THE EFFECT OF COVID-19 PANDEMIC ON RETIREMENT PLANNING. EVIDENCE FROM PRIVATE EMPLOYED PERSONS.

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DECLARATION

We hereby declare that:

(1) This undergraduate FYP is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the FYP.

(4) The word count of this research report is words 22511 .

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DEDICATION

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LIST OF ABBREVIATIONS

AIF	Asian Institute of Finance
ANOVA	Analysis of Variance
CEO	Chief Executive Officer
Covid-19	Coronavirus Disease 2019
DOSM	Department of Statistic Malaysia
DV	Dependent Variable
EPF	Employees Provident Fund
EPS	Public Pension Scheme
FEN	Financial Education Network
FL	Financial Literacy
FOMCA	Federation of Malaysian Consumers Associations
FSC	Financial Supervisory Commission
GC	Goal Clarity
IFC	International Finance Corporation
INC	Income
IV	Independent Variables
M	Mean
MARS	Malaysia Ageing Retirement Survey

MCO	Movement Control Order
MFPC	Malaysian Financial Planning Council
OECD	Organisation for Economic Co-operation and Development
RMFLS	RinggitPlus Malaysian Financial Literacy Survey
RP	Retirement Planning
SB	Savings Behaviour
SD	Standard Deviation
SEM	Structural Equation Modelling
SmartPLS	Smart Partial Least Squares
SPSS	Statistical Package Social Science
SWRC	Social Wellbeing Research Centre
TPB	Theory of Planned Behaviour

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PREFACE

This research project is submitted for the purpose of fulfillment the goal of requirement for the pursuit of Bachelor of Finance (Hons) at Universiti Tunku Abdul Rahman (UTAR). This study is conducted under the supervision of Mr. Muhammad Ashraf Bin Anuar. This study provides a detailed explanation of our topic we completed towards accomplishing our project goals.

The title for this report is "The Effect of Covid-19 Pandemic on Retirement Planning. Evidence from Private Employed Persons." The dependent variable that we used in this study is Retirement Planning (RP), whereas the independent variables that we used are Income (INC), Financial Literacy (FL), Savings Behaviour (SB), and Goal Clarity (GC). Furthermore, the general objective of this study is to identify the relationship of the determinants included income, financial literacy, savings behaviour and goal clarity toward retirement planning due to the effect of Covid-19 pandemic.

Firstly, this study begins by introducing the topic selected and explaining the relationship between the independent variables and dependent variable. This study then examines the relationship between the variables according to the theory in detailed literature review. Next, questionnaire distribution method is used in this study through single cluster sample strategy and the data collected is analyzed and presented in order to achieve the study's goals. The results of the relationship between variables are provided and discussed. As a conclusion, this study has concluded the overall test results, discussion of major findings, policy implications, limitations, and recommendations.

Abstract

Retirement planning is essential practice to protect post-retirement well-being. This study aimed to identify the effect of Covid-19 pandemic on retirement planning. There are income, financial literacy, savings behaviour and goal clarity are implied for this study to identify their relationship between retirement planning as impacted by the pandemic. Private employed persons are mostly affected among the working population and had became the target of this study.

Total of 393 survey had been collected from regions including Selangor, Wilayah Persekutuan (Kuala Lumpur and Putrajaya), Perak, Johor and Penang. Afterwards, Statistical Package for Social Science (SPSS) applied for data analysis. There are few test conducted including reliability test, consistency test and significance of model test.

Income, financial literacy, savings behaviour and goal clarity are shown to be significant variables leading to retirement planning as impacted by Covid-19 pandemic. Implications are suggested to all related authorities to educate people in doing better retirement planning.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Covid-19 disease outbreak drastically impacted to the world economy, consequently interrupted financial planning among business, households and individuals. As described by Fox and Bartholomae (2020), the financial shock for household was due to unemployed, pay cut, reduced hour or unpaid leave. In Malaysia case, Movement Control Order (MCO) has been enforced by the government beginning from March 2020, and intermittently in January and June 2021 as response to growing numbers of diagnosed cases of Covid-19. Throughout the movement restriction order, only essentials sectors are allowed to operate within stinted business hours and limited number of workers. Unemployment has become the main concern for workers during this pandemic.

