020). Financial risk tolerance is the extreme level of uncertainty when someone is willing to accept when making financial decision that involves the possibility of a misfortune or

loss. The person's age, investment goals, income and comfort level all play into determining their risk tolerance. Aggressive investor or individual with higher risk tolerance is commonly willing to risk more money for the possibility of higher and better returns as compared to a conservative investor who has lower financial risk tolerance. The research study shows that 52% of respondents claimed that they are willing to make risky investment. They prefer creating multiple investments such as investing in public mutual funds, fixed deposits and various insurances as these offer higher returns and protections for their wealth.

6.2.5 Future Time Perspective on Savings Habits

The current research study views that future time perspective has a positive relationship with savings habits. This supports some study done whereby the future time perspective and financial literacy are associated with more savings profiles (Lawson & Hershey, 2005; Tomar et al., 2021). The research study shows 28% of respondents are following advice to save for rainy day while 64% are thinking about how they will live years from now in the future (concerned about their old age savings as they have to prepare to cover their daily expenses and that the healthcare such as medical and hospitalisation expenses are costly. They are also worry about housing and car loans as they have to service the loans until retirement age). 44% of the respondents are in the view that the distant future changes in life are expected and have indicated they still need to work in order to secure their finance and that some of them are still relying on their parents if they are unemployed one day as they would not be able to service their car and education loans. 40% of respondents feel that they enjoy living for the moment and are just living on a day-to-day basis that they would like to save more money. Indeed, the psychological structure

stems from the cognitive procedure which is fundamentally divided into the past, present and future components due to the time perspective (Zimbardo & Boyd, 2015).

6.2.6 Self-Efficacy on Savings Habits

Some study described self-efficacy as a person's ability in their internal beliefs and confidence level to accomplish particular behaviour such as how they feel, think and behave which these in turn develop their cognitive, motivational, and affective and selection. Individuals with higher levels of self-efficacy are more confident pertaining to their ability to execute and accomplish their tasks with higher determination of optimism and aggressive to achieve an outcome and consequences successfully (Bandura, 1994). The higher the hypotheses of an individual's level of self-efficacy, the more likely they are to have acquired financial literacy in terms of knowledge in shares, properties, mortgages, savings and others (Farrell & Risse, 2016). Significant correlations between both self-efficacy and time perspective and those individuals with higher self-efficacy have more positive future time perspective (Zebardast et al., 2011). However, in the current research study showed that self-efficacy has a negative effect on savings effect and is contradicting with the past and related studies. The research study shows 36% of respondents found it hard to stick to their spending plan when unexpected expenses arise as they are not confident to even fork up RM5,000.00 in 30 days with reasons due to underpay and expenses go beyond their earnings and that they have to utilise their credit cards or even borrow money from immediate family members. 12% of respondents usually have to use credit cards when unexpected expenses occur, 44% of respondents are having hard time to cover expenses and faced with financial challenges especially during the festive months of the year, children going back to school, car need repair and maintenance and settle

education loan. Furthermore, they are also worry about running out of money when they retire as they find it challenging to make progress toward their financial goals.

6.3 Chapter Summary

As part of a broader aim to contextualise the participation of the respondents in the context of society within the current chapter has examined the outcomes for both the quantitative and qualitative stages of the research study. Several studies have shown that qualitative data helps to deepen understanding of quantitative results, however it is not unusual to see some discrepancies between the results and findings, especially whilst the sample size is small during the qualitative collection process, the result outcomes may not be generalizable. The verdicts and outcomes from the research study have been able to provide insight and understanding of how savings habits influence the daily life of the society for their future retirement preparations. This implies that the savings habits are essential and vital for the society to prosper their retirement. In the subsequent chapter, all findings will be related by comparing those of this research study to those of existing literature, and therefore provide information, significance and constraints of the present research study as well as any future implications such suggestions may have.

CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

Financial literacy, savings habits, financial risk tolerance, future time perspective, retirement saving and retirement well-being are those antecedents that appeared within the research study which indicated significant and meaningful (close correlations) and hence supported the decision of the outcomes via the active participation of the research study survey. However, other antecedents specifically self-efficacy showed no relationship and hence the decision of the outcome is not supported.

The savings behaviour of individuals stood first in their connection with retirement savings implying that they are likely very much a concern and worry for their retirement savings and that they should be well prepared and practise savings habits specifically emergencies and unexpected events. The retirement well-being plays a vital and huge role in individuals as their well-being specifically happiness and contentment are very much subject to their steady flow of savings level. Having this said, the more steady the flow of savings level is, the more stable and secure the individual could brave their retirement happily and contently. Subsequently, future time perspective ranked third in its significant relationship with savings habits. Here, it is evidently that the actions of individual relating to their savings habits are very much dependently on their past, present and future timing in terms of how they think about their life in these time.

