AN APPLICATION AND EXTENSION OF THE THEORY OF PLANNED
BEHAVIOR TO THE FINANCIAL BEHAVIOR: EVIDENCE FROM THAI AND
INTERNATIONAL WORKERS

By

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A Thesis Submitted in Partial Fulfillment of the Requirements
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               the financial behavior: Evidence from Thai and international
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The objectives of this research were 1) to investigate financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior on retirement financial planning; 2) to find out a positive association of financial-oriented attitude on saving plan intention and the mediational effect of saving plan intention on financial-oriented attitude and saving behavior; 3) to analyze a positive association of subjective norm on saving plan intention and the mediational effect of saving plan intention on subjective norm and saving behavior; 4) to identify a positive association of perceived behavior control on saving plan intention and the mediational effect of saving plan intention on perceived behavior control and saving behavior; 5) to indicate a positive association of risk-oriented factor on saving plan intention and the mediational effect of saving plan intention on risk-oriented factor and saving behavior; 6) to reveal a positive association of saving plan intention and saving behavior; evidence from Thai and international workers in Thailand. All data were collected from 400 employees (300 Thai employees and 100 international employees) in Thailand that the sampling method on this empirical research was purposive sampling method to identify sample target with the minimum income 20,000 Bath per month in various occupations. This research analysis method was analyzed by using descriptive statistical analysis (frequency, percentage, mean, standard deviation) and inferential statistics (Structural Equation Modeling (SEM) Amos).

The research's findings described that Thai and international employees working in Thailand had opinion on financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior in high level and definitely high level. The finding indicated that financial-oriented attitude had the positive effect on saving plan intention (0.677), subjective norm had the positive effect on saving plan intention (0.272), perceived behavior control had the positive effect on saving plan intention (0.560), risk-oriented factor had the positive effect on saving plan intention (0.700), and saving plan intention had the positive effect on saving behavior (0.810). For the mediation effect, the mediated effect of saving plan intention on financial-oriented attitude and saving behavior is supported (direct effect 0.236, indirect effect 0.357), the mediated effect of saving plan intention on subjective norm and saving behavior is supported (direct effect 0.118, indirect effect 0.127); however, the mediated effect of saving plan intention on perceived behavior control and saving behavior is not supported, and the mediated effect of saving plan intention on risk-oriented factor and saving behavior is not

supported.

Therefore, the implication of this research illustrated that employees focus on financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor to develop higher ability for saving plan intention and saving behavior for the successful retirement planning. Furthermore, workers can concentrate on the mediation effect of saving plan intention on financial-oriented attitude and saving behavior, and subjective norm and saving behavior. Finally, company and government can imply this study into the company's policy and government's policy to encourage all workers to get rid of financial problem during the retirement. This study makes a great contribution on comprehensive model to reveal all relationship of retirement financial planning.

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CHAPTER 1
INTRODUCTION

The overview of this empirical study consists of six parts; the significance of the study, the statement of the problems, the objects of the study, the scope of the study, and the limitations of the study. First, the background of the study will explain about the overall saving investment criteria, investment planning and the related variables among Thailand society for the financial retirement planning. Next, the significance of the study will show about the importance for the retirement investment planning related variables to saving plan intention leading to saving behavior being all benefits from this thesis. Furthermore, the statement of problems will identify clearly in details about all related perspectives to identify all research gaps for the significant contribution. Finally, this chapter will present about research scopes, definition of terms, and research contribution for this research in details.

1.1 Research Background

The amount of population declines in many countries of Europe, Asia, and many countries all over the world (OCDE INFE, 2015). For population decline and aging society, this issue creates the impact on the profitable evolution and subsidizing of many areas. Also, these changing social-class have major influences on resource distribution and productive spread out (Carbonaro, Leanza, McCann, & Medda, 2018). In European Union labor force, there are around 45 percent of total population from baby boomers leading to 90-100 million individuals retiring within the next 20 years. This trend will be the major trend for many countries around the world. Aging society, the big challenging problem is the interregional and inter-urban financial imbalances for managing cities and facing with population decline. In many parts of the world, the rapid-changing demographics generate impacts on population decline, improper finance status, and urban policy problem in many aspects. Organization for Economic Co-operation and Development (OCDE INFE, 2015) advanced the argument that decreased public pensions for future pensioners would be a problem in many developed countries. Moreover, the inadequate retirement preparation is the main problem to let unprepared people becoming impoverished later in life. The lack

of sufficient saving funds among people can raise concern about the financial solvency in the retirement stage. Carbonaro et al. (2018) believe that aging society and reducing population will push the higher stipulation on health care services, social welfare, elder care.

There are many problems at retirement stage for all workers that it might come from insufficient retirement saving by ineffective retirement plan. Moreover, B. A. Huhmann and McQuitty (2009) mentioned that the less retirement savings are not sufficient for all expense needed for growing elderly population. The effect from decreasing in birth rates, lowering death rates, and rising in life expectancy leading concern to many countries with growing many researches and public debate about this topic (Grace, Weaven, & Ross, 2010). Moreover, the transformation of demographic changing will effect on national economics significantly; therefore, government should focus on the significance of national saving and foresight in helping people's retirement planning. Lusardi and Mitchell (2011) pointed out that majority of American people and most of the country all over the world have failed to plan for retirement planning or even five-year and ten-year plan. The lack of retirement planning translated into low accumulation on the retirement plan. Majority of people failed to plan for retirement and have very low financial concept knowledge even they were close to the retirement stage. From Crawford and O'Dea (2020), the decision on retirement planning would be differ in patience, job insecurity, earnings, pension fund return, mortality rate, tax incentive and benefit system. However, people could not be able to make the proper retirement planning to enjoy their lives after long working period and have lower living standards in retirement stage.

Even pension plan system can deliver as a instruments for asset allocation for workers' salary from regular period until resting time, some people do not pay any attention to take the proper decision on financial investment. Pereira and Afonso (2020) reviewed that many people make wrong decision investment for retirement planning by investing insufficient amount on improper financial asset. Many governments all over the world try to encourage the mandate saving amount and pension system to help their people. However, people always reject the concept of retirement saving unless forced by law. People tried to focus on their present time

more than the long period retirement planning. So, many countries used the system called the saving vehicles partially financed by organizations and workers providing benefit in term of tax incentive program. In general, people could lead to systematic biases for making decisions about retirement savings. Moreover, workers enrolled in pension plans by automatic pension plan providing from the system with low level of individual decisions. There are several mistakes for employees failing in retirement planning; carry over registration in the retirement saving program, choose the low distribution on planning, and fabricate unconcern investment choice. Sandbrook and Ravi-Burslem (2019) suggested that there are several mistakes in retirement decisions; retirement issues causing negative emotional responses, no pay attention on retirement, lack of knowledge to make proper decisions.

Situation in Thailand

Nowadays, Thai people have the longer life expectancy around 71 years old on average; however, if anybody get 60 years old, they tend to be able to live for 20 years after that. For Thai social structure, we always live in family that it is hard for the one or two children to take care all of their own older generations. Despite the fact that the population has grown over time, the annual population growth rate has decreased significantly since 1960. Between 1960 and 1970, the yearly population growth rate was 2.7 percent, 1.05 percent from 1990 to 2000, and 0.8 percent from 2000 to 2010, owing to a rapidly declining birth rate (National Statistical Office Thailand, 2017). From this information, it will be so hard for the children to take care all the elderly generation in their family. In inflation rate, people will pay more expensive price on their own expense that Thailand get around 2.68% inflation on average from 1985 to 2019, for this inflation rate leading everything double price in every 27 years (Trading Economics, 2017). Thailand has the greatest proportion of old persons of any East Asian or Pacific developing country. Between now and 2040, the working-age population is predicted to drop by 11 percent as a fraction of the overall population, from 49 million to about 40.5 million, the most among all emerging countries in East Asia and the Pacific. In addition, one of the biggest reasons why people fail to manage their personal financial assets in retirement is a

lack of investment understanding. Furthermore, all financial planning decisions include accumulating funds for a down payment for house and automobile, children education, personal goal, personal dream and retirement. As a result of all of these changes, employees' retirement benefits are now dependent on their investing decisions. Not properly informed, many Thai people have costly mistakes such as investing by no financial capability on their retirement accounts or even no investment at all. Safari, Mansori, and Sesaiah (2016) presented that Thai people just put their money on saving account (return 5%) and fixed account (10%-13%) before 1997 that leaded all Thai people did not have to do any investment from their money. However, there are 0.5 percent interest rate for saving account and 2%-4% for fixed account interest rate in 2017, Bank of Thailand. Therefore, there are many differences of financial tools that can create the higher amount of return from investment comparing to very small amount of interest rate from saving account and fixed account. From lower return in saving and fixed account, many investors should invest their money in mix asset allocation pension fund; Thai stocks, foreign stocks, government bond, corporate bond, fixed account, and others. Thus, Thai people should have the proper saving plan intention and saving behavior to lead everyone to have enough money to spend after retiring with good quality of lives. From the financial investment model, people will develop into their needs and long-term goals that they can be able to be wealthy retiring group with the benefit from investment in many different channels. Moreover, they can be able to absorb any risk from uncertain situation like accident, disease, and others. Recognizing the importance of personal investing, an increasing number of people are seeking advice from financial planners, and many industries have begun to provide investment education to their staff because their worries about personal finances have affected their productivity.

There are so many risks and high pressure on Thailand because of globalization, labor mobility, capital management, technology, information, and all free trade on products and services. For high competitiveness countries, Thailand could face fierce competition from China, India, Latin America, and Vietnam. Moreover, aging society of Thailand would change structure of population to less workers and more elders creating so many social problems like poverty, income gap,

and other social problems. There are three issues about investment on National Economic and Social Development plan like promoting foreign investment among Thai people, adapting financial system regulation by using technology, and supporting the retirement plan with effective retirement saving system plus suitable health care system. All of retirement policy could help to reduce the problem on government budgeting to support the elders in Thailand.

For pandemic all over the world, COVID19 is one of the stimuluses to people realizing about the financial planning that many people have very hard time to deal with this virus spread; especially, they have very significant effect from Lock Down Economic period with no income, reduce working time, and even losing job. There are so many businesses getting affect from this pandemic for affecting to their business income leading to collapse company. People are realized about the financial investment and saving money for their financial problem protection in the future for any unstable situation.

This research is significant for a variety of reasons. First, this study will add more understanding for people about managing their money for retirement. Second, this study will show about the factor affecting to the retirement among Thai people both domestic investment and international investment. In addition, the area of retirement planning should be supported by the particular research to develop the new or complimentary strategies helping and encouraging positive outcomes for self-funded retirees (Grace et al., 2010). Various parties, government sector, private sector authorities, and individuals have to work together by all key beneficiary stakeholders in the topic of retirement planning.

Ajzen (1991) explained that customers' intentions come from three different parts; financial-oriented attitude, subjective norm, and perceived behavior control in the Theory of Planned Behavior (TPB). Laster, Vrdoljak, and Suri (2016) find out that risk-oriented factor can be one of the main impacts on financial retirement planning. Therefore, this research gap was contributed to generate the empirical study framework by combining the Theory of Planned Behavior (TPB) with risk-oriented factor affecting to saving plan intention. Also, some impact from saving plan intention in the mediation effect would be considered.

1.2 Research Questions

The methodological approaches for the dissertation are finding all related factors for saving plan intention and saving behavior among Thai workers and international workers in Thailand. This dissertation will find the relationship about the stimulus factors affecting to the investor's response by using the classical customers' planned behavior that all stakeholders have to understand and work on them perfectly to eliminate poverty among people to create sufficient funding for themselves.

The dissertation shows about the factors affecting to the retirement financial behavior among Thai people and international people for retirement planning. Research on financial investment has adopted varying approaches for understanding the significant explanation of the consumers' buying decision, that they approach preparing for their retirement. Wang and Shi (2014) showed the temporal process model, which encompasses retirement investment planning, retirement decision-making, and retirement transition with adjustment is one of three psychological models for understanding retirement. Here, concentrating on retirement financial planning, this dissertation will focus on factors affecting to saving plan intention and saving behavior.

For this dissertation, there are factor combinations from financial-oriented attitude, subjective norm, perceived behavioral control, risk-oriented factor that could affect to saving plan intention and saving behavior. All research questions have been developed to examine all of related factor for financial planning.

1) What are the Financial-oriented Attitudes influencing the saving plan intention and saving behavior?

2) What are the subjective norms affecting saving plan intention and saving behavior?

3) What are the perceived behavior control factors affecting saving plan intention and saving behavior?

4) What are risk-oriented factors influencing saving plan intention and saving behavior?

5) Do the saving plan intention affect saving behavior?

1.3 Objectives of the Study

This dissertation will be expected to show the findings about all factors affecting to saving plan intention and intention to save on the retirement plan among Thai workers and international workers working in Thailand. Addition, this paper could specify the overview and identify all relating factors of retirement financial investment. Especially, this study will try to develop the TPB and all application on financial investment aspects. After getting the result, the study could present about all relationship of variables.

For the TPB theory, this research could present about the significant information on the financial investment planning on retirement being benefit to all Thai people, government, and other people. This study will focus on the TPB model with retirement planning attitude (Financial-oriented Attitude), social influence (Subjective Norm), financial capability (Perceived behavior) contributing effect to saving plan intention (Saving plan intention) and saving behavior (Saving Behavior) to answer for this dissertation problem to explain in the retirement aspects. The following objectives are studied about the impact on the saving plan behavior and saving behavior as the follow.

1) To identify the Financial-oriented Attitudes influencing the saving plan intention and saving behavior
2) To explore the subjective norms affecting saving plan intention and saving behavior
3) To investigate perceived behavior control factors affecting saving plan intention and saving behavior
4) To examine risk-oriented factors influencing saving plan intention and saving behavior
5) To study the effect of the saving plan intention on saving behavior

1.4 The Scope of the Study

Following retirement, everyone is responsible for their own financial stability. Furthermore, individuals are increasingly confronted with new and complicated financial goods as financial instruments have grown more complex. Financial planning is the base on which retirement wealth are built. In addition, it will have the related affecting factors to help us to accomplish our financial goal. In recent year, the process of financial planning has gained importance in many regions of Thailand with contributing to progress. This research will focus on finding out the factors affecting on retirement financial planning. Many studies have found that workers, including many college students, are unaware of their personal finances, future wealth, and retirement planning, while learning the significance of managing and maximizing other people's wealth in their business classes (James, Leavell, & Maniam, 2002). Moreover, this dissertation will try to figure out the factors affecting to retirement plan investment for having sufficient fund in retirement life by using the Theory of Planned Behavior (TPB) applying in the financial retirement planning. The conceptual knowledge of retirement saving behavior from workers is developed to make thoughtfulness judgments to accomplish the financial goal.

In this research, this paper would extend more into different groups of people including many varieties of occupations. There are many different demographic factors such as education level, age, religious and others. After getting all result, the advice and comments will be mention in this paper that can be able to contribute the suggestion to company level and government level in Thailand. All of these stakeholders can get the direct affect and provide the useful policy for all Thai people that can be able to help all having the better quality of lives and enough funding for their retirement.

1.5 Definition of Terms

The Theory of Planned Behavior (TPB) was introduced and become the classical model for studying about human behavior (Kumaraguru & Geetha, 2021). Ajzen (1991) pointed out that the exploratory conceptual framework explains the human behavior to predict about the individual's intention and financial saving

behavior. The TPB model is identified by financial-oriented attitude, subjective norm, and perceived behavior control affecting to people's intention and behavior. Furthermore, another construct affects to people's intention and saving behavior is risk-oriented factor.

Tomar et al. (2021) identified that financial-oriented attitude is people's perception toward the ideas, experiences, and situations. Ajzen (1991) suggested that people with favorable opinion in some specific behaviors have a higher intention and behavior to follow that idea. Financial-oriented attitude towards retirement planning consists of four aspects; parent financial behavior, future time perspective, propensity to plan, and goal clarity. Parent financial behavior is the vital roles of parents' behavior to influence children financial behavior to make the financial decision (Kimiyaghalam, Mansori, Safari, & Yap, 2017). All financial advice and financial perspective from parents show the significant influence on children's financial-oriented attitude toward saving intention and behavior. Next, future time perspective is people's financial-oriented attitude to indicate clearly and visualize easily about their lives in the future (Tomar et al., 2021). Propensity to plan is people's tendency to plan in advance to meet the long-term financial goal (Lim, 2003). Goal clarity is the ideal image development to indicate achievement's image that the goal clarity can motivate significantly to accomplish the financial planning goal (Tomar et al., 2021).

Huda, Rini, Mardoni, and Putra (2012) specified that subjective norms is the perception and assumption of people from others' expectation of certain behavior influencing themselves to perform or not perform behavior. Dauda, Tolos, and Ibrahim (2019) detailed that subjective norm affecting to retirement planning will come from the perceived social influence from family, friend, colleague, and boss. Therefore, the more influence from related group to individual (family, friends, co-workers, superior boss), the greater employees' confidence to engage with financial retirement planning.

Perceived Behavioral Control refers to people's perceptions of how easy or difficult it is to carry out certain behaviors (Ajzen, 1991). In financial retirement planning, perceived behavioral control touches on perception and ability to carry out the adoption procedure from three perspectives; tax incentives, financial knowledge,

and financial numeracy. Ayuso, Jimeno, and Villanueva (2019) defined that Tax incentive is the retirement saving accumulated by individuals to create the sufficient wealth for retirement that can get benefit from higher investment return and tax saving. Robb and Woodyard (2011) reminded that financial knowledge is how people understand financial asset and make effective decision on retirement financial planning. For all financial skill, people can make the effective money management saving plan intention and saving behavior. Lusardi and Mitchell (2017) mentioned that financial numeracy is the basic concept of calculation on financial decision making.

Risk-oriented factor is four financial risks affecting to retirement financial behavior; longevity risk, healthcare risk, sequence of return risk, and inflation risk. Laster et al. (2016) touched on the definition of retirement risk combining between personal risk and market risk. Personal risk is the longevity risk and healthcare risk. Barrieu et al. (2012) referred that longevity risk associates with the different expected outcome between future mortality and life expectancy out comes. Another personal risk is healthcare risk in the higher expense on healthcare in the future. However, there are two risks for market risk. First, sequence of return risk is the improper financial asset allocation to generate the improper investing return. Next, inflation risk can affect to people to generate the lower purchasing power on limited saving budget (Bekaert & Wang, 2010).

1.6 The Significance of the Study

Grace et al. (2010) explained that recent demographic trends suggesting everyone should be aware about the issue of retirement. The aging of these baby boomers, combined with a drop in fertility and birth rates, as well as an increase in longevity due to breakthroughs in science and healthcare, suggest that the globe will witness a general aging society of its population. In 2025, the World Health Organization shows that older adults in Asia will account for 58 percent of the world's population of older people. This research aims to develop a conceptual framework of retirement financial planning to help Thai people managing their financial planning with proper multi-asset allocation among all assets. Moreover,

Thai middle-aged adults are not well-prepared saving that the retirement planning habits emphasize on a financial planning. With small amount of corporate and government pension funds in Thailand, Thai people should ensure the capability to plan sufficiently for retirement by using multi-asset allocation model. Despite the fact that pensions and retirement planning have received a lot of attention in the media and in public policy discussions in recent years, the percentage of Thai people who are actively planning for retirement is still quite modest. The purpose of this study is significantly to study about factors affecting to saving plan intention and saving behavior on retirement plan in an academic and managerial sense. Finally, these all factors affecting to retirement planning should be able to involve the commitment of a capital sum for benefits to be received in the future as their income flow or capital gain for their retirement period. This research will show all factors affecting to develop several dynamic allocation strategies on saving plan intention and saving behavior.

This research will try to contribute factors by using the Theory of Planned Behavior (TPB) model to find out the influence of financial-oriented attitudes, subjective norms, and perceived behavioral control on saving plan intention and action. For research gap, this research will identify the research gap for risk-oriented factors that could affect to saving plan intention and saving behavior as well. The financial planning for the retirement among Thai and International workers in Thailand. After studying, this research will present about all factors that could affect to saving plan intention and saving behavior. Finally, the result of this dissertation can show the result to all related stakeholders like government, banking sector, company and individual to generate the policy or practical way to encourage people to have proper retirement saving that can help to reduce the budget deficit to Thai government in the future as well. In addition, there are significant conclusions of study in Academic significance, Managerial significance (Individual, Company, Government) shown in the Table 1.

Table 1 The significance of the study

The significance of the study			
Academic significance	Managerial significance		
	Individual	Company	Government
- Extending financial retirement factors by using the Theory of Planned Behavior - Confirming the Theory of Planned Behavior (TPB) model to explain the relationship between all related factors - Studying risk-oriented factors to retirement saving behavior	- Providing clear outlook for all related financial retirement planning factors - Developing all related factors in individual level to manage retirement saving properly - Understanding about retirement plan benefit and preparing in advance for this issue	- Encouraging all employees to have proper retirement saving - Providing some training and information to encourage employees' retirement saving - Creating employees' satisfaction from proper retirement program	- Creating some related retirement policy to reduce government budget deficit and burden on retirement problem - Educating people to have retirement saving - Enabling policymakers to visualize the proper retirement program for all people

Research contribution

This empirical research can provide the significant contribution on two different areas; academic contribution and managerial contribution. For academic contribution, this study will help to generate the strong contribution on people for the financial planning and saving. Also, the researchers could continue for this related topic based on this research. For managerial contribution, there are contribution being able to present to company and government to encourage all workers to save on retirement financial investment. There are three parts of contribution presented into Theorical Contribution, Practical Contribution, and Policy Contribution.

Theorical Contribution

This research reminds that the measurement model of financial-oriented attitude, subjective nom, perceived behavior control, and risk-oriented on saving plan intention and saving behavior. In addition, this study reveals the relationship among all variables.

Practical Contribution

This empirical study clarifies that this model is applied into practical contribution for all stakeholders in retirement planning issue; employees, company, government.

1) Employees can develop this model into the practical behavior because they understand about all related factors to retirement planning issue. All positive relationships effect to financial retirement plans which workers have to increase the ability, potential, and capability on that aspect. On the other hand, negative relationship or no significant relationship should be avoided.

2) Company has to study about this practical contribution because workers have to work in this organization for long time until retirement. So, company should be able to encourage all employees in financial planning aspect. Company can set up some special event for all company to realize about this important issue to generate low impact about lack of financial retirement planning.

3) Government has to study about financial retirement aspects. People with no income in the retirement period or very little saving amount cannot be able to live without problem in financial problem, healthcare problem, and social problem. Hence, government should support and create some program both mandatory and voluntary program for sufficient budget in retirement period.

Policy Contribution

There are two levels to set up some policies to help all workers for financial retirement saving. In company level, this sector has to create some retirement saving program and educate their employees about the importance of this critical issue in the long run. For government level, this level has to come up with some government policy to bring all people in the countries to prepare in advance about the retirement plan reducing social problem and government burden in the future.

CHAPTER 2
LITERATURE REVIEW

This chapter would like to study all related literature reviews that will be in many parts. First, this chapter presents about overview financial planning for retirement, current situation for financial planning, and national policy for retirement planning, and the future trend of financial planning. Moreover, all related theories and interesting concepts are discussed in deep. All interesting factors of the Theory Planned Behavior present to response for saving plan intention and saving behavior, and other relating concepts. All literature reviews lead to study all hypotheses and the strong conceptual framework in this research.

2.1 Retirement Financial Planning in Thailand

2.1.1 Financial Planning and Investment Outlook

The increasing in life expectancies, dealing with rising health care costs, getting small pension fund from Social Security, coming of economics pressure on new technology disruption in business, could shape the people attitude about preparing financial planning on retirement (James et al., 2002). In the majority of people, the planning for retirement will be one of the low rank priorities on their financial planning unlike the consideration about daily life living situation. James et al. (2002) mentioned about the company are doing away with the pension plan. For no pension plan, employees would rely on only small amount Social Security fund leading to trouble after retirement. People were indifferent about their personal financial security, retirement plans, or future prosperity even though they studied in business course for managing maximizing other peoples' wealth. They could not maximize their wealth for retiring stage (Hershey, Jacobs-Lawson, McArdle, & Hamagami, 2007). The biggest concerns of students after graduation include only the suitable and high paid jobs or challenging career; however, it is unusual for them to consider about the retirement plan from the initial working time. Furthermore, retirement saving is insufficient to cover all needed expense for elderly population. From insufficient savings for retirement, many employees depend on skyscraper interest rate loans to meet their need all working time and in the suffering retirement time. From high-cost debt is distributing to many households getting in trouble with

home mortgage default or bankruptcy that this effect spread out for the loan portfolios of banks all over the world (B. A. Huhmann & McQuitty, 2009).

Topa, Moriano, Depolo, Alcover, and Moreno (2011) said that people would like to save some money for the resting period. The investment decision can be made by voluntary retirement program and mandated retirement saving to provide the income at the retirement stage. Kline (2011) believe that retirement planning of people has been made the decision about the starting retirement saving time and the saving amount from income. To achieve retirement saving behavior, people have to understand generally in money management, budgeting, financial products and service (A. C. Zhang, 2014). Hershey et al. (2007) explained that psychological impacts, task characteristics, the cultural ethos, financial resources, and economic forces were four primary qualitatively different sets of psychological factors influencing investor behavior for retirement planning. First, task features described with the complexity and prior task experience; in addition, psychological influences related to cognitive, personality, and motivational forces; and task qualities specified with the complexity and prior task experience. Next, the cultural influence was about the social forces shaping the thoughts, financial-oriented attitudes, and perceptions of all household in the society. Last, financial resources and economic forces could be affected with household income and the state of the economy in general. All of these four factors might have an impact on the quality of people's planning efforts, which interacted with one another to influence the plan's tendency. Moreover, there are three factors for psychological variables; such as, age, gender, wealth, and other demographic characteristics influence self-reported financial knowledge, objectives, and future orientation.

2.1.2 Thailand Financial Planning and Investment for Retirement Policy

In 2019, National Statistical Office Thailand presented many interesting number for Thailand society, the total income per family 26,371 Baht, the total expense per family 21,236 Baht, the ratio of expense over income 80.5 percent, the borrowing liability family slightly down from 50.7 percent (2017) to 46.3 percent (2019). Moreover, the main expense in Thai family for 21,236 Baht per month on average that could be identified as the details to 33.7 percent (Food), 20.8 percent

(Transportation), 17.4 percent (Personal things), 6.1 percent (Communication), 3.6 percent (Education), 1.6 percent (Medicine), 1.4 percent (Healthcare expense), 1 percent (Entertainment and Religious activities), and 13.4 percent (Tax, Gifts, Insurance, Interest, and others) (National Statistical Office Thailand, 2019). In term of family debt, there are 53.7 percent of Thai household with no debt and 46.3 percent with debt around 167,913 Baht per family. From this debt amount, it can be divided into 77 percent (household consumption spending) and 23 percent (investing in agriculture and business). The majority of debt is for household consumption without extra income back from spending.

From 2007 to 2019, the saving rate in Thailand was quite critical issue because the national average income has been increasing from 2007 to present. However, the national average expense has been increasing more than the percentage increase of average income. Therefore, the national saving rate has been decreasing all the time from Socio-Economic Survey, National Statistical Office Thailand (2019). Moreover, the borrowing rate is increasing that could lead to the problem of saving less, spending more and higher debt. For the saving status in Thailand, there is around 72.2 percent (2019) from 22 million household saving some money increasing from 71.6 percent (2017). The saving rate comparing to income gets lower and lower rate from higher living expense, unstable income source, and high borrowing rate. Especially, majority of first jobbers in Thailand tends to pay more and save less that the average of this first jobbers already creates the debt around 420,000 Baht per person (National Statistical Office Thailand, 2019). From Thailand retirement saving problem, 90 percent of Thailand household could not stay on their saving amount. Therefore, retirees have to work and try very hard to make the living instead of resting retirement lives (National Statistical Office Thailand, 2019). From saving money behavior for Thai people, the purpose of saving details is shown in Table 2.

Table 2 The Purpose of Saving Money for Thai

Purpose of saving	Percentage
1. Retirement	42.1
2. Healthcare Expense	32.0
3. Business operating budget	9.7
4. Education	7.9
5. Transportation and vehicle	4.2
6. House	3.7
7. Others	0.4

Although the saving rate in Thailand to save the money get around 42.1 percent of household saving on retirement planning quite high, the retirement financial assets provide very low return Table 3. Moreover, the financial asset for retirement saving is identified in saving account, cash, credit union, family saving account, and investment asset shown in Table 3. From Table 3, only 3 percent of Thai household family invests their saving money in the investing asset to be able to generate the higher return on their money.

Table 3 Financial Asset for Retirement Saving

Financial asset for saving money	Percentage
1. Saving account	40.8
2. Cash	25.9
3. Credit union	18.6
4. Family saving account	11.5
5. Investment asset (Bonds, Stocks, and Mutual Fund)	3.2

National Statistical Office Thailand (2019) researches about the ability to make a living in retirement period. Only 0.2 percent of household could live without income for the whole life, 9.2 percent living for 1-5 years, 2.5 percent living for 6-10 years. However, majority of people ends up with no income to live after retirement. Therefore, very small amount of household could live after retirement in the long term

because majority of this group 88.1 percent could live less than 1 year. From insufficient retirement funding, there are so many options to solve this problem; withdrawing from saving account, cutting down some expense, selling some asset, working more for over time, borrowing from family and friends, and others, National Statistical Office Thailand (2019).

Government policy provides two different saving programs in Thailand providing to all Thai people; the mandatory and voluntary retirement saving program. For mandatory retirement saving program, government officers have to choose the saving program options from the Government Pension Fund. Also, private company employees, freelance, and business owners could apply the Social Security Fund for the mandatory retirement program. For voluntary retirement saving program, people could be able to invest their saving fund on Retirement Mutual Fund (RMF) and Super Saving Fund (SSF). Consequently, workers could have benefit for tax incentive program receiving benefit both increasing asset value and tax saving. At last, Thai people with no retirement fund involving could apply for National Saving Fund. From all above aspects, Thai people could be able to apply to one of the mandatory or voluntary retirement program offered by Thai government and private financial institution.

National Statistical Office in Thailand (2019) explained that the financial retirement planning would not accomplish; less income, no family, less government supporting system, and longevity life. National Statistical Office in Thailand mentions about the source of income for non-preparing retirees. Retirees receive extra money from many related groups. Retirees around 55.7 percent of all people get some extra money from children 36.7%, spouse 4.3%, government 14.7%. Another 33.9 percent group gets back to work. Furthermore, the details of individuals' income resource after retirement are shown in details; supporting from children, working, supporting pension from government, private pension program, supporting from spouse, and interest and selling some asset in Table 4. Thereby, only 9 percent, from private pension program and interest and selling some asset, can be able to manage themselves after retirement from Table 4. On top of that, Thai birth rate has been decreasing from 6.15 children per family in 1900 to 1.51 children per family in 2015.

So, few children cannot take care many elders in the family. The number of lonely elder in the family has been increasing from (3.6%, 1994) to (8.7%, 2014). Government supporting system cannot handle this situation perfectly.

Table 4 Source of Income for Thai Retirees (2019)

Source of income after retirement	Percentage
1. Supporting from children	36.7
2. Working	33.9
3. Supporting pension from government	14.8
4. Private pension program	4.9
5. Supporting from spouse	4.3
6. Interest and selling some asset	3.9

After retirement, Thai citizens could be able to get extra supporting system from government but it is very small amount 600 Baht (60-69), 700 Baht (70-79), 800 Baht (80-89), and 1000 Baht (above 90). From mandatory pension fund from Social security fund, all workers should be able to get some pension payment every month from social security fund. The maximum rate is around 8,175 Baht per month from saving money in the working period 750 Baht in social security fund for 38 years. However, workers with social security fund are the minority (16.4 %) with workers with social security fund 12 million people from Thai people 70 million people in 2019. Last, the longevity of people in Thailand has been increasing for male (55.9 years old, 1964) to (72 years old, 2017). For female, the longevity of female in Thailand is (62 years old, 1964) to (78.8 years old, 2017). Older generation has been increasing from time to time but the birth rate has been decreasing. Therefore, the imbalance of population could create more and more problem in the future.

Development Plan developing into Thailand 4.0 Policy and achieve the point of view "Security, Prosperity, and Sustainability. Moreover, main principles of the Twelfth Plan include the Sufficiency Economy Philosophy, Sustainable Development, and Human-Centered Development to increase the economic growth helping reduce inequalities. In Thailand, one of challenges in the country is the country's evolving

demographic structure, which is characterized by an aging population. Increased senior citizens with high-cost health problems, as well as a shrinking working-age population, creates a social imbalance. In addition, the aging population would like to have an unavoidable force on the economy and individual's lifestyles. The global developing trend to generate various opportunities among elderly people. Thailand's demography will be totally aged by the end of 2021, according to Thai society dynamics that Thai workforce has steadily declined. Also, Thai population faces many significant problems will be big challenges for Thai government.

Lim (2003) explained that recent demographic trends suggesting everyone should be aware about the issue of retirement. In 2025, the World Health Organization shows that Asia's senior adults will make up 58 percent of the world's elderly population. This research aims to find the affecting factors and develop a conceptual framework of retirement financial planning to let people managing their financial planning. Although pensions and retirement planning have received high level of attention in the media and in public policy discussions in recent years, the percentage of Thai people with active retirement planning is still very small amount. Everyone has to response for private financial security after retirement. Moreover, individuals are being provided with new and complicated financial goods as financial instruments have become increasingly complex (Worthington, 2006). Financial planning is the base on which retirement wealth are built. Many studies have found that workers together with many college students are unaware of their financial affairs, future wealth, and retirement planning, although learning the significance of maintaining and preserving on retirement asset investment (James et al., 2002).

2.1.3 Pension Plans for Retirement in Thailand

For a defining benefit pension plan, the employee benefits will upon the advance determination that will be fixed in monthly payment plan or annuity for life upon retirement. This plan is adjusted depending on an amount adequate to equal the formula's expected benefit. Defined benefit pensions are being offered less and less comparing to the past. There are many reasons for declining popular choices among companies. Employers are discovering that defined benefit plans can be quite costly

because to the unpredictability of increased expenses due to lengthy life expectancies and inflationary pressure. Murphy and Yetmar (2010) believe that defined benefit pension offers workers with a guaranteed income after retirement leading the burden of risk falling directly on the employers. The government pension fund and social security fund are examples of this defined benefit pension plan in Thailand.

For a defined contribution plan, employees contribute the fixed rate to pension plan. The benefits receive by the contributed amount plus the investment return on investing asset. Nowadays, workers use this plan because the defining contribution programs are far more adaptable than defining benefit plans. Furthermore, compared to defined benefit plans, administrative costs and reporting requirements are substantially less of a concern. In addition, participants in defined contribution plans can direct or have some control over investing decision. In defined contribution plans, employers do not promise a guaranteed income level upon retirement that they would not get the risk from investment vehicles (Murphy & Yetmar, 2010).

2.2 Related Theories

2.2.1 The Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) has been studied widely for the customers' behavior study. Moreover, The Theory of Planned Behavior (TPB) was grounded on the Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1975). The main theory of TRA explains the relationship between attitude and subjective norm on customers' intention and buying behavior. The stronger of attitude and subjective norm on customers, the higher intention involves to make the decision to buy for customers. The idea from TRA is to determine the individual behavior that relates to individual's intention. TRA has been applied widely in many studies but it is not getting involving with complete volitional control factor yet.

In 1985, the Theory of Planned Behavior (TPB) was developed with the new determinant of intention in Perceived Behavioral Control that could explain more about customers' intention factors. The customers' intention and customers' purchasing behavior is related by three important factors; attitude towards the

behavior, subjective norm, and perceived behavioral control (Ajzen, 1985, 1991). Moreover, people behavior is identified by three consideration factors: Beliefs (Behavioral beliefs), Normative expectations (Subjective norm), Control beliefs (Perceived behavioral control). For behavioral beliefs, people' beliefs produce the favorable and unfavorable attitude that will lead to people intention and behavior. People' normative belief could get from the result of perceived social pressure or influence will relate to people intention and behavior. People' control beliefs generate perceived behavioral control affecting to people intention and behavior for consuming decision making. There is the combination of attitude toward the behavior, subjective norm, and perceived behavioral control affecting to people intention and people etiquette.
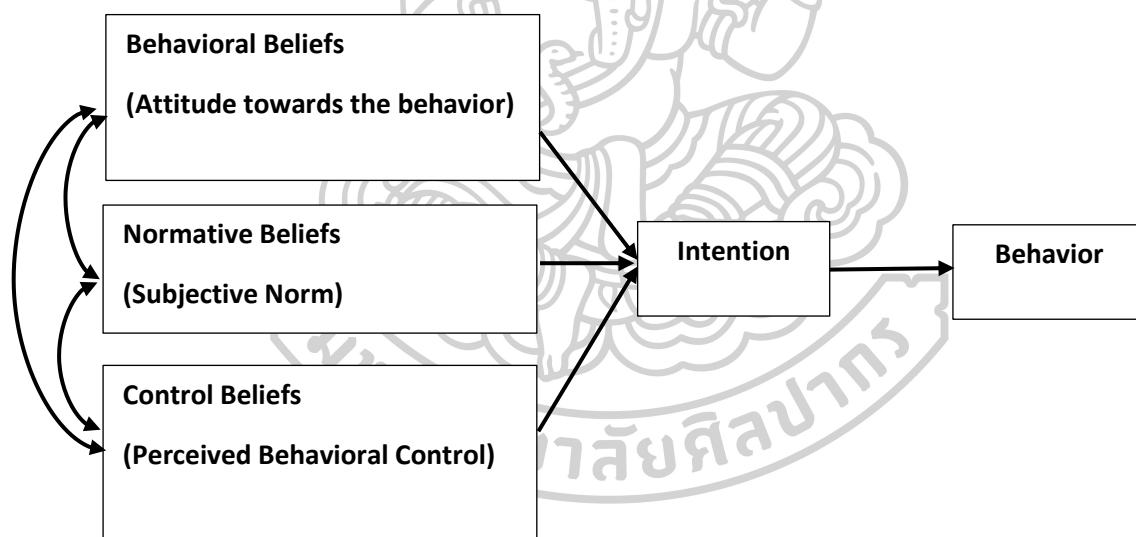
Figure 1 The Theory of Planned Behavior

Therefore, the Theory of Planned Behavior (TPB) is used to analyze the psychological factors of people on their financial planning behavior. So, attitude towards the behavior, subjective norm, and perceived behavioral control relate to customers' intention and customers' behavior. There is some information from various studies shown in the Table 5.