Retirement planning is one of the impacted financial planning during the attack of Covid-19. Retirement planning is essential for early adoption to ensure the accumulated fund saved since youth enough to support daily expenses after retired which means zero income. Before the pandemic, pension fund contribution in Malaysia is considered unfavourable due to lack of awareness about its importance to guarantee retired living lifestyle. Plus, issue of aging population in year 2035 with insufficient retirement fund has yet resolved. In view pandemic is growing severe, it caused worsen retirement planning. Focus on this study is to understand the effect of Covid-19 on retirement planning. Observations of relationship between retirement planning and variables included income, savings behaviour, financial literacy, and goal clarity will be conducted. This study based in Malaysia and target among private employed person who are aged among 36 to 55 years old.

1.1 Research Background

Covid-19 has significantly impacted to Malaysia economy, restriction on movement and series of self quarantines of nation measurements drastically boost unemployment due to less financial activities are allowed. Overall, unemployment rate in Malaysia since spread of coronavirus recorded highest in year 2020, 4.55% which increase sharply from previous year at 3.31%. Recorded highest rate since independence of Malaysia. Malaysian workers are most likely be impacted in view the total labour participation in market maintains among 68%. On top of that, reduction of income occurred among different income groups. The B40 group which represent earnings level at 40% bottom in Malaysia is specifically affected from the pandemic (The World Bank, 2020). This group earned median income of RM 3166 per month. Income is a crucial factor in determining retirement wealth management. Munnell, Chen, and Hou (2020) stated that there is an expansion of savings gap for all level income groups due to unemployment, concluded that people experienced less harm in their future retirement if they have only short time of unemployment.

Issue of lack preparedness for retirement among Malaysian started even before the pandemic. According to Noar (2018), aging population in Malaysia is increasing and estimated with a rise of 5.6 million who are 60 years old and above in year 2035. In fact, according to Department of Statistic Malaysia ([DOSM], 2020a), Malaysian life expectancy is moving uptrend. Male with expected live 72.6 years while female at age 77.6, both shows longer time of survival compared to previous years. As addressed by Folk, Beh, and Baranovich (2012), increasing life-expectancy meaning lesser in value of real income in average as taking inflation rate into consideration. This is a sign for the pre-retirees to know that the accumulated amount of pension fund has to be increased to support the longer after retired life. However, based on the disclosed figure by EPF 2015, most of Malaysians who will reached to retired age at 55 have no sufficient retirement savings. More concerning, within 5 years of retirement, half of the retirees will exhaust all savings (Kimiyagahlam, Safari, & Mansori, 2019). Therefore, retirement wealth

management must be designed in goal based. Taking advantage in time horizon is one of the significant principles in retirement planning to develop long-term goals ranged 15 years and above. It is crucial to align appropriate investment approach with the long-term goals in order to assist in assuming different degree of risks in different time horizon while ensuring adequate savings to accomplish the long-term retirement goal (JP Morgan, 2020).

Moreover, financial literacy is one of the important variables in influencing retirement planning. Financial literacy is defined as the understanding of fundamental financial principles and concepts as well as the capability to conduct simple financial calculations, is a vital skill necessary for ensuring adequate financial security in the stage of pre-retirement (Nolan & Doorley, 2019). Besides, financial literacy is also linked to the increased of overall household wealth, reduced financial stress and increased predicted retirement income. Therefore, those with higher level of financial literacy have higher predict of income in retirement. This meant that people who have higher financial literacy will have more confident in retirement planning preparedness compared to the others. If declining number of individuals continue to study could become an issue, this is because individuals have lesser level of financial literacy; therefore, they are less likely to construct for retirement planning. This issue is being reflected according to Bank Negara Malaysia (2017) where Malaysians less likely to do long-term financial planning included planning for retirement, as proven that readiness for retirement among workers are found with only 40%. Awareness among Malaysian towards retirement planning is due to undesirable financial literacy level. Also, as part of financial literacy to understand economy factor such as inflation able to reduce purchasing power of each unit of currency, prices of products and services will rise over time is considered low among Malaysians. In other words, it leads to an increase in the expense of living. Individual savings can be eroded by inflation, diminishing an individual's purchasing power. This is due to the fact that the interest rate on personal savings or savings accounts is lower than the inflation rate. This circumstance implies that the rising cost of the goods and services greater than the worth of interest income earned in the savings accounts. In addition, inflation can reduce personal budgets due to individuals no longer have monthly income during