The correlation between financial literacy and savings habits in the research study indicates the significant relationship between them. In short, the financial literacy of an

individual also determines the level of savings habits of the respondents. The positive and good financial literacy leads toward the higher level of savings habits. It was assumed that financial literacy is positively associated and significantly related with savings habits of the working adults. Greater the level of financial literacy, higher will be the savings habits. The positive relationship between financial risk tolerance with savings habits reveal that individuals who brave higher risk in their investment are willingly to risk more money for levelling up their savings habits generalising that it possibly gives higher and better returns as compared to a conservative investor who has lower financial risk tolerance.

7.2 Implication of the Research Study

As the topic of this research study is an evolving one that are retirement savings, well-being and actual needs, it could have an adverse effect on the emerging economy in the years to come especially now is the post-COVID19 era. This research study has provided the findings on how each construct is able to influence the society's savings habit. This issue could trigger the attention of researchers and scholars due to the high cost of living which subsequently cause the low savings rate that the individuals may ultimately struggle with financial issues as unable to and failing to repay borrowings and loans that also in the end impact their retirement well-being. Hence, the researcher recognises that the current research study can provide managerial practical implications to the retail banks and policy makers by identifying the constructs affecting the society's savings habit. Despite, the theoretical implications is also salient for this current research study.

7.2.1 Policy

The purpose of this research study is to enlighten the importance of savings habits and retirement well-being of working adults. The results of this research study have

implications for policy makers, regulatory bodies and society (working adults) that focus on the well-being of working adults. The implication derived from these results varies with the time perspective, economic situation and consequences. Considering that, policy makers identify the issue of inadequate and retirement planning to be graving and serious, policies and strategies that escalate knowledge with retirement issues are crucial. Higher level of savings habits assists working adults to better perform and prosper their daily life and boost their mood to level up their productivity at workplace. Furthermore, savings habits are the key element that contributes towards the retirement well-being of working adults. In this respect, the question is when the time is right to start nurturing people with knowledge and education about savings for retirement. Is it the certain age that worth to be looked into or is it when the individual entering a certain stage in life for instance when they getting their first job? Considering the complexity of subject matters pertaining to savings habits and retirement well-being which make it even more challenging to identify and enumerate the relation between savings habits and retirement well-being, the present result of the research study generalising that the various phases of individual lifetime is likely to influence their savings habits and retirement well-being. The present research study can be pursue by engaging a group of individuals based on a 5 to 10 years project cycle observing their savings habits for the preparation of their retirement.

This study on savings habits and retirement well-being of working adults in Sarawak, Malaysia can contribute to policy development by providing evidence-based insights. Policymakers can use the study's findings to design targeted interventions such as tax incentives for retirement savings, creating mandatory savings programs, or implementing financial literacy initiatives that address specific challenges identified in the research. This data-driven approach ensures that policies are tailored to address the actual

needs and behaviours of the population, ultimately leading to more effective and impactful policy decisions. This could be done by analysing the research data to identify specific demographics or groups with unique savings patterns and retirement challenges, which include age groups, income levels, occupations, and education levels; developing workshops and online resources, which offers practical guidance on budgeting, investment strategies, and retirement planning, customised for each demographic; as well as long-term monitoring the effectiveness interventions through data analysis, which is by adjusting strategies based on feedback and evolving savings habits. Hence, by tailoring interventions to specific segments of the population and addressing their unique challenges and preferences, policymakers can maximise impact of their efforts to improve savings habits and retirement well-being in Malaysia.

7.2.2 Retail Banks

This research study will assists the retail banks to gain better understanding of savings behaviour among the society that impacts their retirement well-being. Hence, the findings and outcomes of this research study can furnish the retail banks by enlighten them to discover new and fresh prospects for acquiring this group of society as their high-value customers. The retail banks can also develop and design their financial products and services that best suit to the needs and preferences of the society.

Banks have implemented various strategies to influence society's savings behaviour, including personalised financial education, rewards for saving, automatic savings transfers, and digital tools to track and manage finances. These approaches aim to encourage responsible saving habits and help individuals achieve their financial goals. Banks can improve society's savings behaviour through a combination of educational initiatives, technology-driven solutions, and behavioural economics principles. They may

offer workshops, online resources, and financial literacy programs to educate customers about the benefits of saving. Additionally, implementing automatic savings transfers, setting up goal-based accounts, and providing personalized savings advice can encourage consistent saving habits. Leveraging mobile apps and online platforms for easy access to account information, budgeting tools, and goal tracking can also enhance the overall savings experience. Studying behavioural savings can help banks improve their strategies by understanding how customers make financial decisions. This knowledge can lead to tailored products, better communication, and nudges that encourage responsible saving, ultimately increasing customer satisfaction and loyalty.

Understanding about the fact that poor and inadequate saving plan for retirement that results in bad financial practices within this research study also enlightens the retail banks to foster and put forward better plans to a high savings society. The retail banks can promote their products and services among this group of working adults as they are more likely having commitments such as earn, spend and save. Thus, this research study eventually facilitates the retail banks to develop effective marketing strategy and at the same time reducing their cost of advertising and promotion.