Table 5 The Application of the TPB Paradigm in Financial Saving Behavior

Authors (year)	Research Setting	Beliefs	Intention and Behavior	Methodology	Result
Griffin, Loe, and Hesketh (2012)	New South Wales, Australia	1. Attitude 2. Subjective norm 3. Behavioral norm 4. Behavioral control 5. Proactivity 6. Time discounting	1. Retirement planning	1. Employees 432 participated 2. Path analysis (SEM) Amos	Personal attitudes, sense of control, social influence have a significant relationship on late-career workers influencing on retirement planning. Some demographic data of workers could present the different investment decision on workers as well.
Trang (2014)	Vietnam	1. Attitude 2. Subjective norm 3. Perceived behavior control 4. Financial literacy	1. Financial intention 2. Financial behavior	1. Employees 382 participated 2. Path analysis (SEM) Amos	Attitude, subjective norm, perceived behavior control are significant related to financial intentions and behavior.
Cucinelli, Gandolfi, and Soana (2016)	Italian retail customers	1. Attitude 2. Subjective Norm	1. Intention of financial advisors	1. Investors 636 participated 2. Path analysis	Investors get affect from attitude, subjective norm, and perceived behavioral control relating to investing

Author	Location	Variables	Methodology	Findings
		3. Perceived behavioral control 4. Past behavior 5. Financial literacy	(SEM) Amos	in medium/high-risk financial product. Financial literacy has no predictive power on investment.
Acharjya, Natarajan, and Rajesh (2017)	Odisha, India	1. Motivation and behavior towards financial planning 1. Attitude 2. Subjective Norm 3. Perceived behavioral control	1. Survey 204 samples 2. Path analysis (SEM) Amos	Attitude (over confidence, investors optimism, risk-oriented factors and investor effort), Subjective Norm, Perceived Behavioral Control (technical analysis, fundamental analysis, and market psychology) have positive effect on behavioral intention.
Dauda, Tolos, and Ibrahim (2018)	Nigeria	1. Retirement planning behavior 1. Attitude 2. Subjective Norm	1. Survey 155 samples 2. Smart PLS 3.0 (Smart PLS-SEM)	Negative attitude towards planning activities gives the negative impact on retirement planning. Good attitude on financial planning presents the positive impact on retirement planning behavior. Subjective norm (families, friends, co-workers, superior officers) presents the positive impact on retirement financial planning behavior.

Author	Context	Variables	Outcomes	Method	Findings
Rameli and Marimuthu (2018)	Perak, Malaysia	1. Attitude towards retirement	1. Saving intention 2. Saving behavior	1. Path analysis (SEM) Amos	Attitude towards retirement leads the formation of financial saving intention and saving behavior. The saving intention plays the mediator relationship between attitude and saving behavior
Satsios and Hadjidakis (2018)	Pomak households, Greece	1. Attitude 2. Subjective Norm 3. Perceived behavioral control	1. Intention towards saving 2. Final saving behavior	1. Survey 600 households 2. Path analysis (SEM) Amos	All attitude, subjective norm and perceived behavioral control have a positive direct effect on intention and final saving behavior. All of these factors lead to the pursuit of a healthy household's financial life
Bongini and Cucinelli (2019)	Italy	1. Attitude 2. Subjective Norm 3. Perceived behavioral control	1. Financial saving intention to save in pension fund	1. Italian University students	Predictors, Pension knowledge, and money management and the highest level of financial literacy are positively correlated with financial saving intention in pension fund
Kumaraguru and Geetha (2021)	Selangor, Malaysia	1. Attitude 2. Subjective Norm 3. Perceived behavioral control	1. Preparation for retirement	1. Gen Y aged 24 to 41 (384 samples) 2. Path analysis (SEM) Amos	Attitude, perceived behavior control, proactive and time discounting present positive correlation to retirement preparation. However, subjective norms do not relate positively with

		4. Proactive and time discounting			retirement preparation.
Mulyono (2021)	Semarang, Indonesia	1. Attitude 2. Subjective Norm 3. Perceived behavioral control 4. Financial literacy	1. Investment intention	1. Students 170 samples 2. (SEM) Amos with the PLST Warp.	Attitude, subjective norms, and perceived behavioral control related to investment intention. Financial literacy has the relationship in partial mediated on investment intention

2.2.1.1 Financial-oriented Attitude

There were tremendous needs for financial-oriented attitude towards behavior among people in every place around the world (Murphy & Yetmar, 2010). While over 86 percent of those polled thought financial planning was important, and nearly 80 percent were interested in it. Only 25 percent of sampling participants felt that they should have financial-oriented attitude to develop for the financial skills and knowledge to prepare and execute for retirement financial planning. Financial planners should start to help their clients by explaining financial concepts by setting up public workshops and seminars. However, less than 13 percent have developed the financial plans that only 11 percent of sample could prepare for a formal retirement financial plan.

The definition of financial-oriented attitude is the function of people's salient behavioral beliefs to perform the outcomes and attributes of behavior (Ajzen, 1985; Conner & Armitage, 1998). Researchers studied about all of these components; parent financial behavior, future time perspective, propensity to plan, and goal clarity that determines the beliefs, financial-oriented attitude, and feelings towards the financial planning. First, parent financial behavior has been watched by all children to perform all children' beliefs in financial planning behavior (Kimiyaghalam et al., 2017). Second, future time perspective discusses about how people specify into the future time rather than the present and past (Larisa, Njo, & Wijaya, 2020). So, this motivation factor affects into the people beliefs, financial-oriented attitude, and feeling about the financial planning. Next, propensity to plan is explained in term of future financial planning which links to the perception of financial planning (Dauda et al., 2018). Last, goal clarity is one of the prime motivational characteristics on financial planning to generate the clear goal to accomplish on their financial planning (Chou et al., 2015).

All of these factors contribute the impact to saving plan intention (Ganesan, Pitchay, & Nasser, 2020). Financial-oriented attitude towards behavior refers to the different level of favorable (positive) and unfavorable (negative) feelings towards the intention and behavior. For creating positive financial-oriented attitude, people need to have the positive perceive on the performing behavior's outcomes. Many studies in

the past showed the positive relationship of financial-oriented attitude on intention or behavior (Afendi, Azizan, & Darami, 2014; Nursalwani & Zulariff, 2017).

Parent Financial Behavior

Sharif and Naghavi (2020) said that parent financial behavior is the financial behavior for children generating from parent financial behavior. There is evidence of intergenerational influence in financial behavior between parents and children in the same family (Kimiyaghalam et al., 2017). Joo and Grable (2005) pointed out that parent plays very important role to contribute the financial behavior to their children. People's readiness and ability to save for retirement planning link to many factors related to parents. Children's financial-oriented attitude is developed by prescriptive and proscriptive financial advice and behavior from parent. Moreover, parents play very important roles in influencing children' appropriate behavior in many aspects like financial management, retirement management, and other management. Therefore, the saving behavior from parents impact significantly on children saving behavior. Kimiyaghalam et al. (2017) showed that the financial literacy should be recommended to children and adolescents. Besides, the effective financial habits were received in the younger stage help all adults to have better financial management decision (Metcalf & Atance, 2011). As the result of teaching, the study designated that children aged 10-14 should learn about the basic financial concept like saving, proper spending, financial planning, retirement planning, and so on. On top of that, around age 14 or more should focus on the a little more complicated concepts in financial related situation. Friedline and Elliott (2013) indicated that the link between childhood and adulthood, particularly early adulthood, has been established the result of parent financial behavior on children financial-oriented attitude. Shim, Barber, Card, Xiao, and Serido (2010) specified children and adolescents receive financial socialization from media, schools, friends, and especially family. Parents with skillful financial management influenced on children's financial behavior in the adulthood period (Kimiyaghalam et al., 2017). Thereby, there are strong relationship between parent and child in the financial-oriented attitude from previous research in finance. Hershey et al. (2007) studied about the influence of parents in term of saving behavior

and financial planning. Results of the research detail that the children developing perspective on financial management relates to the financial lessons at the childhood stage (Grinstein-Weiss, Spader, Yeo, Key, & Freeze, 2012). From the current literature, the parent financial influence shows the significant impact on children saving financial-oriented attitude on financial managing behavior. So, the parent financial behavior has the significant relationship to financial-oriented attitude towards behavior in financial management (Kimiyaghalam et al., 2017).

Future Time Perspective

Jacobs-Lawson and Hershey (2005) mentioned that future time perspective is a psychological variable relating to attention and financial planning. Future time perspective is households focusing on the future rather than past and present that is a intellectual irregular for receiving an attention (Jacobs-Lawson & Hershey, 2005). Hershey and Mowen (2000) pointed out that people aged 35 to 88 years old have a positive relationship with their self-reported financial preparation for retirement. Many studies revealed that individual's future time perspective has significantly impacted on saving behaviors. Other consumer motivations could be the tangible policy factors from government like the government's co-contribution and tax incentives that could influence to some participants' retirement planning decision. The money management behavior would be influenced by how individuals perceive spending and norm related to money management that all youths tended to adapt knowledge, absorbing from parents, relatives, and friends financial-oriented attitudes, beliefs, and behavior in response to financial items and services (Jebarajakirthy & Lobo, 2015; Webley & Nyhus, 2006). Xiao, Shim, Barber, and Lyons (2007) and Lusardi, Mitchell, and Curto (2010) explain that the children would create the future time perspective from the important source from their lives. Unprepared workers with unclear future perspective would be suffer from a lower average net worth and income from personal retirement planning savings. All of these related details, the future time perspective reveal the important impact on financial-oriented attitude towards behavior and effect positively on saving intention and behavior as well.

Propensity to Plan

Ameriks, Caplin, and Leahy (2003) clarified that the meaning of propensity to plan refers to individuals' proclivity to plan ahead of long-term objectives. Propensity to plan lead to rational and goal setting behavior (Kimiyagahlam, Safari, & Mansori, 2019). Households with similar economic and demographic background should be different in wealth accumulation from propensity to plan factor (Ameriks et al., 2003). In addition, a high propensity to plan could show more wealth accumulation and saving more comparing to low propensity to plan group. Also, there is strong connection between the propensity to plan and overall spending budgets in households. Kimiyagahlam et al. (2019) reminded that many households set regular budget on family spending being able to reduce their regular spending in the family. Propensity to plan theory is the relationship between well-being buildup and planning. Additionally, the future plan thinking is the reflection of financial control skills on financial-oriented attitude towards financial behavior. Dauda et al. (2019) revealed the consumption plan can link to the financial decision and behavior. For wealth accumulated extension, the propensity to plan impacts significantly on wealth accumulation and saving encouragement. There is the positive relationship between the propensity to plan and the rate of savings (higher propensity to plan, higher saving amount). Thus, the link between propensity to plan and household budget saving play an important role on financial behavior. The family can manage their spending under control better because the household monitor spending more closely with propensity to plan aspect. Lusardi and Mitchell (2007) clarified that there are huge differences for the wealth holding management among the similar demographic family background. Propensity to plan is shaped by individual's experience and knowledge about financial planning ability. Likewise, many negative events could be one of the impacts on the propensity to plan, such as, financial difficulties, health shocks, and other unstable financial situations. People who have propensity to plan on their economic issues are more likely to hold the increasing amount of wealth and wealth accumulation. Some mandate program, social security fund, help to manage propensity to plan on retirement financial management that

helps workers to save automatically for future retiring period. Consequently, propensity to plan could lead to financial-oriented attitude towards behavior and relate to saving plan intention and saving behavior on the retirement financial planning.

Goal Clarity

Ofili (2017) indicated that the goal clarity is the ability of people to set a clear and identify objective for understanding and achieving the goal. Retirement goals is the important role to relate in the long-term planning activities that employees would have clear retirement goal in terms of time, saving amount and financial investment asset (Zhu & Chou, 2018). Stawski, Hershey, and Jacobs-Lawson (2007) cleared up that the development of clear goals for the future can provide the benefit in the financial planning. The goal clarity and financial planning activities can determine the amount of retirement saving practices. This setting goal clarity is significantly related to the planning practice and saving behavior. Two demographic data presents the relationship to retirement goal clarity; income and age. Neukam and Hershey (2003) elucidated that the amount of money saved for retirement is directly proportional to the clarity of one's financial goals. The level of financial accumulation can be determined by the financial goal clarity. Hershey, Mowen, and Jacobs-Lawson (2003) explained that the planning activities and saving behavior come in the presence of goal-based content form. Goal clarity plays the critical role on financial-oriented attitude towards behavior for the retirement financial planning process. The clearer retirement goals, the more active financial structure is related on the retirement planning intention and behavior. Retirement goals help to set up the perceptions of individual's retirement experience that this clear financial-oriented attitude could create more actual saving and the desire to save. Stawski et al. (2007) explicated that there are two different money of retirement savings from goal clarity. First, the retirement goal clarity is predicted to relate to planning activities and saving behavior. Next, the goal clarity is one of the financial-oriented attitude towards behavior in TPB link to saving practices. All of studies contribute the retirement goal clarity as the psychological mechanism developing in the adulthood period and motivating people to plan for retirement saving plan intention and saving behavior.

Goal clarity has the positive impact on financial-oriented attitude towards retirement financial planning, saving plan intention, and saving behavior.

This research focuses on the financial-oriented attitude as the following factors; parent financial behavior, future time perspective, propensity to plan, and goal clarity. All of these four factors in financial-oriented attitude were conducted previous studies in many countries and different sample group as shown all information in the Table 6. Financial-oriented attitude can help all employees to accomplish on saving plan intention and saving behavior in the retirement financial planning. Furthermore, there is some research on financial-oriented attitude in 4 aspects; parent financial behavior, future time perspective, propensity to plan, and goal clarity shown in the Table 6.
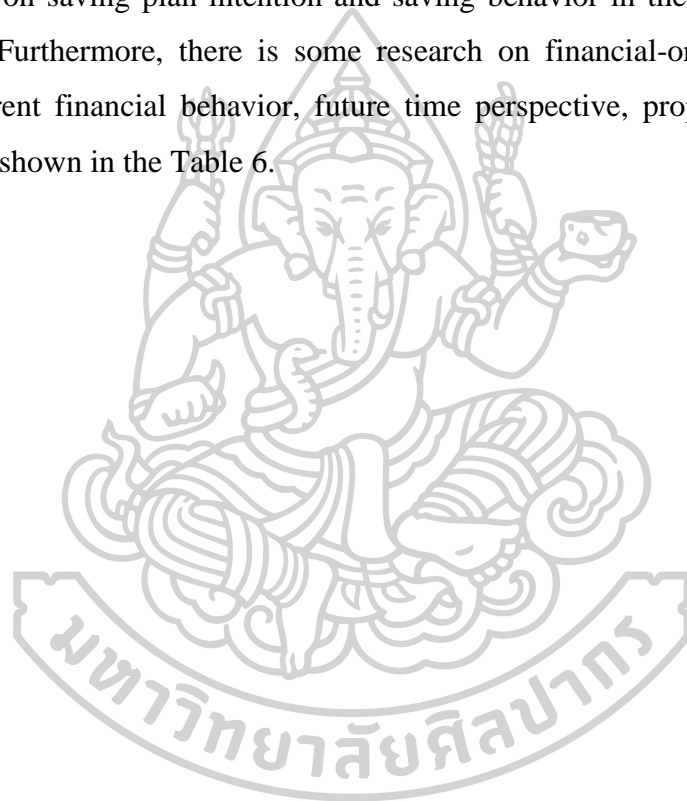
Table 6 The Application of the Financial-oriented Attitude Paradigm in Saving Plan Intention and Saving Behavior

Authors (year)	Research Setting	Financial-oriented Attitude	Intention and Behavior	Methodology	Result
Parent Financial Behavior					
Sharif and Naghavi (2020)	Malaysia	Parents teaching financial behavior	Retirement saving intention	1. Sample 802 2. Covariance-based structural equation modelling	Parent financial behavior correlating financial-oriented attitude in financial information seeking have significant impact on children's financial literacy, saving plan intention, and saving behavior
Kimiyaghalam et al. (2017)	Malaysia	Parents' influence, Financial-oriented Attitude	Retirement planning	1. Sample 502, questionnaire 2. SPSS, and Regression analysis	Parents' behavior can create the financial-oriented attitude of children in financial planning. Parents play a significant role on the financial socialization for their children's retirement planning and saving behavior. Saving financial-oriented attitude provides the positive impact on retirement planning.

Future Time Perspective					
Larisa et al. (2020)	Various location, Indonesia	Future Time Perspective	Retirement planning, saving plan intention, saving behavior	1. Sample 304, questionnaire 2. PLS-SEM techniques	Future time perspective has a direct positive impact on financial-oriented attitude towards behavior then links to retirement financial planning activity, saving plan intention, and saving behavior.
Chou et al. (2014)	Hong Kong	Future Time Orientation	1. Retirement saving plan 2. Retirement saving adequacy	1. Sample 999, phone survey 2. Path Analysis using SAS (Procedure CALIS)	Future time perspective has significant impact directly and indirectly on financial-oriented attitude. Future time perspective is highly related with worry about future retirement income and retirement saving behavior.
Propensity to Plan					
Kimiyagahlam et al. (2019)	Kelang Valley, Malaysia	Propensity to Plan and Future Time Perspective	1. Retirement planning behavior	1. Sample 900 2. Partial Least Squares (PLS-SEM)	Propensity to plan and future time perspective being people's financial-oriented attitude have the significant positive relationship with retirement planning behavior.

Dauda et al. (2019)	Nigeria	Propensity to Plan, Financial-oriented Attitude	Retirement planning behavior	1. Sample 155 questionnaire 2. SPSS and Smart PLS-SEM	Propensity to plan as financial-oriented attitude can positively associated on the worker's retirement saving intention and saving behavior.
Goal Clarity					
Zhu and Chou (2018)	Hongkong	Goal Clarity	The amount of private retirement savings	1. Sample 958, by phone survey, 25-64 years old 2. Multinominal Regression analysis	Over 44 years old, people need to estimate the retirement saving about goal clarity in workers' financial-oriented attitude. Saving plan intention is the mediator between goal clarity and saving behavior.
Ofili (2017)	African-American, USA	Goal Clarity, Financial-oriented Attitude	Retirement saving	1. 20 individual interviews	Financial-oriented attitude with goal clarity can provide the positive relation to retirement saving, employer-sponsored retirement plan.

2.2.1.2 Subjective Norm

Davis and Hustvedt (2012) spelled out that the social norms are considered one of the most effective factors in the saving plan intention and saving behavior. Kumaraguru and Geetha (2021) determined that the behavioral intents to execute saving behavior are linked to the subjective norm. Ajzen (1991) pointed out that the influence of other groups is referred to as subjective norms determining approve or disapprove on some behaviors. Moreover, the others group of people can be views as the important impact on retirement saving decision as spouses, friends, colleagues, and superior boss. Subjective norm refers to the social influence from outsides engaging with people' perspective on any behavior. The retirement saving behavior of individual saves more on the retirement saving plan because they can get support from family, friends, spouses, and social regulations (Duflo & Saez, 2002). Zandi, Torabi, Yu, Sivalingam, and Khong (2021) described that subjective norm is significant impact positively on the younger generation to save more money on retirement saving. Bailey, Nofsinger, and O'Neill (2004) reported that subjective norm can influence financial planning decision about how much should everyone put into retirement account. Beshears, Choi, Laibson, Madrian, and Milkman (2015) suggested that subjective norm and saving plan intention have a favorable association as same as saving behavior especially for the younger generation.

Perceived Social Influence on retirement financial planning

Subjective norm is a concept originated from TRA concept that the influence of social and environmental pressure forced to individual in behavior and intention. Dauda et al. (2019) described that subjective norm is significantly related to retirement planning behavior. There are four groups of people defined to the perceived social influence on retirement planning for people; family, friends, co-workers, and superior bosses. From this social influence, people engage more in the retirement planning, saving plan intention and saving behavior. All of these influences present the relationship to subjective norm that social norm can play the important role to make the saving plan intention and saving behavior. Chou et al. (2014) pointed out that parent and spouse can influence on the retirement planning as

the subjective norm. Haritha and Uchil (2020) identified that friends' influence provide the positive impact on subjective norm factor and financial-oriented attitude for retirement financial planning. Ofili (2017) showed that colleague has the positive relationship on retirement financial planning in the workplace. Dauda et al. (2018) designated that superior boss has the positive association to financial planning for retirement in the organization.

Therefore, subjective norms receive positive influences from 4 different groups; family, friends, colleagues, and superior boss. All of these four social influences can lead the approve or disapprove for the retirement planning, (Dauda et al., 2018). Subjective norms in individual planning would be received all impacts from these four criteria. Perceived social influence from family provides the positive correlation on subjective norm including saving plan intention and saving behavior. Perceived social influence from friends has the positive relationship on subjective norm and financial planning behavior. Last, both perceived social influence from colleague and superior boss in the work place have the positive impact on financial planning; subjective norm, saving plan intention, and saving behavior.

Perceived Social Influence from Family

Kimiyaghalam et al. (2017) showed that saving plan intention and saving behavior on financial planning come from the family influence. Parents and spouses can generate the main impact influence on financial retirement planning. Chou et al. (2014) said that retirement financial planning receives a lot of influence for making decision on retirement saving from family; parents, spouses, and children.

Perceived Social Influence from Friends

Haritha and Uchil (2020) specified that the financial retirement planning receive a lot of social influence from herding communities, friends' influence. So, workers make decision follow friend's recommendation on financial retirement planning or even follow the same plan. Dauda et al. (2018) mentioned that friends'

influence can be the main perceived social influence on retirement financial planning. Some workers decide to invest in the financial retirement planning from friends' recommendation.

Perceived Social Influence from Colleagues

Ofili (2017) touched on that company part can generate the impact mainly on the financial retirement saving. Employees receive many recommendations on financial planning in the retirement saving from human resource department and co-workers. Dauda et al. (2019) referred that employees make the decision on the financial investment and retirement saving based on co-workers' recommendation.

Perceived Social Influence from Superior Boss

Pereira and Afonso (2020) reminded that everyone working in the company receives one influence to enroll in the retirement financial saving from superior boss. Therefore, boss would be one of the impacts on social influence on individuals to make retirement financial decision. Dauda et al. (2018) clarified that superior boss can force and role model for workers to saving money by all retirement benefit program in the company.

Based on previous studies, this research defines subjective norm as the perceived social influence from four different groups; family influence, friend influence, co-workers influence and superior boss influence as shown in the Table 7. Subjective norm can help all employees to accomplish on saving plan intention and saving behavior in the retirement financial planning by making decision to invest in the retirement financial asset properly to generate the return on investment during retirement.

Table 7 The Application of the Subjective Norm in Saving Plan Intention and Saving Behavior

Authors (year)	Research Setting	Subjective Norm	Intention and Behavior	Methodology	Result
Perceived Social Influence from Family					
Kimiyaghalam et al. (2017)	Malaysia	Parent's Influence	Retirement planning	1. Sample 520 2. Regression analysis by SPSS	Parents' behavior as subjective norm plays the significant role for children' retirement saving plan, saving intention, and saving behavior.
Chou et al. (2014)	Hong Kong	Perceived influence from parents and spouse	1. Retirement saving plan 2. Retirement saving adequacy	1. Sample 999, phone survey 2. Path Analysis using SAS (Procedure CALIS)	Parents and spouses influence on goal clarity and retirement saving plan and retirement saving adequacy. Therefore, family is associated with subjective norm.
Perceived Social Influence from Friends					
Haritha and Uchil (2020)	India	1. Social interaction from friends	Investment decision, retirement plan	1. Sample 732 respondents 2. Partial Least	Social interaction from friends and herding as subjective norm impact positively on investor decision. There

Author	Country	Variable	Dependent	Methodology	Findings
				Square Technique	is also the same positive impact on retirement saving intention and saving behavior.
Dauda et al. (2018)	Nigeria	2. Herding impact from friend / Social influence from friends	Retirement planning behavior	1. Sample 155 questionnaire 2. SPSS and Smart PLS-SEM	Social influence as the perception from friends for subjective norm can approve or disapprove on the worker's retirement saving intention and saving behavior. Workers will follow friend financial advices.
Perceived Social Influence from Colleague					
Ofili (2017)	African-American, USA	Friends, subjective norm	Retirement saving	1. 20 individual interviews	Subjective norm with social influence from friends can provide the positive relation to retirement saving, employer-sponsored retirement plan
Dauda et al. (2019)	Nigeria	Social influence from co-workers	Retirement planning behavior	1. Sample 155 questionnaire 2. SPSS and Smart PLS-SEM	Social influence as the perception from co-workers being subjective norm can approve or disapprove on the worker's retirement saving intention and saving behavior. Workers will follow co-work financial advices

Perceived Social Influence from Superior Boss					
Pereira and Afonso (2020)	Brazil	Employer influence	Retirement saving pension plan	1. Internet survey questionnaire 59 sample	Employers' advice and superior boss's advice are subjective norm in TPB. Pension plan from employer's influence with automatic enrollment has significantly positive impact on retirement saving pension plan, saving plan intention, and saving behavior.
Dauda et al. (2018)	Nigeria	Social influence from superior boss	Retirement planning behavior	1. Sample 155 questionnaire 2. SPSS and Smart PLS-SEM	Social influence as the perception from superior boss, subjective norm, can approve or disapprove on the worker's retirement saving intention and saving behavior. Workers will follow superior boss financial advices

2.2.1.3 Perceived Behavioral Control

Ajzen (1991) explained that perceived behavior control refers to the individual's perceptions of their ability to do some behavior. Antoni, Saayman, and Vosloo (2020) pointed out that the individuals' perception on financial planning approach the abilities and resources needed to engage in financial action such as saving plan intention and behavior. Perceived behavioral control receives all impacts from three areas; tax incentive, financial knowledge, and financial numeracy (Kitamura and Nakashima (2020); (Raut, 2020)). Tax incentive can help retirees to manage on retirement financial planning. Workers can get benefits from two different areas; the investment return and tax saving. For financial knowledge, workers with less financial knowledge, the higher rate for unsuccess retirement financial planning. Grace et al. (2010) said that employees can invest into all retirement financial plan but they will not be success from the low ability of financial knowledge. Therefore, individuals would have greater competency and confidence to make financial decision by sufficient financial knowledge in many investment tools. There are some asset knowledges for investing in insurance, personal loans, stocks, and bonds mutual fund. Hershey et al. (2007) pointed out that having financial knowledge has a favorable impact on money saving behavior. Furthermore, higher knowledge people would save more amount on their regular income (Jacobs-Lawson, Hershey, & Neukam, 2004). Likewise, Antoni et al. (2020) indicated that the financial numeracy can be the positive relationship on the financial retirement planning. Financial numeracy can be one of the perceived behavior control for retirement financial planning.

Bamforth, Jebarajakirthy, and Geursen (2018) mentioned that individuals' behavior for lacking of money management are one of the important determinants affecting retirement financial planning. Xiao et al. (2007) explained that workers' financial management habits will have the interrelationship among tax incentive, financial knowledge, and financial numeracy. In addition, young adults often have the financial problem because of economic factors, low savings, fluctuating income, and a lack of financial literacy. Taylor (2011) said that financial knowledge and financial numeracy would be the ability to control all financial issues especially retirement financial planning. Therefore, financial knowledge and financial numeracy

can contribute to accomplish the financial retirement planning (Xiao, Tang, & Shim, 2009). Effective money management can increase people's awareness that contributes the capacity to properly and efficiently manage all financial resource using knowledge and financial skills. The successful managing money was very important consideration that people should think about their financial resources and financial situation because it might effect their quality of life and relationships (B. A. Huhmann & McQuitty, 2009). Understanding money management behavior, there are interrelationships between tax incentive, financial knowledge and financial numeracy.

The patterns of individual's income and savings would be affected the financial retirement planning (Cull & Whitton, 2011). Also, differences in money management approaches to build money management competence are influenced by a better level of financial understanding and numeracy (Mottola, 2014). Pascarella and Terenzini (2005) told that the studying on tax incentive, financial knowledge, and financial numeracy can generate the ability for financial retirement planning.

Tax incentive

Ayuso et al. (2019) clarified that tax incentive is a government policy to encourage individuals to spend money or save money by providing tax refund benefit. There are so many tax incentive programs for helping everyone to reduce the income tax in many countries all over the world. Poterba (2004) mention that tax incentive pension plan can be benefits a lot on retirement financial planning. From tax incentive program, there are two outcomes from this program; investment return and tax saving. For retirement saving account, people could be able to invest in many different tax incentive programs. The rising importance of assets investment in tax advantage accounts has changed the way of people all over the world for preparing retirement. Ayuso et al. (2019) mentioned that the individuals accumulate wealth for retirement. Tax incentive program would encourage the total savings in wealth portfolios. Long-run savings pension plans with less liquidity can contribute the saving amount on retirement saving. For the pension plans, all people would receive

benefit from tax benefit and investment return. The tax incentive program for retirement saving has very strong effect on the saving and wealth allocation (Ayuso et al., 2019). Tax incentive retirement savings would be able to increase wealth during the working life. In addition, some countries with clear tax incentive retirement program could present the big effect of tax incentive retirement saving program pre- and post- the introduced tax-advantaged retirement plans relating to the contribution to pension plans (Ayuso et al., 2019). Furthermore, the higher-income marginal tax rate, the bigger incentive for investing and contributing to pension plan can generate the saving amount for retirement financial planning.

The opportunity for tax-free compound rate of return in tax incentive retirement account would generate the higher return and provide more retirement consumption amount (Poterba, 2004). Moreover, tax incentive program could provide higher amount of money return to all workers on tax refund on their yearly tax payment. Ayuso et al. (2019) explained that employees could be able to accumulate the sufficient wealth on retirement fund to achieve the financial goal by two ways. Employees should tend to save more money for their retirement. On the other hand, they could use the wealth management by adding more money on the long-term saving pension funds with less liquidity for retirement. From pension plan, the tax incentive program on retirement saving has very strong effect on the retirement saving amount that could be able to increase wealth in the retirement planning. The higher income marginal tax rate, the bigger spending should be saved into the retirement financial planning and the tax incentive program pension plan. Thus, tax incentive program contributes the pragmatic connection on behavior control, saving plan intention, and saving effort to financial planning.

Financial Knowledge

Mindra, Moya, Zuze, and Kodongo (2017) explained that the planned growth of capacity and use of financial products and services. Atkinson, McKay, Kempson, and Collard (2006) indicated which monetary knowledge is the ability to comprehend and process information all financial qualitative together with quantitative

information related to financial aspects. B. A. Huhmann and McQuitty (2009) showed that the efficient financial knowledge usage relies on consumers' ability to: extracting financial data from texts, graphs, charts, and figures. Financial planning knowledge is positively associated with activities related to retirement preparation and financial prudence (Jacobs-Lawson & Hershey, 2005). Non-effective retirement financial planning tends to cause the problem in the retirement planning from insufficient financial knowledge. Household with lacking sufficient knowledge would fail to plan for retirement financial planning (Antoni et al., 2020). A lot of pre-retirees suggested that they should have more knowledgeable about retirement saving and investment to crate the proper financial planning. Bamforth et al. (2018) mentioned that saving practices are favorably associated to investment knowledge and impact directly on the investment decision quality. The huge amount of studies indicated that financial knowledge of retiring financial planning can have significant effect on retirement saving decisions and outcomes for retirements (Beal & Delpachitra, 2003).

Rickwood and White (2009) have found that consumer expertise and financial knowledge are both key elements in making financial product and service decisions, according to research. Also, consumer financial knowledge influences on the financial behavior that consumers need regular information on financial products and service. Moreover, they would like to concentrate on all relevant saving products and financial services for the area of retirement planning. All consumers mentioned that they would like to have proficiency to understand the complicated financial information in all different financial situations (Cull & Whitton, 2011). Financial knowledge can get from many different levels, high school, college, and the workplace, for example, could contribute to financial literacy and financial behavior. Moreover, the financial knowledge could contribute to consumer saving capability (Xiao & O'Neill, 2016). The financial knowledge could contribute to financial capability factors leading to financial satisfaction. Financial knowledge has effect on financial capability, financial knowledge, and financial conduct (Ganesan et al., 2020).

Moreover, financial knowledge has become the global policy makers' priority in the recent year. Financial knowledge was an intervention strategy seeking to solve the problem acting in the poor and underprivilege's advantage, particularly in developing economies (Ardic, Heimann, & Mylenko, 2011; Demirgüç-Kunt & Klapper, 2012). Consequently, the higher level of banking system, the better economic development can generate within the country. Also, the financial knowledge was very important to poor people's economic and social empowerment for helping get out of poverty level. There were three components for the financial knowledge dimension; access, financial services utilization and quality (Amidžic, Massara, & Mialou, 2014).

Perry and Morris (2005) have found that financial knowledge and appropriate financial management behavior have a good association that all participants need more education and information to easily understand for financial products and services. Financial knowledge, or raising financial understanding, would have to boost consumer financial competence and promote consumer welfare (Atkinson et al., 2006; B. A. Huhmann & McQuitty, 2009; Mouna & Jarboui, 2015). Improvements in financial understanding would drive consumers to make better financial decisions and improve their financial welfare (Lusardi & Mitchell, 2014). Consumer financial behavior and welfare were positively affected by financial understanding; therefore, many research tried to figure out the relationship of financial knowledge and financial saving behavior. Lusardi and Mitchell (2014) and B. Huhmann (2014) mention about the financial knowledge defining as the ability to improve the financial status. The financial knowledge was a person's basic cognitive aptitude in conjunction with basic knowledge. Moreover, existing financial knowledge and expertise in the smart application of financial knowledge to achieve desired financial result. Also, financial knowledge was importance because it would show the relationship between financial knowledge and saving behavior (Abreu & Mendes, 2012). The majority of insufficient retirees have low financial knowledge, which is defined as a lack of skill or expertise in managing financial matters. B. A. Huhmann and McQuitty (2009) explained that poor financial knowledge relates to the inability to grasp financial concepts, the inability to handle financial data, and the lack of sufficient prior

knowledge of financial concepts and products. In addition, insufficient or erroneous financial knowledge resulting from a lack of expertise or preceding expertise to comprehend or categorize new financial information about retirement planning. Also, workers may have to cope with erroneous conclusion, misconceptions, or false assumptions about financial products, concepts, and financial planing (B. A. Huhmann & McQuitty, 2009). People with financial knowledge will tend to have proper financial management behavior (Atkinson et al., 2006). Thus, workers can assume the accurate forecast expense, compare the convert prices, currencies, and probabilities based on expected return due to foreign exchange, and understand financial terminology. Mason and Wilson (2000); (Willis, 2008) mentioned that financial knowledge will relate to theories of processing, learning, and the ability to perceive, acquire, and utilize financial information and concepts are discussed in consumer psychology. Financial knowledge involves sufficient knowledge about financial ideas and how financial products create revenue from investments. Alba and Hutchinson (2000) explained that the financial knowledge could be considered a subset of the broader notion of consumer knowledge.

Nowadays, households have to response to their retirement financial planning but many households have inadequate financial knowledge among the number of investment options (Lusardi & Mitchell, 2007; Van Rooij, Lusardi, & Alessie, 2011). From limited financial knowledge, investors could make retirement financial decision by using the financial knowledge. The financial knowledge could improve the quality of the investment decision. Financial knowledge would conduct the investors in two ways. Financial knowledge can protect customers from the harmful effects of behavioral bias like overconfidence bias (Barber & Odean, 2001). Financial knowledge has a beneficial effect on saving behavior and intention to save (Epstein & Schneider, 2008). All indicated that financial knowledge has the positive association on perceived behavior control, saving plan intention, and saving behavior in the retirement financial planning.

Financial Numeracy

Financial numeracy is a broad notion that refers to a person's ability to absorb, interpret, acquire, and use financial information or concepts based on their capacity and prior knowledge (B. A. Huhmann & McQuitty, 2009). Furthermore, the capacity to perceive and comprehend financial computation or mathematical principles and processes is referred to as financial numeracy. The concept of financial numeracy was combined with the more general theories of cognitive ability and previous knowledge (Lusardi, 2012). B. A. Huhmann and McQuitty (2009) mentioned that poor financial numeracy people mean individuals being poor ability for understanding financial information and concepts due to lack of skill or expertise in managing financial products and services due to difficulties in grasping all financial concepts. B. A. Huhmann and McQuitty (2009) explained that financial numeracy would be used for the global construct of competency in processing, comprehending, acquiring, and utilizing financial information and concepts, in combination with the capacity and prior knowledge of consumers in the financial field in fundamental financial computation and number concept. For experience with financial numeracy, consumers with higher experience about financial numeracy would lead to reduce the negative net worth. UK, USA, and Germany sample presented the relationship between low level of financial numeracy and the negative net worth (Brown & Taylor, 2008). In personal finance materials and familiarity, financial numeracy could be able to increase the consumers' familiarity adapting the efficiency of financial knowledge and financial literacy. B. A. Huhmann and McQuitty (2009) explained that financial numeracy could help consumers to develop skills with higher efficiency on financial capacity and understand financial concepts, and developing ability for the new financial literacy. Workers were interested to improve the financial numeracy and try to get rid of the negative consequences in poor financial outcomes. Moreover, employees should find out all financial numeracy clarification to prevent them from any negative effects on retirement financial planning. The early exposure about financial basic calculation from parents in term of basic idea for stocks, mutual funds, loads, interest, and retirement planning from parents in early stage helping in the long term. All children could be able to develop their parents'

financial numeracy with the integration of new knowledge in the future (B. A. Huhmann & McQuitty, 2009). Parents would also be able to teach their kids by parentally-supervised financial activity like monitoring in saving account, checking account, credit card, loan, and others for developing the financial numeracy. For retirement planning, consumers have to combine financial numeracy, financial capacity, financial knowledge, and financial products are becoming more sophisticated, and consumers are taking on more responsibility to manage their financial situation leading to comfortable retirement stages.

There are many different ways to increase financial numeracy. First, investors having experience about financial instruments can reduce negative behavioral outcomes related with poor financial numeracy (Hilgert, Hogarth, & Beverly, 2003). Therefore, the financial planning experience can help to enhance significantly the financial numeracy. Secondly, investors must develop their expertise with processing financial information from financial education programs and other sources of personal finance resources by improving their financial numeracy efficiency. Financial numeracy familiarity is one of the most key considerations on previous knowledge and necessary cognitive effort, which can have an impact on actual pre-existing knowledge experience and efficient use of cognitive capacity (Alba & Hutchinson, 2000). Thirdly, investors with sufficient motivation searching can learn financial numeracy from many different types of media, such as, personal finance-oriented websites, webpages, magazines, books, and others (B. A. Huhmann & McQuitty, 2009). Ferguson (2014) found out that only one-third of Americans can correctly answer three basic financial questions about interest rates, inflation effects, and risk diversification. Around half of American people did not have any basic understanding for retirement savings vehicles to generate their retirement planning. Moreover, people with high understanding for financial numeracy will have the plan for retirement that the planning for retirement will be the powerful indicator for wealth accumulation. Lusardi and Mitchell (2007) said that people with less financial numeracy make wrong decision on financial decision by borrowing more, accumulating less wealth, and selecting mutual funds with higher fee charging that could generate the negative effects on the retirement planning. Ferguson (2014)

mentioned that the financial numeracy was one of important factors for the challenge of lifetime income making sure retirees being able to achieve lifelong financial security for living longer and longer retirement.

From all of aspects, the investors should improve financial basic calculation and avoid the bad consequences from insufficient financial numeracy. Moreover, investors must find the clarification from their lack of financial capacity to prevent them from understanding the financial service terms. Furthermore, parents should teach their children about stocks, mutual funds, loans, and interest rates since basic knowledge from parents can help them avoid the harmful repercussions of poor financial numeracy. Financial numeracy can be improved the sufficient motivation that can benefit to everyone in terms of more advanced financial consequences. Finally, financial numeracy could provide the positive correlation to perceived behavior control, saving plan intention, and saving behavior.

This research proposes that perceived behavior control factors consist of tax incentive, financial knowledge, and financial numeracy based on previous studies as shown in the Table 8. Perceived behavior control can help all employees to accomplish on saving plan intention and saving behavior in the retirement financial planning.