retirement. Therefore, budgets are also vital to retirees. However, because the cost of goods and services rises due to inflation, an individual's budgeting should be reviewed every couple of years and this will also affect an individual's retirement planning (Masran & Hassan, 2017). As a result, changes in Malaysian financial literacy will have an impact on retirement planning. Having strong financial literacy is highlighted to be more crucial in the era of Covid-19 because it did navigate ones' in getting alternative ways in re-access for their financial position, stated by The Deputy Finance Minister II Mohd Shahar Abdullah ("Covid-19 Highlights", 2020). About 22% of Malaysians in answering OECD financial literacy survey in response to pandemic claimed they had no idea for their survival period after cease of income and without borrowing (OECD, 2021). This is a concerning fact to prove that Malaysians are inadequate in financial literacy to perceive uncertainty. Hence, it is critical for individuals to be educated in order to encourage and raise their awareness to prepare for retirement planning.

Income is a crucial factor in determining retirement wealth management. According to Kadir, Zainon, Ismail, Aziz, and Amran (2020), individuals invest in various sorts of asset and efficiently manage their personal income as a safeguard for an ensured life after retirement. However, low-income level indicates individuals might dispense more on consumption as opposed to investment and retirement wealth allocation. They spend for necessity to maintain daily life such as consumption of food and beverage, service and utilities according to their lifestyle setting and demonstrates low commitment in retirement savings and investment with excessive income. Meanwhile, the outbreak of Covid-19 pandemic has further worsened the pay level caused by job loss, pay cut, working hours reduction and so on. According to DOSM (2021a), the average and median salaries and wages in monthly basis for the employed fall by 9.0% and 15.6% in 2020 compared to 2019. Furthermore, majority household encountered shifted in income decile group. Statistic shown that since decline in income level, extra 12.5% earn a household income of less than RM 2,500; at the same time, 20% of M40 household group and 12.8% of T20 household group have migrated to B40 category and M40 category respectively in 2020 influenced by Covid-19 pandemic (DOSM, 2021b). Hence, this research

further extent by concentrating on retirement planning influenced of income from the working population in current economy situation due to the effect of Covid-19.

Apart from this, one of the significant factors influencing retirement planning is savings behaviour. According to Lusardi (2003), most people perform poorly in their savings behaviour because planning for retirement is a difficult task, and people also frequently regret it when they retire and discover that they have not enough money for retire. Therefore, people must start early for retirement savings. According to Masran & Hassan (2017), individuals who save before they spend will be able to save for their future, which will also assist them in proper planning for retirement. The outbreak of Covid-19 pandemic has further affected retirement savings. People are withdrawing their retirement savings due to the effect of Covid-19 pandemic. Chief Executive Officer (CEO) of FOMCA stated that the retirement savings are exhausted consequence by the withdrawal. Individuals unprepared for emergencies can be proven from the statement that 30% of Malaysians withdrawn the amount which drained nearly entire of the retirement savings (Chan, 2021).