7.2.3 Theoretical

This research study emphasises the significance of various theories such as the Theory of Reasoned Action, Theory of Planned Behaviour, Self-Efficacy Theory, Model of Goal-Directed Behaviour, and Behavioural Reasoning Theory in influencing an individual's savings behaviour, particularly the working adults, from a philosophical point of view as per discussed in Chapter 2. The proposed framework model for this research study places attention on how the components in these theories have impacted the savings behaviour. Understanding society's savings habits requires determining how self-

efficacious and financially literate people are when it comes to saving, as well as taking environmental factors into account. Finally, this research study has demonstrated that the Theory of Planned Behaviour is a useful theory for predicting the working adults' savings habits and retirement well-being, which makes it applicable to the research studies that concentrate on the society's savings habit and retirement well-being.

7.3 Limitations and Future Directions

In every research study, there are limitations that surely exist. This current research study serves as an initiative to test and justify the theory or model of savings behaviour. However, the findings within this research study are scarce to summarise the results of the research study to support and validate the savings behaviour theory. In view of this, it is hoped that the results obtained within this research study can foster and engage the interest of researchers as well as professionals to participate in extending this field of research study by observation (empirical) on retirement well-being among households in general and household income level categories for instance the Bottom 40 percent (B40), Middle 40 percent (M40) and Top 20 percent (T20) as a whole. Hence, the following issues put forward for future research study considerations and recommendations.

Firstly, the sample size used in the research study analysis entails a total of 400 respondents that only consist of working adult in Sarawak. Although the sample size is considered sufficient to support the proposed research study concept and strengthening the theory of TPB in detail, the researcher suggests that the proposed model in this research study is tested again by using a larger sample size.

Secondly, the research study is also constraint by its timeline as the researcher not only fully used the quantitative method but also include the qualitative method in this

current research study, a mixed method to further the understanding the impact/effect of savings behaviour among the society on the tendency to save and retirement well-being which is limited to the working adults only regardless their level of income. As such, research study focusing on different income groups i.e. Top 20 percent (T20), Middle 40 percent (M40) and Bottom 40 percent (B40) can facilitate further to investigate and generalise the retirement well-being discipline research study of its kind.

Thirdly, the results of this research study have shown that savings habits are vital for the retirement well-being in the model of savings behaviour. The components within the savings habits require the society (individual) to focus/concentrate on achieving retirement well-being and upgrading their socioeconomic status by understanding the financial and money management wisely. Hence, to further deepen the research study of this discipline, the researcher suggests that further research studies can extend on how the savings habits are applied among various income groups to fulfil retirement well-being (life satisfaction and income satisfaction) that will transform the trajectory of society's daily life.

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APPENDICES

Appendix A: Questionnaire Survey

QUESTIONNAIRE SURVEY – I SURVEI SOAL SELIDIK - I

“The Impact of Society Saving Habits on the Tendency to Save and Retirement Well-Being”

“Kesan daripada kecenderungan tabiat berjimat oleh golongan masyarakat untuk kesejahteraan persaraan”

Instruction:

Please select your choice by giving a tick (✓) in the box provided where applicable.

Arahan:

Sila tanda (✓) dalam kotak yang disediakan di mana berkenaan untuk pilihan anda.

(I) Socio-economic/demographic characteristics

Ciri sosio-ekonomi/demografi

- | | | | | | | | | |
|---|-------------------------|--------------------------|-----------------------------|--------------------------|---------------------------------------|--------------------------|------------------------------|--------------------------|
| 1. Gender
<i>Jantina</i> | Male
<i>Lelaki</i> | ☐ | Female
<i>Wanita</i> | ☐ | | | | |
| 2. Age
<i>Umur</i> | 21 – 30 | ☐ | 31 – 40 | ☐ | 41 – 50 | ☐ | | |
| | 51 – 60 | ☐ | 61 – 65 | ☐ | 66 & above
<i>66 & ke atas</i> | ☐ | | |
| 3. Marital status
<i>Status perkahwinan</i> | Single
<i>Bujang</i> | ☐ | Married
<i>Berkahwin</i> | ☐ | Divorced
<i>Bercerai</i> | ☐ | Widowed
<i>Duda/Janda</i> | ☐ |

4. **Race**

Bangsa

Malay ☐ Chinese ☐ Native ☐ Indian ☐
Melayu Cina Pribumi India

Other (please specify)

Lain-lain (sila nyatakan)

5. **Location**

Lokasi

Kuching ☐ Samarahan ☐ Serian ☐ Sri Aman ☐

Betong ☐ Sarikei ☐ Mukah ☐ Sibul ☐

Kapit ☐ Bintulu ☐ Miri ☐ Limbang ☐

6. **Education**

Pendidikan

Never been to school ☐ Primary school ☐
Tidak pernah ke sekolah Sekolah rendah

Lower secondary-PT3 ☐ Upper secondary-SPM ☐
Menengah rendah-PT3 Menengah atas-SPM