Table 8 The Application of the Perceived Behavior Control in Saving Plan Intention and Saving Behavior

Authors (year)	Research Setting	Perceived Behavior Control	Intention and Behavior	Methodology	Result
Tax Incentive					
Kitamura and Nakashima (2020)	Japan	Tax incentive policy	Saving financial behavior	1. Secondary data 2. Multiple data analysis	Perceived behavior control by tax incentive has the positive impact on the determent of public pension saving.
Ayuso et al. (2019)	Spain	Tax incentives	Saving	1. Secondary data 1982 to 1998	Tax incentives program of perceived behavior control in retirement saving can increase wealth upon the retirement period. Tax incentive provides the positive correlation relationship on saving.
Yusof and Sabri (2019)	Malaysia	Tax incentives	Saving intention, voluntary retirement saving	1. Sample 384 responses 2. Preacher and Hayes technique in mediating analysis, SEM Amos	Tax incentive program, perceived behavior control, will create the positive effect on voluntary retirement saving and saving intention. Tax incentive program does not affect directly to additional saving but merely reduces the burden to save money on pension fund

Financial Knowledge				
Raut (2020)	Four distinct states, India	Financial literacy and financial knowledge	1. Sample 2. SEM Amos	Investment decision-making, saving plan intention, saving behavior	The significant effect from financial knowledge in perceived behavior control presents both direct and indirect positive impact on investment decision-making, saving intention, and saving behavior.
Kimiyagahlam et al. (2019)	Kelang Valley, Malaysia	Financial literacy and Financial Knowledge	1. Sample 900 2. Partial Least Squares (PLS-SEM)	1. Retirement planning behavior	Perceived behavior control, financial literacy and financial knowledge, has the significant positive relationship with retirement planning behavior
Akhtar and Das (2019)	India	Financial Knowledge	1. Sample 920, questionnaire quantitative approach 2. SEM Amos and SPSS	Investment Intention, saving plan intention,	Financial Knowledge as perceived behavior control plays positive relationship on saving plan intention and saving behavior

Financial Numeracy

Antoni et al. (2020)	Nelson Mandela Bay	Financial Numeracy	Retirement planning, saving plan intention, saving behavior	1. Sample 122, questionnaire 2. Multiple regression analysis, Exploratory Factor Analysis	Most people with high understanding of financial numeracy in perceived behavior control have a positive relationship significantly with retirement financial planning. So, all employees should develop their financial numeracy skills to accomplish the successful retirement financial planning
Almenberg and Säve-Söderbergh (2011)	Sweden	Financial Numeracy, Financial calculation	Saving motivation, saving behavior	1. Sample 1564, questionnaire 2. Ordinal logistic regression approach, parallel regression	Financial literacy and financial numeracy for perceived behavior control have the positive significant impact on the saving motivation and saving behavior

2.2.2 Risk-oriented Factor

Laster et al. (2016) pointed out that there are some remarkable uniformities in the personal risks for retirement planning; longevity Risk, health care risk, sequence of return risk, and inflation risk. Longevity risk and health care risk can be considered as the personal risk; while sequence of return risk and inflation risk involve with market risk. Longevity risk refers to the risk caused by the living time much longer than expected that retirees might fail to estimate their live span. Abraham and Harris (2016) demonstrated that many retirees are surprised about their longevity around 40 percent underestimating by five years or more for their life span. For Health Care Risk, retirees around 75 percent are highly concerned about the rising costs of health care expense that health care will combine between medical and long-term care. This is very important for retirees to plan for long-term care with getting care properly in the future. For Sequence of Return Risk, this is the first risk from market risk getting from the performance of retirement portfolio that poor investment plan can get the big effect to the retirement planning. In some unexpected financial crisis, many retirees are forced to postpone their retirement because of sharp and unexpected crash from the market (Laster et al., 2016). For Inflation Risk, inflation can affect everyone especially during retirement because working time will bring wages rising together with the price over time. When they retire from work, people will lose the wage increasing with inflation protection that they will rely on only the sources of income not growing together with inflation. Graham and Harvey (2001) explained that risks are a major determinant of working capital management, which leads to risk management, as mentioned.

Heaton and Lucas (2000) divided the background risk labor income risk, longevity risk, health risk, entrepreneur or private business owner risk, and housing risk are the five categories. Gollier (2001) gave the definition about background risk referring to the non-financial hazards that investors confront during the asset management process. Investors had to face two kinds of risks; securities trading risk and background risk. Therefore, background risk should be considered in the risk on financial investment because this background risk plays one of the important factors on the investor wealth. Cai, Zhao, Pan, and Huang (2013) mentioned that investors of

the same age and wealth, the risk of labor income is included, resulting in a decline in the risky asset ratio as they get older.

Households should concern about the short-term goal as well, such as, emergency funding, short term expenses that households could not plan the retirement or other long term financial planning unless emergency funds have been accumulated. People with insufficient financial assets to cover all cries or regular monthly transactions may be unable to invest in hazardous assets such as stocks and other securities. Also, people with limited time goals such as saving for their tuition fee, down payment for accommodation might not be able to take risky asset investment position as well (Hallahan, Faff, & McKenzie, 2004). First, risk tolerance is positively influenced by non-investment income. Second, families with liquidity assets have higher the predicted risk tolerance. Next, if household has the longer time to expected retirement, they could be increasing the level of risk protection. Last, the background education had a positive effect on the risk tolerance level.

Longevity Risk

Age was the vigorous direction to prepare the saving disposable income for non-working stage. From the long-range retirement time, people always start to save some money for retirement too late (Rickwood & White, 2009). Broeders, Mehlkopf, and van Ool (2021) believe that the macro-longevity risk and uncertainty about future death rates would be faced by the pension fund investment. In addition, the mortality rates would reduce and expand as the improvement of medical advancement. The risk of longevity is a systemic issue that affects the entire population in living longer than expected. Barrieu et al. (2012) explained that the longevity risk is the different outcomes between future mortality and individual's life expectancy outcome. Abraham and Harris (2016) said that 40 percent of people underestimate their life expectancy by five years or more. Thus, retirees would save less amount of money on the retirement financial planning. In addition, some policy makers deal with the longevity risk affecting pension fund by the retirement age changing and linking to the life expectancy. So, some government set up the higher age for retirement age

because the old level causes more problem in government burden on fiscal budget. Antolin (2007) reviewed that people could live longer by 25 to 30 years during the last century that would be one of the significant problems to private pension fund managers for maintaining proper return instead of good news. Also, the future mortality and life expectancy outcomes could not identify clearly enough; therefore, the longevity risk could become more and more significant problem after retirement. From improper retirement planning, people might face the force of reducing normal living standard at old ages affecting to pension funds and life annuity providers as well as insurance companies, getting high risk for annuity payments higher than expected. Next, the longevity risk might have the effect to employer-provided defined benefit pension plans that could lead to the high unexpected net liabilities of defined benefit pension plans. Therefore, longevity risk provides positive impact on risk-oriented factor, saving plan intention, and saving behavior.

Healthcare Risk

Vaillant and Wolff (2012) identified that health care risk is the risk for individual getting from health condition and financial harm on increasing extraordinary in health care cost from time to time. Zhou et al. (2020) explain that the aging population grow rapidly in the future. Hence, people would increase healthcare service demands in the long-term healthcare. Zhou et al. (2020) revealed that Chinese government try to develop the universal medical insurance system to deal with healthcare problem. In China, the government try to reduce the disparity between persons with various medical insurance plans to increased medical insurance plans to safeguard middle-aged and elderly households from catastrophic medical costs. Abraham and Harris (2016) pointed out that three fourth of retiring people is highly concerned about the unbelievable high healthcare cost. There are so many countries all over the world having face the aging society problem that this problem is getter worse from longevity life expand and higher healthcare expense. All employees will definitely have higher healthcare expense in the non-regular income period for retirement. Therefore, all employees will face insufficient saving on retirement plan and unaffordable healthcare cost. Retirees could receive the lower quality of

healthcare treatment because of limited budget on this important issue. Thereby, healthcare risk has the positive relationship with risk-oriented factor, saving plan intention, and saving behavior.

Sequence of Return Risk

Chen, Beetsma, and van Wijnbergen (2020) called the sequence of return risk that comes from the investment decision on different assets to generate the different return. Also, sequence of return risk refers to the chance for declining return on investment asset (Larisa et al., 2020). A. C. Zhang (2014) explained that the effect of financial recommendation could impact on the saving asset portfolio from investors receiving financial advice or not receiving financial advice. Moreover, improper financial knowledge and financial numeracy could lead workers to invest in improper investing asset for financial retirement planning. The investors higher financial knowledge will hold only 11 percent for cash comparing to 16 percent on cash for the investor. That could be interpreted for investors with financial knowledge investing on suitable asset allocation with less sequence of return risk. People with financial products and service understanding would invest on riskier assets that will present higher percentage investment on suitable risk asset with proper return (Bekaert & Wang, 2010). Workers can make improper financial asset allocation portfolio that creates the lower return on retirement plan investment (Campbell, 2006). Doran, Drew, and Walk (2012) pointed out that people near or at retirement stage would be affected by two related forces of retirement planning; the portfolio size effect (how large amount of money in risk matters), and the problem of sequencing return risk (how much losing money in retirement portfolio). The positive compounding effect of salary growth in the age closing to retirement could lead to the high contribution to the retirement saving pension funds. Then, employees could lead to the portfolio size growing rapidly in this time; however, other factor playing very important role on this time is the sequence of return on the portfolio (Doran et al.). If unfavorable sequence of returns is combined in the portfolio, the goal of retirement saving would be affected. Consequently, sequence of return risk effects positively with risk-oriented factor, saving plan intention, and saving behavior.

Inflation Risk

Chen et al. (2020) explain that all pension funds try to protect the lower purchasing power of participants but one of problem about the incompleteness inflation risk could not fully hedged. The inflation risk is the future value of investing financial planning reducing in the value after inflation for retirement financial planning. Therefore, all people receive the value reduction from inflation from investment return. Moreover, inflation risk is relatively to the economics that this risk effects to financial saving return (Bekaert & Wang, 2010). At the different inflation rates, this issue might affect to elderly and workers differently over period of time. The high inflation could affect more to the elderly much more than working groups because retirees cannot receive the regular income. So, they have to rely on only on the limited saving amount absolutely receiving affect from inflation risk. All people would experience welfare losses from inflation risk. In working stage, the unhedgeable inflation risk could provide less contribution because the wage and salary could be able to adapt to the inflation risk. On the other hand, elderly stage would rely on only the saving money not increasing from the unhedgeable inflation amount (Chen et al., 2020). The effect of inflation risk on retirement will experience as higher rates than other age range groups that elders have to deal with high inflation healthcare expense. Everyone receives the effect from inflation to erode the purchasing power. Inflation risk has the positive impact on the risk-oriented factor, saving plan intention, and saving behavior This research, based on previous research as demonstrated in the Table 9, focuses on four risk-oriented factors affecting to saving plan intention and saving behavior, which are longevity risk, health care risk, sequence of return risk, and inflation risk. Risk-oriented factor forces all employees to achieve on saving plan intention and saving behavior in the retirement financial planning.

Table 9 The Application of the Risk-oriented Factor in Saving Plan Intention and Saving Behavior

Authors (year)	Research Setting	Risk-oriented factor	Intention and Behavior	Methodology	Result
Longevity Risk					
Pfau, Tomlinson, and Vernon (2016)	USA	Longevity risk	Retirement income planning	Conceptual Paper	Longevity risk is one of the investment management risk pooling becomes the positive effect on the retirement income planning, saving plan, and saving behavior
O'Connell (2012)	New Zealand	Lifespans, longevity risk	Retirement planning, saving plan	1. Interview 2. Secondary data	Longevity risk has the positive relationship to retirement planning and saving plan intention.
Healthcare Risk					
Xu (2017)	Australia	Healthcare risk	Retirement savings and housing	1. Sample, questionnaire 2. SPSS	Healthcare risk can impact to save more on the retirement saving. Healthcare cost higher can lead to positive impact on more saving on retirement saving

Author	Location	Independent Variables	Dependent Variables	Method	Findings
Vaillant and Wolff (2012)	France	Health condition, healthcare risk	Saving intention	1. Sample 2003 2. SPSS	Poor health condition has the positive effect on early retirement. Therefore, healthcare risk and health condition will positively be related to the retirement saving intention and saving behavior.
Sequence of Return Risk					
Chen et al. (2020)	Taiwan	Risky investment, Sequence of return risk	Saving intention, Saving behavior	1. Sample 99 university study 2. Chi-square testing	Different perception of sequence of return risk leads to different retirement fund saving. Sequence of return risk has the positive relationship to saving intention and saving behavior
Larisa et al. (2020)	Various location, Indonesia	Sequence of return, financial risk	Retirement planning, saving plan intention, saving behavior	1. Sample 304, questionnaire 2. PLS-SEM techniques	Investment risk and sequence of return risk has a direct positive impact on retirement financial planning activity, saving plan intention, and saving behavior

Inflation Risk

		Inflation	Saving behavior	Article	
Merton (2014)	USA	Inflation			Inflation can affect to the guaranteed retirement plan. Inflation can reduce the future value of this defined benefit pension fund
Klapper and Panos (2011)	Russia	Inflation	Retirement planning	1. Sample 436 observation 2. SPSS and Chi-square testing	Inflation can exert impact on retirement planning for the private funds

2.2.3 Saving Plan Intention

Ajzen (1991) explained that the incitement reasons guide to the intention. Intention means how the level of effort and effort people are willing to put forth to act on the activity. Sivaramakrishnan, Srivastava, and Rastogi (2017) pointed out that saving intention represent the individual's motivation and perception behind the financial actions. Thus, the stronger intention, the high involvement of behavior engage about making decision.

People will make good decision on their investment when they have financial literacy, financial knowledge, behavior, and financial-oriented attitudes referring to the breadth of one's consciousness, knowledge, and abilities (OECD INFE, 2011). In personality factors, personality play the second role for planning in retirement and other savings. Robinson, Demetre, and Corney (2010) explained that two personality traits for investment planning were conscientiousness referring to the mindful of planning and responsiveness making preparations for investment. In goals, the clarity of retirement goals played the third role for planning in retirement that represents between planning and saving practices. The expectations of satisfaction for life in retirement play the fourth motivational dimension role for planning in retirement that financial security is one main key components to insufficient engagement in saving and planning activities, as well as a good quality of life in the late after working (Chou et al., 2015). At last, the positive early financial learning experience play the last motivational forces for planning in retirement. Bernheim, Garrett, and Maki (2001) told that financial planning involvement can be increased if parents and families have a favorable financial learning experience; however, financial education with more formal also has the significant contribution in financial planning. Also, saving plan intention can generate the positive impact on saving behavior on the retirement financial planning. All application of saving plan intention from many research are shown in the Table 10.

Table 10 The Application of the Saving Plan Intention in Saving Behavior

Authors (year)	Research Setting	Saving Plan Intention	Saving Behavior	Methodology	Result
Sivaramakrishnan et al. (2017)	India	Investment intention	Actual investing amount	1. Sample 506 retail investors 2. Structural equation modelling	Investment intention can predict the amount of actual investment on saving.
M. Lee, Khan, and Wright (2017)	USA	Retirement preparation, saving intention	Saving behavior	1. 2013 Survey of Consumer Finance (SCF)	Retirement preparation and saving intention has positive impact on saving amount both men and women. Saving program can affect positively to adequately prepare for retirement
Ofili (2017)	African-American, USA	Saving intention	Retirement saving	1. 20 individual interviews	Saving intention can provide the positive relationship to retirement saving, employer-sponsored retirement plan

| Widyastuti, Suhud, and Sumiati (2016) | Indonesia | Saving intention | Saving behavior | 1. Sample 212, questionnaire 2. Exploratory and confirmatory factor analysis | Saving intention is significantly influenced to saving behavior as well as financial-oriented attitude and subjective norm |

2.2.4 Saving Behavior

Widyastuti et al. (2016) defined that the saving behavior is the actual saving generating from clear saving plan intention. People will have clear saving plan intention and then develop to become the real saving behavior to accumulate asset (M. Lee et al., 2017). Asset allocation decision is the theory to accumulate asset by using mix retirement portfolio from stocks, bonds, real estate, commodity fund, and alternative investments called "Portfolio Diversification" (Pfau et al., 2016). All workers develop saving behavior to invest regularly that will have to relate for the future income at retirement stage. The working year will be one of the key decisions for the saving behavior because the workers with high saving behavior should be able to accumulate more wealth. Nowadays, retirees have more option to specify goals, plan sponsors, financial institutions, and advisers that can apply the opportunity for retirees with diversity saving retirement income generators, such as, systematic withdrawals from savings and invest in annuities. Pfau et al. (2016) presented that many retirees might have different investment saving behavior coming from different priorities and circumstance comparing to their friends and family; thereby, each retiree would like to take the specific needs, goals, and circumstance into their retirement portfolio account with different retirement asset allocation. Pfau et al. (2016) told the best options for retirement planning asset allocation in many different ways. First, retirees should increase the amount of expected lifetime income by delaying the start of Social Security benefits or investing on annuity. Second, investors can increase the return by investing on stocks more creating more return; however, they can invest more on bonds with downside risk protection. Third, the systematic withdrawals approach on stock investing will increase year-to-year volatility of withdrawals, but investing more in bonds will reduce the volatility that the total return should be reduced as well.

There is the positive relationship of financial-oriented attitude on saving plan intention and saving behavior (Moorthy et al., 2012). Besides, financial-oriented attitude consists of parent financial behavior, future time perspective, propensity to plan, goal clarity. Kumaraguru and Geetha (2021) illustrated that the influence of subjective norm plays the significant relationship on saving plan intention and saving

behavior. Furthermore, there are four parts of people relate and influence on people behavior decision by subjective norm; perceived social influence from family, perceived social influence from friend, perceived social influence from co-worker, and perceived social influence from superior boss. Atkinson et al. (2006) analyzed that perceived behavior control correlates positively to saving plan intention and saving behavior. Perceived behavior control can be divided into three different areas; tax incentive literacy, financial knowledge, and financial numeracy. Laster et al. (2016) defined that risk-oriented component and saving plan intention have a favorable link. Risk-oriented factors also have a positive link with financial retirement planning and saving behavior. In addition, there are four types of risk linking to the retirement planning intention and financial behavior, such as, longevity risk, healthcare risk, sequence of return risk, and inflation risk. Thereby, this study proposes that saving plan intention may have a mediating effect in the following ways.
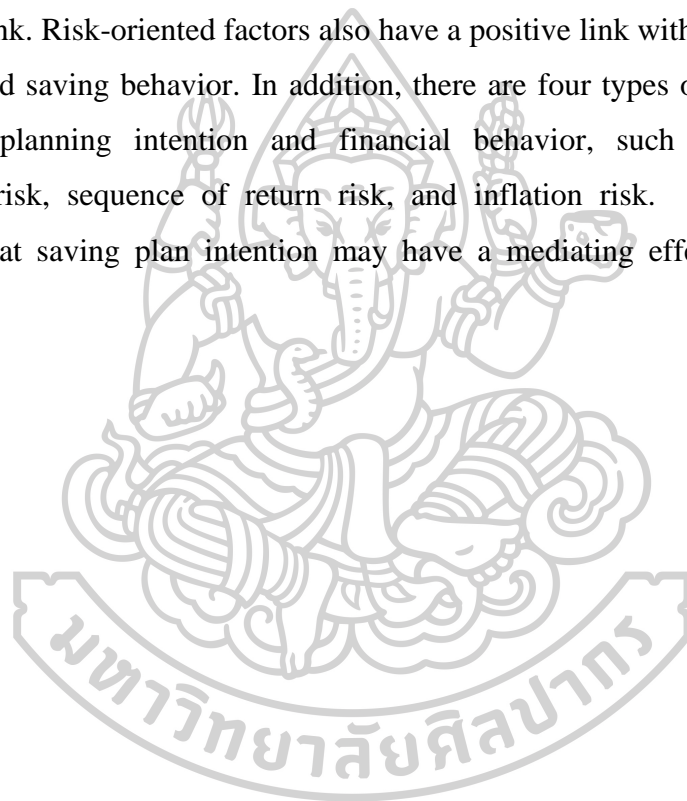
2.3 Research Framework

The theoretical framework of this research will be presented in the Figure 3. There are four variables for independent variables; financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor. For mediator and dependent variable, saving plan intention plays as the mediator in this research framework that dependent variable is saving behavior. In each construct, financial-oriented attitude consists of parent financial behavior, future time perspective, propensity to plan, and goal clarity. In addition, perceived social influence from family, friends, colleague, and superior boss combines to subjective norm. Perceived behavior control reveals from tax incentive, financial knowledge, and financial numeracy. Longevity risk, healthcare risk, sequence of return risk, and inflation risk set up for risk-oriented factor.

The theoretical framework is used to study about the affecting factors on the saving plan intention and saving behavior for consumption over retirement time. Moreover, each period's assets and consumption are determined by maximizing this utility function from their investment that will include future earnings, Social Security Fund, Government Pension Fund, and others. Retirement research has used a variety of approaches to better understand the dynamics of when and why people retire, how they prepare for retirement, and how they adjust to life in retirement. Individuals were first described as rational economic maximizers who make decisions that maximize their net benefit and invest that will give higher returns in the long term, according to early research (Antolin, 2007). In other words, the consumer thinks forward and makes plans for the future, investing his or her lifetime savings.

The actual prerequisites for making an investment decision, as well as the basic formulation of the saving decision, are demanding. Individuals have to combine all information and make investment, the amount from all pension funds, and others for them to make the best decision from the multi-asset allocation. The decision about multi-asset allocation portfolio can accumulate wealth and be able to have suitable consumption over the long period of life after retirement requiring to understand the working of interest rate. For this dissertation, there are many combinations between basic financial literacy and advance financial literacy that will

be importance for the multi-asset allocation. In terms of risk, this dissertation will try to limit all risks; longevity risk, healthcare risk, inflation risk, and sequence of return risk by create suitable model with suitable risk.

The research method will use the quantitative approach by using the questionnaires that will be received response from Thai investors. This research will try to focus on the factor for many people to decide about their financial planning that they can develop to the suitable investing model. All of constructs are combined to become the conceptual framework as shown in the Figure 2.

Figure 2 Conceptual Framework
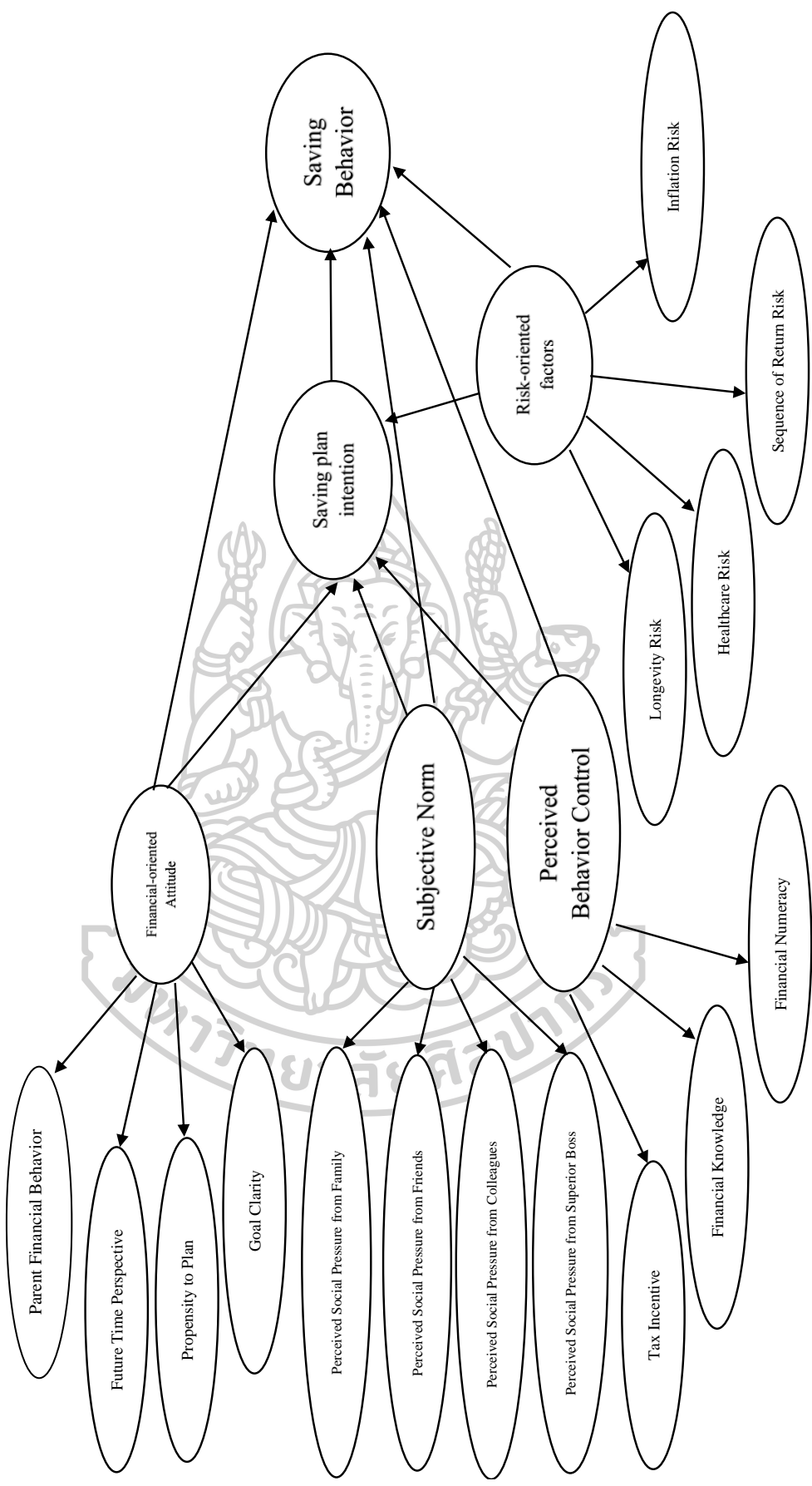
Chapter 3

RESEARCH METHODOLOGY

This chapter three presents about significant information for the research methodology that could be explained into many sections. This chapter would like to explain in term of the research procedure design showing how to conduct the research. Research framework display clearly the influence of financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor on saving plan intention and saving behavior. Next, this section will describe about the population, representative sampling, and research place. Furthermore, the data acquisition method will be expressed in words. In addition, the chapter would like to clarify the construct measurement, the control variables, the back translation technique, pilot test and the analytical approach.

3.1 Research Procedure

The research uses quantitative approach to collect all the information. Therefore, this research focuses on the factor for people to decide about their financial planning that they can develop to the suitable investing model planning. The financial planning on retirement is very important because all retirees need the sufficient regular income for family after retirement, prepare the medical and other expense on retirement, maintain the financial self-sufficiency on the retirement and afterward.

From positivist and deductive schools of thought, quantitative approach is conducted to measure and analyze the relationship from each construct. Moreover, quantitative approach can be used to analyze the quantifiable measurement of motivation, attitude, and human behavior in the large population (Lapan & Quartaroli, 2009). Questionnaire would be employed in this study and conducted to receive the response from participants. Questionnaire can be developed to get a large population in the short period of time at inexpensive cost. Therefore, questionnaires will be used to receive respondents' perception on financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior from Thai and international employees in Thailand.

3.2 Hypothesis Development

3.2.1 Relationship Between Financial-oriented Attitude and Saving Plan Intention

Thus, with regard to the association mentioned, all four factors (parent financial behavior, future time perspective, propensity to plan, and goal clarity) are proposed to correlated with financial-oriented attitude. Besides, financial-oriented attitude is positively associated with saving plan intention. Sharif and Naghavi (2020) financial-oriented attitude can be generated from parent financial behavior. Moreover, Kimiyaghalam et al. (2017) analyzed that Malaysian workers following the parent financial behavior affect to financial-oriented attitude in retirement saving intention and saving behavior. In case of future time perspective, there is a direct positive impact on retirement financial-oriented attitude and saving plan intention from future time perspective, (Larisa et al., 2020). Kimiyagahlam et al. (2019) defined that propensity to plan and future time perspective has associated with financial-oriented attitude. Zhu and Chou (2018), people need to estimate the retirement saving with goal clarity that related directly to financial-oriented attitude and retirement intention. Therefore, this research proposes that four financial-oriented attitude factors which are parent financial behavior, future time perspective, propensity to plan, and goal clarity relate to saving plan intention.

De Vos and Segers (2013) explicated that the financial-oriented attitude, self-management financial behavior, investing engagement positively associated with retirement intentions. Akhtar and Das (2019) cleared up that there is the partial mediation between the financial-oriented attitude and saving plan intention. In all retirement planning scenarios, workers' financial-oriented attitude and work-related financial-oriented attitude are highly influent to future working and retirement saving plan financial-oriented attitude (Davies & Cartwright, 2011). Mohidin et al. (2013) interpreted that the positive retirement financial-oriented attitude can be significantly related to financial intention and saving intention for retirement. Hence, it can be hypothesized that,

H1: Financial-oriented Attitude is positively associated with Saving Plan Intention

3.2.2 Relationship Between Subjective Norm and Saving Plan Intention

Subjective norms, comprising perceived social influence from family, perceived social influence from friends, perceived social influence from colleagues, and perceived social influence from superior boss, are proposed to associate with saving plan intention. Chou et al. (2014) illustrated that parents and spouses in the family positively influenced retirement saving plan and retirement saving adequacy. Furthermore, Haritha and Uchil (2020) disclosed that subjective norm in the retirement financial planning receives the influence from social interaction by friends and herding. There is also the same positive impact on retirement saving intention and saving behavior. Dauda et al. (2019) points out that social influence as the perception from family, friends, co-workers, and boss are the subjective norm that can approve or reject on the worker's retirement saving intention and saving behavior. Pension plan and retirement advice from employer with automatic enrollment in financial asset investment significantly impact on retirement saving pension plan, saving plan intention, and saving behavior (Pereira & Afonso, 2020).

Croy, Gerrans, and Speelman (2012) explained that subjective norm variable proves the positive influential predictor to retirement financial intention. Additionally, subjective norm can show positive effect to financial intention and retiring saving in generation Y in Malaysia. Davis and Hustvedt (2012) identified that subjective norm was measured by the influence from group of people affecting to the saving plan intention and saving behavior for retirement. Thus, all associated mentioned, the subjective norm is presented the positive correlation with the financial planning intention and saving behavior. Hence, it can be hypothesized that,

H2: Subjective Norm is positively associated with Saving Plan Intention

3.2.3 Relationship Between Perceived Behavior Control and Saving Plan Intention

Perceived behavior control factors (tax incentive literacy, financial knowledge, and financial numeracy) are proposed to relate with saving plan intention. Kitamura and Nakashima (2020) showed that perceived behavior control by tax incentive relates to the determent of public pension intention and saving. Raut (2020) designated that perceived behavior control by financial knowledge specifies both direct and indirect positive impact on investment decision-making, saving intention, and saving behavior. Antoni et al. (2020) disclosed that individuals' perceived behavior control by financial numeracy relate to a positive relationship significantly with saving plan intention and saving behavior. There are three parts in perceived behavior control about retirement financial planning; tax incentive, financial knowledge, and financial numeracy.

Davis and Hustvedt (2012) said that perceived behavioral control can predict the retirement saving for saving plan intention and saving behavior. The positive relationship between perceived behavioral control with saving intention plays significantly on saving to retirement (Ajzen, 2015). D. Zhang, Huang, Yin, and Gong (2015) presented the positive relationship between perceived behavioral control and behavioral intentions. Thereby, with regard to the association mentioned, perceived behavior control is proposed to correlate with the saving plan intention. Hence, it can be hypothesized that,

H3: Perceived Behavior Control is positively associated with Saving Plan Intention

3.2.4 Relationship Between Risk-oriented Factor and Saving Plan Intention

Risk-oriented factors (longevity risk, healthcare risk, sequence of return risk, and inflation risk) are proposed to associate with saving plan intention. Pfau et al. (2016) illustrated that longevity risk is one of the investment management risk pooling becomes the positive effect on the retirement income planning, saving plan, and saving behavior. For healthcare risk, healthcare risk can impact to save more on the retirement saving that healthcare cost higher can lead to positive impact on more

saving on retirement saving (Xu, 2017). Moreover, Chen et al. (2020) defined that the different perception of sequence of return risk leads to different retirement fund saving. Sequence of return risk has the positive relationship to saving intention and saving behavior. Also, inflation can affect to the guaranteed retirement plan that inflation can reduce the future value of this defined benefit pension fund, (Merton, 2014).

Clark, Morrill, and Allen (2012) analyzed that financial risk as a predictor can be positively related to financial saving intention behavior. Bateman, Islam, Louviere, Satchell, and Thorp (2011), the risk-oriented factor reacts positively on the financial retirement planning intention and saving behavior. Olesen, Butterworth, and Rodgers (2012) explained that risk on retirement issue associates positively to saving plan intention and saving behavior. So, there is the mutually beneficial relationship between risk-oriented factor and saving plan intention in the retirement financial planning.

H4: Risk-oriented factor is positively associated with Saving Plan Intention

3.2.5 Relationship Between Saving Plan Intention and Saving Behavior

Saving plan intention is proposed to have positively relationship with saving behavior. Sivaramakrishnan et al. (2017) pointed out that the saving behavior can be predicted from the saving plan intention. Also, M. Lee et al. (2017) retirement preparation and saving intention has positive relationship on saving amount. Saving program can affect positively to adequately prepare for retirement financial planning. Saving intention can generate the positive association to saving behavior in retirement saving (Ofili, 2017). In addition, saving plan intention is significantly influenced to saving behavior (Widyastuti et al., 2016). Hence, it can be hypothesized that,

H5: Saving Plan Intention is positively associated with Saving Behavior

3.2.6 Mediation Relationship of Saving Plan Intention on Financial-oriented Attitude and Saving Behavior

People with the retirement saving attitude tend to have saving plan intention and lead to saving behavior. This is consistent with Zhu and Chou (2018) indicated that saving plan intention is the mediator between financial-oriented attitude and saving behavior. Ameliawati and Setiyani (2018) identified that saving plan intention is the mediated association between financial-oriented attitude and saving behavior. Tangari and Smith (2012) presented the mediation effect of saving plan intention on financial-oriented attitude and saving behavior. Therefore, this study proposes that saving plan intention mediates the relationship between financial-oriented attitude and saving behavior. Hence, it can be created the hypothesis that,

H6: Saving Plan Intention significantly mediates the relationship between Financial-oriented Attitude and Saving Behavior

3.2.7 Mediation Relationship of Saving Plan Intention on Subjective Norm and Saving Behavior

There is the mediated relationship of saving plan intention on subjective norm and saving behavior (J. Lee & Tanusia, 2016). Zhao et al. (2019) presented that the partial mediator of saving plan intention influencing on subjective norm and saving behavior. Furthermore, saving plan intention present the mediator in the relationship between subjective norm and saving behavior (Ameliawati & Setiyani, 2018). Thereby, this research offers that saving plan intention mediates the relationship between subjective norm and saving behavior. Hence, it can be created the hypothesis that,

H7: Saving Plan Intention significantly mediates the relationship between Subjective Norm and Saving Behavior

3.2.8 Mediation Relationship of Saving Plan Intention on Perceived Behavior Control and Saving Behavior

Lusardi and Mitchell (2011) stated that saving plan intention as the mediator is between perceived behavior control and saving behavior. Xiao and O'Neill (2016) show saving plan intention as the mediator of perceived behavior control and saving behavior. Croy et al. (2012) designated that saving plan intention as the mediator on the relationship of perceived behavior control and saving behavior. Consequently, the saving plan intention is proposed to mediate the relationship between perceived behavior control and saving behavior. Hence, it can be created the hypothesis that,

H8: Saving Plan Intention significantly mediates the relationship between Perceived

Behavior Control and Saving Behavior

3.2.9 Mediation Relationship of Saving Plan Intention on Risk-oriented Factor and Saving Behavior

Laster et al. (2016) point out that there is the mediation relationship of saving plan intention on the relationship of risk-oriented factor and saving behavior. Also, the saving plan intention show the mediated relationship on risk-oriented factor and saving behavior (Vaillant & Wolff, 2012). Chou et al. (2014) indicated that the mediator of saving plan intention presents significantly mediated on risk-oriented factor and saving behavior. Thus, this study proposes that saving plan intention mediates the relationship between risk-oriented factor and saving behavior. Hence, it can be created the hypothesis that,

H9: Saving Plan Intention significantly mediates the relationship between Risk-

oriented factor and Saving Behavior

This empirical research analyzes all study objectives' hypotheses on the related theories as follows:

H1: Financial-oriented Attitude is positively associated with Saving Plan Intention

H2: Subjective Norm is positively associated with Saving Plan Intention

H3: Perceived Behavior Control is positively associated with Saving Plan Intention

H4: Risk-oriented factor is positively associated with Saving Plan Intention

H5: Saving Plan Intention is positively associated with Saving Behavior

H6: Saving Plan Intention significantly mediates the relationship between Financial-oriented Attitude and Saving Behavior

H7: Saving Plan Intention significantly mediates the relationship between Subjective Norm and Saving Behavior

H8: Saving Plan Intention significantly mediates the relationship between Perceived Behavior Control and Saving Behavior

H9: Saving Plan Intention significantly mediates the relationship between Risk-oriented factor and Saving Behavior
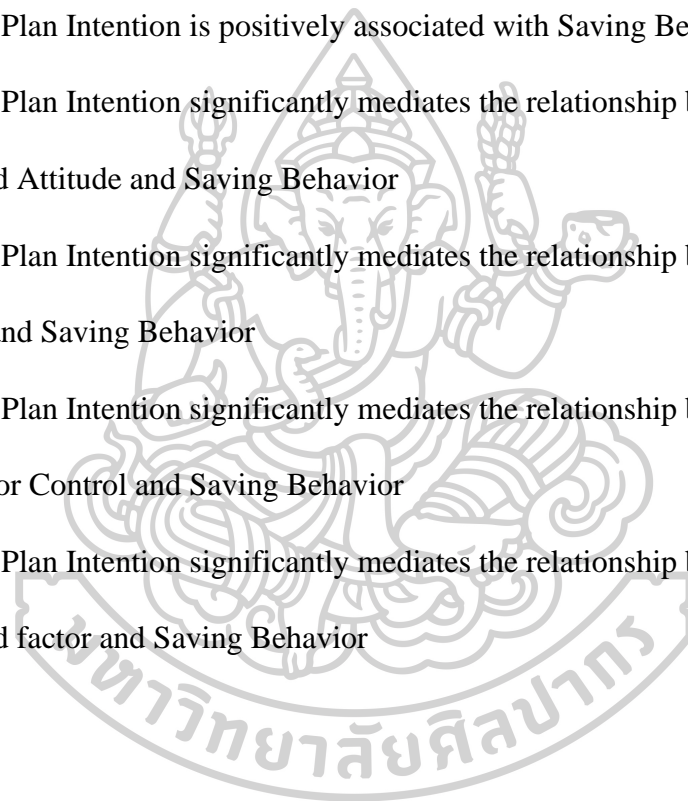
Figure 3 Hypothesis Framework
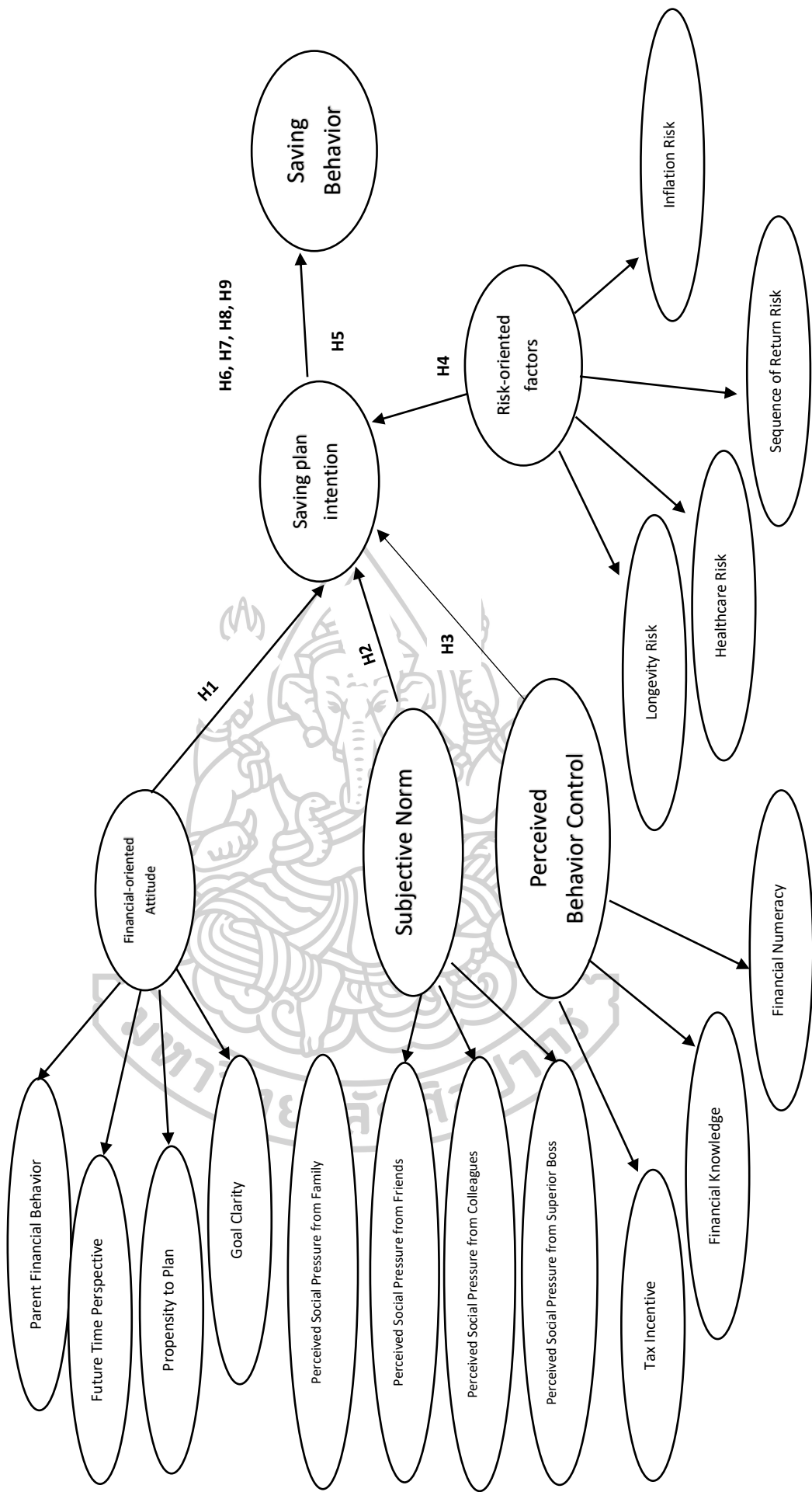
3.4 Sampling Plan

3.4.1 Population and Sample Size

For questionnaire, this dissertation will get the information from questionnaire that will focus on the investing behavior in Thailand. Moreover, this dissertation can be able to figure out about how Financial-oriented Attitude, subjective norm, perceived behavior control, risk-oriented factor relating to saving plan intention and saving behavior. The sample size should be around 400 sample for this questionnaire. Shevlin, Miles, and Bunting (1997) explained that the sample size 100 was the mean GFI for mis specified models being reasonably stable for the sample size equal or greater than 100 samples. Likewise, sample size 100 or greater is related to the acceptable description of the data (Bollen, 1989; Gerbing & Anderson, 1992). Therefore, sample should be specified in Thai workers 300 and international workers 100 with higher than 20,000 Baht income per month in many different occupations; Government Officers, Private Company Officers, Business Owners, Freelance, and others. In this range of income, Thai people should involve in Tax incentives with disposable income. The level of workers' income is related to Tax incentive program and retirement financial program. Additionally, The Board of Investment of Thailand showed the average income per capital in Thailand was 7,216.6 USD per year (1 USD = 33.42) about 20,098.23 Bath/month Therefore, participants who have income higher than 20,000 Bath per month were asked to involve.