Furthermore, the factors that must be aggressively concerned by the employed group include charting retirement plan. Retirement goal might have a favourable influence on retirement plan. Individuals would chart the quality of life after retirement and may use the focus to identify the optimal investment tool leading up to retirement and decreasing the short-sightedness. However, the event such as outbreak of Covid-19 pandemic are frequently inevitable and might cause disparity as well as bear a detrimental impact on the existing retirement plan (Yeo, 2020). In the event of economic instability, the happened of unemployment, pay cut and inflation may gradually impact on the retirement goals of individuals. Hence, it may extent the time horizon in retirement planning; at the same time, significantly impact on individuals near to the age of retirement in achieving their retirement goals. In this case, it is significant to further understand the factors of goal clarity in retirement planning under this unexpected setback condition. Living burden after retirement become a concerning issue for most of the Malaysia retirees as consequence by poor planning for retirement and debt management. About 63%

comprised from this concerned group worrying for their ability to financially support their family after retirement (Krishnan, Haron, & Paim, 2018). However, pandemic exacerbate the situation with raising household debt recorded RM1.34 million in 2020 to cope with adverse challenges of unemployment and pay cut (Yeo, 2021). On top of that, the Covid-19 related withdrawal scheme of EPF drive massive impact on EPF savings to afford retirement (Azman, 2021). As a combination effect of inadequate EPF savings and increasing in household debt, it believed individuals require to extend work horizon and postpone their intended and desired retirement age.

Most severe impact by Covid-19 was found in effecting the private sector among developing economies, same for those business and individual under conflict-affected situation (International Finance Corporation [IFC], 2020). In Malaysia context, job opportunities decreased by 204,000 in the private sector, and remain in downtrend as compare before the pandemic (DOSM, 2021c). According to Mohamad, Rahman, Ghazali, and Zambri (2021), private sectors are most likely to be impacted compared to public sectors in Malaysia. The driven effect of Covid-19 pandemic causing cut spending in the private sectors. As response, more than one third among 170,000 workers reported 90% reduction of income and for half of those self-employed became unemployed, result is based on the survey conducted by Department of Statistic Malaysia (DOSM, 2020b).

Retirement pension fund for Malaysian is Employees Provident Fund (EPF) which is compulsory for every employee and employer to distribute from part of their monthly salary and accept voluntary contribution by self-employed in private sector as well. Program of i-Saraan is specially designed for self-employed not elder than 55 years old, to voluntary accumulate their EPF account as retirement savings had recorded significant increase in registration members since 2018, with growth rate of 22.11% in 2019 (Employees Provident Fund [EPF], 2019). This scheme purposely developed to prepare self-employed with social security coverage. However, participation rate in this scheme are only 10% from the overall 2.7 million of self-employed in Malaysia. The Deputy Finance Minister II claimed that only

18% of the registered members are constantly contribute to their EPF ("Self-employed workers", 2020).

According to EPF (2020), Malaysia government decided to make a reduction of EPF contribution rate from 11% to 9% for active members aged 60 years old below. The decision made for the purpose to reduce burden of private work forces considering their income pay cut during the pandemic. The policy effective for the whole year of 2021 which is slightly increase from 2020 with 7% contribution. There are 70% of members came from B40 had applied for the reduction rate (Yeap, 2020). In earlier, i-Lestari scheme was introduced by the government to allow members of EPF make an urgent withdrawal from Account 2. Cash out from RM 50 to RM 500 every month, until 31st March 2021 are allowed for members 55 and below. It was explained to help members in meeting basic financial needs monthly. According to EPF (2021a), i-Lestari facility gave out RM20.80 billion to 5.27 million members. i-Sinar is an alternative for member withdraw from account 1 from range of amount from RM 10000 to RM 60000, subject to amount saved in account 1. Those who has been having 30% reduction of income are eligible for applying. In the first quarter of 2021, total 6.49 million applicants were accepted for RM57.97 billion in i-Sinar withdrawals, of which RM50.93 billion was disbursed. Coming up i-Citra opened application for the members from 12th July 2021 to 30th September 2021. i-Citra is also allowing the members to withdraw their savings primarily from Account 2 but if the amount in Account 2 is insufficient, then the depositor can access to Account 1. The members who under 55 years old and have at least RM150 in KWSP account on the day of application are eligible to apply for i-Citra. The members allowed to withdraw from RM50 to RM5000 depending to the savings balance in Account 1 and Account 2. The members also need to confirm that they have at least RM100 balance in Account 1 after the withdrawal is made. After approving, the withdrawal amount will be paid over a five months' period with the payment of RM1000 each month.