STPM/Pre-university ☐ Diploma/Vocational ☐
STPM/Pra-universiti Diploma/Vokasional

Undergraduate ☐ Postgraduate ☐
Sarjana muda Pascasiswazah

7. **Employment**

Pekerjaan

Private sector ☐ Public sector ☐ Self-employed ☐
Sektor swasta ☐ *Sektor awam* ☐ *Bekerja sendiri* ☐

Unemployed ☐ Housewife ☐ Retired ☐
Menganggur ☐ *Suri rumah* ☐ *Bersara* ☐

Student ☐ Other (please specify)
Pelajar ☐ *Lain-lain (sila nyatakan)*

8. **Length of service**

Tempoh perkhidmatan

Less than 5 years ☐ 5 – 10 years ☐
Kurang daripada 5 tahun ☐ *5 – 10 tahun* ☐

11 – 15 years ☐ 16 – 20 years ☐ 20 – 25 years ☐
11 – 15 tahun ☐ *16 – 20 tahun* ☐ *20 – 25 tahun* ☐

26 – 30 years ☐ More than 30 years ☐
26 – 30 tahun ☐ *Lebih daripada 30 tahun* ☐

9. **Monthly gross income**

Pendapatan kasar bulanan

Below RM1500 ☐ RM1500-RM2000 ☐
Di bawah RM1500 ☐

RM2001-RM2500 ☐ RM2501-RM3000 ☐

RM3001-RM3500 ☐ RM3501-RM4000 ☐

RM4001-RM4500 ☐ RM4501-RM5000 ☐

RM5001-RM5500 ☐ Above RM5500 ☐
Di atas RM5500

(II) Behavioural characteristics

Ciri-ciri kelakuan

Expectations of economy, interest and income

Jangkaan terhadap ekonomi, kadar bunga dan pendapatan

1. Over the next five (5) years, how do you expect Sarawak economy would be as it has over the past five (5) years?

Dalam tempoh lima (5) tahun akan datang, bagaimana anda menjangkakan ekonomi Sarawak akan menjadi seperti yang telah berlaku dalam tempoh lima (5) tahun yang lalu?

Better ☐ Worse ☐ About the same ☐
Lebih baik Lebih teruk Lebih kurang sama

2. Five (5) years from now, how would you rate the interest rate?
Lima (5) tahun dari sekarang, bagaimana anda menilai kadar bunga?

Higher ☐ Lower ☐ About the same ☐
Lebih tinggi Lebih rendah Lebih kurang sama

3. Over the next year, how do you expect your income to be?
Sepanjang tahun depan, bagaimana anda mengharapkan pendapatan anda?

Up more ☐ Up less ☐ About the same ☐
Lebih banyak lagi Lebih kurang lagi Lebih kurang sama

4. Which of these is your savings and investment channel?
Manakah di antara berikut merupakan saluran tabungan dan pelaburan anda?

Unit trust ☐ Savings account ☐ Fixed deposits ☐
Unit amanah Akaun simpanan Deposit tetap

Shares/securities ☐ Investment linked insurance policy ☐
Saham/sekuriti Polisi insurans berkaitan pelaburan

Private retirement scheme ☐ Other (please specify)
Skim persaraan swasta Lain-lain (sila nyatakan)

5. What is your investment pattern/trend in the recent years?
Apakah corak/trend pelaburan anda pada tahun-tahun kebelakangan ini?

No <i>Bil</i>	Saving & investment schemes <i>Skim simpanan & pelaburan</i>	Pattern/trend in savings & investment <i>Corak/trend dalam simpanan & pelaburan</i>		
		Increasing <i>Meningkat</i>	Decreasing <i>Menurun</i>	Constant <i>Kekal</i>
1	Unit trust <i>Unit amanah</i>			
2	Savings account <i>Akaun simpanan</i>			
3	Fixed deposits <i>Deposit tetap</i>			
4	Shares/securities <i>Saham/sekuriti</i>			
5	Investment linked insurance policy <i>Polisi insurans berkaitan pelaburan</i>			
6	Private retirement scheme <i>Skim persaraan swasta</i>			
7	Other (as specified on Q4 above) <i>Lain-lain (seperti yang dinyatakan pada Q4 di atas)</i>			

6. Whose advice do you take while savings and investing?
Nasihat siapa yang anda ambil semasa membuat simpanan dan pelaburan?

Spouse ☐
Pasangan

Family members ☐
Ahli keluarga

Friends ☐
Sahabat

Colleague ☐
Rakan sekerja

Financial advisors ☐
Penasihat kewangan

Self-decision ☐
Keputusan sendiri

7. What is/are your spending? *There can be more than one (1) answer.*
Apakah perbelanjaan anda? Boleh melebihi daripada satu (1) jawapan.