Also, the selection choice calculation shows 384 samples (round up to 400) that are Thai and foreign workers in Thailand with respondents 400 (300 Thai employees and 100 International employees). Cochran (1977) disclosed that the calculation of sample size for unknown population portion (p=0.5) by formular $n = \frac{Z^2}{4e^2}$ at 0.05 significant level and confident level for 0.95 (Z=1.96) as the following calculation

$$n = \frac{1.96^2}{4(0.05)^2} = 384.16 \approx 384$$

This dissertation will have questionnaires (quantitative approach) by Thai people and foreigners living in Thailand about retirement investing decision factors. This study would find the similarity and differences between Thai and internal workers.

3.4.2 Sampling Method

The research employs two basic sample approaches: probability and non-probability sampling. For non-probability sampling, Neuman (2016) pointed out that non-probability sampling relates to some specific particular criteria, as well as the researcher's subjective judgment. On the other hand, probability sample runs for each part of population getting the same change to be picked. Also, probability sampling is more desirable for represent the total population. The members of total population in this research are variety of individual's characteristics. Moreover, the probability sampling has to use the full list of the entire population so this research might not be able to use the probability sampling method (Kent, 2007).

For Thai and international workers, this study has to confirm about the representative of the sample being studied with minimizing random sampling errors. Additionally, the important criteria of population is the salary higher than 20,000 Baht per month, so purposive sampling method is conducted in study because of the income criteria. Research assistants gather all information in the variety of places in Thailand; university, shopping mall, office area. Our group does some sampling in many different public areas because the variety of samples would be presented about population significantly. All participants are the workers in Thailand with the income higher than 20,000 Baht for both Thai and international workers. Those who are receiving the total income less than 20,000 Baht are disqualified to answer the questionnaires because this level is the average income level in Thailand. Furthermore, this level of income people has to deal with Tax incentive program relating to the retirement saving behavior.

3.5 Data Acquisition Method, Questionnaires Design and Development

Questionnaires would be distributed in many public areas for Thai people and international people working in Bangkok and nearby province in many different careers; Government Officers, Private Officers, Business Owners, Freelances, and others. These questionnaires would be handled in different areas to get all factors covering in many fields, such as, university, shopping mall, office area. For unbiased sample, questionnaires should be distributed randomly for only one criterion with

income higher than 20,000 Baht a month. To ensure about unbiased collection, questionnaire is not collected only one group of people so only one member per family could provide the questionnaire answer.

3.5.1 Construct Measurement

Questionnaires' construction was developed from the existing studies for the measurement items that questionnaires' reliability and validity were preliminarily verified. Moreover, the quantitative questions comprise into this research on technical term financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior including respondent's demographic profile.

The information about related factors on retirement planning was evaluated by several scholars by using existing instrument development. With six factors on retirement saving plan, seventeen sub dimensions are measured; *Financial-oriented Attitude* (parent financial behavior, future time perspective, propensity to plan, goal clarity), *Subjective Norm* (perceived social influence from family, perceived social influence from friends, perceived social influence from colleague, perceived social influence from superior boss), *Perceived Behavior Control* (tax incentive, financial knowledge, financial numeracy), *Risk-oriented Factor* (longevity risk, healthcare risk, sequence of return risk, inflation risk), *Saving Plan Intention* and *Saving Behavior*.

Five-point Likert scale is used to evaluate financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention and saving behavior. To study about all relating factors, participants were asked to response from 1 totally unacceptable to 5 totally acceptable in all given declarations for 80 items. The measurements of the financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention and saving behavior on the retirement planning in the Table 11, the Table 12, the Table 13, the Table 14, the Table 15, and the Table 16 respectively.

Table 11 Measurement of Financial-oriented Attitude in Retirement Planning

Financial-oriented Attitude			
Indicators	Question	Cronbach's Alpha	Original Measurement
Parent Financial Behavior	1. When I have to manage money, I do the same as my parents did for the similar situation	.809	Kimiyaghalam et al. (2017)
	2. When I am a teenager, I learned financial knowledge from my parent's behavior	.798	
	3. When I am a teenager, my parents had economical behavior for financial issues	.760	
	4. When I am a teenager, my parents discussed their personal financial decision within family	.757	
	5. My parents encouraged me to save money for the future plan	.787	
Future Time Perspective	1. I always follow the advice to save my money for a rainy day	.760	Kimiyagahlam et al. (2019)
	2. I enjoy to think about how I will live in the long future	.686	
	3. The long future is too uncertain to plan in advance	.763	
	4. The future seems to be very unclear and unstable to me	.806	
	5. I have established long-term goals and worked hard to fulfill them	.710	
Propensity to Plan	1. I set up my financial goals for the next few years for all achievements with my money	.803	Kimiyagahlam et al. (2019)
	2. I plan earlier about my money to be used in the next few years	.868	
	3. I actively consider all needed steps for my financial plan in the next few years	.863	
	4. My reviewing for financial plan during next few years will give me a view for spending in the future	.837	
	5. My financial plan for the next few years makes me feel better	.837	

Goal Clarity			Stawski et al. (2007); Chou et al. (2015)
	1.	I have set up clearly about my goals for getting information about retirement	.798
	2.	I have thought a great deal for my quality of life after retirement	.703
	3.	I set specific goal amount of money to be saved for retirement	.795
	4.	I have discussed my retirement plans with my spouse, friends, and important people around	.732
	5.	I have thought a great deal of the retirement quality life	.795

Table 12 Measurement of Subjective Norm in Retirement Planning

Subjective Norm

Indicators		Question	Cronbach's Alpha	Original Measurement
Perceived Social Influence from Family	1.	My family is important to me to think that I should plan and save the retirement planning regularly	.792	Dauda et al. (2019)
	2.	My family influences me to think that I should plan and save the retirement planning	.878	
	3.	My family members believe that I should invest money on the retirement planning	.813	
	4.	I think my family members can influence my decision-making on the retirement planning	.823	
	5.	I think my family members support my retirement planning	.874	
Perceived Social Influence from Friends	1.	My friends are important to me to think that I should plan and save the retirement planning	.792	Dauda et al. (2019)

Construct	Items	Factor Loading	Source
	2. My friends influence me to think that I should plan and save the retirement planning	.878	
	3. I think my friends can influence my decision-making on the retirement planning	.823	
	4. I think my friends support my retirement planning	.874	
Perceived Social Influence from Colleague	1. My colleagues are important to me to think that I should plan and save the retirement planning	.792	Dauda et al. (2019)
	2. My colleagues influence me to think that I should plan and save the retirement planning	.878	
	3. I think my colleagues can influence my decision-making on the retirement planning	.823	
	4. I think my colleagues support my retirement planning	.874	
Perceived Social Influence from Superior Boss	1. My boss is important to me to think that I should plan and save the retirement planning	.792	Dauda et al. (2019)
	2. My boss influences me to think that I should plan and save the retirement planning	.878	
	3. I think my boss can influence my decision-making on the retirement planning	.823	
	4. I think my boss supports my retirement planning	.874	

Table 13 Measurement of Perceived Behavior Control in Retirement Planning

Perceived Behavior Control			
Indicators	Question	Cronbach's Alpha	Original Measurement
Tax Incentive Program	1. Tax incentive program could help for planning and saving money for retirement and crate the sufficient fund after retiring	.721	Ab Rahman, Tajudin, and Tajuddin (2018);
	2. The new retirement investment with tax deduction for employee contributions to pension, retirement annuity, and provident funds has increased my saving on retirement investment in Thailand or my country	.725	Sabri, Simonet, and Campbell (2018)
	3. I invest in a retirement annuity and/or pension and/or provident fund in Thailand or my country	.706	
	4. I kind of have an idea of the tax implications of my investment	.785	
Financial Knowledge	1. I am very good and knowledgeable for retirement financial planning	.874	Jacobs-Lawson and Hershey (2005)
	2. I have a lot of confidence for my ability to plan for retirement planning	.812	
	3. When I need for some financial services, I know accurately where to get all information on what to do	.739	
	4. I have clear understanding about how Social Security or Pension Fund working	.775	
	5. I have clear understanding about how private retirement investment plans working	.787	
Financial Numeracy	1. If the product price that I buy today doubles over the next ten years and my income	.678	(Akhtar & Das, 2019);

	Question		Lusardi and Mitchell (2017)
	also doubles, I will be able to buy the same product in the same quantity		
2.	I think I should pay for the housing loan with 4-6 percent per year that is more cost-effective choice to buy a house than saving cash 30 years in case of 10 percent increasing on the house price	.668	
3.	In comparison for saving in 0.25% saving account and 3% fixed account, I should choose to save my money on fixed account because of getting higher return	.769	
4.	Imagine that the interest rate on your saving account was lower than inflation rate. After one year, you could be able to buy less products with the money in the account	.708	

Table 14 Measurement of Risk-oriented Factors in Retirement Planning

Risk-oriented factors

Indicators	Question	Cronbach's Alpha	Original Measurement
Longevity Risk	1. I am worried about: Running Out of Money while you are alive	.662	O'Connell (2012)
	2. Thinking now about age you would live to, you have thought a lot about the risk of running out of asset at my retirement time	.768	
	3. At my 60 years old, I believe I can live more than 20 years (more than 80 years old)	.665	
	4. I think I could retire perfectly at 60 years old with sufficient funding to spend after that (Word 'Retire' mean to stop full-time paid work with no intention of working	.776	

Category	No.	Item	Loading	Source
		full-time again; however, you might still be able to do a little part-time work or some voluntary work)		
Healthcare Risk	1.	I have a six-month to one-year cash emergency fund	.712	Sawicki et al. (2011)
	2.	I have adequate life insurance to provide the expense for my family	.758	
	3.	I have long term care insurance	.789	
	4.	I prepare to pay and arrange payments for my medications	.819	
	5.	I can arrange my payment for the medical equipment and supplies	.787	
Sequence of Return Risk	1.	I know many types of investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property Fund, and others	.819	Laster et al. (2016)
	2.	I have ever invested some types of these investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property Fund, and others	.809	
	3.	I will prefer to invest in higher return than the inflation rate that high volatility of fund value is acceptable	.760	
	4.	I would like to invest in secured principle that the return could be lower than inflation rate	.844	
	5.	I would like to invest in the fund with 2-3 percent constant return more than opportunity to receive return up to 25 percent with possibility loss up to 15 percent	.790	
Inflation Risk	1.	I think that high inflation can definitely affect to my retirement planning	.652	Laster et al. (2016)
	2.	I think that preventing high inflation is an important national priority as important as preventing drug abuse problem or preventing the lower quality of schools	.782	
	3.	When I know the projections about how many times more a college education will	.722	

| | cost or how many times more the living cost will cost more in the future, I feel a sense of uneasiness. These inflation projections always make me worry that my own income will not increase as much as such costs will | | |
| | 4. I can live with moderate, steady inflation for a while; however, the inflation continues grows up long enough then eventually the money will be practically worthless | .824 | |

Table 15 Measurement of Saving Plan Intention in Retirement Planning

Saving Plan Intention			
Indicators	Question	Cronbach's Alpha	Original Measurement
Saving Plan Intention	1. I expect to invest in retirement planning asset frequently	.778	Sivaramakrishnan et al. (2017); Akhtar and Das (2019); Kimiyagahlam et al. (2019)
	2. I want to invest in retirement planning asset in the near future	.773	
	3. I am generally optimistic about my financial future status	.777	
	4. My financial process for retirement is worthwhile	.750	
	5. I spend my time for planning and reviewing my financial issues	.735	
	6. I believe that the better retirement life could be made by a regular saving portion of my income	.789	

Table 16 Measurement of Saving Behavior in Retirement Planning

Saving Behavior			
Indicators	Question	Cronbach's Alpha	Original Measurement
Saving Behavior	1. I have made meaningful contributions to a voluntary retirement saving like Provident Fund, Mutual Fund, and others	.763	Jacobs-Lawson and Hershey (2005); Kimiyagahlam et al. (2019)
	2. Comparing with my peers, I have saved a great deal of retirement saving	.826	
	3. I have accumulated significant saving amount for retirement	.826	
	4. Based on how I plan for my retirement life, I have saved appropriately	.835	
	5. I have saved money to be more financial independent	.770	
	6. I have to save as much as possible and only spend my money only on strictly necessary things	.767	

After creating questionnaire, the completed questionnaire is distributed to 5 experts to evaluate the questionnaire by using Content Validity Index (CVI) technique. Lynn (1986) identified that at least 5 experts evaluate in content validity index (CVI) that can control the chance agreement for proper result. Experts would evaluate into 4 different level (1 = irrelevant, 2 = somewhat relevant, 3 = quite relevant, 4 highly relevant) that every question has to be evaluate 3 or 4. Questionnaires have to calculate the CVI score with higher than 0.8 or 0.9 being accepted (Grant and Davis (1997); (Polit & Beck, 2006; Polit, Beck, & Owen, 2007). So, all of items on questionnaire have the score for 0.8 or 1.00 for all calculation. Therefore, questionnaires can use to be measurement in each factor.

3.5.2 Back Translation Technique

This study has involved into the international workers and Thai employees so a back translation technique has to be done before getting the questionnaires' result. The English version questionnaires are distributed into the foreigners because English is the global common language. Besides, foreign skilled workers in the public units and private units and entrepreneurs in Thailand normally can be able to communicated in English. The Statistics Portal (2017) shows the number of English native speakers for 1,100 million English speakers in the globe, with 982 million of them in every place.

The first draft of questionnaire was English from previous studies. Therefore, the translation from first English draft has transformed into Thai questionnaire version. Then, another translator translates from Thai questionnaire back into English version. The difference between the first draft and second draft of Thai and English version have to adjust for the accuracy of questionnaire. After the back translation technique, all questionnaire in Thai and English versions are running for the pilot test.

3.6 Pilot Test

   The pilot test will be evaluated and verified for the validity and reliability of this questionnaires. This preliminary study will be distributed around 40 participants for pilot testing. Connelly (2008) designated that around 10 percent of the targeted sample has to be measure before the total distribution of sample. Therefore, this amount of targeted sample is shown 40 samples for the pilot test. These questionnaires would be collected data from many levels of ages' respondents. From pilot test, the author can confirm about the clarity, word choice, sentences, formatting, and other related issues before fully distributing to collect all information from 400 samples. The reliability test from pilot test is presented in Table 17 that the reliability can evaluate the degree of questionnaire being free from random error. Nunnally (1978) showed that the reliability value is more than 0.7 acceptable.

Table 17 The Reliability Test of Pilot Study

	Cronbach Alpha
Financial-oriented Attitude	**0.980**
- Parent Financial Behavior	0.812
- Future Time Perspective	0.734
- Propensity to Plan	0.904
- Goal Clarity	0.818
Subjective Norm	**0.957**
- Perceived Social Influence from Family	0.918
- Perceived Social Influence from Friends	0.947
- Perceived Social Influence from Colleagues	0.963
- Perceived Social Influence from Superior Boss	0.974
Perceived Behavior Control	**0.924**
- Tax Incentive Literacy	0.842
- Financial Knowledge	0.912
- Financial Numeracy	0.716
Risk-oriented Factor	**0.948**

- Longevity Risk	0.727
- Healthcare Risk	0.907
- Sequence of Return Risk	0.924
- Inflation Risk	0.881
Saving Plan Intention	**0.915**
Saving Behavior	**0.905**

All of pilot test showed that all reliability index is more than 0.7 so this research's questionnaires can be distributed for 400 samples (300 Thai employees, 100 International employees).

3.7 Analytical Approaches

3.7.1 Descriptive Statistics

This dissertation will use the triangulation method using quantitative approach (questionnaire) that require the tools in this dissertation like computers, printers, and recorders. This dissertation might have to use some software or estimate the return to provide the simulating information about investing both Thailand and foreign countries.

This dissertation will try to get all information that covers all aspects to see how the procedure of investment decision and the success factors of retirees on their investment. Therefore, this dissertation will not put any name of respondents on this report with anonymous respondents that will protect everyone related in this dissertation. This dissertation will try to get all clear data with no bias to present in the dissertation; therefore, the questionnaires will not ask about all sensitive private information not necessary in this dissertation. Moreover, the study's ethical conduct was assured, as were procedures safeguarding the identify and confidentiality of the interviewees.

The analytical approach conducted descriptive statistics in many different aspects; frequency, average, standard deviation, skewness, and kurtosis for variables' data conclusion (Kline, 2011) related to 1) financial-oriented attitude, 2) subjective norm, 3) perceived behavior control, 4) risk-oriented factor, 5) saving plan intention,

and 6) saving behavior. Moreover, the demographic data measures in gender, age, nationality, marital status, the highest level of education, professional occupation, average monthly income, investment asset for retirement, self-report health status, and number of dependents.

The degree interpretation of mean in each construct to study the central tendency providing the information from respondents' distribution (Larson, 2006). Likewise, this research study the level of workers' opinion towards questionnaire in all variables; 1) financial-oriented attitude (Parent Financial Behavior (PFB) 5 items, Future Time Perspective (FTP) 5 items, Propensity to Plan (PTP) 5 items, Goal Clarity (GC) 5 items), 2) subjective norm (Perceived Social Influence from Family (PSIF) 5 items, Perceived Social Influence from Peers (PSIP) 4 items, Perceived Social Influence from Colleague (PSIC) 4 items, Perceived Social Influence from Superior Boss (PSIB) 4 items), 3) perceived behavior control (Tax Incentive (TI) 4 items, Financial Knowledge (FK) 5 items, Financial Numeracy (FN) 4 items) , 4) risk-oriented factor (Longevity Risk (LGR) 4 items, Healthcare Risk (HCR) 5 items, Sequence of Return Risk (SRR) 5 items, Inflation Risk (IFR) 4 items), 5) saving plan intention (SPI) 6 items, and 6) saving behavior (SVB) 6 items. All translation from respondents' opinion is presented below.

Table 18 Opinion Degree Interpretation

Mean Interval	Interpretation
Mean = 1.00 - 1.80	Respondents strongly disagree
Mean = 1.81 - 2.60	Respondents disagree
Mean = 2.61 – 3.40	Respondents neutral
Mean = 3.41 – 4.20	Respondents agree
Mean = 4.21 - 5.00	Respondents strongly agree

The standard deviation of all observed variables was used to investigate to all variables; financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention and saving behavior. All questions have been tested for the standard deviation as well.

Larson (2006) and Marshall and Jonker (2010) mentioned that each item's skewness and kurtosis specify all variables which are shape statistics. There two statistical results are important measurement for studying (SEM) Amos. In skewness, this analysis is used to speculate whether the systematically distribution. The skewness measurement should be in between -3 and +3. Kurtosis is clarified by measuring the dispensation peak notifying in optimistic or pessimistic data shape. The kurtosis measurement should be in between -3 and +3 (Kline, 2011).

3.7.2 Multivariate Statistics

The research' hypothesis testing has been analyzed the result from respondents' questionnaires using Exploratory Factor Analysis (EFA). Moreover, this comparison utilizes Confirmatory Factor Analysis (CFA), Path Analysis, and Structural Equation Modeling (SEM) Amos. This research would like to present the connection of latent variables and observed variable tested in the conceptual model section. The collected data must be functioning for the standardized weight greater than 0.3 (Kim & Mueller, 1978). Ertz, Karakas, and Sarigöllü (2016) detailed that standardized factor loading have to be higher than 0.4; on the other hand, Truong and McColl (2011) touched on standardized estimate higher than 0.5. For Hair Jr, Sarstedt, Matthews, and Ringle (2016), the factor loading could present the value more than 0.7. Moreover, the standardize residuals fall in between the range -2.58 and +2.58, with t-value > 1.96. For the good-fit model, the model good-fit indices should be considered for whether model fit (Sanders, Gugiu, and Enciso (2015); Oort (1998)).

Table 19 Model-fit Indices

Model-fit indices	Value	Explanation
Chi-square probability level (p-value)	p > 0.05	The p-value > .05, the higher p-value, the more suitable model suitability
Relative Chi-square (CMIN/df)	CMIN/df < 3 or not over than 5	Relative Chi-square must be less than 3, or not over than 5; the lower, the suitability of model increases
Goodness of Fit Index (GFI)	GFI > 0.90	GFI > .90, the higher, the model suitability increases
Adjusted Goodness of Fit (AGFI)	AGFI > 0.90	AGFI > .90, the higher, the model suitability increases
Root Mean Square Error of Approximation (RMSEA)	RMSEA < 0.08	RMSEA must be less than .08, the lower, the better model suitability
Root mean square residual (RMR)	RMR < 0.08	RMR should be lower than .08, the lower, the model suitability increases
Comparative Fit Index (CFI)	CFI > 0.90	CFI have to be greater than .90, the higher, the model suitability increases
Tucker Lewis Index (TLI)	TLI > 0.90	TLI should be higher than .90, the higher, the model suitability increases
Normed Fit Index (NFI)	NFI > 0.90	NFI present the value more than .90, the higher, the model suitability increases

Chapter 4
RESEARCH RESULT

The analysis of empirical data is indicated into this chapter. The response rate of participants is specified then the demographic profile of respondents is mentioned in the following section. The research finds the influence of financial-oriented attitude, subjective norm, perceived behavior control and risk-oriented factors. Also, the positive relationship and mediated relationship present to saving plan intention and saving behavior. The test of reliability of all participant's information is in the next step. Also, the construct of validity by using Exploratory Factor Analysis (EFA) is explained in every constructs. Next, the full result hypothesis testing is analyzed that includes Confirmatory Factor Analysis, Path Analysis, Hypothesis investigation, and Mediation Analysis. Last, the conclusion of data analysis is clarified for the last section.

4.1 Symbols and Meanings Used in the Study

Table 20 Symbols and meanings used in the research

Symbol	Meaning
$\bar{x}$	Arithmetic Mean
S.D.	Standard Deviation
C.R.	Composite Reliability
AVE	Average Variance Extracted
S.E.	Standard Error
F.L.	Factor Loading
Sk.	Skewness
Ku.	Kurtosis
T.E.	Total Effects
D.E.	Direct Effects
I.E.	Indirect Effects
df	Degree of Freedom

R^2	Coefficient of Determination
p-value	Statistically significant level
N	Number of Samples
CFI	Comparative of Fit Index
GFI	Goodness of Fit Index
CMIN/df	Relative Chi-square
AGFI	Adjusted Goodness of Fit
RMSEA	Root Mean Square Error of Approximation
RMR	Root Mean Square Residual
TLI	Tucker Lewis Index
NFI	Normed Fit Index
PFB	Parent Financial Behavior
FTP	Future Time Perspective
PTP	Propensity to Plan
GC	Goal Clarity
PSIF	Perceived Social Influence from Family
PSIP	Perceived Social Influence from Peers
PSIC	Perceived Social Influence from Colleague
PSIB	Perceived Social Influence from Superior Boss
TI	Tax Incentive
FK	Financial Knowledge
FN	Financial Numeracy
LGR	Longevity Risk
HCR	Healthcare Risk
SRR	Sequence of Return Risk
IFR	Inflation Risk
SPI	Saving Plan Intention
SVB	Saving Behavior

4.2 Response Rate

From 500 distributed questionnaires, there are 375 in Thai questionnaire version and 125 English questionnaire version to get all responds by research's assistants. Then, only 341 Thai questionnaires (90.93% response) and 110 English questionnaires (88% response) were returned. After screening all collected questionnaires, there are 300 in Thai questionnaires (80% usable response) and 100 English questionnaires (80% usable response) be used in the hypothesis testing analysis.

4.3 Demographic Profile of Respondents

From the demographic information of respondents, the demographic result is showed in Table 21 below by descriptive statistics. From respondents' profile, all information from participants' details includes gender, nationality, age, marital status, education, professional occupation, average monthly income, investment asset for retirement, self-report health status, and number of dependents.

There are 174 male participants (43.50%) and 226 female participants (56.50%). Also, the nationality of sample is 300 for Thais (75%) and 100 for international sample (25%). For sample's age, the most respondents are in 40-49 years old (154 participants, 38.50%) followed by, 30-39 years old (91 participants, 22.75%), 20-29 years old (73 participants, 18.25%), 50-59 years old (67 participants, 16.75%), and above 60 years old (15 participants, 3.75%).

For marital status, the majority of respondents are married (205 participants, 51.25%), single (149 participants, 37.25%), cohabiting (37 participants, 9.25%), and divorced (9 participants, 2.25%). In terms of education level, there are 13 respondents with no formal education (3.25%), 65 respondents with high school (16.25%), 203 respondents with Bachelor's degree (50.75%), 101 respondents with Master's degree (25.25%), 18 respondents with Doctorate/Ph.D. (4.50%).

In professional occupation details, the majority of this research is private company employee (162 respondents, 40.50%), government officer or related government occupation (93 respondents, 23.25%), self-employed (70 respondents,

17.50%), business owner (65 respondents, 16.25%), and retired (10 respondents, 2.5%). Furthermore, the level of average monthly income (Baht/month) is presented in 191 respondents (47.75%) with 20,000-39,999 Baht per month, 95 respondents (23.75%) with 40,000-59,999 Baht per month, 39 respondents (9.75%) with 60,000-79,999 Baht per month, 15 respondents (3.75%) with 80,000-99,999 Baht per month, and 60 respondents (15%) with above 100,000 Baht per month.

For investment asset for retirement saving, the study finds that most of respondents invest in Social Security Fund (259 people, 64.75%) followed by Provident Fund (169 people, 42.25%), Tax Incentive Fund (Long term equity fund (LTF), Retirement mutual fund (RMF), Super saving fund (SSF)) (153 people, 38.25%), Government Pension Fund (54 people, 13.50%), National Saving Fund (40 people, 10%), and others (Insurance, Land, Property) (45 people, 11.25%).

For self-report health, the majority of group reports normal health condition 245 respondents (61.25%), good health condition 78 respondents (19.50%), not good health condition 42 respondents (10.50%), excellent health condition 34 respondents (8.50%), and poor health condition 1 respondent (0.25%).

In case of number of dependents, the research finds that the most of participants have 1-2 dependents (203 samples, 50.75%), 3-4 dependents (95 samples, 23.75%), none dependents (81 samples, 20.25%), 5-6 dependents (12 samples, 3%) and more than 6 dependents (9 samples, 2.25%).

Table 21 Demographic Characteristics of Sample

Profile	Frequency	Percent
Gender		
Male	174	43.50
Female	226	56.50
Nationality		
Thai	300	75.00
Internationality	100	25.00
Age (years)		
20-29	73	18.25
30-39	91	22.75
40-49	154	38.50
50-59	67	16.75
60 above	15	3.75
Marital Status		
Single	149	37.25
Married	205	51.25
Divorced	9	2.25
Cohabiting	37	9.25
Education		
No formal education	13	3.25
High School	65	16.25
Bachelor's degree	203	50.75
Master's degree	101	25.25
Doctorate/Ph.D.	18	4.50

Professional Occupation		
Private Company Employee	162	40.50
Government officer	93	23.25
Self-employed	70	17.50
Business Owner	65	16.25
Retired	10	2.50
Average monthly income (Baht)		
20,000 – 39,999	191	47.75
40,000 – 59,999	95	23.75
60,000 – 79,999	39	9.75
80,000 – 99,999	15	3.75
Above 100,000	60	15.0
Investment asset for retirement (able to choose more than 1)		
Government Pension Fund	54	13.50
Social Security Fund	259	64.75
Provident Fund	169	42.25
National Saving Fund	40	10.00
Tax incentive investment fund	153	38.25
Others	45	11.25

Self-report health status		
Poor	1	0.25
Not good	42	10.50
Normal	245	61.25
Good	78	19.50
Excellent	34	8.50

Number of dependents		
None	81	20.25
1-2 people	203	50.75
3-4 people	95	23.75
5-6 people	12	3.00
More than 6 people	9	2.25

4.4 Participants' Opinion towards all Variables and Normality

The empirical study, there are 400 participants joining the questionnaires in financial retirement planning which consists of 6 sub-dimensions; financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior. In addition, all constructs are analyzed by mean, standard deviation, skewness, and kurtosis being examples of descriptive statistic measurement. There is all value of all mention above as the following Table 22 including the interpretation for each observed variable.

Table 22 Descriptive Statistics describing in Financial Retirement Planning

Variables	Mean	S.D.	Interpretation	Skewness	Kurtosis
Financial-oriented Attitude					
PFB1	4.09	.714	Agree	-.770	.128
PFB2	4.13	.670	Agree	-.923	.571
PFB3	4.62	.482	Strongly agree	-.949	.885
PFB4	4.25	.621	Strongly agree	-.788	.079
PFB5	4.71	.341	Strongly agree	-.994	1.264
FTP1	4.68	.391	Strongly agree	-.632	.056
FTP2	4.75	.388	Strongly agree	-.822	.462
FTP3	4.34	.584	Strongly agree	-1.073	1.067
FTP4	4.06	.744	Agree	-.227	-.770
FTP5	4.48	.458	Strongly agree	-.722	.894
PTP1	4.58	.431	Strongly agree	-.816	1.052
PTP2	4.50	.427	Strongly agree	-.655	.559
PTP3	4.54	.407	Strongly agree	-.547	.263
PTP4	4.47	.500	Strongly agree	-.701	.630
PTP5	4.58	.434	Strongly agree	-.744	.935
GC1	4.47	.525	Strongly agree	-.716	.496
GC2	4.71	.399	Strongly agree	-.955	1.640
GC3	4.51	.508	Strongly agree	-.918	.997
GC4	4.34	.576	Strongly agree	-.784	.595
GC5	4.70	.449	Strongly agree	-1.075	1.545
Overall	4.461	.484	Strongly agree	-.480	.574
Subjective Norm					
PSIF1	4.69	.396	Strongly agree	-.828	1.012
PSIF2	4.61	.455	Strongly agree	-1.017	1.636
PSIF3	4.29	.646	Strongly agree	-.639	.144
PSIF4	4.32	.635	Strongly agree	-.894	.777
PSIF5	4.38	.558	Strongly agree	-.731	.398
PSIP1	4.06	.613	Agree	-.458	-.075
PSIP2	4.03	.696	Agree	-.321	-.444
PSIP3	4.08	.602	Agree	-.370	-.377
PSIP4	4.06	.617	Agree	-.408	-.063
PSIC1	4.01	.662	Agree	-.511	-.112
PSIC2	4.02	.649	Agree	-.417	-.364
PSIC3	4.03	.637	Agree	-.347	-.505
PSIC4	4.04	.625	Agree	-.406	-.370
PSIB1	4.01	.660	Agree	-.345	-.426
PSIB2	4.09	.600	Agree	-.265	-.579

PSIB3	4.04	.621	Agree	-.189	-.740
PSIB4	4.03	.642	Agree	-.311	-.452
Overall	4.193	.688	Agree	-.328	.335
Perceived Behavior Control					
TI1	4.40	.455	Strongly agree	-.524	.105
TI2	4.49	.417	Strongly agree	-.843	1.094
TI3	4.36	.521	Strongly agree	-.904	.840
TI4	4.38	.483	Strongly agree	-.810	.675
FK1	4.13	.575	Agree	-.379	-.199
FK2	4.22	.565	Strongly agree	-.393	-.260
FK3	4.36	.482	Strongly agree	-.353	-.355
FK4	4.39	.466	Strongly agree	-.435	-.290
FK5	4.31	.514	Strongly agree	-.559	.371
FN1	4.03	.655	Agree	-.402	-.245
FN2	4.15	.599	Agree	-.548	.205
FN3	4.39	.471	Strongly agree	-.835	.880
FN4	4.20	.562	Agree	-.297	-.332
Overall	4.294	.519	Strongly agree	.024	-.539
Risk-oriented factor					
LGR1	4.20	.600	Agree	-.630	-.006
LGR2	4.21	.566	Strongly agree	-.663	.231
LGR3	4.19	.619	Agree	-.202	-.325
LGR4	4.27	.482	Strongly agree	-.386	.143
HCR1	4.37	.447	Strongly agree	-.657	.452
HCR2	4.29	.549	Strongly agree	-.688	.606
HCR3	4.23	.642	Strongly agree	-.615	-.085
HCR4	4.32	.496	Strongly agree	-.524	.288
HCR5	4.32	.483	Strongly agree	-.367	-.115
SRR1	4.29	.573	Strongly agree	-.593	.178
SRR2	4.16	.606	Agree	-.910	.470
SRR3	4.11	.618	Agree	-.605	-.098
SRR4	4.08	.635	Agree	-.593	-.095
SRR5	4.05	.673	Agree	-.532	-.332
IFR1	4.29	.534	Strongly agree	-.387	-.010
IFR2	4.28	.551	Strongly agree	-.452	.408
IFR3	4.26	.581	Strongly agree	-.549	.493
IFR4	4.10	.604	Agree	-.447	.302
Overall	4.211	.559	Strongly agree	.165	-.090
Saving Plan Intention					
SPI1	4.44	.451	Strongly agree	-.380	-.305
SPI2	4.35	.480	Strongly agree	-.394	-.079

SPI3	4.41	.440	Strongly agree	-.509	.387
SPI4	4.51	.393	Strongly agree	-.352	-.114
SPI5	4.46	.409	Strongly agree	-.500	.322
SPI6	4.62	.385	Strongly agree	-.483	-.226
Overall	4.463	.469	Strongly agree	-.130	-.165
Saving Behavior					
SVB1	4.42	.487	Strongly agree	-.766	.594
SVB2	4.11	.587	Agree	-.445	.067
SVB3	4.07	.674	Agree	-.430	-.095
SVB4	4.24	.523	Strongly agree	-.542	.311
SVB5	4.31	.505	Strongly agree	-.644	.552
SVB6	4.45	.451	Strongly agree	-.811	.460
Overall	4.249	.532	Strongly agree	-.317	.295

Financial-oriented Attitude

The research explains that workers have a financial-oriented attitude on retirement financial planning in strongly agree with mean score as 4.461 and S.D. as 0.484. There are four components on financial-oriented attitudes; parent financial behavior, future time perspective, propensity to plan and goal clarity.

First, parent financial behavior presents strongly agree level in "My parents encouraged me to save money for the future plan", "When I am a teenager, my parents had economical behavior for financial issues", and "When I am a teenager, my parents discussed their personal financial decision within family" with mean score as 4.71, 4.62, 4.25 and S.D. as 0.341, 0.482, and 0.621 respectively. Parent financial behavior shows agree level in "When I am a teenager, I learned financial knowledge from my parent's behavior" and "When I have to manage money, I do the same as my parents did for the similar situation" with average score as 4.13 and 4.09 and Standard deviation as 0.670 and 0.714 orderly.