In view to the figures of withdrawal, proven that retirement planning of private employed persons are impacted by the Covid-19 pandemic. More concerning fact

is they have insufficient savings amount in account to help them surviving in the pandemic. People withdraw savings for current consumption rather than doing any investments. Believed that government incentives to overcome short-term financial difficulties among Malaysian, however, it would cause a long-term effect on retirement planning especially for those who closed to the age of retirement at 55 years old.

1.2 Problem Statement

Covid-19 is considered as an economy breakdown caused disruptions on business and labour market, workers are likely to be affected, especially for those being unemployed during pandemic would receive harder affection (Zulfaka & Kassim, 2020). Retirement cause someone to lose in financial security, to lose social identity and self-worth reduction, drive impact to well-being (Yeung & Zhou, 2017). Well-being in measurement of happiness and contentment, give sense on one's ability to take control over life (Ruggeri, Garcia-Garzon, & Maguire, 2020). Well-being of retirees derived from retirement resources, it is represented by pension fund in our study. However, resources after retirement shows a trend of declining among retirees, while it is significant to affect well-being in post-retirement life (Yeung & Zhou, 2017). Findings from Wang, Henkens, and van Solinge (2011) stated post-retirement well being observed be decrease when retirement resources reduce over the time, while well being increase at the same time when retirees able to gain more resources. As concluded by the researchers, initial size resources allocated by retirees can used to explain the changes in post-retirement well-being based on their activities as pre-retirement planning, and the effect brought is beneficial to level of well-being. Decreasing well-being will lead to mental problem and distress, meanwhile, early planning for retirement is important.

Based on the Malaysia Ageing Retirement Survey (MARS) conducted by Social Wellbeing Research Centre (SWRC), 8 persons out of 10 are prepared to work

beyond retirement age, which is not a good phenomenon to prove insufficient savings amount for them to stop working, and they will be more financially dependent to their children. In relation to retirees' family, retirement not only matter to the one who retired but whole family is affected as well (Dorfman, 2002). As aligned with the statement, the survey finding shows that about 60% of retirees obtain financial support from their children. As consequences, economic well being will decrease among retirees. Furthermore, burden further build on adult children when they are struggling to maintain own family life under high cost living and responsible to retired parents living expenses.

With the issue of increasing life expectancy among Malaysian, it would be a challenge for nation to prepare sufficient financial supports and services regarding health cares to serve this population. As suggested by Teh and Sapuan (2018), working age population moving in incline trend as resulted by increasing group of ageing workers. Reduce of productivity among this group later cause nation's income to drop. As consequences, Malaysia government required to expand expenditure to provide well-care specifically for sectors included healthcare, pension expenses and social protection.

In view, retirement funds as a significant financial source for retirees, it requires cautious planning and regularly adoption. However, the undergoing pandemic continue to affect Malaysian workers on planning retirement. As pointed by Lim, Tenk, Teoh, and Lee (2021), Covid-19 served consequences that last for long-term as a worker may have delay in retirement due to having financial distress. Hence, this study is aimed to identify the effect of Covid-19 to retirement planning of private employed persons.

Income to be defined as determinants of retirement planning as impacted by the pandemic since economy downturn event caused reverse relationship between income and retirement planning (Bodie, 2003). Previously, many researchers concluded that the low income was main reason for workers to do less retirement

planning. In this study, focus on changes of income due to the effect of Covid-19 leads to affect on retirement planning to be observed. Financial literacy is most frequently used as determinants of retirement planning in Malaysia. Proven in that with higher financial literacy, people can do better retirement planning, most relevant since younger ages (Andrade, Bazelais, & Das, 2014; Masran & Hassan, 2017). In Malaysia context, financial literacy among workers considered very low even before the pandemic as view the result of EPF savings not reaching at satisfied level. Therefore, the relationship between financial literacy and retirement planning as impacted by Covid-19 will be observed in this research. Savings behaviour has represented how discipline a worker is to save rather than spending directly leads to retirement planning. Savings behaviour is crucial in determine retirement planning, (Zazili, Ghazali, Bakar, Ayob, & Samad, 2017; Kadir et al., 2020). Pandemic has believed impact to savings because individual had withdrawn savings for daily expenses, which has interrupt adoption of savings behaviour. On hold clearer goal setting, workers can resist unexpected risk and event like coronavirus pandemic. Therefore, the study observe is goal clarity impacted by the pandemic to retirement planning.