Car loan instalment ☐
Ansuran pinjaman kereta

Housing loan instalment ☐
Ansuran pinjaman rumah

Education loan ☐
Pinjaman pendidikan

Daily necessities ☐
Keperluan harian

House rental ☐
Sewa rumah

Petrol expenditure ☐
Perbelanjaan petrol

Entertainment/leisure ☐
Hiburan/masa lapan

Insurance ☐
Insuran

Transportation ☐
Pengangkutan

Monthly household expenditure (utilities bills) ☐
Perbelanjaan isi rumah bulanan (bil utiliti)

Other (please specify)
Lain-lain (sila nyatakan)

Financial planning horizon

Ufuk perancangan kewangan

8. In planning saving and spending, which of these time periods is most important to you?
Dalam merancang penjimatan dan perbelanjaan, yang manakah tempoh masa berikut paling penting bagi anda?

Next few months ☐
Beberapa bulan akan datang

Next year ☐
Tahun hadapan

Next few years ☐
Beberapa tahun akan datang

Next 5 to 10 years ☐
5 hingga 10 tahun akan datang

Longer than 10 years ☐
Lebih daripada 10 tahun

Risk tolerance level*Tahap toleransi risiko*

9. Which of the following statements come closest to the amount of financial risk that you are willing to take when you save or invest?
Antara pernyataan berikut manakah yang paling dekat dengan jumlah risiko kewangan yang anda sanggup ambil ketika anda menyimpan atau melabur?

Take substantial financial risks expecting to earn substantial returns
Ambil risiko kewangan yang besar yang menjangkakan pulangan yang besar

☐

Take above average financial risks expecting to earn the above average returns
Ambil risiko atas purata kewangan yang tinggi dengan harapan untuk mendapatkan pulangan tinggi daripada purata kewangan

☐

Take average financial risks expecting to earn average returns
Ambil risiko purata kewangan dengan harapan untuk memperoleh purata pulangan

☐

Not willing to take any financial risks
Tidak sanggup mengambil risiko kewangan

☐

10. What is your risk appetite in investing?
Apakah selera risiko anda dalam pelaburan?

Low
Rendah

☐

Moderate
Sederhana

☐

High
Tinggi

☐

Very high
Sangat tinggi

☐
(III) Social and economic impact*Kesan sosial dan ekonomi*

No Bil	Statement Kenyataan	Response score 1 – 5 Skor tindakbalas 1 - 5				
		1	2	3	4	5
I	Self-efficacy <i>Keberkesanan diri</i>					
1.	It is hard to stick to my spending plan when unexpected expenses arise <i>Agak sukar untuk menempuh pelan perbelanjaan saya apabila perbelanjaan yang tidak dijangka timbul</i>					

No Bil	Statement <i>Kenyataan</i>	Response score 1 – 5 Skor tindakbalas 1 - 5				
		1	2	3	4	5
I	Self-efficacy <i>Keberkesanan diri</i>					
2.	It is challenging to make progress toward my financial goals <i>Agak mencabar untuk membuat kemajuan ke arah matlamat kewangan saya</i>					
3.	When unexpected expenses occur, I usually have to use credit <i>Apabila perbelanjaan yang tidak dijangka berlaku, saya biasanya menggunakan kredit</i>					
4.	When faced with a financial challenge, I have a hard time figuring out a solution <i>Apabila berhadapan dengan cabaran kewangan, saya mempunyai masa yang sukar untuk mencari penyelesaian</i>					
5.	I worry about running out of money when retire <i>Saya bimbang tentang kehabisan wang apabila bersara</i>					
II	Financial Literacy <i>Celik Kewangan</i>					
1.	I am very knowledgeable about financial planning for retirement <i>Saya sangat berpengetahuan tentang perancangan kewangan untuk persaraan</i>					
2.	I know more than most people about retirement planning <i>Saya tahu lebih daripada kebanyakan orang mengenai perancangan persaraan</i>					
3.	I am very confident in my ability to do retirement planning <i>Saya sangat yakin dengan kemampuan saya untuk membuat perancangan persaraan</i>					
4.	When I have a need for financial services, I know exactly where to obtain information on what to do <i>Apabila saya mempunyai keperluan untuk perkhidmatan kewangan, saya tahu di mana untuk mendapatkan maklumat tentang apa yang perlu dilakukan</i>					
5.	I am knowledgeable about Social Security i.e. EPF & SOCSO works <i>Saya berpengetahuan tentang Keselamatan Sosial iaitu KWSP & PERKESO</i>					