Second, future time perspective presents strongly agree level in "I enjoy to think about how I will live in the long future", "I always follow the advice to save my money for a rainy day", "I have established long-term goals and worked hard to fulfill them", and "The long future is too uncertain to plan in advance" with mean score as 4.75, 4.68, 4.48, 4.34 and S.D. as 0.388, 0.391, 0.458, 0.584. For agree level, there is

one for agree level "The future seems to be very unclear and unstable to me" with mean score 4.06 and S.D. 0.744. respectively.

Next, propensity to plan shows strongly agree level in all 5 aspects "I set up my financial goals for the next few years for all achievements with my money", "My financial plan for the next few years makes me feel better", "I actively consider all needed steps for my financial plan in the next few years", "I plan earlier about my money to be used in the next few years", and "My reviewing for financial plan during next few years will give me a view for spending in the future" with mean score as 4.58, 4.58, 4.54, 4.50, 4.47 and S.D. as 0.431, 0.434, 0.407, 0.427, and 0.500 respectively.

Last, goal clarity reveals strongly agree level in all 5 aspects "I have thought a great deal for my quality of life after retirement", "I have thought a great deal of the retirement quality life", "I set specific goal amount of money to be saved for retirement", "I have set up clearly about my goals for getting information about retirement", and "I have discussed my retirement plans with my spouse, friends, and important people around" with mean score as 4.71, 4.70, 4.51, 4.47, 4.34 and S.D. as 0.399, 0.449, 0.508, 0.525, 0.576 respectively.

Subjective Norm

The research explains that workers have subjective norm influencing on retirement financial planning in agree with mean score as 4.193 and S.D. as 0.688. There are four components on subjective norm; perceived social influence from family, perceived social influence from friends, perceived social influence from colleague, perceived social influence from superior boss.

First, perceived social influence from family presents strongly agree level in all 5 observed variables "My family is important to me to think that I should plan and save the retirement planning regularly", "My family influences me to think that I should plan and save the retirement planning", "I think my family members support my retirement planning", "I think my family members can influence my decision-

making on the retirement planning" and "My family members believe that I should invest money on the retirement planning" with mean score as 4.69, 4.61, 4.38, 4.32, 4.29 and S.D. as 0.396, 0.455, 0.558, 0.635, and 0.646 respectively.

Second, perceived social influence from friends presents agree level in "I think my friends can influence my decision-making on the retirement planning", "My friends are important to me to think that I should plan and save the retirement planning", "I think my friends support my retirement planning", and "My friends influence me to think that I should plan and save the retirement planning" with mean score as 4.08, 4.06, 4.06, 4.03 and S.D. as 0.602, 0.613, 0.617, 0.696 respectively.

Next, perceived social influence from colleague shows agree level in all 4 aspects "I think my colleagues support my retirement planning", "I think my colleagues can influence my decision-making on the retirement planning", "My colleagues influence me to think that I should plan and save the retirement planning", and "My colleagues are important to me to think that I should plan and save the retirement planning" with mean score as 4.04, 4.03, 4.02, 4.01 and S.D. as 0.625, 0.637, 0.649, and 0.662 respectively.

Last, perceived social influence from superior boss reveals agree level in all 4 aspects "My boss influences me to think that I should plan and save the retirement planning", "I think my boss can influence my decision-making on the retirement planning", "I think my boss supports my retirement planning", and "My boss is important to me to think that I should plan and save the retirement planning" with mean score as 4.09, 4.04, 4.03, 4.01 and S.D. as 0.600, 0.621, 0.642, 0.660 respectively.

Perceived Behavior Control

The research explains that workers have perceived behavior control on retirement financial planning in strongly agree with mean score as 4.294 and S.D. as 0.519. There are three components on perceived behavior control; tax incentive, financial knowledge, and financial numeracy.

First, tax incentive presents strongly agree level in "The new retirement investment with tax deduction for employee contributions to pension, retirement annuity, and provident funds has increased my saving on retirement investment in Thailand or my country", "Tax incentive program could help for planning and saving money for retirement and crate the sufficient fund after retiring", "I kind of have an idea of the tax implications of my investment" and "I invest in a retirement annuity and/or pension and/or provident fund in Thailand or my country" with mean score as 4.49, 4.40, 4.38, 4.36 and S.D. as 0.417, 0.455, .483 and 0.521 respectively.

Second, financial knowledge presents strongly agree level in "I have clear understanding about how Social Security or Pension Fund working", "When I need for some financial services, I know accurately where to get all information on what to do", "I have clear understanding about how private retirement investment plans working", "I have a lot of confidence for my ability to plan for retirement planning

", and "I am very good and knowledgeable for retirement financial planning" with mean score as 4.39, 4.36, 4.31, 4.22 and S.D. as 0.466, 0.482, 0.514, 0.565. For agree level, there is one for agree level "I am very good and knowledgeable for retirement financial planning" with mean score 4.13 and S.D. 0.575 respectively.

Last, financial numeracy reveals strongly agree level in "In comparison for saving in 0.25% saving account and 3% fixed account, I should choose to save my money on fixed account because of getting higher return" with mean score as 4.39 and S.D. as 0.471. There are three aspects for agree level in "Imagine that the interest rate on your saving account was lower than inflation rate. After one year, you could be able to buy less products with the money in the account", "I think I should pay for the housing loan with 4-6 percent per year that is more cost-effective choice to buy a house than saving cash 30 years in case of 10 percent increasing on the house price", and "If the product price that I buy today doubles over the next ten years and my income also doubles, I will be able to buy the same product in the same quantity" with mean score as 4.20, 4.15, 4.03 and S.D. as 0.562. 0.599, and 0.655 respectively.

Risk-oriented factor

The research explains that workers have risk-oriented factor on retirement financial planning in strongly agree with mean score as 4.211 and S.D. as 0.559. There are four components on risk-oriented factor; longevity risk, healthcare risk, sequence of return risk, and inflation risk.

First, longevity risk presents strongly agree level in "I think I could retire perfectly at 60 years old with sufficient funding to spend after that (Word 'Retire' mean to stop full-time paid work with no intention of working full-time again; however, you might still be able to do a little part-time work or some voluntary work)", and "Thinking now about age you would live to, you have thought a lot about the risk of running out of asset at my retirement time" with mean score as 4.27, 4.21 and S.D. as 0.482, 0.566 respectively. Longevity risk shows agree level in "I am worried about: Running Out of Money while you are alive" and "At my 60 years old, I believe I can live more than 20 years (more than 80 years old)" with central tendency score as 4.20 and 4.19 and standard deviation as 0.600 and 0.619 orderly.

Second, healthcare risk presents strongly agree level in all 5 aspects "I have a six-month to one-year cash emergency fund", "I prepare to pay and arrange payments for my medications", "I can arrange my payment for the medical equipment and supplies", "I have adequate life insurance to provide the expense for my family", and "I have long term care insurance" with mean score as 4.37, 4.32, 4.32, 4.29, 4.23 and S.D. as 0.447, 0.496, 0.483, 0.549, and 0.642.

Next, sequence of return risk shows strongly agree level "I know many types of investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property Fund, and others" with mean score as 4.29 and S.D. as 0.573 respectively. For agree level, sequence of return point out "I have ever invested some types of these investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property Fund, and others", "I will prefer to invest in higher return than the inflation rate that high volatility of fund value is acceptable", "I would like to invest in secured principle that the return could be lower than inflation rate", and "I would like to invest in the fund with 2-3 percent constant return more than

opportunity to receive return up to 25 percent with possibility loss up to 15 percent" with mean score as 4.16, 4.11, 4.08, 4.05 and S.D. as 0.606, 0.618, 0.635, 0.673.

Last, inflation risk reveals strongly agree level in "I think that high inflation can definitely affect to my retirement planning", "I think that preventing high inflation is an important national priority as important as preventing drug abuse problem or preventing the lower quality of schools", "When I know the projections about how many times more a college education will cost or how many times more the living cost will cost more in the future, I feel a sense of uneasiness. These inflation projections always make me worry that my own income will not increase as much as such costs will." with mean score as 4.29, 4.28, 4.26 and S.D. as 0.504, 0.501, 0.531 respectively.

Saving Plan Intention

The research explains that workers have saving plan intention on retirement financial planning in strongly agree for overall mean score 4.463 and S.D. as 0.469 including; "I believe that the better retirement life could be made by a regular saving portion of my income", "My financial process for retirement is worthwhile", "I spend my time for planning and reviewing my financial issues", "I expect to invest in retirement planning asset frequently", "I am generally optimistic about my financial future status", "I want to invest in retirement planning asset in the near future", "" with mean score as 4.62, 4.51, 4.46, 4.44, 4.41, 4.35 and S.D. as 0.393, 0.385, 0.409, 0.451, 0.440, 0.480.

Saving Behavior

The research explains that workers have saving behavior on retirement financial planning in strongly agree for overall mean score 4.249 and S.D. as 0.532. Saving behavior details in strongly agree "I have to save as much as possible and only spend my money only on strictly necessary things", "I have made meaningful contributions to a voluntary retirement saving like Provident Fund, Mutual Fund, and

others", "I have saved money to be more financial independent", "Based on how I plan for my retirement life, I have saved appropriately" with mean score as 4.45, 4.42, 4.31, 4.24 and S.D. as 0.451, 0.487, 0.505, 0.523. For agree level, saving behavior describes agree in "Comparing with my peers, I have saved a great deal of retirement saving", "I have accumulated significant saving amount for retirement" with mean score 4.11, 4.07 and S.D. as 0.587, 0.674 respectively.

Assessment of Normality

This calculation is significant aspect to study about whether the collected data has normal distribution and been employed for the further analysis. Normality testing dues with Skewness, Kurtosis. In addition, skewness is used to investigate the systematical distribution data. Kurtosis is developed to identify about the peak of the distribution for plus value and minus value data shape (Larson, 2006; Marshall & Jonker, 2010). (Kline, 2011) explained that the skewness should be valued in between -3 and +3 meanwhile the kurtosis has to be the same range (-3,3). All of variables have been measured both skewness and kurtosis; financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior.

4.5 Respondents analysis

Respondent bias analysis was calculated to identify the respondents' bias on the research. One-way ANOVA was employed to identify the relationship of different demographic variables with financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior. There is no difference if the significant values are less than 0.05 (sig. > 0.05). The results would not lead to difference in the response distortion (Hornik & Ellis, 1988). All result of each demographic data is represented in Table 23.

For age difference, the responses are not significant difference in all 6 variables same as nationality, marital status, professional occupation, self-report

health status and number of dependents (sig. > 0.05). However, the highest education level has the different response on subjective norm and perceived behavior control among different education background. The different monthly income can lead to different response only on subjective norm. Therefore, the different education and monthly income would have differences in family, friends, colleagues, and superior boss (subjective norm) group. The different highest education will lead to different opinion on perceived behavior control (tax incentive, financial knowledge, and financial behavior).

Table 23 Respondents Analysis from Different Demographic Group

Age

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	1.630	4	.408	1.747	.139
	Within Groups	103.339	395	.233		
	Total	104.969	399			
SJN	Between Groups	8.512	4	2.128	4.429	.052
	Within Groups	212.871	395	.481		
	Total	221.384	399			
PBC	Between Groups	1.883	4	.471	1.478	.208
	Within Groups	141.157	395	.319		
	Total	143.040	399			
ROF	Between Groups	1.876	4	.469	1.795	.129
	Within Groups	115.763	395	.261		
	Total	117.640	399			
SPI	Between Groups	.942	4	.235	.725	.575
	Within Groups	143.877	395	.325		
	Total	144.819	399			
SVB	Between Groups	3.932	4	.983	2.260	.062
	Within Groups	192.713	395	.435		
	Total	196.646	399			

Nationality

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	.460	1	.460	1.963	.162
	Within Groups	104.509	398	.234		
	Total	104.969	399			
SJN	Between Groups	.039	1	.039	.078	.780
	Within Groups	221.345	398	.496		
	Total	221.384	399			
PBC	Between Groups	1.095	1	1.095	3.442	.064
	Within Groups	141.944	398	.318		
	Total	143.040	399			
ROF	Between Groups	.083	1	.083	.314	.575
	Within Groups	117.557	398	.264		
	Total	117.640	399			
SPI	Between Groups	.193	1	.193	.596	.441
	Within Groups	144.626	398	.324		
	Total	144.819	399			
SVB	Between Groups	.381	1	.381	.866	.353
	Within Groups	196.265	398	.440		
	Total	196.646	399			

Marital Status

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	.520	3	.173	.737	.530
	Within Groups	104.449	396	.235		
	Total	104.969	399			
SJN	Between Groups	.641	3	.214	.430	.732
	Within Groups	220.743	396	.497		
	Total	221.384	399			

		Sum of Squares	df	Mean Square	F	Sig.
PBC	Between Groups	1.819	3	.606	1.906	.128
	Within Groups	141.221	396	.318		
	Total	143.040	399			
ROF	Between Groups	.951	3	.317	1.206	.307
	Within Groups	116.688	396	.263		
	Total	117.640	399			
SPI	Between Groups	1.110	3	.370	1.143	.331
	Within Groups	143.709	396	.324		
	Total	144.819	399			
SVB	Between Groups	1.212	3	.404	.918	.432
	Within Groups	195.433	396	.440		
	Total	196.646	399			

The highest education levels

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	1.389	4	.347	1.485	.206
	Within Groups	103.580	395	.234		
	Total	104.969	399			
SJN	Between Groups	5.594	4	1.398	2.871	.023
	Within Groups	215.790	395	.487		
	Total	221.384	399			
PBC	Between Groups	3.940	4	.985	3.137	.015
	Within Groups	139.100	395	.314		
	Total	143.040	399			
ROF	Between Groups	1.358	4	.340	1.294	.272
	Within Groups	116.281	395	.262		
	Total	117.640	399			
SPI	Between Groups	2.105	4	.526	1.634	.165
	Within Groups	142.714	395	.322		
	Total	144.819	399			

SVB	Between Groups	1.811	4	.453	1.030	.392
	Within Groups	194.835	395	.440		
	Total	196.646	399			

Professional Occupation

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	1.672	4	.418	1.793	.129
	Within Groups	103.297	395	.233		
	Total	104.969	399			
SJN	Between Groups	1.493	4	.373	.752	.557
	Within Groups	219.891	395	.496		
	Total	221.384	399			
PBC	Between Groups	3.042	4	.761	2.407	.049
	Within Groups	139.998	395	.316		
	Total	143.040	399			
ROF	Between Groups	1.071	4	.268	1.018	.398
	Within Groups	116.569	395	.263		
	Total	117.640	399			
SPI	Between Groups	1.025	4	.256	.790	.532
	Within Groups	143.794	395	.325		
	Total	144.819	399			
SVB	Between Groups	3.197	4	.799	1.830	.122
	Within Groups	193.449	395	.437		
	Total	196.646	399			

Average monthly income

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	1.382	4	.346	1.478	.208
	Within Groups	103.587	395	.234		
	Total	104.969	399			
SJN	Between Groups	5.361	4	1.340	2.749	.028
	Within Groups	216.022	395	.488		
	Total	221.384	399			
PBC	Between Groups	2.272	4	.568	1.788	.130
	Within Groups	140.768	395	.318		
	Total	143.040	399			
ROF	Between Groups	.975	4	.244	.926	.449
	Within Groups	116.664	395	.263		
	Total	117.640	399			
SPI	Between Groups	2.132	4	.533	1.655	.159
	Within Groups	142.687	395	.322		
	Total	144.819	399			
SVB	Between Groups	.835	4	.209	.472	.756
	Within Groups	195.811	395	.442		
	Total	196.646	399			

Self-report health status

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	2.265	4	.566	2.442	.046
	Within Groups	102.704	395	.232		
	Total	104.969	399			
SJN	Between Groups	.810	4	.203	.407	.804
	Within Groups	220.573	395	.498		
	Total	221.384	399			

		Sum of Squares	df	Mean Square	F	Sig.
PBC	Between Groups	8.107	4	2.027	6.654	.050
	Within Groups	134.933	395	.305		
	Total	143.040	399			
ROF	Between Groups	3.454	4	.864	3.350	.060
	Within Groups	114.185	395	.258		
	Total	117.640	399			
SPI	Between Groups	7.922	4	1.981	6.409	.050
	Within Groups	136.897	395	.309		
	Total	144.819	399			
SVB	Between Groups	6.161	4	1.540	3.582	.057
	Within Groups	190.485	395	.430		
	Total	196.646	399			

Number of dependents

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ATT	Between Groups	2.037	4	.509	2.192	.069
	Within Groups	102.932	395	.232		
	Total	104.969	399			
SJN	Between Groups	4.685	4	1.171	2.394	.050
	Within Groups	216.699	395	.489		
	Total	221.384	399			
PBC	Between Groups	1.740	4	.435	1.364	.245
	Within Groups	141.299	395	.319		
	Total	143.040	399			
ROF	Between Groups	2.764	4	.691	2.665	.052
	Within Groups	114.875	395	.259		
	Total	117.640	399			
SPI	Between Groups	4.763	4	1.191	3.766	.055
	Within Groups	140.056	395	.316		
	Total	144.819	399			

SVB	Between Groups	5.971	4	1.493	3.468	.058
	Within Groups	190.675	395	.430		
	Total	196.646	399			

Non-respondents Bias

   The study has to analysis the different opinions for the short-time taking of questionnaires' response and the long-time taking of questionnaires' response. From the Table 24, there is not different response (Sig. > 0.05 for all six variables) between the short-time taking group and long-time taking group on questionnaire. Thus, the responses from two group present non-significant difference. So, this research can analyze all the questionnaires' response together.
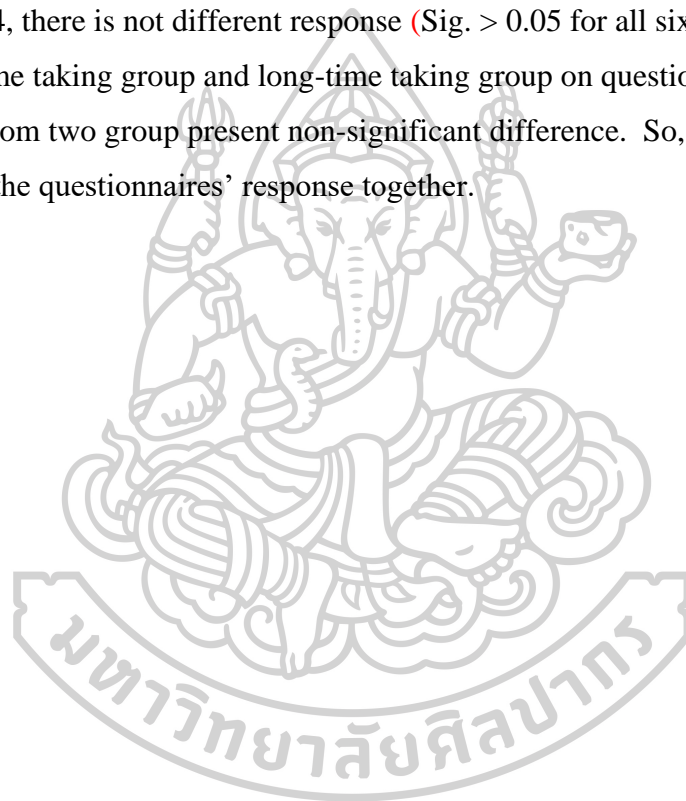
Table 24 Non-respondents Bias

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | 95% Confidence Interval of the Difference | |
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ATT	Equal variances assumed	3.181	.075	1.401	398	.162	.07668	.05473	-.03088	.18424
	Equal variances not assumed			1.308	148.277	.193	.07668	.05861	-.03915	.19250
SJN	Equal variances assumed	.016	.898	.280	398	.780	.02229	.07965	-.13424	.17883
	Equal variances not assumed			.280	163.153	.779	.02229	.07950	-.13469	.17927
PBC	Equal variances assumed	.144	.704	1.855	398	.064	.11833	.06378	-.00703	.24368
	Equal variances not assumed			1.829	159.413	.069	.11833	.06469	-.00944	.24609
ROF	Equal variances assumed	.177	.674	.561	398	.575	.03254	.05805	-.08153	.14662
	Equal variances not assumed			.552	158.971	.582	.03254	.05899	-.08396	.14905
SPI	Equal variances assumed	.720	.397	.772	398	.441	.04970	.06438	-.07684	.17623
	Equal variances not assumed			.799	171.392	.426	.04970	.06222	-.07312	.17251
SVB	Equal variances assumed	.193	.661	-.930	398	.353	-.06979	.07500	-.21719	.07761
	Equal variances not assumed			-.941	165.440	.348	-.06979	.07416	-.21621	.07664

4.6 Reliability Test

This empirical study has to be checked for reliability assessment to use this questionnaire for further analysis. This research employs two values to check reliability for the whole questionnaire; corrected item-total correlation together with Cronbach's alpha coefficient. Faleye (2008) specified that the score of corrected item-total correlation in every criteria has come up with higher than 0.20. Hajjar and Taan (2014) pointed out that Cronbach's alpha coefficient has to be greater than 0.70. Nunnally (1994) examined that the reliability result of the measurement scales and the connection in the relationships among each item in the scale as the following Table 25 to Table 30.

Table 25 Measurement Reliability of Financial-oriented Attitude in Retirement Planning

Financial-oriented Attitude

Indicators	Question	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected item-total correlation
Parent Financial Behavior	When I have to manage money, I do the same as my parents did for the similar situation	.797	.759	.584
	When I am a teenager, I learned financial knowledge from my parent's behavior		.751	.604
	When I am a teenager, my parents had economical behavior for financial issues		.760	.585
	When I am a teenager, my parents discussed their personal financial decision within family		.743	.629
	My parents encouraged me to save money for the future plan		.778	.519
Future Time Perspective	I always follow the advice to save my money for a rainy day	.723	.650	.439
	I enjoy to think about how I will live in the long future		.651	.437
	The long future is too uncertain to plan in advance		.651	.412
	The future seems to be very unclear and unstable to me		.617	.484
	I have established long-term goals and worked hard to fulfill them		.657	.411
Propensity to Plan	I set up my financial goals for the next few years for all achievements with my money	.878	.860	.675
	I plan earlier about my money to be used in the next few years		.849	.725
	I actively consider all needed steps for my financial plan in the next few		.858	.686

years				
	My reviewing for financial plan during next few years will give me a view for spending in the future		.843	.748
	My financial plan for the next few years makes me feel better		.851	.716
Goal Clarity	I have set up clearly about my goals for getting information about retirement	.861	.814	.747
	I have thought a great deal for my quality of life after retirement		.842	.642
	I set specific goal amount of money to be saved for retirement		.814	.748
	I have discussed my retirement plans with my spouse, friends, and important people around		.857	.593
	I have thought a great deal of the retirement quality life		.831	.684

Table 26 Measurement Reliability of Subjective Norm in Retirement Planning

Subjective Norm				
Indicators	Question	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected item-total correlation
Perceived Social Influence from Family	My family is important to me to think that I should plan and save the retirement planning regularly	.836	.815	.601
	My family influences me to think that I should plan and save the retirement planning		.812	.604
	My family members believe that I should invest money on the retirement planning		.801	.648
	I think my family members can influence my decision-making on the retirement planning		.801	.650
	I think my family members support my retirement planning		.783	.705
Perceived Social Influence from Friends	My friends are important to me to think that I should plan and save the retirement planning	.916	.894	.802
	My friends influence me to think that I should plan and save the retirement planning		.874	.858
	I think my friends can influence my decision-making on the retirement planning		.886	.824
	I think my friends support my retirement planning		.910	.755
Perceived Social Influence from	My colleagues are important to me to think that I should plan and save the retirement planning	.936	.920	.839

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Colleague	My colleagues influence me to think that I should plan and save the retirement planning		.905	.884
	I think my colleagues can influence my decision-making on the retirement planning		.909	.871
	I think my colleagues support my retirement planning		.932	.801
Perceived Social Influence from Superior Boss	My boss is important to me to think that I should plan and save the retirement planning	.948	.938	.852
	My boss influences me to think that I should plan and save the retirement planning		.924	.896
	I think my boss can influence my decision-making on the retirement planning		.930	.878
	I think my boss supports my retirement planning		.933	.869

Table 27 Measurement Reliability of Perceived Behavior Control in Retirement Planning

Perceived Behavior Control

Indicators	Question	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected item-total correlation
Tax Incentive Program	Tax incentive program could help for planning and saving money for retirement and crate the sufficient fund after retiring	.857	.844	.635
	The new retirement investment with tax deduction for employee contributions to pension, retirement annuity, and provident funds has increased my saving on retirement investment in Thailand or my country		.813	.715
	I invest in a retirement annuity and/or pension and/or provident fund in Thailand or my country		.804	.736
	I kind of have an idea of the tax implications of my investment		.809	.723
Financial Knowledge	I am very good and knowledgeable for retirement financial planning	.904	.876	.789
	I have a lot of confidence for my ability to plan for retirement planning		.885	.751
	When I need for some financial services, I know accurately where to get all information on what to do		.888	.734
	I have clear understanding about how Social Security or Pension Fund working		.895	.698
	I have clear understanding about how private retirement investment plans working		.867	.831
Financial Numeracy	If the product price that I buy today doubles over the next ten years and my income also doubles, I will be able to buy the same product in the same quantity	.799	.738	.480

I think I should pay for the housing loan with 4-6 percent per year that is more cost-effective choice to buy a house than saving cash 30 years in case of 10 percent increasing on the house price	.737	.479
In comparison for saving in 0.25% saving account and 3% fixed account, I should choose to save my money on fixed account because of getting higher return	.752	.456
Imagine that the interest rate on your saving account was lower than inflation rate. After one year, you could be able to buy less products with the money in the account	.712	.519

Table 28 Measurement Reliability of Risk-oriented Factors in Retirement Planning

Risk-oriented factors

Indicators	Question	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected item-total correlation
Longevity Risk	I am worried about: Running Out of Money while you are alive	.790	.737	.456
	Thinking now about age you would live to, you have thought a lot about the risk of running out of asset at my retirement time		.662	.567
	At my 60 years old, I believe I can live more than 20 years (more than 80 years old)		.725	.472
	I think I could retire perfectly at 60 years old with sufficient funding to spend after that (Word 'Retire' mean to stop full-time paid work with no intention of working full-time again; however, you might still be able to do a little part-time work or some voluntary work)		.767	.402
Healthcare Risk	I have a six-month to one-year cash emergency fund	.892	.878	.688
	I have adequate life insurance to provide the expense for my family		.875	.705
	I have long term care insurance		.866	.753
	I prepare to pay and arrange payments for my medications		.862	.766
	I can arrange my payment for the medical equipment and supplies		.860	.779
Sequence of Return Risk	I know many types of investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property Fund, and others	.830	.799	.622
	I have ever invested some types of these investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property		.779	.682

Fund, and others			
I will prefer to invest in higher return than the inflation rate that high volatility of fund value is acceptable		.789	.649
I would like to invest in secured principle that the return could be lower than inflation rate		.793	.637
I would like to invest in the fund with 2-3 percent constant return more than opportunity to receive return up to 25 percent with possibility loss up to 15 percent		.817	.558
Inflation Risk	.814		
I think that high inflation can definitely affect to my retirement planning		.768	.628
I think that preventing high inflation is an important national priority as important as preventing drug abuse problem or preventing the lower quality of schools		.750	.667
When I know the projections about how many times more a college education will cost or how many times more the living cost will cost more in the future, I feel a sense of uneasiness. These inflation projections always make me worry that my own income will not increase as much as such costs will		.770	.625
I can live with moderate, steady inflation for a while; however, the inflation continues grows up long enough then eventually the money will be practically worthless		.776	.613

Table 29 Measurement Reliability of Saving Plan Intention in Retirement Planning

| Saving Plan Intention | | | | |
Indicators	Question	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected item-total correlation
Saving Plan Intention	I expect to invest in retirement planning asset frequently	.874	.845	.716
	I want to invest in retirement planning asset in the near future		.848	.700
	I am generally optimistic about my financial future status		.861	.622
	My financial process for retirement is worthwhile		.850	.691
	I spend my time for planning and reviewing my financial issues		.851	.683
	I believe that the better retirement life could be made by a regular saving portion of my income		.857	.647

Table 30 Measurement Reliability of Saving Behavior in Retirement Planning

Saving Behavior

Indicators	Question	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Corrected item-total correlation
Saving Behavior	I have made meaningful contributions to a voluntary retirement saving like Provident Fund, Mutual Fund, and others	.861	.858	.474
	Comparing with my peers, I have saved a great deal of retirement saving		.825	.721
	I have accumulated significant saving amount for retirement		.825	.725
	Based on how I plan for my retirement life, I have saved appropriately		.815	.784
	I have saved money to be more financial independent		.831	.696
	I have to save as much as possible and only spend my money only on strictly necessary things		.858	.542

4.7 Construct Validity

Composite Reliability (C.R.), Average Variance Extracted (AVE), Discriminant Validiy & Correlation Matrix, and Exploratory Factor Analysis, the quality of operational measurements in every item in constructs must be evaluated. Prior to all of these studies, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) index, which should be 0.6 or higher, is used to determine appropriateness. In addition, the value of Barlett's Test of Sphericity should be assessed (0.05 or smaller) (Pallant, 2020). In conclusion, every construct in the study has to pass all criteria KMO values (0.6 or above), Barlett's Test (0.05 or smaller), Composite Reliability C.R. (0.7 or above) and Average Variance Extracted AVE (0.5 or above). A summary of the KMO and Barlett's Test for the constructs is explained in the Table 31. Composite reliability and average variance extracted is presented in the Table 32. Dilekli and Tezci (2019) reviewed that composite reliability (C.R.) should be higher than 0.50. Hair Jr et al. (2016) and Holmes-Smith (2010) showed that average variance extracted should be higher than 0.5 as well. Finally, Discriminant validity & correlation matrix is shown in the Table 33.
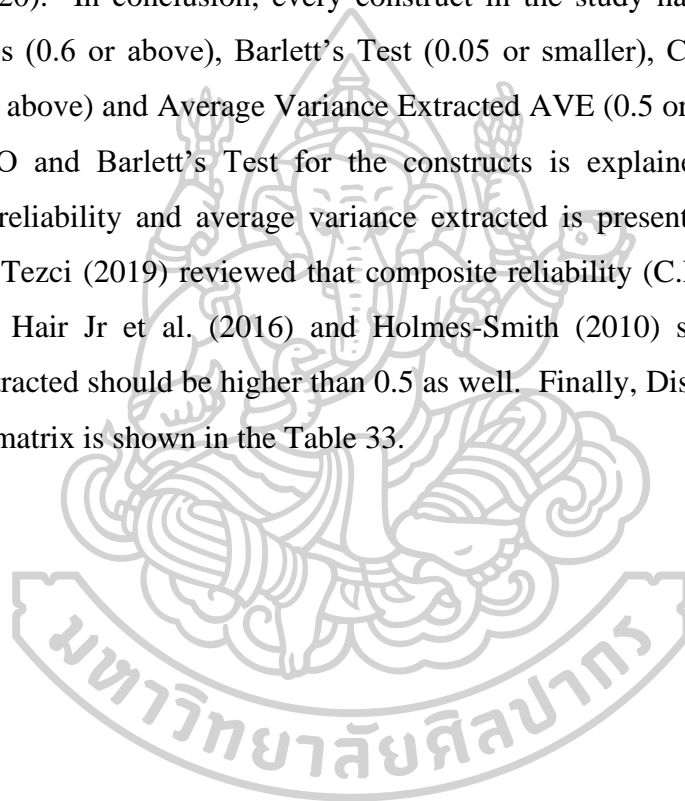
Table 31 KMO and Barlett's Test

Items	No. of items	KMO	Barlett's
Financial-oriented Attitude		0.904	0.000
PFB	5		
FTP	5		
PTP	5		
GC	5		

Items	No. of items	KMO	Barlett's
Perceived Behavior Control		0.892	0.000
TI	4		
FK	5		
FN	4		

Subjective Norm		KMO	Barlett's
Subjective Norm		0.914	0.000
PSIF	5		
PSIP	4		
PSIC	4		
PSIB	4		

Risk-oriented Factor		KMO	Barlett's
Risk-oriented Factor		0.837	0.000
LGR	4		
HCR	5		
SRR	5		
IFR	4		

Saving Plan Intention	6	0.865	0.000

Saving Behavior	6	0.874	0.000

Table 32 Reliability and Convergent Validity

Composite reliability (C.R.), average variance extracted (AVE) and discriminant validity and correlation matrix among the research construct.

Variables	Alpha	C.R.	AVE
Financial-oriented Attitude	0.898	0.867	0.547
- Parent Financial Behavior (PFB)	0.797	0.885	0.505
- Future Time Perspective (FTP)	0.723	0.838	0.514
- Propensity to Plan (PTP)	0.878	0.882	0.601
- Goal Clarity (GC)	0.861	0.865	0.566
Subjective Norm	0.941	0.908	0.716
- Perceived Social Influence from Family (PSIF)	0.836	0.831	0.516
- Perceived Social Influence from Peers (PSIP)	0.916	0.915	0.730
- Perceived Social Influence from Colleague (PSIC)	0.936	0.937	0.789
- Perceived Social Influence from Superior Boss (PSIB)	0.948	0.950	0.827
Perceived Behavior Control	0.893	0.865	0.601
- Tax Incentive (TI)	0.857	0.891	0.672
- Financial Knowledge (FK)	0.904	0.899	0.641
- Financial Numeracy (FN)	0.799	0.803	0.505

Risk-oriented	0.886	0.820	0.536
- Longevity Risk (LGR)	0.790	0.801	0.521
- Healthcare Risk (HCR)	0.892	0.888	0.618
- Sequence of Return Risk (SRR)	0.830	0.827	0.501
- Inflation Risk (IFR)	0.814	0.802	0.504
Saving Plan Intention (SPI)	0.874	0.881	0.553
Saving Behavior (SVB)	0.861	0.878	0.549
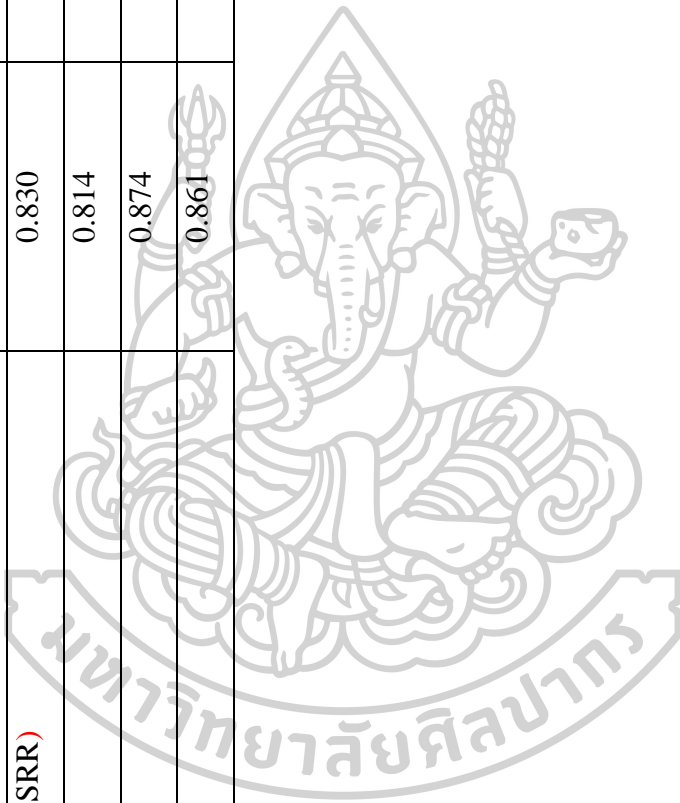
Table 33 Discriminant Validity and Correlation Matrix among the Research Constructs

Constructs	PFB	FTP	PTP	GC	PSIF	PSIP	PSIC	PSIB	TI	FK	FN	LGR	HCR	SRR	IFR	SPI	SVB
PFB	**0.710**																
FTP	0.570	**0.717**															
PTP	0.510	0.708	**0.775**														
GC	0.515	0.702	0.713	**0.752**													
PSIF	0.582	0.505	0.436	0.430	**0.718**												
PSIP	0.327	0.231	0.229	0.289	0.576	**0.854**											
PSIC	0.268	0.233	0.255	0.310	0.495	0.782	**0.888**										
PSIB	0.345	0.304	0.302	0.338	0.477	0.632	0.657	**0.910**									
TI	0.365	0.675	0.353	0.508	0.263	0.346	0.386	0.720	**0.820**								
FK	0.493	0.333	0.331	0.497	0.385	0.422	0.346	0.577	0.668	**0.801**							
FN	0.632	0.474	0.234	0.326	0.433	0.331	0.369	0.439	0.483	0.575	**0.711**						
LGR	0.442	0.393	0.421	0.427	0.530	0.408	0.523	0.561	0.487	0.573	0.457	**0.722**					
HCR	0.318	0.574	0.573	0.423	0.364	0.357	0.241	0.292	0.349	0.486	0.432	0.594	**0.786**				
SRR	0.362	0.483	0.551	0.463	0.291	0.316	0.428	0.342	0.552	0.714	0.618	0.566	0.492	**0.707**			
IFR	0.461	0.374	0.451	0.416	0.464	0.244	0.179	0.182	0.416	0.481	0.482	0.541	0.354	0.648	**0.710**		
SPI	0.410	0.612	0.642	0.594	0.579	0.345	0.376	0.354	0.646	0.707	0.648	0.674	0.581	0.609	0.586	**0.744**	
SVB	0.431	0.554	0.594	0.606	0.571	0.370	0.392	0.425	0.592	0.725	0.548	0.588	0.521	0.687	0.479	0.707	**0.741**

4.8 Assessment of Dimensionality Via Exploratory Factor Analysis Method

After factor analysis used to verify items for appropriateness, this research conducts the factor extraction and factor rotation. The scales for financial-oriented attitude measurement consist of parent financial behavior (PFB), future time perspective (FTP), propensity to plan (PTP), and goal clarity (GC). The research used varimax rotation with Kaiser normalization and principal axis factoring as an extraction method for determining the scale dimensionality.

Table 34 Factor Analysis for Financial-oriented Attitude in Retirement Financial Planning

Financial-oriented Attitude	PFB	FTP	PTP	GC
PFB1	.685			
PFB2	.761			
PFB3	.680			
PFB4	.733			
PFB5	.690			
FTP1		.490		
FTP2		.586		
FTP3		.774		
FTP4		.827		
FTP5		.469		
PTP1			.734	
PTP2			.770	
PTP3			.744	
PTP4			.715	
PTP5			.739	
GC1				.739
GC2				.715
GC3				.774
GC4				.600
GC5				.715
Total Variance Explained	38.424	18.396	14.601	7.962

After all items were verified in terms for suitability from factor analysis, this research conducts the factor extraction and factor rotation. The scales for subjective norm measurement consist of perceived social influence from family (PSIF), perceived social influence from friends (PSIP), perceived social influence from colleague (PSIC), perceived social influence from superior boss (PSIB). The research used the principal axis factoring as extraction method and varimax rotation with Kaiser normalization for determining the scale dimensionality.