1.3 Research Objective

1.3.1 General Objective

Researchers aimed to identify the relationship of the determinants included income, financial literacy, savings behaviour and goal clarity toward retirement planning due to the effect of Covid-19 pandemic.

1.3.2 Specific Objective

(a) To determine relationship between income and retirement planning due to the effect of Covid-19 pandemic.

(b) To determine relationship between financial literacy and retirement planning due to the effect of Covid-19 pandemic.

(c) To determine relationship between savings behaviour and retirement planning due to the effect of Covid-19 pandemic.

(d) To determine relationship between goal clarity and retirement planning due to the effect of Covid-19 pandemic.

1.4 Research Question

(a) Is there positive or negative relationship between income and retirement planning due to the effect of Covid-19 pandemic?

(b) Is there positive or negative relationship between financial literacy and retirement planning due to the effect of Covid-19 pandemic?

(c) Is there positive or negative relationship between savings behaviour and retirement planning due to the effect of Covid-19 pandemic?

(d) Is there positive or negative relationship between goal clarity and retirement planning due to the effect of Covid-19 pandemic?

1.5 Significant of the study

Retirement planning is a concerning topic among Malaysians since few years ago, even under an economy stable condition, retirement planning is hard, not to mention there are undergoing economy uncertainty. For the purpose to prevent severe

consequence on retired age, understanding the impact of Covid-19 is essential. Most of the research in Malaysia context studied on determinants of retirement planning before the outbreak of Covid-19 pandemic. However, there are only few studies found focus on retirement planning during the outbreak of Covid-19 pandemic. Besides, implications to overcome impact of Covid-19 has less been suggested in Malaysia context. Therefore, this study will reveal the determinants of retirement planning as affected by Covid-19 pandemic. The outcome would give a sense of population retirement planning due to the effect of Covid-19 pandemic so that it provides clear direction and purpose for authorities in implementing effective implications.

This research is benefit in planning for a broad social safety net especially for those private employed persons. Unlike the public servant covered under Public Pension Scheme (EPS) who will be much more subsidised for medical expenses, while private employed person' protection by the scheme is only the accumulated amount of fund (Narayanan, 2002). Authorities included policy makers or government, pension fund organization and others financial related firms may take advantage based on this study outcome. Firstly, by assessing the findings from this study, government can review determinants of retirement planning included income, financial literacy, savings behaviour and goal clarity in assisting a better retirement planning among private employed persons. Government can help the population in preparedness by educating.

1.6 Conclusion

Detailed explanations about Malaysian retirement planning awareness and adoption level in due to the effect of Covid-19 pandemic is the main focus in this chapter. Researchers exhibit issues regarding the topic raised during Covid-19 pandemic as to deliver concerns and significance of study.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

Theories apply for the dependent variable of retirement planning and independent variables including income, financial literacy, savings behaviour and goal clarity are being identified through theoretical review. Literature review on all variables based on research done in Malaysia and oversea context and include studies before pandemic Covid-19 and during the pandemic. Framework for the study will be draw for this study. Hypotheses to be testing are formed followed by the chapter conclusion.

2.1 Theoretical Review

2.1.1 Continuity Theory

The theory of continuity is useful to define the psychological development of middle-aged and elderly people, especially related to retirement. Continuity theory was developed by Robert Atchley in a series of frameworks. According to Atchley (1989), continuity theory assumes that elderly people who maintain a similar lifestyle as they did before when they retire will have a higher level of mental health. Internal and external are two differentiated kinds of continuity theory. Internal continuity is derived from characteristics of the personality of a person while external continuity resulting from physical, social as well as environment factors. According to von Bonsdorff and Ilmarinen (2012), the continuity theory was applied by

the researchers to study the retirement adjustment. The elderly people usually adjust the strategies that related to their previous experience in order to sustain both internal continuity and external continuity in their future lives. Furthermore, according to Feldman and Beehr (2011), the transitional employment has established the basic theory of continuity because the transitional employment helps elderly people to preserve their image and structure through meaningful activities among other gradual transitions to retirement. In result, the theory considers retirement as a life stage and it distinguishes that happiness is linked to a work-life balance.