No Bil	Statement <i>Kenyataan</i>	Response score 1 – 5 Skor tindakbalas 1 - 5				
		1	2	3	4	5
III	Saving habits <i>Tabiat menabung</i>					
1.	I always follow a monthly budget <i>Saya selalu mengikuti belanjawan bulanan</i>					
2.	I prepare a list of required items ahead of time before shopping <i>Saya menyediakan senarai barangan yang diperlukan sebelum waktu membeli-belah</i>					
3.	I assure that I purchase item which are reasonable price <i>Saya memberi jaminan bahawa saya membeli barang yang harganya berpatutan</i>					
4.	I do not spend on item which I do not require <i>Saya tidak membelanjakan untuk barangan yang saya tidak perlukan</i>					
5.	I always bring small amount of cash to prevent impulsive spending <i>Saya selalu membawa sedikit wang tunai untuk mengelakkan perbelanjaan impulsif</i>					
6.	I never bring credit/debit card out <i>Saya tidak pernah membawa kad kredit/debit keluar</i>					
IV	Future time perspective <i>Perspektif masa depan</i>					
1.	I follow the advice to save for rainy day <i>Saya menurut nasihat untuk berjimat demi menghadapi kesukaran yang tak dijangka</i>					
2.	I enjoy thinking about how I will live years from now in the future <i>Saya suka memikirkan bagaimana saya akan hidup bertahun-tahun dari sekarang di masa yang akan datang</i>					
3.	The distant future is too uncertain to plan for <i>Masa depan adalah terlalu jauh untuk dirancang</i>					
4.	The future seems very vague and uncertain to me <i>Masa depan nampaknya sangat samar dan saya tidak pasti tentangnya</i>					

No Bil	Statement <i>Kenyataan</i>	Response score 1 – 5 Skor tindakbalas 1 - 5				
		1	2	3	4	5
IV	Future time perspective <i>Perspektif masa depan</i>					
5.	I am pretty much live on a day-to-day basis <i>Kehidupan saya bergantung kepada kehidupan asas seharian</i>					
6.	I enjoy living for the moment and not knowing what happen tomorrow will bring <i>Saya suka hidup untuk masa ini dan tanpa mengetahui apa yang akan berlaku esok</i>					
V	Financial risk tolerance <i>Toleransi risiko kewangan</i>					
1.	I am willing to risk financial losses <i>Saya bersedia untuk mengambil risiko jika berlaku kerugian kewangan</i>					
2.	I prefer investments that have higher returns even though they are riskier <i>Saya lebih suka pelaburan yang mempunyai pulangan yang lebih tinggi walaupun lebih berisiko</i>					
3.	The overall growth potential of a retirement investment is more important than the level of risk of the investment <i>Potensi pertumbuhan keseluruhan pelaburan persaraan lebih penting daripada tahap risiko pelaburan</i>					
4.	I am very willing to make risky investments to ensure financial stability in retirement <i>Saya amat bersedia untuk membuat pelaburan berisiko dalam memastikan kestabilan kewangan dalam persaraan</i>					
5.	As a rule, I would never choose the safest investment when planning for retirement <i>Sebagai peraturan, saya tidak akan memilih pelaburan paling selamat apabila merancang untuk persaraan</i>					
VI	Retirement saving <i>Penjimatan persaraan</i>					
1.	Made meaningful contributions to a voluntary retirement savings plans <i>Sumbangan bermakna pelan simpanan persaraan secara sukarela</i>					

No Bil	Statement <i>Kenyataan</i>	Response score 1 – 5 Skor tindakbalas 1 - 5				
		1	2	3	4	5
VI	Retirement saving <i>Penjimatan persaraan</i>					
2.	Comparing myself to my peers, I have saved a great deal for retirement <i>Berbanding dengan rakan-rakan, saya telah berjimat seberapa yang mungkin untuk persaraan</i>					
3.	Accumulated substantial savings for retirement <i>Penjimatan terkumpul dalam jumlah yang besar untuk persaraan</i>					
4.	Made a conscious effort to save for retirement <i>Cuba berusaha untuk berjimat bagi persaraan</i>					
5.	Based on how I plan to live my life in retirement, I have saved accordingly <i>Berdasarkan bagaimana saya merancang untuk menjalani kehidupan saya semasa bersara, saya telah berjimat seberapa yang mungkin</i>					
VII	Retirement well-being <i>Kesejahteraan persaraan</i>					
	Overall life satisfaction <i>Kesejahteraan persaraan / kewangan</i>					
1.	You have everything you need <i>Anda memiliki kesemua yang anda perlukan</i>					
2.	You are satisfied with the things you have <i>Anda berpuas hati dengan apa yang anda miliki</i>					
3.	You feel the way you are <i>Anda rasa apa yang anda rasai</i>					
4.	You are satisfied with your life <i>Anda berpuas hati dengan kehidupan anda</i>					
5.	You are a happy person <i>Anda adalah orang yang bahagia</i>					
6.	You feel fulfilled by the life you had <i>Anda merasai kehidupan yang anda jalani dipenuhi</i>					
	Financial retirement well-being <i>Kesejahteraan persaraan / kewangan</i>					
7.	You feel uncomfortable with the amount you owe <i>Anda merasa tidak selesa dengan jumlah yang anda hutang</i>					

No Bil	Statement <i>Kenyataan</i>	Response score 1 – 5 Skor tindakbalas 1 - 5				
		1	2	3	4	5
Financial retirement well-being <i>Kesejahteraan persaraan/kewangan</i>						
8.	You are constantly worried about paying your debts <i>Anda sentiasa bimbang tentang pembayaran hutang anda</i>					
9.	You have had discussions with other people (parents, friends, spouse and others) about your debts <i>Anda telah berbincang dengan orang lain (ibu bapa, sahabat, suami isteri dan lain-lain) mengenai hutang anda</i>					

Any other comment(s) about your current financial situation?