Table 35 Factor Analysis for Subjective Norm in Retirement Financial Planning

Subjective Norm	PSIF	PSIP	PSIC	PSIB
PSIF1	.862			
PSIF2	.876			
PSIF3	.811			
PSIF4	.705			
PSIF5	.801			
PSIP1		.751		
PSIP2		.791		
PSIP3		.780		
PSIP4		.676		
PSIC1			.803	
PSIC2			.823	
PSIC3			.827	
PSIC4			.739	
PSIB1				.836
PSIB2				.841
PSIB3				.844
PSIB4				.851
Total Variance Explained	32.051	20.636	14.636	10.536

After all items were verified in terms for suitability from factor analysis, this research conducts the factor extraction and factor rotation. The scales for perceived behavior control measurement consist of tax incentive (TI), financial knowledge (FK), and financial numeracy (FN). The research used the principal axis factoring as extraction method and varimax rotation with Kaiser normalization for determining the scale dimensionality.

Table 36 Factor Analysis for Perceived Financial Behavior in Retirement Financial Planning

Perceived Behavior Control	TI	FK	FN
TI1	.682		
TI2	.844		
TI3	.822		
TI4	.720		
FK1		.848	
FK2		.819	
FK3		.765	
FK4		.676	
FK5		.828	
FN1			.646
FN2			.746
FN3			.644
FN4			.711
Total Variance Explained	27.925	22.091	16.526

After all items were verified in terms for suitability from factor analysis, this research conducts the factor extraction and factor rotation. The scales for risk-oriented factor measurement consist of longevity risk (LGR), healthcare risk (HCR), sequence of return risk (SRR), and inflation risk (IFR). The research used the principal axis factoring as extraction method and varimax rotation with Kaiser normalization for determining the scale dimensionality.

Table 37 Factor Analysis for Risk-oriented Factor in Retirement Financial Planning

Risk-oriented factor	LGR	HCR	SRR	IFR
LGR1	.849			
LGR2	.725			
LGR3	.715			
LGR4	.788			
HCR1		.792		
HCR2		.766		
HCR3		.812		
HCR4		.841		

		.839		
HCR5		.839		
SRR1			.688	
SRR2			.666	
SRR3			.615	
SRR4			.880	
SRR5			.829	
IFR1				.782
IFR2				.744
IFR3				.663
IFR4				.686
Total Variance Explained	22.441	18.450	13.526	18.292

After all items were verified in terms for suitability from factor analysis, this research conducts the factor extraction and factor rotation. The scales for financial retirement saving measurement consist of saving plan intention (SPI) and saving behavior (SVB). The research used the principal axis factoring as extraction method and varimax rotation with Kaiser normalization for determining the scale dimensionality.

Table 38 Factor Analysis for Saving Plan Intention and Saving Behavior in Retirement Financial Planning

Saving Plan Intention and Saving behavior	SPI	SVB
SPI	.809	
SPI	.839	
SPI	.621	
SPI	.699	
SPI	.674	
SPI	.703	
SVB		.622
SVB		.683
SVB		.813
SVB		.815
SVB		.791
SVB		.676
Total Variance Explained	49.619	22.821

4.9 Confirmatory Factor Analysis on Financial Retirement Planning

Regarding analysis of financial retirement planning, there are six constructs; financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention, and saving behavior performed in this research.

Financial-oriented Attitude

Financial-oriented attitude consists of 20 items from parent financial behavior (PFB), future time perspective (FTP), propensity to plan (PTP), and goal clarity (GC) were investigated by CFA technique. The construct was modified for investigating Standardized Factor Loading, t-value, squared multiple correlation. The modification will be required to adjust all model-fit index (Holmes-Smith, 2010; Sanders et al., 2015).

Table 39 Model-fit indices for the initial and modified model for Financial-oriented Attitude

Model-fit index			
Initial Model		Modified Model	
p-value	0.000	p-value	0.191
CMIN/df	4.287	CMIN/df	2.303
GFI	0.860	GFI	0.935
AGFI	0.822	AGFI	0.904
RMSEA	0.086	RMSEA	0.054
RMR	0.056	RMR	0.039
CFI	0.871	CFI	0.957
TLI	0.852	TLI	0.941
NFI	0.839	NFI	0.927

From this analysis, the initial model of 20 items for financial-oriented attitude have to be modified. After adjustment, the model-fit index is analyzed as the measurement model for evaluating in the final model. The adjusted model gets better for model-fit indices with p-value = 0.191, CMIN/df = 2.303, GFI = 0.935, AGFI = 0.904, RMSEA = 0.054, RMR = 0.039, CFI = 0.957, TLI = 0.941, NFI = 0.927. Thus, the adjusted model and model measurement analysis result are displayed in the following figure and table.
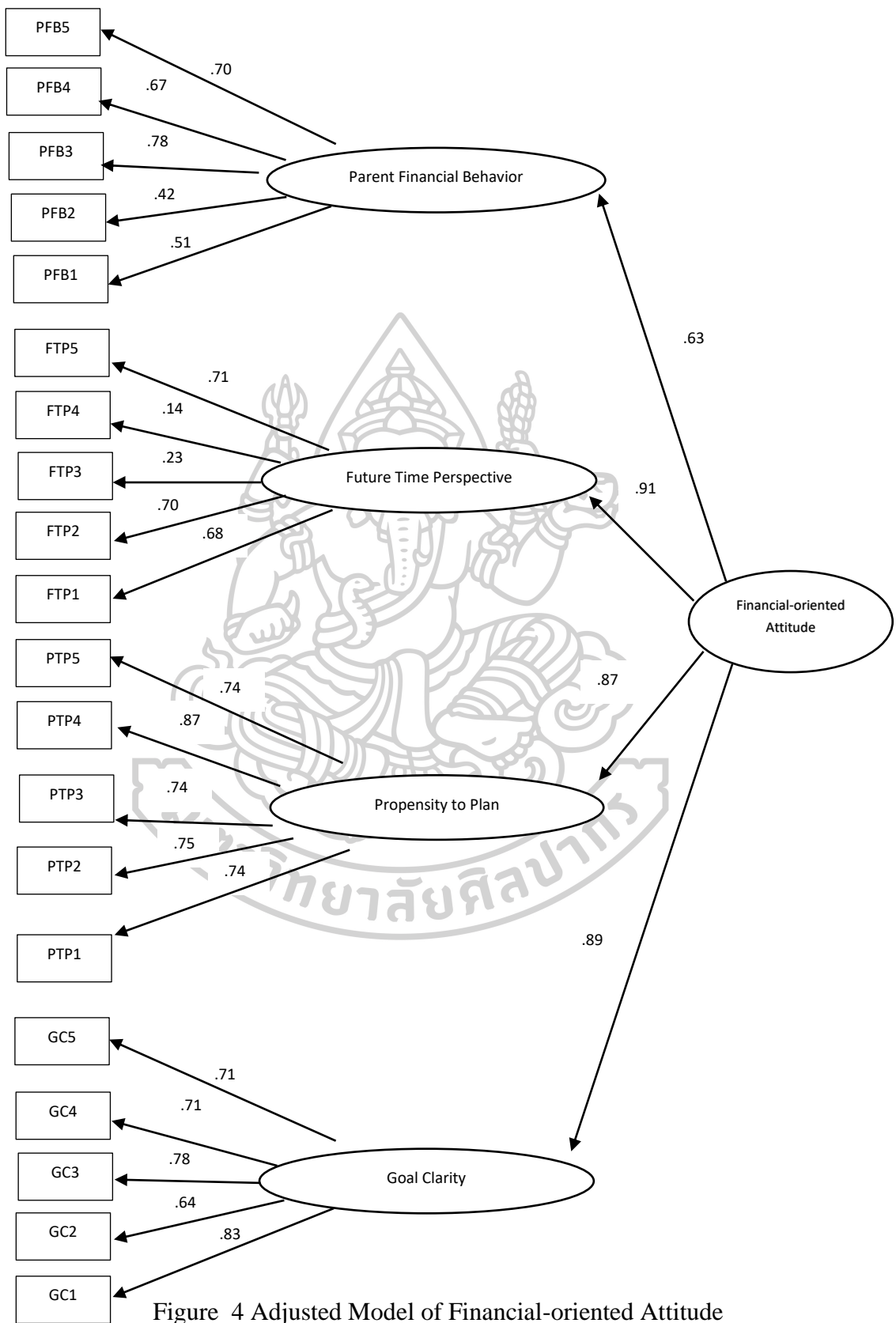
Figure 4 Adjusted Model of Financial-oriented Attitude

Subjective Norm

Subjective Norm consists of 17 items from perceived social influence family (PSIF), perceived social influence peers (PSIP), perceived social influence colleague (PSIC), and perceived social influence superior boss (PSIB) were investigated by confirmatory factor analysis (CFA). The construct was modified for investigating Standardized Factor Loading, t-value, squared multiple correlation. The modification will be required to adjust all model-fit index (Holmes-Smith, 2010; Sanders et al., 2015).

Table 40 Model-fit indices for the initial and modified model for Subjective Norm

Model-fit index			
Initial Model		Modified Model	
p-value	0.000	p-value	0.052
CMIN/df	5.943	CMIN/df	2.547
GFI	0.839	GFI	0.936
AGFI	0.786	AGFI	0.901
RMSEA	0105	RMSEA	0.059
RMR	0.042	RMR	0.031
CFI	0.915	CFI	0.977
TLI	0.900	TLI	0.969
NFI	0.900	NFI	0.963

From this analysis, the initial model of 17 items for subjective norm have to be modified. After adjustment, the model-fit index is analyzed as the measurement model for evaluating in the final model. The adjusted model gets better for model-fit indices with p-value = 0.052, CMIN/df = 2.547, GFI = 0.936, AGFI = 0.901, RMSEA = 0.059, RMR = 0.031, CFI = 0.977, TLI = 0.969, NFI = 0.963. Thus, the adjusted model and model measurement analysis result are displayed in the following figure and table.
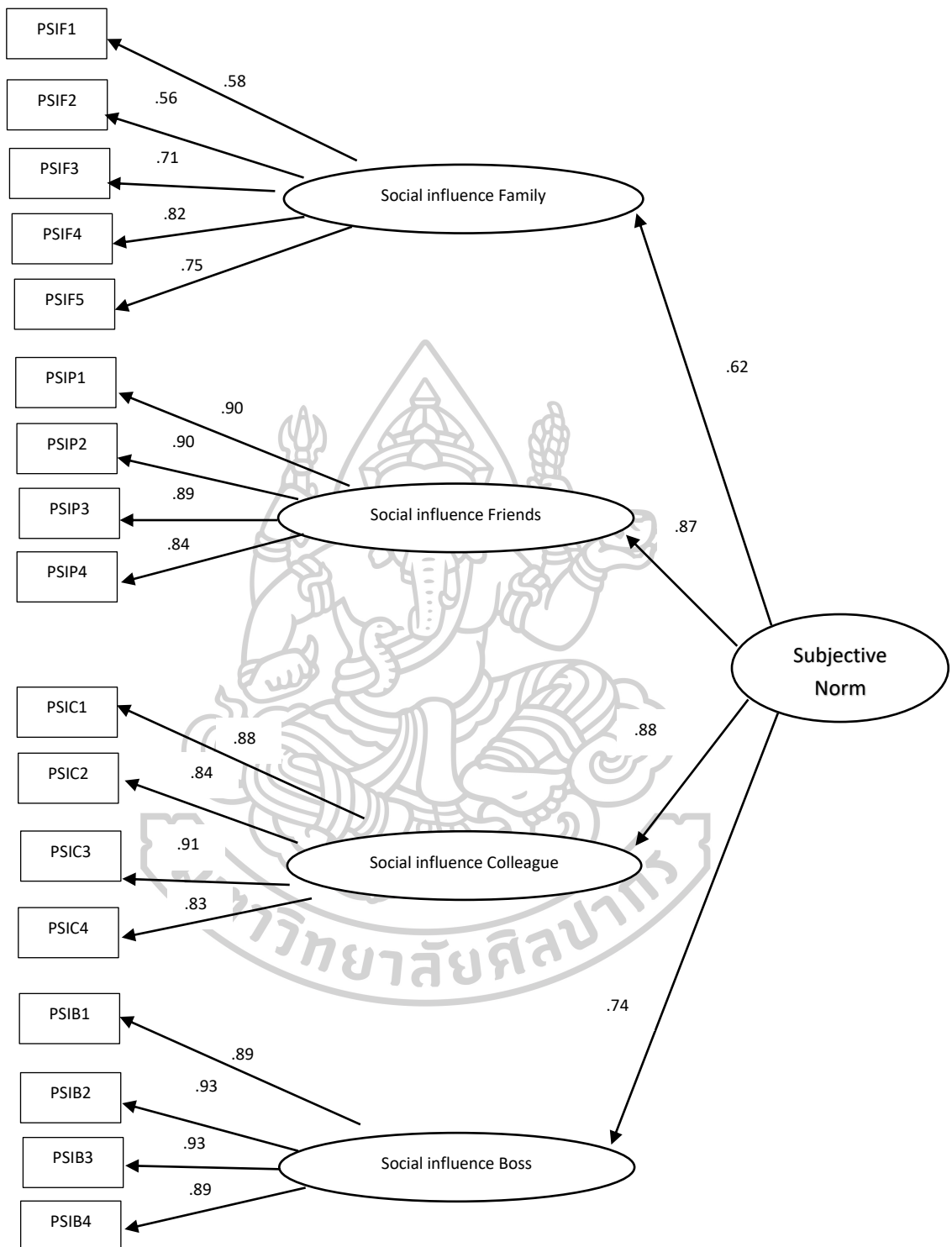
Figure 5 Adjusted Model of Subjective Norm

Perceived Behavior Control

Perceived Behavior Control consists of 13 items from tax incentive (TI), Financial Knowledge (FK), and Financial Numeracy (FN) were investigated by confirmatory factor analysis (CFA). The construct was modified for investigating Standardized Factor Loading, t-value, squared multiple correlation. The modification will be required to adjust all model-fit index (Holmes-Smith, 2010; Sanders et al., 2015).

Table 41 Model-fit indices for the initial and modified model for Perceived Behavior Control

Model-fit index			
Initial Model		Modified Model	
p-value	0.000	p-value	0.223
CMIN/df	4.380	CMIN/df	2.389
GFI	0.911	GFI	0.962
AGFI	0.870	AGFI	0.929
RMSEA	0.087	RMSEA	0.056
RMR	0.035	RMR	0.025
CFI	0.929	CFI	0.977
TLI	0.911	TLI	0.963
NFI	0.911	NFI	0.962

From this analysis, the initial model of 13 items for financial-oriented attitude have to be modified. After adjustment, the model-fit index is analyzed as the measurement model for evaluating in the final model. The adjusted model gets better for model-fit indices with p-value = 0.223, CMIN/df = 2.389, GFI = 0.962, AGFI = 0.929, RMSEA = 0.056, RMR = 0.025, CFI = 0.977, TLI = 0.963, NFI = 0.962. Thus, the adjusted model and model measurement analysis result are displayed in the following figure and table.
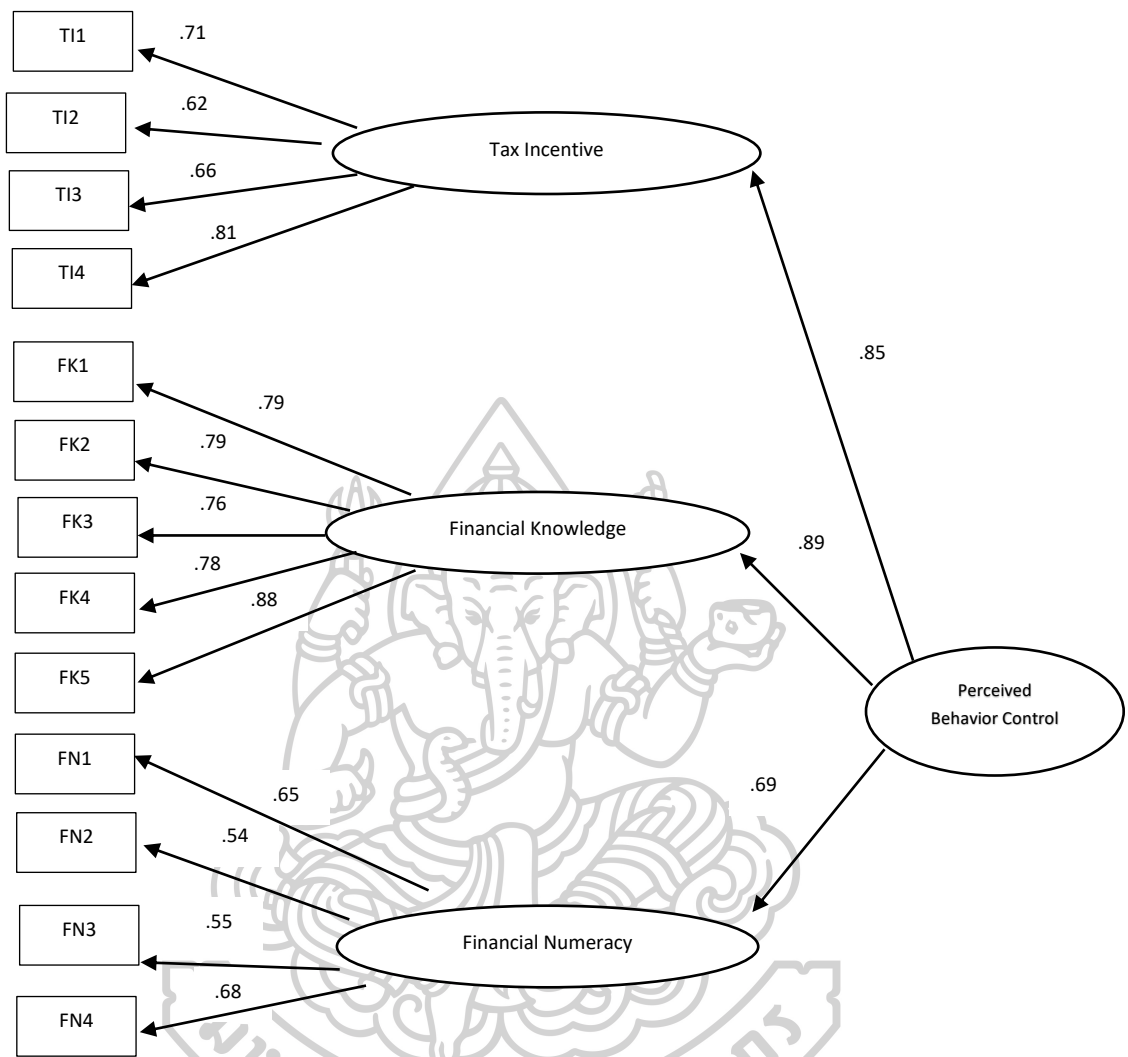
Figure 6 Adjusted Model of Perceived Behavior Control

Risk-oriented factor

Risk-oriented factor consists of 18 items from longevity risk (LGR), healthcare risk (HCR), sequence of return risk (SRR), and inflation risk (IFR) were investigated by confirmatory factor analysis (CFA). The construct was modified for investigating Standardized Factor Loading, t-value, squared multiple correlation. The modification will be required to adjust all model-fit index (Holmes-Smith, 2010; Sanders et al., 2015).

Table 42 Model-fit indices for the initial and modified model for Risk-oriented Factor

Model-fit index			
Initial Model		Modified Model	
p-value	0.000	p-value	0.059
CMIN/df	9.064	CMIN/df	2.710
GFI	0.784	GFI	0.931
AGFI	0.719	AGFI	0.899
RMSEA	0.134	RMSEA	0.062
RMR	0.080	RMR	0.056
CFI	0.755	CFI	0.954
TLI	0.714	TLI	0.939
NFI	0.735	NFI	0.929

From this analysis, the initial model of 18 items for risk-oriented factors have to be modified. After adjustment, the model-fit index is analyzed as the measurement model for evaluating in the final model. The adjusted model gets better for model-fit indices with p-value = 0.059, CMIN/df = 2.710, GFI = 0.931, AGFI = 0.899, RMSEA = 0.062, RMR = 0.056, CFI = 0.954, TLI = 0.939, NFI = 0.929. Thus, the adjusted model and model measurement analysis result are displayed in the following figure and table.
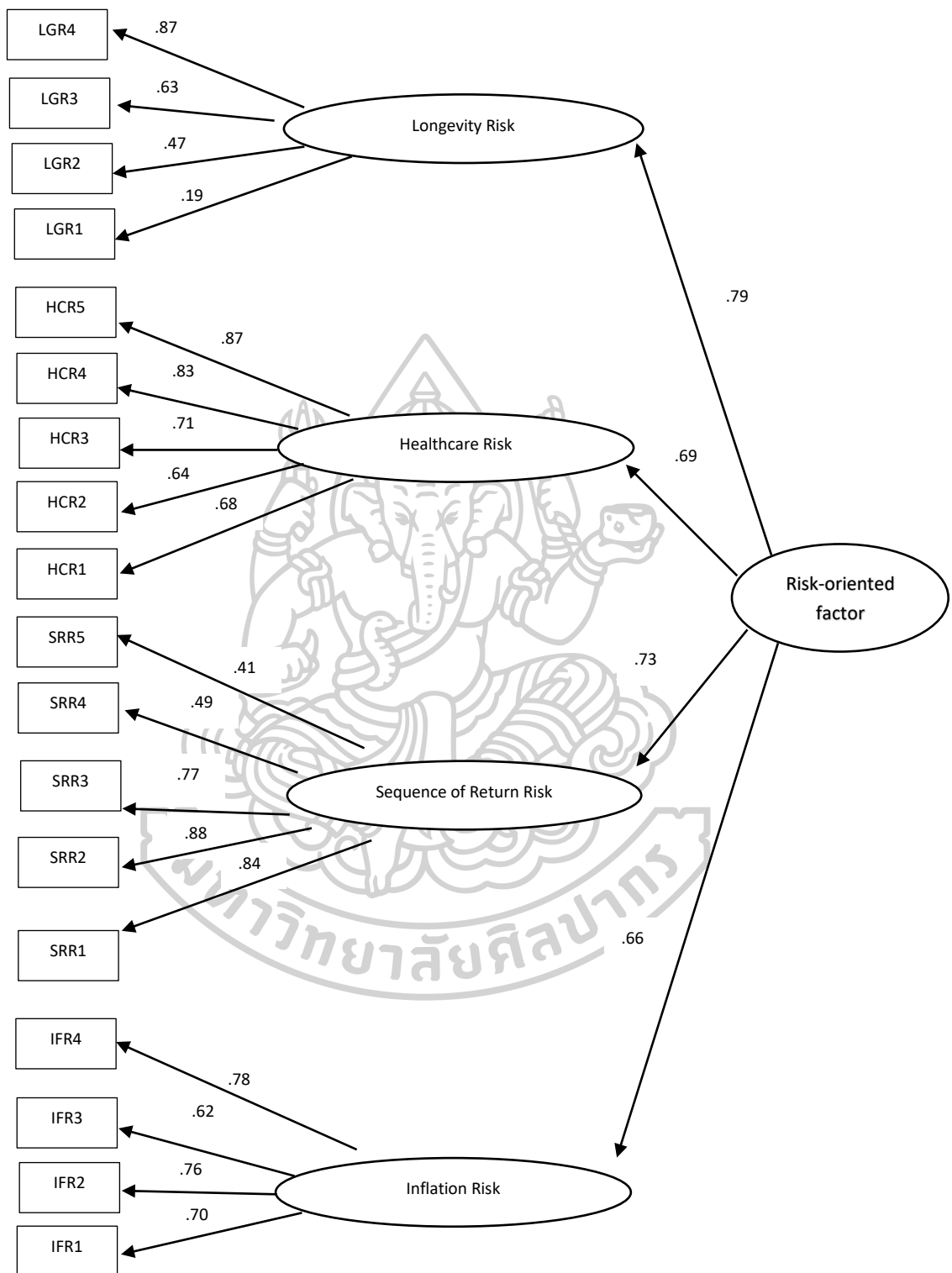
Figure 7 Adjusted Model of Risk-oriented Factor

Saving plan intention and saving behavior

Saving plan intention and saving behavior consists of 12 items from saving plan intention (SPI) and saving behavior (SVB) were investigated by confirmatory factor analysis (CFA). The construct was modified for investigating Standardized Factor Loading, t-value, squared multiple correlation. The modification will be required to adjust all model-fit index (Holmes-Smith, 2010; Sanders et al., 2015).

Table 43 Model-fit indices for the initial and modified model for Saving Plan Intention and Saving Behavior

Model-fit index			
Initial Model		Modified Model	
p-value	0.000	p-value	0.055
CMIN/df	6.067	CMIN/df	2.896
GFI	0.885	GFI	0.952
AGFI	0.831	AGFI	0.898
RMSEA	0.106	RMSEA	0.080
RMR	0.040	RMR	0.024
CFI	0.906	CFI	0.963
TLI	0.883	TLI	0.933
NFI	0.890	NFI	0.951

From this analysis, the initial model of 12 items for saving plan intention and saving behavior have to be modified. After adjustment, the model-fit index is analyzed as the measurement model for evaluating in the final model. The adjusted model gets better for model-fit indices with p-value = 0.055, CMIN/df = 2.896, GFI = 0.952, AGFI = 0.898, RMSEA = 0.080, RMR = 0.024, CFI = 0.963, TLI = 0.933, NFI = 0.951. Thus, the adjusted model and model measurement analysis result are displayed in the following figure and table.
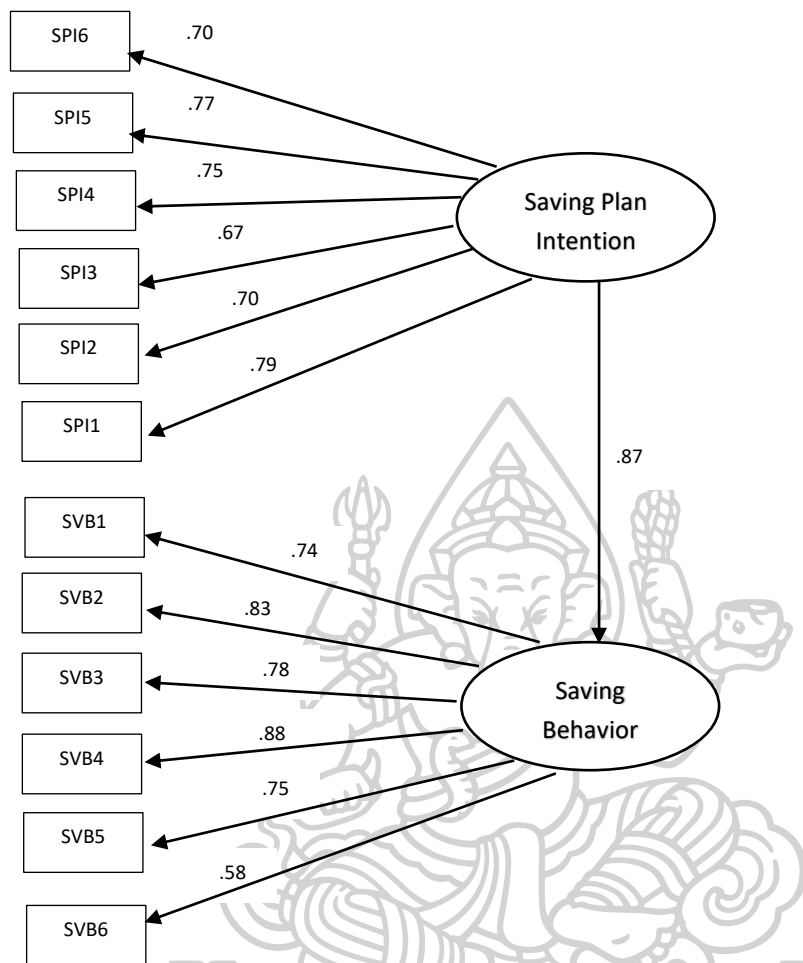
Figure 8 Adjusted model of Saving Plan Intention and Saving Behavior

Final Model Investigation

After analyzing, the final model of this research has been developed by combining all constructs; financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention and saving behavior to perform the hypothesis investigation. The first model was created and tested by concentrating on modification indices that the model fit indices were employed to confirm the model empirically formed. The final construct was modified for investigating Standardized Factor Loading, t-value, squared multiple correlation. The modification will be required to adjust all model-fit index (Holmes-Smith, 2010; Sanders et al., 2015).

Table 44 Model-fit indices for the initial and modified model for Final Model

Model-fit index			
Initial Model		Modified Model	
p-value	0.000	p-value	0.061
CMIN/df	3.939	CMIN/df	2.083
GFI	0.647	GFI	0.848
AGFI	0.626	AGFI	0.816
RMSEA	0.066	RMSEA	0.062
RMR	0.165	RMR	0.049
CFI	0.758	CFI	0.928
TLI	0.750	TLI	0.916
NFI	0.678	NFI	0.871

From this analysis, the initial model has to be modified. After adjustment, the model-fit index is analyzed as the measurement model for evaluating in the final model. The adjusted model gets better for model-fit indices with p-value = 0.061, CMIN/df = 2.083, GFI = 0.848, AGFI = 0.816, RMSEA = 0.062, RMR = 0.049, CFI = 0.928, TLI = 0.919, NFI = 0.871. Thus, the final model's adjusted model and analysis result of model measurement are provided in the table and figure below.

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Figure 9 Adjusted Final Model (Hypothesis Framework)
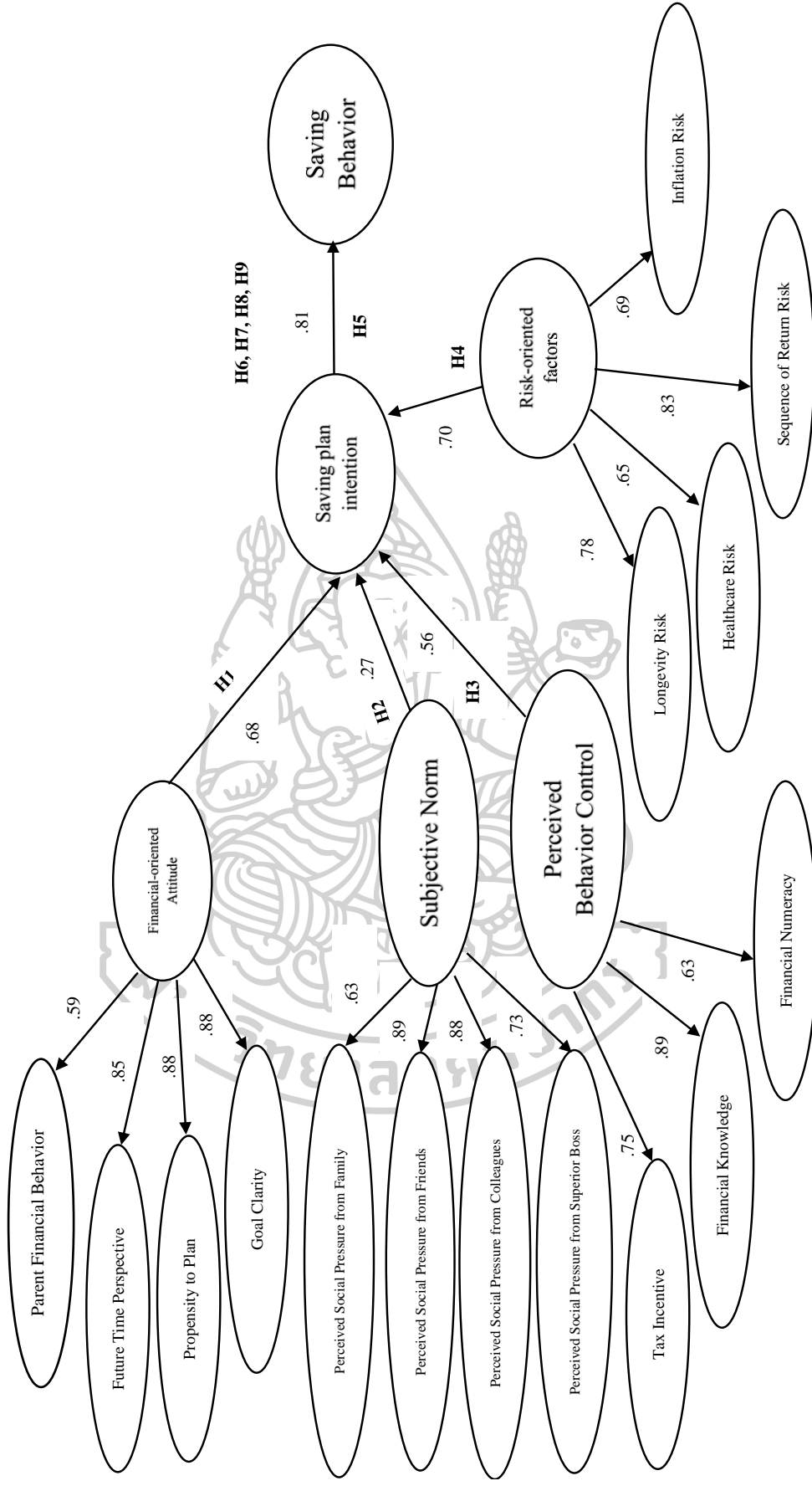
4.10 Hypothesis Investigation

Path Analysis

Path analysis was operated to test the developed hypothesis that all result of path analysis has been presented in the Table 45.

Table 45 Result of Structural Equation Modeling (Path Analysis)

Paths	Standardized estimate (β)	S.E.	C.R.	P
SPI, ATT	0.677	0.053	11.991	***
SPI, SJN	0.272	0.031	6.236	***
SPI, PBC	0.560	0.053	10.014	***
SPI, ROF	0.700	0.053	9.401	***
SVB, ATT	0.214	0.064	3.757	***
SVB, SJN	0.147	0.034	3.641	***
SVB, PBC	0.285	0.118	2.406	*
SVB, ROF	0.191	0.264	2.888	*
Note: Significant level as of ***(0.001) and *(0.05)				

Path analysis is developed to test hypothesis that the result has been explained. The standardized estimate and critical ratio show that financial-oriented attitude to saving plan intention with positive relationship (0.677, ***, p-value < 0.001). Subjective norm to saving plan intention shows the positive relationship (0.272, ***, p-value < 0.001). The standardized estimate and critical ratio show that perceived behavior control to saving plan intention with positive relationship (0.560, ***, p-value < 0.001). The standardized estimate and critical ratio show that risk-oriented factor to saving plan intention with positive relationship (0.700, ***, p-value < 0.001).

The standardized estimate and critical ratio present that financial-oriented attitude to saving behavior with positive relationship (0.214, ***, p-value < 0.001). Subjective norm to saving behavior show positive relationship (0.147, ***, p-value < 0.001). Perceived behavior control to saving behavior show positive relationship

(0.285, *, p-value < 0.05). Risk-oriented factor to saving behavior show positive relationship (0.191, *, p-value < 0.05).

Hypothesis Investigation

The empirical research study on the related theory and investigate all hypothesis to obtain the research objective. All values for nine hypothesis testing reveal all critical values in the Table 46 and the Table 47.

Table 46 Summary of Hypothesis Testing for H1 to H5

Hypothesis	Items			Standardized estimate (β)	S.E.	t-value	P	Hypothesis Result
H1	ATT	→	SPI	0.677	0.053	11.991	***	Supported
H2	SJN	→	SPI	0.272	0.031	6.236	***	Supported
H3	PBC	→	SPI	0.560	0.053	10.014	***	Supported
H4	ROF	→	SPI	0.700	0.053	9.401	***	Supported
H5	SPI	→	SVB	0.810	0.075	13.163	***	Supported
Note: Significant level as of 0.001								

Hypothesis 1: Financial-oriented Attitude is positively associated with Saving Plan Intention

From Table 46, the research clarifies that the first hypothesis aimed to determining the positive association between financial-oriented attitude and saving plan intention. Financial-oriented attitude has the positive relationship on saving plan intention with standardized estimate ($\beta = 0.677, *** p - value < 0.001$), standard error (0.053), and t-value (11.991, t-value > 1.96). Therefore, hypothesis 1 of the study "Financial-oriented attitude is positively associated with saving plan intention" is supported.

Hypothesis 2: Subjective Norm is positively associated with Saving Plan Intention

From Table 46, the research clears up that the second hypothesis tries to figure out the positive association between subjective norm and saving plan intention. Subjective norm has the positive relationship on saving plan intention with standardized estimate ($\beta = 0.272, {***} p - value < 0.001$), standard error (0.031), and t-value (6.236, t-value > 1.96). Therefore, hypothesis 2 of the study "subjective norm is positively associated with saving plan intention" is supported.

Hypothesis 3: Perceived Behavior Control is positively associated with Saving Plan Intention

From Table 46, the research elucidates that the third hypothesis designing to investigate the positive association between perceived behavior control and saving plan intention. Perceived behavior control has the positive relationship on saving plan intention with standardized estimate ($\beta = 0.560, {***} p - value < 0.001$), standard error (0.053), and t-value (10.014, t-value > 1.96). Therefore, hypothesis 3 of the study "perceived behavior control is positively associated with saving plan intention" is supported.

Hypothesis 4: Risk-oriented factor is positively associated with Saving Plan Intention

From Table 46, the research explains that the fourth hypothesis focusing to investigate the positive association between risk-oriented factor and saving plan intention. Risk-oriented factor has the strong positive relationship on saving plan intention with standardized estimate ($\beta = 0.700, {***} p - value < 0.001$), standard error (0.053), and t-value (9.401, t-value > 1.96). Therefore, hypothesis 4 of the study "risk-oriented factor is positively associated with saving plan intention" is supported.

Hypothesis 5: Saving Plan Intention is positively associated with Saving Behavior

From Table 4.27, the research explicates that the fifth hypothesis determining to investigate the positive association between saving plan intention and saving behavior. Saving plan intention has the strong positive relationship on saving behavior with standardized estimate ($\beta = 0.810, *** p-value < 0.001$), standard error (0.075), and t-value (13.163, t-value > 1.96). Therefore, this research accepts the fifth hypothesis about "saving plan intention is positively associated with saving behavior".

Mediation Analysis

This research has to utilize the variables mediating the relationship between independent variables (financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor) and dependent variable (saving behavior). Holmbeck (1997) explained that the mediation analysis can operated through structural equation model. The mediation impact, which is the sum of the direct and indirect effects on a certain variable, was evaluated and describing using four mediating connections (Wright, 1934). All of mediation analysis presents in hypothesis 6 to hypothesis 9.

Table 47 Summary of Hypothesis Testing for H6 to H9

		IV-DV	IV-M-DV		
		Direct	Direct	Indirect	Mediation Type
H6	ATT → SPI → SVB	0.659(***)	0.236(***)	0.357 (***)	Partial mediation
H7	SJN → SPI → SVB	0.290(***)	0.118(.006)	0.127 (***)	Partial mediation
H8	PBC → SPI → SVB	0.599(***)	0.282(.016)	0.307 (.204)	NS, No mediation
H9	ROF → SPI → SVB	0.486(***)	0.092(.511)	0.381(.218)	NS, No mediation
Note: Significant level as of 0.001					

Hypothesis 6: Saving Plan Intention significantly mediates the relationship between Financial-oriented attitude and Saving Behavior

The direct, indirect and total effects were analyzed for financial-oriented attitude-saving plan intention-saving behavior. The direct standardized estimated with mediation ($\beta = 0.236.*** p - value < 0.001$) and indirect standardized estimated ($\beta = 0.357, *** p - vaule < 0.001$). Both direct and indirect value interpret into a partial mediation of saving plan intention between financial-oriented attitude and saving behavior. Hence hypothesis 6 of the study "saving plan intention significantly mediates the relationship between financial-oriented attitude and saving behavior" is supported.