2.1.2 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB) was being applied to this study. This theory concentrated on the factors that influence people's actual behaviour decisions. The aim of this theory is to predict and understanding human behaviour in certain situations (Ajzen, 1991). Rameli and Marimuthu (2018) who measured behavioural intention towards retirement planning had applied this theory in their research mentioned that this theory is suitable for predicting relationship between individual savings behaviour and retirement planning. According to this theory, the major factors influencing individual savings behaviour are subjective norms, perceived behavioural control their positive and negative attitudes about actual human behaviour. Subjective norms refer to beliefs regarding whether the majority of people agree or disagree to particular conduct. In this study conclude that many people agree with saving behaviour impact retirement planning. Besides, changes on situations and acts caused perceived behavioural control to fluctuate, causing the sense of behavioural control of an individual changing depending on the scenario. For instance, perception of behavioural control over savings, which forces the individual to take action on the behaviour. Individuals who tend to view savings behaviour positively are more likely to formulate a retirement plan as a result of their savings behavioural activity. Besides, the theory of planned behaviour used to

explain individual savings behaviour such as positive savings behaviour would tend to improve an individual's propensity to adopt retirement planning, which to ensure the future retirement life.

2.1.3 Life Cycle Theory

Life Cycle Theory is first conceptualized in the year of 1954 by Modiglani and Brumberg. This theory implemented that individual may plan their spending across lifetime, taking into consideration on their income. The asset accumulation is built by individuals during the working life and spend it during the retirement stages. This suggested that over lifetime, the income may contribute to different retirement planning behavior (Deaton, 2005). When income is low individuals may be less emphasis on retirement planning, in contrast, when there is high income, people tend to save more according to retirement plan. In short, life cycle theory suggests at young age, individuals tend to incur debt and have perception that future income allow them to pay back. In the middle age with peak level of income, they tend to save more. As a result, they able to maintain standard of living after retirement. However, the unanticipated crisis may affect the financial situation where most individuals have not predicted and plan to cope for it (Tan, 2015). For example, the global crisis occurred in 2008/2009 has raise the awareness of individuals in managing their retirement plan. Individuals may adjust their retirement plan by shifting the financial assets to respond to the changes in economic situation. According to Lim et al. (2017), the recent study using this life cycle theory found that income and economic condition are positively related in retirement planning behavior in current pandemic situation. Therefore, this theory is used in conducting our study to examine the influence of income in different life stage in affecting the retirement planning in due to the effect of Covid-19 pandemic.

2.1.4 Beach Image Theory

The beach theory suggest that decision makers behave in accordance to their self-image arise from principle, personality, and ethics dimension. They design specific goals and tactics to be consistent with their image. According to Beach (1993), these goals may motivate or direct one's incremental behavioral steps that are crucial in achieving their specific goals. In short, this theory comprises of three different stages suggest that individual will identify their desired self-image image in term of how they want to perceive themselves in the future. Therefore, they will work strive in achieving the desired image by developing a specific goal. The significance of goal clarity in providing strong motivations and incentives in task accomplishment is well supported by the retirement planning literature. Various studies have included this theory to develop model on goal clarity in encouraging individuals to participate in retirement planning (Brougham & Walsh, 2007; Stawski, Hershey, & Jacob-Lawson, 2007; Koposko & Hershey, 2014). A clear goal in achieving self-image may lead to tendency of retirement planning. Therefore, this model is adopted in our research in investigating the relationship between goal clarity and retirement planning due to the effect of Covid-19 pandemic.