Ada komen lain mengenai situasi kewangan anda sekarang?

Appendix B: Interview Questions

INTERVIEW QUESTIONS – II

“The Impact of Society Saving Habits on the Tendency to Save and

Respondent No:

Location:

Date: Duration (*in minute*):

Age: Educational background:

Occupation: Marital status:

Interview questions

1. In general, how comfortable do you feel with your monthly savings
2. Is there any specific area which you are very concern about your saving habits?
Why?
3. What are the steps that you take to achieve financial goal/freedom?
4. How do you describe financial freedom in your own words?
5. List out/describe how you manage your current financial situation?
6. How do you plan for your savings?
7. In a typical month, how difficult is it for you to cover your expenses and pay all your bills?
8. Have you experience any debt collection before?
9. How confident are you that you can come up with RM5,000 in 30 days if unexpected need arose within the next month?
10. Overall, how do you rate your well-being when you are no longer at work?

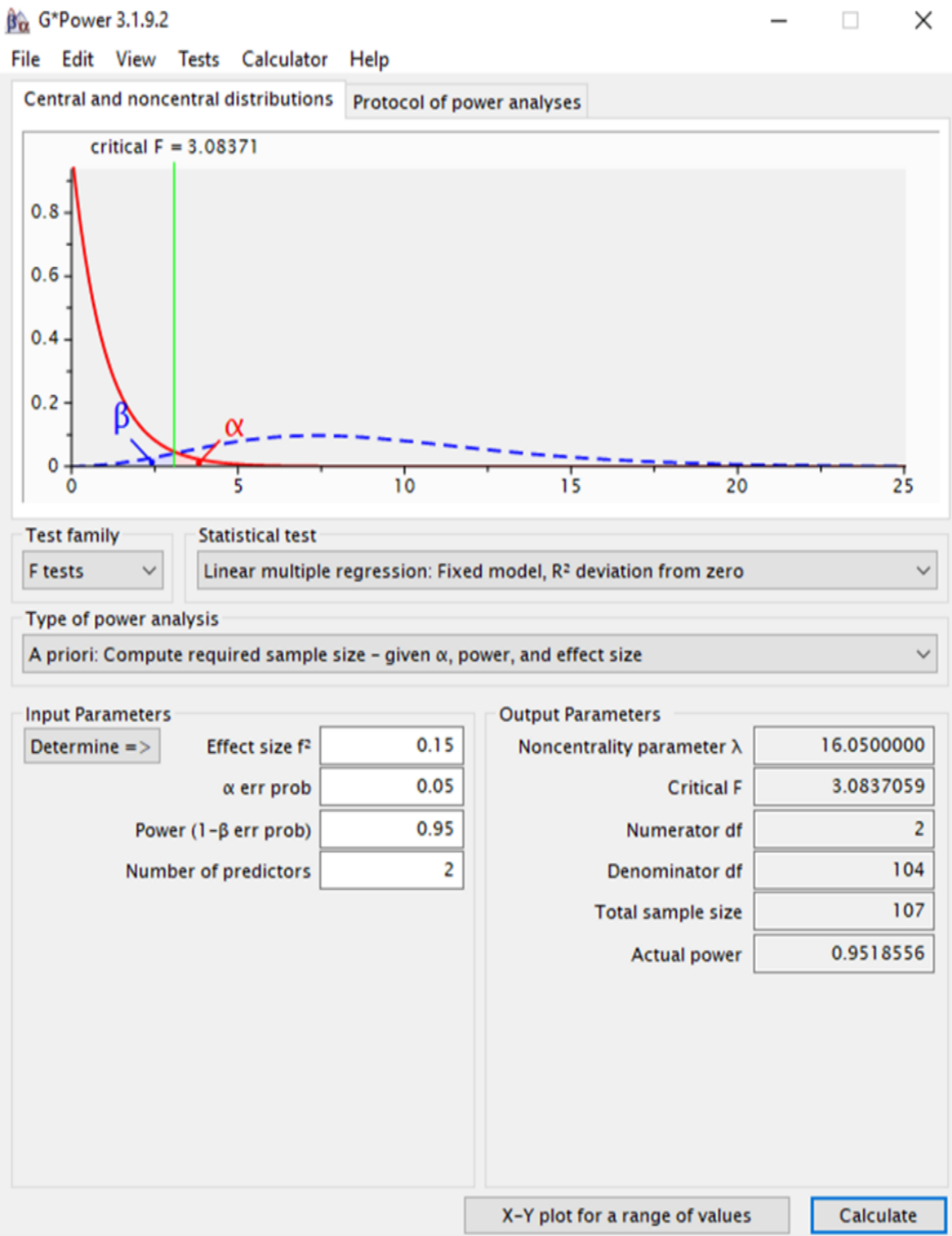
Appendix 1: Calculation Result of Formula and Table Method