Hypothesis 7: Saving Plan Intention significantly mediates the relationship between Subjective Norm and Saving Behavior

The direct, indirect and total effects were analyzed for subjective norm-saving plan intention-saving behavior. The direct standardized estimated with mediation ($\beta = 0.118.** p - value < 0.01$) and indirect standardized estimated ($\beta = 0.127, *** p - vaule < 0.001$). Both direct and indirect value interpret into a partial mediation of saving plan intention between subjective norm and saving behavior. Hence hypothesis 7 of the study "saving plan intention significantly mediates the relationship between subjective norm and saving behavior" is supported.

Hypothesis 8: Saving Plan Intention significantly mediates the relationship between Perceived Behavior Control and Saving Behavior

The direct, indirect and total effects were analyzed for perceived behavior control-saving plan intention-saving behavior. The direct standardized estimated with mediation ($\beta = 0.282.* p - value < 0.05$) and indirect standardized estimated ($\beta = 0.307, p - vaule > 0.05, no \ significant$). Both direct and indirect value interpret into no mediation of saving plan intention between perceived behavior control and saving behavior. Hence hypothesis 8 of the study "saving plan intention significantly

mediates the relationship between perceived behavior control and saving behavior" is not supported.

Hypothesis 9: Saving Plan Intention significantly mediates the relationship between Risk-oriented factor and Saving Behavior

The direct, indirect and total effects were analyzed for risk-oriented factor-saving plan intention-saving behavior. The direct standardized estimated with mediation $(\beta = 0.092.* p-value > 0.05,\ no\ significant)$ and indirect standardized estimated $(\beta = 0.381, p-vaule > 0.05, no\ significant)$. Both direct and indirect value interpret into no mediation of saving plan intention between risk-oriented factor and saving behavior. Hence hypothesis 9 of the study "saving plan intention significantly mediates the relationship between risk-oriented factor and saving behavior" is not supported.
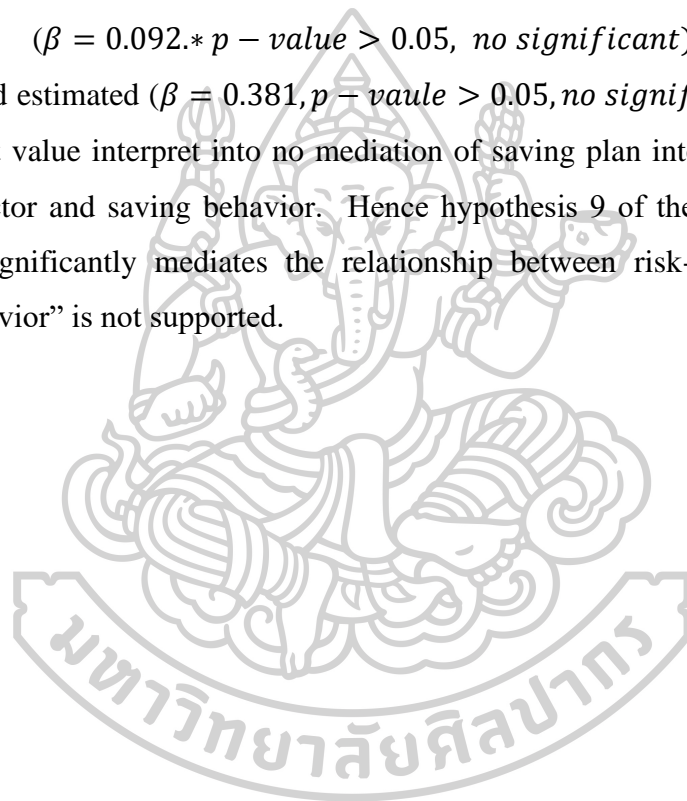
Chapter 5

CONCLUSION, DISCUSSION, AND RECOMMENDATION

This chapter is made from seven topic' sections. First, the summary of the study has been explained in the first section then the summary of key findings has been classified. Next, the discussion of results is disclosed. In addition, the contribution of study is presented for both academic contribution and managerial implications. Policy makers are suggested about the policy recommendation. Finally, there are two sections; limitations and suggestions for future research.

5.1 Summary of the Study

Prior to findings' discussion, all contents from all 6 constructs are explained that this empirical study has two different purposes. First, this research measures the relation of financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor on saving plan intention and saving behavior for retirement financial planning. Secondly, this research has to provide the insightful information about how to deal with the retirement financial planning.

For objective accomplishment, this study was developed all constructs and framework from the main theory of the Theory of Planned Behavior (TPB); financial-oriented attitude, subjective norm, and perceived behavior control. Furthermore, this paper would like to expand the Theory of Planned Behavior (TPB) by finding cause-effect relationship in risk-oriented factor on saving plan intention and saving behavior. Regarding the research design, this quantitative study was conducted by questionnaire collection from Thai and International workers in Thailand for total 400 sample to represent population in financial planning behavior. From 500 questionnaire distributed, 400 usable questionnaires can be used in this research from 300 Thai response and 100 international workers' response at the usable rate of questionnaire around 80 percent. For research analysis, IBM SPSS Statistic 21 and Structural Equation Modeling (SEM) Amos have been employed in the data analysis process. For descriptive analysis, frequency, mean, standard deviation, percentage were operated to explain data. For inferential analysis, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were conducted to find relationship among constructs.

5.2 Summary of the Key Findings

Demographic Profile of Respondents

The findings explained that the proportion male and female show the percentage between male (43.50%) and female (56.50%). The nationality indicates by 300 Thai (75%) and 100 international workers (25%) working in Thailand. Respondent's age is presented by 20-29 years old (18.25%), 30-39 years old (22.75%), 40-49 years old (38.50%), 50-59 years old (16.75%), and 60 years old above (3.75%). Around half of participants get married 51.25 percent, single (37.25%), divorced (2.25%), and cohabiting (9.25%). In terms of education, participants graduate for High school (16.25%), Bachelor's degree (50.75%), Master's degree (25.25%) and Doctorate degree (4.5%) with the smallest amount for no formal education (3.25%). Majority of respondents work in the private company (40.50%), government officers (23.25%), self-employed (17.50%), Business Owner (16.25%) and Retired (2.50%). For the top three of financial planning assets, majority of respondents invest in Social Security Fund (64.75%), Provident Fund (42.25%), and Tax incentive fund (38.25%) for personal investment for private sector. For the government officers, they invest in Government Pension Fund (13.50%) followed by Tax incentive, and other investment asset. For the number of dependents in family, majority of respondents has around 1-2 dependents (50.75%), 3-4 dependents (23.75%), and none dependents (20.25%).

Overview of Respondents' Perception

The findings indicate that all respondents rate this research's questionnaire that the rate was 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), 5 (strongly agree). The overall average score in financial-oriented attitude is the most for ($\bar{x} = 4.461$), perceived behavior control ($\bar{x} = 4.294$), risk-oriented factor ($\bar{x} = 4.211$), and subjective norm $\bar{x} = 4.193$) respectively. The average score of financial-oriented attitude, perceived behavior control, risk-oriented factor are strongly agree, but subjective norm shows in agree.

The average score of saving plan intention and saving behavior is quite high saving plan intention ($\bar{x} = 4.463$, *strongly agree*) and ($\bar{x} = 4.249$, *strongly agree*).

Hypothesis Investigation

The findings support all of the following in Table 48. financial-oriented attitude has a positive relationship on saving plan intention. Subjective norm has a positive relationship on saving plan intention. Perceived behavior control has a positive relationship on saving plan intention. Risk-oriented factor has a positive relationship on saving plan intention. Saving plan intention has a positive relationship on saving behavior.

In mediated relationship, the mediation relationship of saving plan intention on financial-oriented attitude and saving behavior is supported. The mediation relationship of saving plan intention on subjective norm and saving behavior is supported. Non-mediation relationship of saving plan intention on perceived behavior control and saving behavior is presented. Non-mediation relationship of saving plan intention on risk-oriented factor and saving behavior is identified.

Table 48 Summary of Hypotheses Investigation

Hypothesis	p-value	Result
H1: Financial-oriented Attitude is positively associated with Saving Plan Intention	***	Supported
H2: Subjective Norm is positively associated with Saving Plan Intention	***	Supported
H3: Perceived Behavior Control is positively associated with Saving Plan Intention	***	Supported
H4: Risk-oriented factor is positively associated with Saving Plan Intention	***	Supported
H5: Saving Plan Intention is positively associated with Saving Behavior	***	Supported

H6: Saving Plan Intention significantly mediates the relationship between Financial-oriented Attitude and Saving Behavior	***	Supported
H7: Saving Plan Intention significantly mediates the relationship between Subjective Norm and Saving Behavior	***	Supported
H8: Saving Plan Intention significantly mediates the relationship between Perceived Behavior Control and Saving Behavior	0.016	Not supported
H9: Saving Plan Intention significantly mediates the relationship between Risk-oriented factor and Saving Behavior	0.511	Not supported
Note Significant level as of 0.001		

The Relationship between Financial-oriented Attitude and Saving Plan Intention

Financial-oriented attitude was statistically significant predictors for saving plan intention and saving behavior. The first hypothesis has been supported with standardized estimate $(\beta) = 0.677$, t-value = 11.991, and p-value < 0.001. Therefore, this hypothesis shows that financial-oriented attitude has positive relationship on saving plan intention. For financial-oriented attitude, the most impact of financial-oriented attitude factor is propensity to plan, goal clarity, future time perspective, and parent financial behavior (β=0.882, 0.878, 0.852, 0.588 respectively).

The Relationship between Subjective Norm and Saving Plan Intention

Subjective Norm was statistically significant predictors for saving plan intention and saving behavior. The second hypothesis has been supported with standardized estimate $(\beta) = 0.272$, t-value = 6.236, and p-value < 0.001. Therefore, this hypothesis shows that subjective norm has positive relationship on saving plan intention. For subjective norm, the most impact of subjective norm factor is perceived social influence from peers, perceived social influence from colleague,

perceived social influence from superior boss, and perceived social influence from family (β=0.886, 0.875, 0.734, 0.629 respectively).

The Relationship between Perceived Behavior Control and Saving Plan Intention

Perceived Behavior Control was statistically significant predictors for saving plan intention and saving behavior. The third hypothesis has been supported with standardized estimate (β) = 0.560, t-value = 10.014, and p-value < 0.001. Therefore, this hypothesis shows that perceived behavior control has positive relationship on saving plan intention. For perceived behavior control, the most impact of perceived behavior control factor is financial knowledge, tax incentive and financial numeracy (β=0.890, 0.753, 0.624 respectively).

The Relationship between Risk-Oriented Factor and Saving Plan Intention

Risk-oriented factor was statistically significant predictors for saving plan intention and saving behavior. The fourth hypothesis has been supported with standardized estimate (β) = 0.700, t-value = 9.401, and p-value < 0.001. Therefore, this hypothesis shows that risk-oriented factor has positive relationship on saving plan intention. For risk-oriented factor, the most impact of risk-oriented factor is sequence of return risk, longevity risk, inflation risk, and healthcare risk (β=0.828, 0.771, 0.693, 0.645 respectively).

The Relationship between Saving Plan Intention and Saving Behavior

Saving plan intention was statistically significant predictors for saving behavior. The fifth hypothesis has been supported with standardized estimate (β) = 0.810, t-value = 13.163, and p-value < 0.001. Therefore, this hypothesis shows that saving plan intention factor has positive relationship on saving behavior.

The mediation effect of Saving Plan Intention between Financial-oriented Attitude and Saving Behavior

The mediation effect of saving plan intention on financial-oriented attitude and saving behavior provides the complementary partial mediation. The direct effect of financial-oriented attitude on saving behavior is significantly mediated with standardized estimate $(\beta) = 0.659$ (∗∗∗) (p-value < 0.001). The direct mediation effect of saving plan intention on financial-oriented attitude and saving behavior is significant with standardized estimate $(\beta) = 0.236$ (***) (p-value < 0.001). From both direct effect with mediator and direct effect without mediator, this relationship presents the complementary partial mediation among financial-oriented attitude, saving plan intention, and saving behavior. For indirect effect in mediator, the standardized indirect effect is 0.357 (***) (p-value < 0.001). So, all of these information presents about the relationship of saving plan intention as mediator on financial-oriented attitude and saving behavior being complimentary partial mediation.

The mediation effect of Saving Plan Intention between Subjective Norm and Saving Behavior

The mediation effect of saving plan intention on subjective norm and saving behavior provides the complementary partial mediation. The direct effect of subjective norm on saving behavior is significantly mediated with standardized estimate $(\beta) = 0.290$ (∗∗∗) (p-value < 0.001). The direct mediation effect of saving plan intention on subjective norm and saving behavior is significant with standardized estimate $(\beta) = 0.118$ (p-value $= 0.006 < 0.01$, **). From both direct effect with mediator and direct effect without mediator, this relationship presents the complementary partial mediation among subjective norm, saving plan intention, and saving behavior. For indirect effect in mediator, the standardized indirect effect is 0.127 (***) (p-value < 0.001). So, all of these information presents about the relationship of saving plan intention as mediator on subjective norm and saving behavior being complimentary partial mediation.

The mediation effect of Saving Plan Intention between Perceived Behavior Control and Saving Behavior

The mediation effect of saving plan intention on perceived behavior control and saving behavior provides the complementary partial mediation. The direct effect of perceived behavior control on saving behavior is significantly mediated with standardized estimate $(\beta) = 0.599$ (∗∗∗) (p-value < 0.001). For the direct mediation effect of saving plan intention on perceived behavior control and saving behavior with standardized estimate $(\beta) = 0.282$ (p-value $= 0.016 < 0.05$, ∗). From both direct effect with mediator and direct effect without mediator, this relationship presents the complementary partial mediation among subjective norm, saving plan intention, and saving behavior. However, the indirect effect in mediator, the standardized indirect effect is 0.307 (p-value $= 0.204$). So, all of these information presents about the non-relationship of saving plan intention as mediator on perceived behavior control and saving behavior being no mediation.

The mediation effect of Saving Plan Intention between Risk-oriented Factor and Saving Behavior

The mediation effect of saving plan intention on risk-oriented factor and saving behavior provides the full mediation. The direct effect of perceived behavior control on saving behavior is significantly mediated with standardized estimate $(\beta) = 0.486$ (∗∗∗) (p-value < 0.001). The direct mediation effect of saving plan intention on risk-oriented factor and saving behavior is not significant with standardized estimate $(\beta) = 0.092$ (p-value $= 0.511$). From both direct effect with mediator and direct effect without mediator, this relationship presents the full mediation among risk-oriented factor, saving plan intention, and saving behavior. However, the indirect effect in mediator, the standardized indirect effect is 0.381 (p-value $= 0.218$). So, all of these information presents about the non-relationship of saving plan intention as mediator on risk-oriented factor and saving behavior being no mediation.

5.3 Discussion of the Results

This part is discussing about all results from each construct that this research will be referred to influences on retirement financial planning. From respondent analysis, Thai and international workers have the similar response on the research's result. So, this study explains into the same context for both Thai and international workers.

Financial-oriented Attitude in the retirement financial planning

The influence of financial-oriented attitude in saving plan intention and saving behavior on the retirement financial planning. From the character of participants' financial-oriented attitude, the influence of propensity to plan, goal clarity, and future time perspective is strongly related to respondents' financial-oriented attitude. Consequently, people should focus a lot on creating financial plan, setting up clear goal, and thinking about financial perspective to contribute the saving amount on retirement financial planning. For parent financial behavior, this topic is revealed to the lowest impact on financial-oriented attitude construct. In culture difference, there is a little retirement financial discussion in family. However, family should discuss more on the retirement financial planning issue in the family because there is positive relationship between parent financial behavior on saving plan intention and saving behavior. All financial behavior and discussion from parent can give the positive impact on retirement financial planning.

Subjective Norm in the retirement financial planning

The influence of subjective norm is the social influence from other group of people on participants in saving plan intention and saving behavior. From the characteristics of participants' subjective norm, the influence of each social group is arranging by order impact friend, colleague, superior boss, and family. So, the impact of friends and working place friends play very important role on retirement financial planning on every worker followed by superior boss. For family influence, this is the

lowest impact on subjective norm in retirement financial planning. This point relates to the parent financial behavior in financial-oriented attitude about the financial planning issue discussing less in family. Therefore, family should provide more financial issue discussion more in the family to identify higher change for collecting money in the retirement planning. In family, there is significantly positive impact on the retirement financial planning.

Perceived Behavior Control in the retirement planning

The influence of perceived behavior control in this research focuses on tax incentive, financial knowledge, and financial numeracy in saving plan intention and saving behavior. From perceived behavior control, the most impact on perceived behavior control is financial knowledge. Then, tax incentive plays the second impact on perceived behavior control followed by financial numeracy. Therefore, people are getting higher successful rate on the saving plan intention and saving behavior by increasing knowledge in financial knowledge, tax incentive, and financial numeracy issue. Therefore, people should increase more potential in every issue from self-study, education, and other resource centers. The higher financial knowledge, tax incentive, financial numeracy, the better planning is setting up on the retirement financial planning.

Risk-oriented factor in the retirement planning

The empirical findings elucidate that risk-oriented factor plays the most important role on saving plan intention and saving behavior. In risk-oriented factor, the most important risk concerns in financial retirement planning being sequence of return risk. Then, participants focus on longevity risk, inflation risk, and healthcare risk. Thereby, employees should focus on the all-related risks in the retirement financial planning. From the characteristics of participants' risk-oriented factor, the influence of risk is impact significantly on retirement financial planning. So, the impact of risk-oriented factor plays very important role on retirement financial

planning on every worker concern. Thus, risk-oriented factor should be increased in all people because this risk-oriented fact is significantly positive impact on the retirement financial planning.

Saving plan intention in the retirement planning

The empirical study clears up that saving plan intention presents the important role on saving behavior. The study verifies that there is the significantly positive relationship between saving plan intention and saving behavior. The greater in saving plan intention, the higher saving behavior shows the successful factor to retirement financial planning.

Saving behavior in the retirement planning

This research measures the retirement planning accomplishment by testing on saving behavior. All constructs in the research methodology's framework present the positive relationship to saving behavior. Therefore, all people have to increase the potential ability and understanding in financial financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor. So, company and government should help all employees about supporting and creating policy to bring all employees' financial planning accomplishment.

5.4 Contribution of the Study

The empirical study spells out the Theory of Planned Behavior implication to investigate the hypothesis testing on the relationship of financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor on saving plan intention and saving behavior. Besides, the research findings interpret the key knowledge findings from all factor developments; financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor on the retirement planning measurement in saving plan intention and saving behavior. In addition, there are two areas of contribution in Academic and Practical contributions from this

research finding. In academic contribution, all employees and researchers can be perceived as the application of theory in retirement financial planning. On the other hand, managerial contribution can help company, government, and policy makers to encourage people in retirement financial planning. The higher retirement financial status, the better quality of retirement's lives defines the high quality of life after retirement and reduces the burden to company and government in the future.

Academic Contributions

This research tried to find the effect of financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor on saving plan intention and saving behavior in the financial retirement area. Also, this research extends financial retirement factors by using the Theory of Planned Behavior. This study confirms about the Theory of Planned Behavior model to explain more the relationship between all related factors. This research measures on risk-oriented factors in the retirement saving behavior context. Moreover, this research finds out no difference between Thai and International employees in retirement financial planning. All measurement scale has been developed from various perspectives in many study areas. In addition, the research result has been proved all previous related studies. All four constructs; financial-oriented attitude, subjective norm, perceived behavior control and risk-oriented factor provides the positive relationship with the financial planning for retirement. In the academic contribution, all people could develop all of these aspects to generate the retirement financial planning.

For financial-oriented attitude, workers should focus more on talking in the family about the financial situation of family that children can be able to develop the parent financial behavior to be their financial planning behavior. Employees should focus more on the future time perspective rather than past and present concern to create more ability in this criterion. Moreover, people should plan in advance for both income and expense side to manage propensity to plan in the retirement planning. Last, individuals should have the goal clarity about the clear amount of budget for

retiring period, how to spend pre- and post-retirement, how to save money during the working time period.

In subjective norm, this research mentions that all of the related group around workers can force to save more on the retirement saving by discussing, understanding, and clearing retirement plan. Every group, family, friends, colleague, superior boss could influence more on retirement planning. Thereby, employees should receive this positive influence and transfer to the suitable plan for retirement planning. Subjective norm from all related group around employees could play the significant role of retirement planning influence.

Employees should have higher level of understanding in every part in perceived behavior control; tax incentive, financial knowledge, and financial numeracy. Workers should understand about their tax level and tax management by investing in tax incentive asset. In this asset, people could get benefit from two different areas; the increasing value of asset value and the tax returning in every working year. Individuals should pay attention more and learn more about financial knowledge from many different resources, such as, book, journal, financial institution bulletin, online social media. For financial numeracy, everyone should know about the basic financial concept in interest rate, inflation, and debt calculation to be able to manage financial planning effectively.

In working environment, people should understand about all related risk-oriented factors that affect to their financial status in the future. Workers have to understand about the concept of longevity risk, healthcare risk, sequence of return risk, and inflation risk affecting to financial retirement planning. From all healthcare development, employees should understand about the longer life after retirement with higher expense on healthcare cost as well. Therefore, people should understand this situation and protect themselves by proper management in this issue. Insurance might be one of risk protection examples in this criterion. In the sequence of return, people should have higher ability to invest in many kinds of asset by understanding more about all different asset in return of investment, investment risk, and inflation risk. Thus, individuals have to understand and create the proper investment relating to their expected return and all related risks.

Managerial implications

One objective in this empirical research was to generate the insightful information for retirement financial planning and the relationship from all related factors. The positive relationship from financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor on saving plan intention and saving behavior describes the managerial implications in two different levels; company level and government level.

In company level, the organization should help all employees to accomplish the retirement saving plan that could generate more benefit to company. Employees will save more retirement saving by supporting from company to provide some extra activities to all workers. In terms of financial-oriented attitude, company can help to increase the ability of financial financial-oriented attitude, subjective norm, perceived behavior control, and risk-oriented factor by providing more financial planning knowledge. After getting all information, workers can make choice to invest in the different kinds of investing asset and have higher saving rate on retirement saving. Company can set up some interesting knowledge activities like financial retirement workshop, extra financial investing documents, and some financial advices from financial institution specialist. Therefore, workers understand more about all related factors to involve with retirement planning. Workers will have better understanding and generating practical plan to invest. Company with less worker's financial problem should create the better working environment, employee engagement, and employee satisfaction. Even some big company in Thailand provides retirement planning program to employees, the small amount of people gets involve with it. Thereby, company can increase the worker financial planning involvement by supporting and encouraging all workers with many learning channels that employees will make their choice to invest in retirement financial planning.

For government level, Thai government has to encourage all people to have financial planning for retirement that will lead to less government burden to help this people after retirement. Less saving money in the high healthcare expense period, retiree can be one part of the government spending to help this group of people. Therefore, government have to support people to have more retirement saving

planning with the financial planning understanding. Actually, some government department already provide some financial supporting knowledge to people; however, there are only small group of people getting involve. For retirement financial planning, it is the long-term planning that people do not pay attention and get involve with it. One policy from government is tax incentive program that employees with the certain level of income investing in this kind of investment. Also, small group of tax payers get involve with it that is not the majority of the country. Government should have many options of investment vehicles for retirement that people will choose to invest in the suitable investing program. If people end up with some money to spend during retirement, there are two benefits clearly to identify from higher consumption and less burden to the state. Some financial knowledge should be taught in the school in many different areas, such as, debt management, financial management, tax incentive investment, financial knowledge, basic financial numeracy, and retirement financial planning.

5.5 Policy Recommendations

The empirical study findings and conclusions could generate the policy recommendations for retirement financial planning context. All of recommendations are based on the discussion, the current conditions of retirement planning, all related perspectives. The effective implementation of policies is recommended into four different departments by the following.

First, Ministry of Education should implement the basic concept to financial management into the school curriculum. From basic concept, all students could be able to develop into the complicated financial retirement planning in the working period. Students with financial knowledge can manage their money suitably in the future, so country should be able to get benefit more after financial knowledge implementation.

Second, Ministry of Labour already have some mandated program like Social Security Fund that can help people with healthcare service, unemployment, and retirement saving; however, the amount of return on social security fund is not enough

for the retiring period. Thus, Ministry of Labour and company should help each other to educate workers and provide more voluntary investment program in general like social security fund.

Next, Ministry of Finance already have some financial knowledge program to people; however, only some group of people learn about this financial knowledge program. Consequently, Ministry of Finance should provide more and easy to access on the financial planning knowledge, financial vehicle details, benefit from incentive program, and risk protection knowledge. After getting all information, people could be able to make their decision on the retirement financial management with the proper amount of understand from providing knowledge.

Last, financial institution and private company should increase the financial investment understanding program to their employees. From this program, the company can get free service from financial institution that the financial institution can get more customers from all employees with higher fee paid to this unit. This is the situation that can benefit to all stake holders; employees, company and financial institution.

5.6 Limitations of the Study

This dissertation will focus on using the quantitative analysis that might not be able to cover some information from deep interview or focus group. There are some limitations on the sampling method from the cost and time limit. This dissertation will focus on the financial retirement saving behavior only that might miss some other behavior factors on the financial retirement planning. Another constraint is the limited number of variables in this study.

Some limitations have been analyzed into this study. From the quantitative approach, this study might miss some important unanticipated result from quantitative empirical study only. Respondents could provide more details by qualitative research elements. In this study, the empirical research focuses on only financial retirement criteria that might miss some other parts in people living situation. The participants

with salary higher than 20,000 Baht per month get involved in this study so the study can collect more response from other groups of people.

For subjective norm, some studies have found that social influence from social network has related to the customers' behavior. This research focuses only on the subjective norm from family, friends, colleague, and superior boss. The number of samples is limited for this study in 300 Thai and 100 international workers. Thereby, the sample can be studied into higher sample size and different places.

5.7 Recommendations for Future Research

This research focuses only in Thailand financial retirement context that the different countries are highly recommended to illustrate the hypothesized relationships among all different countries. Also, the qualitative approach can be used to analyze the information of financial-oriented attitude, subjective norm, perceived behavior control, risk-oriented factor, saving plan intention and saving behavior to find further information. The future research can find other constructs relating to the retirement financial planning behavior context and find the relationship on retirement preparation in financial planning. The future study can expand into the social influence from social network perspective; digital society.

This study attempts to focus on both Thai and International employees working in Thailand in limit sample size. So, the study's results have the limited sample's details that the future research can be expanded more into other criteria of sample in the bigger sample size. Moreover, the statistical analysis method used only SPSS and structural equation modeling (SEM) Amos. Thereby, the future research can use the different statistical analysis methods like independent sample t-test, One-way ANOVA, and Chi-square technique.

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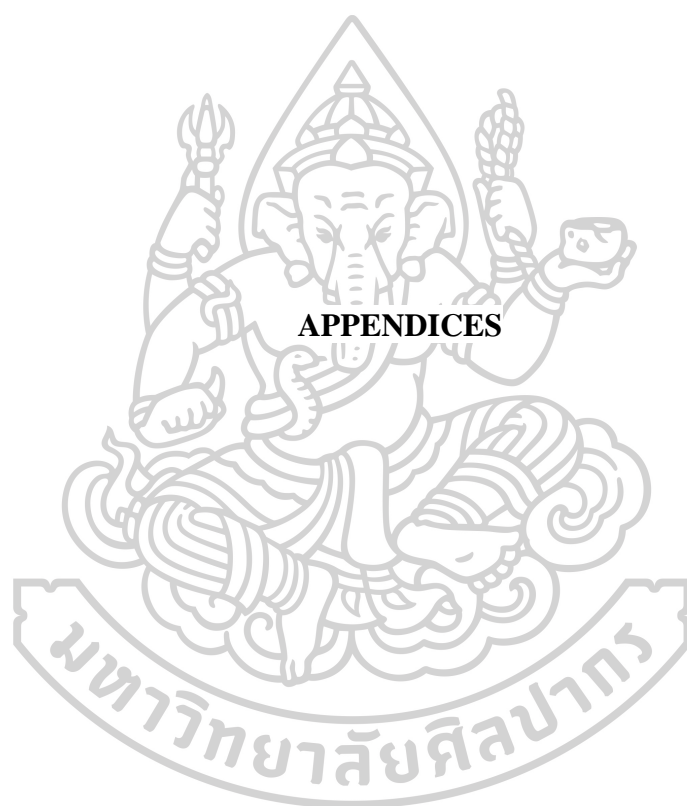
APPENDICES

Appendix A. Questionnaire (Thai Version)

แบบสอบถาม

หัวข้อวิจัยเรื่อง "ปัจจัยสำคัญที่ส่งผลต่อการวางแผนการเงินสำหรับการเกษียณอายุสำหรับชาวไทยและชาวต่างชาติ"

Research Title "An Application and Extension of the Theory of Planned Behavior to the financial behavior: Evidence from Thai and international workers"

คำชี้แจง

แบบสอบถามนี้เป็นส่วนหนึ่งของการศึกษาระดับปริญญาเอก หลักสูตรการบริหารธุรกิจระหว่างประเทศ ของวิทยาลัยนานาชาติ มหาวิทยาลัยศิลปากร ในหัวข้อวิจัยเรื่อง **"การประยุกต์ใช้และขยายผลการศึกษาทฤษฎีพฤติกรรมตามแผนที่มีต่อพฤติกรรมการเงิน หลักฐานจากพนักงานคนไทยและคนต่างชาติ"** ซึ่งเป็นการศึกษาเกี่ยวกับผลกระทบของปัจจัยต่างๆ ที่ส่งผลต่อการวางแผนการเงินและการออมเงินเพื่อการเกษียณอายุ ของพนักงานชาวไทยและชาวต่างชาติที่มีถิ่นพำนักในประเทศไทย โดยแบบสอบถามนี้มีจำนวน 5 ตอนประกอบด้วยดังนี้

ตอนที่ 1 เกี่ยวกับปัจจัยต่างๆ ที่มีผลต่อการวางแผนการเงินสำหรับการเกษียณอายุ จำนวน 71 ข้อ

ตอนที่ 2 เกี่ยวกับความตั้งใจในการวางแผนการเงินสำหรับการเกษียณอายุ จำนวน 6 ข้อ

ตอนที่ 3 เกี่ยวกับการลงทุนในการวางแผนการเงินสำหรับการเกษียณอายุ จำนวน 6 ข้อ

ตอนที่ 4 เกี่ยวกับข้อมูลทั่วไปของผู้ตอบแบบสอบถาม จำนวน 10 ข้อ

ตอนที่ 5 เกี่ยวกับความคิดเห็นเพิ่มเติมที่มีต่อการวางแผนการเงินเพื่อการเกษียณอายุ (ปลายเปิด)

โดยข้อมูลทั้งหมดที่เก็บรวบรวมได้จากแบบสอบถามของแต่ละบุคคลจะถูกเก็บไว้เป็นความลับ รวมทั้งกระบวนการที่ไม่สามารถระบุตัวตนได้ของผู้ตอบแบบสอบถามแต่ละบุคคลได้ ข้อมูลที่เก็บรวบรวมได้ทั้งหมดนี้จะถูกนำไปสู่กระบวนการศึกษาที่เกี่ยวเนื่องกับหัวข้องานวิจัยของผู้วิจัยเท่านั้น โดยผู้ตอบแบบสอบถามสามารถยุติการตอบแบบสอบถามได้ทุกเมื่อ หากมีความต้องการ

สุดท้ายนี้ผู้วิจัยขอขอบคุณสำหรับความอนุเคราะห์ในการตอบแบบสอบสอบถามของท่าน

ติดต่อ: นายนฤทธิ์ เกิดวิเมลือง

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วิทยาลัยนานาชาติ มหาวิทยาลัยศิลปากร

ขอเริ่มต้นแบบสอบถามด้วยคำถามด้านล่างนี้

1. คุณเกษียณอายุแล้วหรือไม่
   - ○ ใช่ (Terminate)
   - ○ ไม่ใช่
   - ○ ปฏิเสธการตอบ (Terminate)
2. คุณทำงานเพื่อหารายได้ใช่หรือไม่
   - ○ ใช่
   - ○ ไม่ใช่ (Terminate)
   - ○ ปฏิเสธการตอบ (Terminate)
3. คุณรู้จักการออมเงินเพื่อการเกษียณอายุผ่านช่องทางดังต่อไปนี้ (กองทุนประกันสังคม, กองทุน
   บำเหน็จบำนาญข้าราชการ (กบข.), กองทุนรวมหุ้นระยะยาว (LTF), กองทุนรวมเพื่อการเลี้ยงชีพ
   (RMF), กองทุนรวมเพื่อส่งเสริมการออมระยะยาว (SSF), กองทุนสำรองเลี้ยงชีพ (PVD), กองทุน
   สงเคราะห์ตามกฎหมายว่าด้วยโรงเรียนเอกชน, กองทุนการออมแห่งชาติ (กอช.), เบี้ยประกันชีวิต
   แบบบำนาญ, และอื่นๆ
   - ○ ใช่
   - ○ ไม่ใช่ (Terminate)
   - ○ ปฏิเสธการตอบ (Terminate)
4. รายได้เฉลี่ยต่อเดือนของคุณ
   - ○ น้อยกว่า 20,000 บาทต่อเดือน (Terminate)
   - ○ มากกว่า 20,000 บาทต่อเดือน
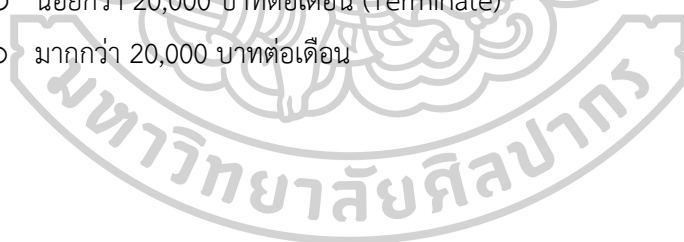
ตอนที่ 1 แบบสอบถามระดับความคิดเห็นเกี่ยวกับปัจจัยต่างๆ ที่มีผลต่อการวางแผนการเงินสำหรับการเกษียณอายุ

วัตถุประสงค์ที่ 1 เพื่อศึกษาปัจจัยที่มีผลต่อการวางแผนด้านการเงินสำหรับการเกษียณอายุ

คะแนน: 1 = ไม่เห็นด้วยอย่างยิ่ง   2 = ไม่เห็นด้วย   3 = ไม่แน่ใจ   4 = เห็นด้วย   5 = เห็นด้วยอย่างยิ่ง

ลำดับ	ปัจจัยที่มีผลต่อการวางแผนการเงินเพื่อการเกษียณอายุ	ระดับความคิดเห็น				
		1	2	3	4	5
ตอนที่ 1.1 ด้านทัศนคติสำหรับการวางแผนการเงินเพื่อการเกษียณ						
ด้านพฤติกรรมทางการเงินของผู้ปกครอง (บิดา-มารดา เป็นต้น)						
1	เมื่อตอนที่ฉันต้องจัดการทางการเงิน ฉันตัดสินใจและดำเนินการทางการเงินเช่นเดียวกับผู้ปกครองในสถานการณ์เดียวกัน					
2	ฉันเรียนรู้เกี่ยวกับความรู้ทางการเงินผ่านทางพฤติกรรมการเงินของผู้ปกครอง					
3	ผู้ปกครองของฉันมีพฤติกรรมที่การเงินค่อนข้างประหยัดและรู้คุณค่าของเงิน					
4	ผู้ปกครองของฉันมักจะพูดคุยเกี่ยวกับการตัดสินใจทางการเงินที่สำคัญกับครอบครัวเสมอ					
5	ผู้ปกครองของฉันมักคอยส่งเสริมให้ฉันออมเงินสำหรับอนาคตที่ดีทางการเงิน					
ด้านการคิดถึงอนาคต						
1	ฉันมักจะทำตามคำแนะนำสำหรับการออมเงินเพื่ออนาคตทางการเงินเพื่อใช้จ่ายสำหรับเหตุการณ์ไม่คาดฝัน					
2	ฉันชอบที่จะคิดถึงเกี่ยวกับการใช้ชีวิตในอนาคตทางการเงินที่ยาวนานว่าควรเป็นเช่นไร					
3	ฉันเข้าใจถึงอนาคตทางการเงินที่ยาวนานมีความไม่แน่นอนมากทำให้ไม่สามารถวางแผนล่วงหน้าได้					
4	อนาคตทางการเงินดูเหมือนจะไม่มีความชัดเจนและไม่มั่นคงสำหรับฉัน					

ลำดับ	ปัจจัยที่มีผลต่อการวางแผนการเงินเพื่อการเกษียณอายุ	ระดับความคิดเห็น				
		1	2	3	4	5
5	ฉันได้กำหนดเป้าหมายระยะยาวและพยายามอย่างหนักเพื่อที่จะให้บรรลุเป้าหมายทางการเงิน					
ด้านแนวโน้มสำหรับการวางแผน						
1	ฉันมีการตั้งเป้าหมายทางการเงินในอีก 2-3 ปีข้างหน้าสำหรับสิ่งที่ต้องการด้วยเงินของตนเอง					
2	ฉันมีการวางแผนล่วงหน้าเกี่ยวกับเงินที่จะต้องใช้จ่ายในอีก 2-3 ปี ข้างหน้า					
3	ฉันมักจะพิจารณาเกี่ยวกับความจำเป็นทั้งหมดสำหรับแผนการทางการเงินที่ต้องใช้จ่ายในอีก 2-3 ปีข้างหน้า					
4	ฉันมักจะทำการทบทวนแผนการทางการเงินของฉันในอีก 2-3 ปีข้างหน้า ทำให้ฉันได้เข้าใจในมุมมองต่างๆ เกี่ยวกับการใช้จ่ายในอนาคต					
5	การวางแผนการทางการเงินของฉันล่วงหน้า 2-3 ปี ทำให้ฉันรู้สึกดีขึ้น					
ด้านความชัดเจนของเป้าหมาย						
1	ฉันมีการตั้งเป้าหมายชัดเจน รวมทั้งหาข้อมูลเกี่ยวกับการวางแผนการเงินสำหรับการเกษียณอายุ					
2	ฉันคิดถึงเกี่ยวกับคุณภาพชีวิตที่ดีภายหลังการเกษียณอายุ					
3	ฉันมีการตั้งเป้าหมายเกี่ยวกับจำนวนเงินที่จะออมเพื่อการเกษียณ					
4	ฉันได้มีการพูดคุยเกี่ยวกับแผนการเงินสำหรับเกษียณอายุของฉันกับคู่สมรส เพื่อน และคนสำคัญรอบข้าง					
5	ฉันคิดถึงชีวิตที่มีคุณภาพหลังการเกษียณอายุเป็นอย่างมาก					
1.2 การคล้อยตามกลุ่มอ้างอิงด้านการวางแผนทางเงินเพื่อการเกษียณ						
การคล้อยตามครอบครัว						
1	ครอบครัวของฉันเป็นสิ่งสำคัญสำหรับฉัน ทำให้คิดว่าควรมีการวางแผนการเงินและเก็บออมเพื่อการเกษียณอายุอย่างสม่ำเสมอ					
2	ครอบครัวของฉันมีอิทธิพลต่อฉัน ทำให้คิดว่าควรมีการวางแผนการเงินและเก็บออมเพื่อการเกษียณอายุ					
3	สมาชิกในครอบครัวเชื่อว่าควรนำเงินไปลงทุนในการวางแผนทางการเงินเพื่อการเกษียณอายุ					
4	สมาชิกในครอบครัวมีอิทธิพลต่อการตัดสินใจด้านการลงทุนของฉันในการวางแผนทางการเงินเพื่อการเกษียณอายุ					

ลำดับ	ปัจจัยที่มีผลต่อการวางแผนการเงินเพื่อการเกษียณอายุ	ระดับความคิดเห็น				
		1	2	3	4	5
5	สมาชิกในครอบครัวของฉันมักให้การสนับสนุนด้านการวางแผนทาง การเงินเพื่อการเกษียณอายุ					
การคล้อยตามเพื่อน						
1	เพื่อนทำให้คิดว่าควรมีการวางแผนการเงินและเก็บออมเพื่อการ เกษียณอายุอย่างสม่ำเสมอ					
2	เพื่อนมีอิทธิพลต่อการคิดวางแผนการเงินและเก็บออมเพื่อการ เกษียณอายุของฉัน					
4	เพื่อนมีอิทธิพลต่อการตัดสินใจด้านการลงทุนของฉันในการวางแผนทาง การเงินเพื่อการเกษียณอายุ					
5	เพื่อนของฉันมักให้การสนับสนุนด้านการวางแผนทางการเงินเพื่อการ เกษียณอายุ					
การคล้อยตามเพื่อนร่วมงาน						
1	เพื่อนร่วมงานทำให้คิดว่าควรมีการวางแผนการเงินและเก็บออมเพื่อการ เกษียณอายุอย่างสม่ำเสมอ					
2	เพื่อนร่วมงานมีอิทธิพลต่อการคิดวางแผนการเงินและเก็บออมเพื่อการ เกษียณอายุของฉัน					
4	เพื่อนร่วมงานมีอิทธิพลต่อการตัดสินใจด้านการลงทุนของฉันในการ วางแผนทางการเงินเพื่อการเกษียณอายุ					
5	เพื่อนร่วมงานของฉันมักให้การสนับสนุนด้านการวางแผนทางการเงินเพื่อ การเกษียณอายุ					
การคล้อยตามผู้บังคับบัญชา						
1	ผู้บังคับบัญชาทำให้คิดว่าควรมีการวางแผนการเงินและเก็บออมเพื่อการ เกษียณอายุอย่างสม่ำเสมอ					
2	ผู้บังคับบัญชามีอิทธิพลต่อการคิดวางแผนการเงินและเก็บออมเพื่อการ เกษียณอายุของฉัน					
4	ผู้บังคับบัญชามีอิทธิพลต่อการตัดสินใจด้านการลงทุนของฉันในการ วางแผนทางการเงินเพื่อการเกษียณอายุ					
5	ผู้บังคับบัญชาของฉันมักให้การสนับสนุนด้านการวางแผนทางการเงินเพื่อ					

ลำดับ	ปัจจัยที่มีผลต่อการวางแผนการเงินเพื่อการเกษียณอายุ	ระดับความคิดเห็น				
		1	2	3	4	5
	การเกษียณอายุ					
1.3 ด้านการรับรู้ความสามารถในการควบคุมพฤติกรรมสำหรับการวางแผนการเงินเพื่อการเกษียณ						
โปรแกรมสิทธิประโยชน์ทางภาษี						
1	โปรแกรมสิทธิประโยชน์ทางภาษีสามารถช่วยในการวางแผนทางการเงินและออมเงินเพื่อการเกษียณอายุ รวมทั้งสามารถนำไปสู่การมีเงินทุนเพียงพอหลังจากเกษียณอายุ					
2	การลงทุนเพื่อการเกษียณอายุโดยการหักเงินอัตโนมัติและนำส่งไปยังกองทุน (กองทุนประกันสังคม, กองทุนสำรองเลี้ยงชีพ, กองทุนบำเหน็จบำนาญข้าราชการ เป็นต้น) สามารถช่วยเพิ่มการออมเงินไปยังการลงทุนเพื่อการเกษียณได้					
3	ฉันออมเงินเพื่อการเกษียณผ่านการลงทุนใน ประกันชีวิตเพื่อการเกษียณ, กองทุนการออมต่างๆ (LTF, RMF, SSF) เพื่อสิทธิประโยชน์ทางภาษี, และกองทุนสำรองเลี้ยงชีพ					
4	ฉันมีความคิดเกี่ยวกับการบริหารจัดการด้านภาษีและสิทธิประโยชน์ด้านภาษีผ่านการลงทุนเพื่อการเกษียณอายุ					
1.4 ด้านความรู้ทางการเงินสำหรับการวางแผนการเงินเพื่อการเกษียณ						
ความรู้ทางการเงิน						
1	ฉันคิดว่ามีความรู้ดีมากเพียงพอสำหรับการวางแผนการเงินเพื่อการเกษียณอายุ					
2	ฉันมีความมั่นใจอย่างมากสำหรับความสามารถในการวางแผนเกษียณอายุ					
3	เมื่อฉันต้องการบริการด้านการเงิน ฉันรู้ได้อย่างชัดเจนว่าจะหาข้อมูลจากที่ใดและควรทำอย่างไร					
4	ฉันเข้าใจอย่างชัดเจนว่ากองทุนประกันสังคมหรือกองทุนบำเหน็จบำนาญข้าราชการมีประโยชน์อย่างไร					
5	ฉันมีความเข้าใจอย่างชัดเจนเกี่ยวกับการลงทุนเพื่อการเกษียณอายุสำหรับแผนส่วนตัว					
การคำนวณทางการเงิน						
1	หากราคาสินค้าที่ซื้อปัจจุบันเพิ่มขึ้นเป็นสองเท่าในอีก 10 ปีข้างหน้า แล้วรายได้ของฉันเพิ่มเป็น 2 เท่าในเวลาเดียวกัน ฉันจะสามารถซื้อสินค้าเดิม					

ลำดับ	ปัจจัยที่มีผลต่อการวางแผนการเงินเพื่อการเกษียณอายุ	ระดับความคิดเห็น				
		1	2	3	4	5
	ได้ในปริมาณที่เท่าเดิม					
2	ฉันคิดว่าการเสียอัตราดอกเบี้ยเงินกู้ประมาณ 6-7 เปอร์เซ็นต์ต่อปี ในการซื้อบ้านจะคุ้มค่ากว่าการเก็บออมเงินเวลา 30 ปี หากราคาบ้านในพื้นที่นั้นเพิ่มขึ้นปีล่ะ 10 เปอร์เซ็นต์					
3	หากเปรียบเทียบการออมเงิน ระหว่างบัญชีเงินฝากออมทรัพย์กับบัญชีเงินฝากประจำที่ให้ผลตอบแทนที่ดีกว่า ฉันควรเลือกที่จะออมเงินในบัญชีฝากประจำ เพื่อรับผลตอบแทนที่สูงกว่า					
4	หากบัญชีออมทรัพย์ให้อัตราดอกเบี้ยต่ำกว่าอัตราเงินเฟ้อ หลังจาก 1 ปี ผ่านไปฉันสามารถซื้อสินค้าได้ลดลงด้วยเงินในบัญชีดังกล่าว					
1.5 ความเสี่ยงสำหรับการวางแผนทางการเงินเพื่อการเกษียณ						
ความเสี่ยงที่อายุจะยืนยาวเกินกว่าที่คาดไว้						
1	ฉันมีความกังวลใจเกี่ยวกับ "เงินสะสมไว้หมดในขณะที่มีชีวิตอยู่"					
2	เมื่อนึกถึงอายุที่จะมีชีวิตอยู่ ฉันได้มีการพิจารณาอย่างมากเกี่ยวกับความเสี่ยงที่ทรัพย์สินจะหมดในเวลาเกษียณอายุของฉัน					
3	เมื่อฉันอายุ 60 ปี ฉันเชื่อว่าฉันสามารถมีชีวิตอยู่ได้มากกว่า 20 ปี (อายุมากกว่า 80 ปี)					
4	ฉันคิดว่าฉันสามารถเกษียณอายุได้อย่างสมบูรณ์เมื่ออายุ 60 ปี โดยมีเงินเพียงพอที่จะใช้จ่ายหลังจากนั้น (คำว่า 'เกษียณ' หมายถึงการหยุดงานที่ได้รับค่าจ้างเต็มเวลาโดยมิได้ตั้งใจที่จะทำงานเต็มเวลาอีก แต่สามารถทำงานนอกเวลาหรืองานอาสาสมัครเล็กๆ น้อยๆ ได้)					
ความเสี่ยงด้านการดูแลสุขภาพ						
1	ฉันมีเงินทุนสำรองฉุกเฉินเพื่อดูแลด้านสุขภาพสำหรับระยะเวลา 6 เดือน ถึง 1 ปี					
2	ฉันมีประกันด้านสุขภาพเพียงพอสำหรับการจัดการกับค่าใช้จ่ายต่างๆ ในครอบครัวของฉัน					
3	ฉันมีประกันด้านสุขภาพสำหรับการดูแลระยะยาว					
4	ฉันเตรียมพร้อมสำหรับค่าใช้จ่ายต่างๆ สำหรับค่ายาของฉัน					
5	ฉันเตรียมพร้อมสำหรับค่าใช้จ่ายเกี่ยวกับอุปกรณ์และเครื่องมือต่างๆ สำหรับการรักษาพยาบาล					
ความเสี่ยงจากผลตอบแทนของการลงทุน						

ลำดับ	ปัจจัยที่มีผลต่อการวางแผนการเงินเพื่อการเกษียณอายุ	ระดับความคิดเห็น				
		1	2	3	4	5
1	ฉันรู้จักตราสารทางการลงทุนหลายประเภท เช่น เงินฝากธนาคาร พันธบัตร หุ้นกู้ กองทุนรวม หุ้น กองทุนทองคำ กองทุนรวม อสังหาริมทรัพย์และอื่นๆ					
2	ฉันเคยลงทุนในตราสารทางการเงินบางประเภทจาก เงินฝากธนาคาร พันธบัตร หุ้นกู้ กองทุนรวม หุ้น กองทุนทองคำ กองทุนรวม อสังหาริมทรัพย์และอื่นๆ					
3	ฉันชอบลงทุนเพื่อที่จะได้ผลตอบแทนที่สูงกว่าอัตราเงินเฟ้อ ถึงแม้จะมีความผันผวนของมูลค่าการลงทุนสูงขึ้นก็ตาม					
4	ฉันต้องการลงทุนในกองทุนที่รักษาเงินต้นแม้ว่าจะมีผลตอบแทนที่น้อยกว่าอัตราเงินเฟ้อ					
5	ฉันต้องการลงทุนในกองทุนที่มีผลตอบแทนคงที่ 2-3 เปอร์เซ็นต์ต่อปี มากกว่าการลงทุนที่มีโอกาสได้รับผลตอบแทนสูงถึง 25 เปอร์เซ็นต์ต่อปี แต่มีโอกาสขาดทุนสูงถึง 15 เปอร์เซ็นต์ต่อปี					
ความเสี่ยงจากอัตราเงินเฟ้อ						
1	ฉันคิดว่าอัตราเงินเฟ้อที่สูงสามารถส่งผลกระทบต่อการวางแผนเกษียณอายุของฉันได้อย่างแน่นอน					
2	ฉันคิดว่าการป้องกันปัญหาอัตราเงินเฟ้อที่สูงผิดปกติเป็นสิ่งสำคัญระดับชาติ ซึ่งมีความสำคัญพอกันกับ การป้องกันปัญหายาเสพติด การป้องกันการเรียนการสอนที่ไม่มีคุณภาพในโรงเรียน					
3	เมื่อมีการคาดการณ์ว่าค่าใช้จ่ายด้านการศึกษาจะเพิ่มขึ้น ค่าครองชีพจะแพงขึ้นในอนาคต ฉันรู้สึกไม่สบายใจกับปริมาณอัตราเงินเฟ้อที่เพิ่มขึ้นมากขึ้น ทำให้ฉันมีความกังวลว่ารายได้จะไม่สามารถเพิ่มได้ตามค่าใช้จ่ายที่เพิ่มขึ้น					
4	ฉันสามารถอยู่ได้กับอัตราเงินเฟ้อในระดับปานกลางและคงที่ เนื่องจากถ้าอัตราเงินเฟ้อเพิ่มอย่างต่อเนื่องในท้ายที่สุดเงินก็จะไร้ค่าลง					

ตอนที่ 2 แบบสอบถามระดับความตั้งใจในการวางแผนการเงินสำหรับการเกษียณอายุ

วัตถุประสงค์ที่ 2 เพื่อศึกษาและทำความเข้าใจเกี่ยวกับความตั้งใจในการวางแผนการเงินสำหรับการเกษียณอายุ

คะแนน: 1 = ไม่เห็นด้วยอย่างยิ่ง   2 = ไม่เห็นด้วย   3 = ไม่แน่ใจ   4 = เห็นด้วย   5 = เห็นด้วยอย่างยิ่ง

ลำดับ	ระดับความตั้งใจในการวางแผนการเงินสำหรับการเกษียณ	ระดับความคิดเห็น				
		1	2	3	4	5
ความตั้งใจในการวางแผนการเงินสำหรับการเกษียณอายุ						
1	ฉันคาดว่าจะลงทุนด้านการเงินสำหรับการเกษียณอายุอย่างสม่ำเสมอ					
2	ฉันต้องการลงทุนในสินทรัพย์สำหรับการเกษียณอายุในอนาคตอันใกล้นี้					
3	โดยทั่วไปฉันเป็นคนมองโลกในแง่ดีสำหรับสถานะทางการเงินของฉันในอนาคต					
4	กระบวนการวางแผนทางการเงินเพื่อการเกษียณอายุของฉันมีคุณค่ามาก					
5	ฉันใช้เวลาในการวางแผนการเงินและทบทวนปัญหาด้านการเงินของฉัน					
6	ฉันเชื่อมั่นว่าชีวิตหลังเกษียณที่ดีขึ้นสามารถทำได้โดยการออมเงินส่วนหนึ่งจากรายได้ของฉันอย่างสม่ำเสมอ					

ตอนที่ 3 แบบสอบถามพฤติกรรมการออมเงินสำหรับการเกษียณอายุ

วัตถุประสงค์ที่ 3 เพื่อศึกษาและทำความเข้าใจเกี่ยวกับพฤติกรรมการออมที่มีผลต่อการวางแผนการเงิน
สำหรับการเกษียณอายุ

คะแนน: 1 = ไม่เห็นด้วยอย่างยิ่ง   2 = ไม่เห็นด้วย   3 = ไม่แน่ใจ   4 = เห็นด้วย   5 = เห็นด้วย
อย่างยิ่ง

ลำดับ	พฤติกรรมการออมเงินสำหรับการเกษียณอายุ	ระดับความคิดเห็น				
		1	2	3	4	5
พฤติกรรมการออมเงินสำหรับการเกษียณอายุ						
1	ฉันได้มีการจัดสรรเงินลงทุนในการออมเพื่อการเกษียณอายุภาคสมัคร ใจ ไปบ้างแล้ว เช่น กองทุนสำรองเลี้ยงชีพ กองทุนรวมต่างๆ					
2	เมื่อเปรียบเทียบกับคนที่ฉันรู้จัก ฉันได้มีการออมเงินเพื่อการ เกษียณอายุได้จำนวนมาก					
3	ฉันมีเงินออมสะสมจำนวนมากพอเพื่อการเกษียณอายุ ณ ขณะนี้					
4	จากการวางแผนการเกษียณอายุของฉัน ได้มีการเก็บออมอย่าง เหมาะสม					
5	ปัจจุบันนี้ ฉันมีการเก็บออมเงินเพื่อที่จะมีอิสระมากขึ้นสำหรับด้าน การเงิน					
6	ฉันต้องออมเงินให้ได้มากที่สุดและมักจะใช้จ่ายเฉพาะสิ่งที่จำเป็น เสมอ					

ตอนที่ 4 ข้อมูลส่วนบุคคล

หมายเหตุ: กรุณาใส่เครื่องหมาย √ ลงใน ☐ หน้าคำตอบที่ตรงกับตัวท่านมากที่สุด

1. เพศ

☐ ชาย ☐ หญิง

2. อายุ (อายุเกิน 6 เดือน คิดเป็น 1 ปี)

☐ 20-29 ปี ☐ 30 – 39 ปี ☐ 40 - 49 ปี

☐ 50 - 59 ปี ☐ 60 ปีขึ้นไป

3. สัญชาติ

☐ สัญชาติไทย ☐ ชาวต่างชาติ โปรดระบุ สัญชาติ ....

4. สถานภาพสมรส

☐ โสด ☐ สมรส ☐ หย่าร้าง/แยกทางกันอยู่

☐ มีคู่ (มิได้สมรส)

5. ระดับการศึกษาสูงสุด

☐ ไม่มีการศึกษาอย่างเป็นทางการ ☐ ต่ำกว่าระดับปริญญาตรี ☐ ปริญญาตรีหรือเทียบเท่า

☐ ปริญญาโทหรือเทียบเท่า ☐ ปริญญาเอกหรือเทียบเท่า ☐ อื่นๆ ระบุ ....

6. อาชีพ

☐ พนักงานบริษัทเอกชน ☐ พนักงานในหน่วยงานราชการ

☐ ประกอบอาชีพอิสระ ☐ เจ้าของธุรกิจ

☐ เกษียณอายุ ☐ อื่นๆ ระบุ ....

7. รายได้เฉลี่ยต่อเดือน

☐ 20,000 – 39,999 บาท ☐ 40,000 – 59,999 บาท ☐ 60,000 – 79,999 บาท

☐ 80,000 – 99,999 บาท ☐ มากกว่า 100,000 บาท ขึ้นไป

8. เครื่องมือที่ใช้ในการลงทุนเพื่อการเกษียณอายุ (เลือกได้มากกว่า 1 อย่าง)

☐ กองทุนบำเหน็จบำนาญข้าราชการ

☐ กองทุนประกันสังคม

☐ กองทุนสำรองเลี้ยงชีพ

☐ กองทุนการออมแห่งชาติ

☐ กองทุนที่ได้รับสิทธิประโยชน์ทางภาษี (กองทุน LTF, RMF, SSF)

☐ อื่นๆ โปรดระบุ ....

9. สถานะสุขภาพจากการประเมินตนเอง

☐ แย่มาก ☐ ไม่ค่อยดี ☐ ปกติ

☐ ดี ☐ ดีมาก

10. จำนวนของผู้อยู่ในอุปการะ

☐ ไม่มี ☐ 1-2 คน ☐ 3-4 คน

☐ 5-6 คน. ☐ มากกว่า 6 คน
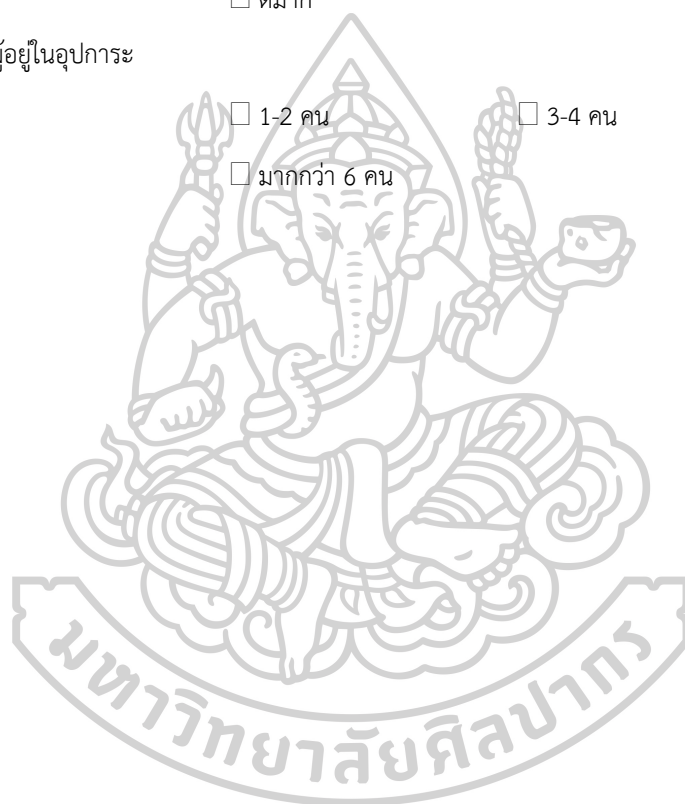
ตอนที่ 5 ความคิดเห็นเพิ่มเติมอื่นๆ

ความคิดเห็นเพิ่มเติมอื่นๆ เกี่ยวกับปัจจัยที่มีผลต่อการวางแผนการเงินและการออมเงินเพื่อการเกษียณอายุ (ถ้ามี)

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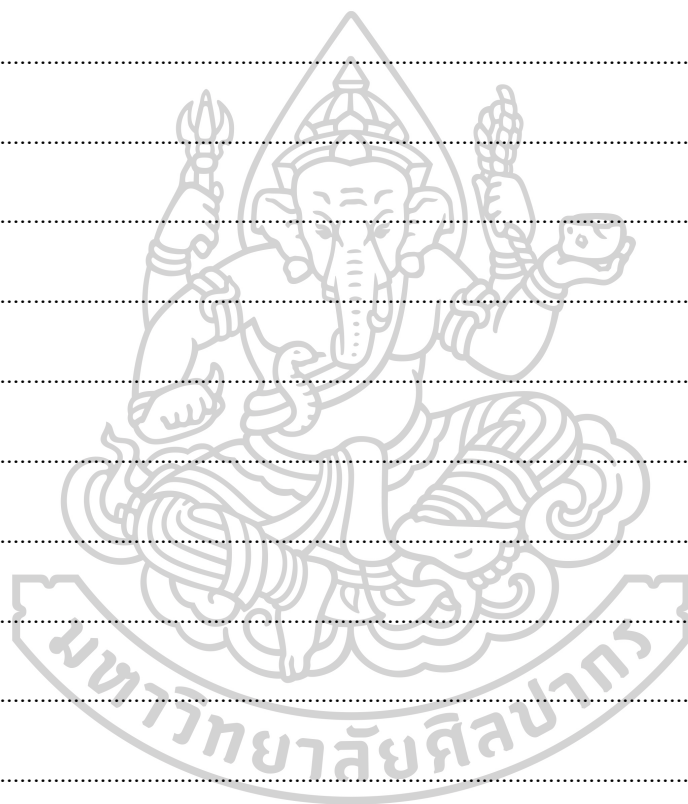
ขอขอบคุณพระทุกท่านที่เสียสละเวลาในการตอบแบบสอบถามฉบับนี้

Appendix B Questionnaire (English Version)

Questionnaire

Research Title "An Application and Extension of the Theory of Planned Behavior to the financial behavior: Evidence from Thai and international workers"

Explanation

This questionnaire is an integral part of Doctor of Philosophy in International Business Administration, International College, Silpakorn University. On the topic of research "Key Factors Influencing Retirement Planning: Evidence from Thai and Non-Thai Workers", research studies the impact of various factors that affect to financial planning and retirement savings for Thais and foreigners working in Thailand. There are 5 parts for this questionnaire.
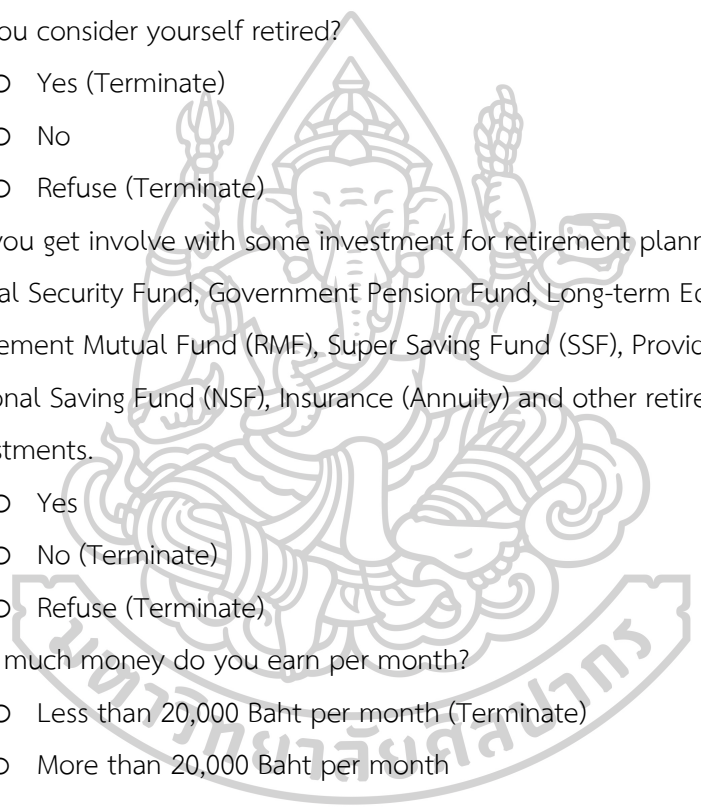
Part 1: Attitude and Beliefs	71	questions
Part 2: Intention to Plan	6	questions
Part 3: Saving Behavior	6	questions
Part 4: Respondent Profile	10	questions
Part 5: Additional Comment on retirement planning (Open-ended question)		

All collected information will be kept confidential including non-identifiable processes of individual respondents. All collected information will be directed to the study process that is relevant only on the research subject. This survey will have 5 parts and take around 10 minutes to complete.

Finally, the researcher would like to express my greatest Thanks for your cooperation in answering this questionnaire.

Contact name   : Mr.Narit Kerdvimaluang

Telephone number : 083-544-8024

E-mail address   : Narit.Ker@rmutr.ac.th

International College, Silpakorn University

Let we start with some simple question below

1. Do you consider yourself retired?
   - ○ Yes (Terminate)
   - ○ No
   - ○ Refuse (Terminate)

2. Are you get involve with some investment for retirement planning in Thailand? (Social Security Fund, Government Pension Fund, Long-term Equity Fund (LTF), Retirement Mutual Fund (RMF), Super Saving Fund (SSF), Provident Fund (PVD), National Saving Fund (NSF), Insurance (Annuity) and other retirement planning investments.
   - ○ Yes
   - ○ No (Terminate)
   - ○ Refuse (Terminate)

3. How much money do you earn per month?
   - ○ Less than 20,000 Baht per month (Terminate)
   - ○ More than 20,000 Baht per month

Part 1: Attitude and Beliefs

Objective 1 This part is to understand about your experience about the retirement planning that you used in term of financial retirement planning. Please rate your level of agreement with the following statements.

Score: 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
1.1 Retirement Planning (Financial-oriented Attitude)						
Parent Financial Behavior						
1	When I have to manage money, I do the same as my parents did for the similar situation					
2	When I am a teenager, I learned financial knowledge from my parent's behavior					
3	When I am a teenager, my parents had economical behavior for financial issues					
4	When I am a teenager, my parents discussed their personal financial decision within family					
5	My parents encouraged me to save money for the future plan					
Future time perspective						
1	I always follow the advice to save my money for a rainy					

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
	day					
2	I enjoy to think about how I will live in the long future					
3	The long future is too uncertain to plan in advance					
4	The future seems to be very unclear and unstable to me					
5	I have established long-term goals and worked hard to fulfill them					
Propensity to Plan						
1	I set up my financial goals for the next few years for all achievements with my money					
2	I plan earlier about my money to be used in the next few years					
3	I actively consider all needed steps for my financial plan in the next few years					
4	My reviewing for financial plan during next few years will give me a view for spending in the future					
5	My financial plan for the next few years makes me feel better					
Goal Clarity						
1	I have set up clearly about my goals for getting information about retirement					
2	I have thought a great deal for my quality of life after retirement					
3	I set specific goal amount of money to be saved for retirement					
4	I have discussed my retirement plans with my spouse, friends, and important people around					
5	I have thought a great deal of the retirement quality life					
1.2 Retirement Planning (Perceived Social Influence)						
Perceived Social Influence from Family						
1	My family is important to me to think that I should plan					

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
	and save the retirement planning regularly					
2	My family influences me to think that I should plan and save the retirement planning					
3	My family members believe that I should invest money on the retirement planning					
4	I think my family members can influence my decision-making on the retirement planning					
5	I think my family members support my retirement planning					
Perceived Social Influence from Friends						
1	My friends are important to me to think that I should plan and save the retirement planning					
2	My friends influence me to think that I should plan and save the retirement planning					
3	I think my friends can influence my decision-making on the retirement planning					
4	I think my friends support my retirement planning					
Perceived Social Influence from Colleagues						
1	My colleagues are important to me to think that I should plan and save the retirement planning					
2	My colleagues influence me to think that I should plan and save the retirement planning					
3	I think my colleagues can influence my decision-making on the retirement planning					
4	I think my colleagues support my retirement planning					
Perceived Social Influence from Superior Boss						
1	My boss is important to me to think that I should plan and save the retirement planning					
2	My boss influences me to think that I should plan and save the retirement planning					
3	I think my boss can influence my decision-making on the					

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
	retirement planning					
4	I think my boss supports my retirement planning					
1.3 Retirement Planning (Perceived Behavior Control)						
Tax Incentive Program						
1	Tax incentive program could help for planning and saving money for retirement and crate the sufficient fund after retiring					
2	The new retirement investment with tax deduction for employee contributions to pension, retirement annuity, and provident funds has increased my saving on retirement investment in Thailand or my country					
3	I invest in a retirement annuity and/or pension and/or provident fund in Thailand or my country					
4	I kind of have an idea of the tax implications of my investment					
1.4 Retirement Planning (Financial Literacy)						
Financial Knowledge						
1	I am very good and knowledgeable for retirement financial planning					
2	I have a lot of confidence for my ability to plan for retirement planning					
3	When I need for some financial services, I know accurately where to get all information on what to do					
4	I have clear understanding about how Social Security or Pension Fund working					
5	I have clear understanding about how private retirement investment plans working					
Financial Numeracy						
1	If the product price that I buy today doubles over the next ten years and my income also doubles, I will be able to buy the same product in the same quantity					

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
2	I think I should pay for the housing loan with 4-6 percent per year that is more cost effective choice to buy a house than saving cash 30 years in case of 10 percent increasing on the house price					
3	In comparison for saving in 0.25% saving account and 3% fixed account, I should choose to save my money on fixed account because of getting higher return					
4	Imagine that the interest rate on your saving account was lower than inflation rate. After one year, you could be able to buy less products with the money in the account					
1.5 Retirement Planning (Risk Appetite)						
Longevity Risk (The risk of running out of asset before running out of living time)						
1	I am worried about: Running Out of Money while you are alive					
2	Thinking now about age you would live to, you have thought a lot about the risk of running out of asset at my retirement time					
3	At my 60 years old, I believe I can live more than 20 years (more than 80 years old)					
4	I think I could retire perfectly at 60 years old with sufficient funding to spend after that (Word 'Retire' mean to stop full-time paid work with no intention of working full-time again; however, you might still be able to do a little part-time work or some voluntary work)					
Healthcare Risk						
1	I have a six-month to one-year cash emergency fund					
2	I have adequate life insurance to provide the expense for my family					
3	I have long term care insurance					
4	I prepare to pay and arrange payments for my medications					

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
5	I can arrange my payment for the medical equipment and supplies					
Sequence of Return Risk (The dander for the timing of withdrawals from retirement account will have the negative impact on the overall rate of return available to investor)						
1	I know many types of investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property Fund, and others					
2	I have ever invested some types of these investment instruments; Bank deposits, Bonds, Debentures, Mutual fund, Stocks, Gold Fund, Property Fund, and others					
3	I will prefer to invest in higher return than the inflation rate that high volatility of fund value is acceptable					
4	I would like to invest in secured principle that the return could be lower than inflation rate					
5	I would like to invest in the fund with 2-3 percent constant return more than opportunity to receive return up to 25 percent with possibility loss up to 15 percent					
Inflation Risk (People lose crucial protection because retirees often rely on source of income that do not grow with inflation, a rising cost of living can pose a challenge)						
1	I think that high inflation can definitely affect to my retirement planning					
2	I think that preventing high inflation is an important national priority as important as preventing drug abuse problem or preventing the lower quality of schools					
3	When I know the projections about how many times more a college education will cost or how many times more the living cost will cost more in the future, I feel a sense of uneasiness. These inflation projections always make me worry that my own income will not increase as much as					

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
	such costs will					
4	I can live with moderate, steady inflation for a while; however, the inflation continues grows up long enough then eventually the money will be practically worthless					

Part 2 Intention to Plan

Objective 2 The following part is to understand about your intention to plan for financial retirement planning

Score: 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
Intention to Plan						
1	I expect to invest in retirement planning asset frequently					
2	I want to invest in retirement planning asset in the near future					
3	I am generally optimistic about my financial future status					
4	My financial process for retirement is worthwhile					
5	I spend my time for planning and reviewing my financial issues					
6	I believe that the better retirement life could be made by a regular saving portion of my income					

Part 3 Saving Behavior

Objective 3 The following part is to understand about your saving behavior for financial retirement planning

Score: 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
Saving Behavior						

No.	Factors influencing retirement planning	Your opinion				
		1	2	3	4	5
1	I have made meaningful contributions to a voluntary retirement saving like Provident Fund, Mutual Fund, and others					
2	Comparing with my peers, I have saved a great deal of retirement saving					
3	I have accumulated significant saving amount for retirement					
4	Based on how I plan for my retirement life, I have saved appropriately					
5	I have saved money to be more financial independent					
6	I have to save as much as possible and only spend my money only on strictly necessary things					
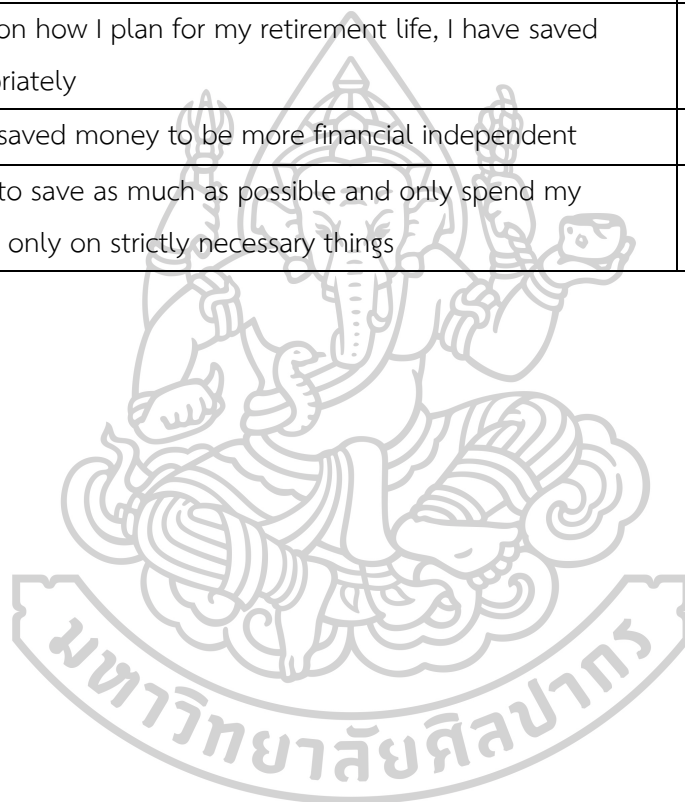
Part 4 Respondent Profile

Please mark √ into ☐ for the suitable answer

1. Gender

☐ Male   ☐ Female

2. Age (more than 6 months rounding up to 1 year)

☐ 20-29 years old   ☐ 30 – 39 years old   ☐ 40 - 49 ปี

☐ 50 - 59 years old   ☐ Above 60 years old

3. Nationality

☐ Thai Nationality   ☐ Foreign Nationality, Country of

residence:.....................................

4. Marital Status

☐ Single   ☐ Married   ☐ Divorced

☐ Cohabiting

5. The highest level of education

☐ No formal education

☐ High School or equivalent

☐ Bachelor's degree or equivalent

☐ Master's degree or equivalent

☐ Doctorate/ Ph.D. or equivalent

☐ Others: ....

6. Professional Occupation

☐ Private Company Employee   ☐ Government officer or related Government work

☐ Self-employed   ☐ Business Owner

☐ Retired   ☐ Others: ....

7. Average monthly income

☐ 20,000 – 39,999 Baht.   ☐ 40,000 – 59,999 Baht.   ☐ 60,000 – 79,999 Baht.

☐ 80,000 – 99,999 Baht.   ☐ Above 100,000 Baht.

8. Investment asset for retirement (you can choose more than 1)

☐ Government Pension Fund

☐ Social Security Fund

☐ Provident Fund

☐ National Saving Fund

☐ Private Investment System with Tax incentives (LTF, RMF, SSF)

☐ Other private investment ....

9. Self-report health status

☐ Poor   ☐ Not good   ☐ Normal

☐ Good   ☐ Excellent

10. Number of dependents

☐ None   ☐ 1-2 people   ☐ 3-4 people

☐ 5-6 people   ☐ More than 6 people

Part 5 Additional Comment on retirement planning (Open-ended question)

Do you have any further comments about this survey?

Please inform your comment below.

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Thank you so much for completing the survey.
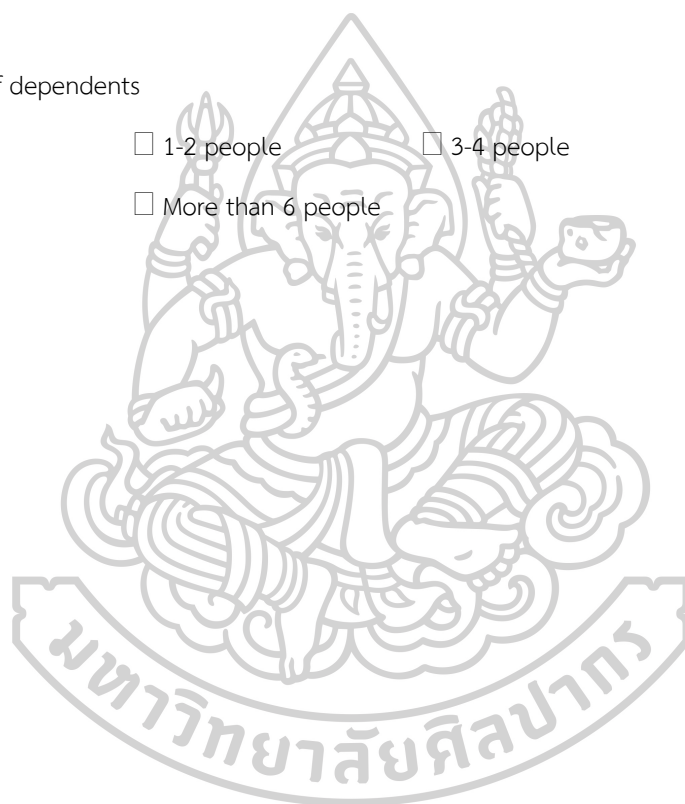
VITA

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PUBLICATION	Kusalasaiyanon, C., & Kerdvimaluang, N. (2019). The Human Resource Development by Monozukuri Towards Thailand 4.0 of SMEs. The Journal of King Mongkut's University of Technology North Bangkok, 29(4), 686-699.
	Kerdvimaluang, N., & Kusalasaiyanon, C. (2016). The Effect of E-warehouse Management on Business Performance towards ASEAN Community of Rice Mill Industries in Central Region of Thailand.