Population Size		Confidence =	95.0%	
	Degree of Accuracy/Margin of Error			
	0.05	0.035	0.025	0.01
10	10	10	10	10
20	19	20	20	20
30	28	29	29	30
50	44	47	48	50
75	63	69	72	74
100	80	89	94	99
150	108	126	137	148
200	132	160	177	196
250	152	190	215	244
300	169	217	251	291
400	196	265	318	384
500	217	306	377	475

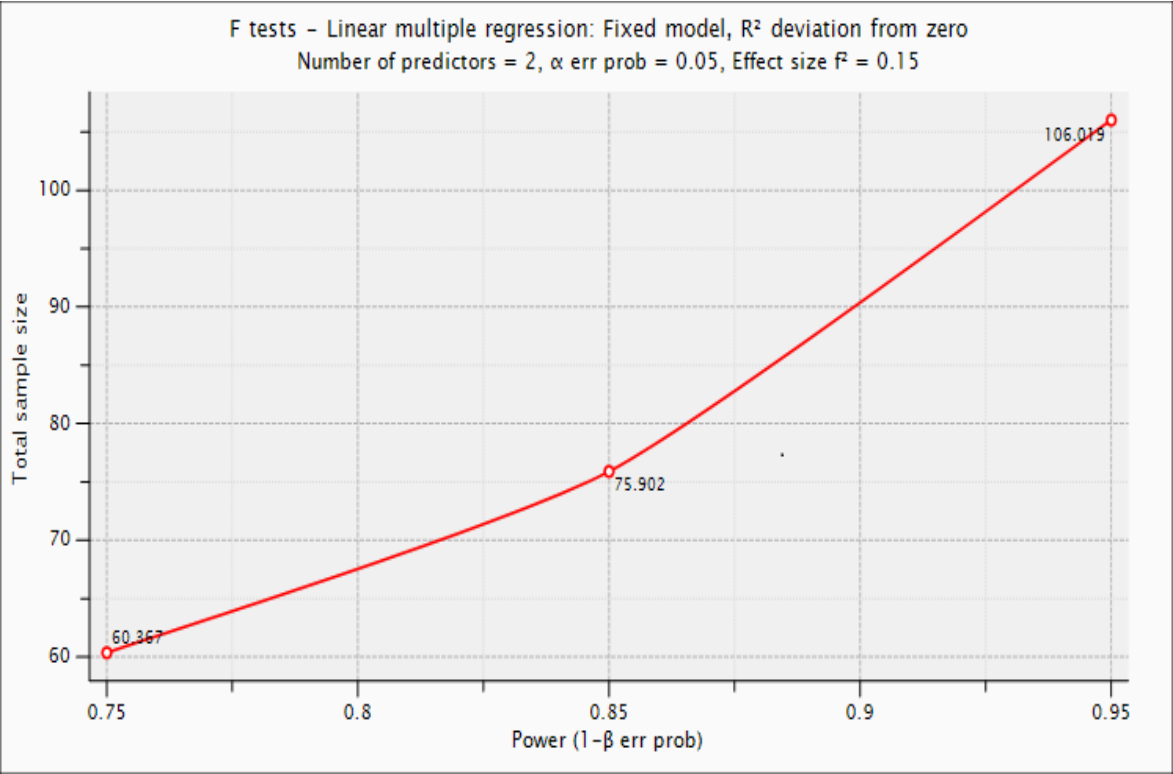
600	234	340	432	565
700	248	370	481	653
800	260	396	526	739
900	269	419	568	823
1,000	278	440	606	906
1,200	291	474	674	1067
1,500	306	515	759	1297
2,000	322	563	869	1655
2,500	333	597	952	1984
3,500	346	641	1068	2565
5,000	357	678	1176	3288
7,500	365	710	1275	4211
10,000	370	727	1332	4899
25,000	378	760	1448	6939
50,000	381	772	1491	8056
75,000	382	776	1506	8514

100,000	383	778	1513	8762
250,000	384	782	1527	9248
500,000	384	783	1532	8423
1,000,000	384	783	1534	9512
2,500,000	384	784	1536	9567
10,000,000	384	784	1536	9594
100,000,000	384	784	1537	9603
264,000,000	384	784	1537	9603

Appendix 2: Calculation Result via the G*Power 3.1.9.2



Appendix 3: The X-Y Plot for Range of Value



Appendix 4: Calculation Result via Survey Monkey

Calculate your sample size

Population size

Confidence level (%)

Margin of error (%)

Sample size

385