2.2 Variables Review

2.2.1 Dependent Variable (DV) – Retirement Planning

Retirement refers to the withdrawal of position from workforce permanently. It represents something that people look forward to after been working for a lifetime. To have ideal retirement life, individual must first achieve

financial freedom by having personal retirement planning. Retirement planning may not necessary where it is a personal choice to do preparation for their future. Unfortunately, more than 50% of aging population found it is difficult to confront retirement without proper planning and inadequacy of savings. According to Zabri, Ahmad, and Loy (2016), most people believed that the retirement plan by government is adequate to cover the expenditures of golden years. However, population in Malaysia is aging. Report from the Department of Statistics Malaysia (2016) showed that Malaysian aged 60 and above are expected to reach from around 5% in 2010 to 14.5% in 2040 from the total population which is a significant increase in aging population. The Department of Statistics Malaysia (2020a) also showed that life expectancy will be 78.4 years old for male and 81.2 for females in the recent report. Longer life expectancy indicates greater financial resources require for retirement. Hence, the sole dependency on government retirement plan is not enough to cover retirement expenditure. Consequently, they may postpone the age of retirement which lead to the changes in labor force.

Retirement planning may be a lifelong process to be financially resilient in the future. There are several factors in affecting retirement planning. Most individuals believe that planning for retirement is significant only when they are close to the age of retirement. However, the savings will be insufficient in the late planning (Martin, Guillemette, & Browning, 2016). Retirement planning is crucial for individual to assess their personal goals and draw out their retirement dreams based on the desired quality of life. Through retirement planning, individuals should continuously focus on the accumulation phase to achieve the end goal. By having a goal, this may help in focus on selecting the proper savings and investment plan as well as decrease in short-sightedness (EPF, 2018a). For example, individuals may achieve toward goal by setting a desired figure, invest accordingly, create budget plan, payoff debt to reach debt free before retirement and so on. Planning for retirement is difficult. This indicates an evidence on financial literacy in retirement planning. In many cases, people tend to focus on

savings rather than developing investment portfolio to accumulate wealth as savings is the safest instrument. Hence, their savings will be eroded arise from the influence of inflation. As conclude, it is crucial to design appropriate pension scheme to be financial resilient and meet desired quality post-retirement life. Hence, this research is conducted to identify the determinants leading to retirement planning.

2.2.2 Independent Variables (IV)

2.2.2.1. Income

Income is pointed as one of the determinants that has significant impact towards retirement planning. Income can be measured by the monthly income of the individuals as a resource to contribute retirement fund. In Malaysia context, according to Tuan, Tay, Tan, and Lim (2011), Malaysians whom with higher financial capability have more willingness in doing retirement planning. More likely, participation in retirement savings very depending on how much they can earned. Hassan et al. (2016) study on Malaysian workers from age below 25 to 56 years old above determine income level significantly affect retirement savings proven with high income (RM6001 - RM9000) contribute more to pension fund compared to those earn low income (RM3000) below monthly. Similar finding by Shariff and Isah (2019) study on determinants of retirement savings behavior among Malaysians who aged 40 and run analysis with MATLAB and Excel. Concluded that higher income level is significant to defined retirement plan compared to low-income earner because people have to pay all loans including personal and education, before they able to attribute the remaining into retirement fund. The finding was aligned to Moorthy et al. (2012) target on 26 to 55 years old, 300 Malaysian working adults, concluded individual savings and spending influenced by income, people keep more fund for

retirement only when they do calculation of fund. Therefore, income is positively related to retirement planning.

Mansor, Chor, Abu, and Shaari (2015) once distributed 110 set questionnaires to employees working in health sector for the purpose to observe direct relationship of demographic factor affecting retirement planning. In this research, above 80% of income level from total respondents fall between RM 1000 to RM 5000 showing 56% relationship among two income level and retirement planning, even though the figures are considered relatively low, however researchers defined income level as significant determinants with explanation only with enough or sufficient amount of income, people able to start retirement planning. As cited in the study, the researchers claimed that only those high-income earners have more intention to get professional advises related to investment decision as compared to those low-income earners who do not seek for professional advices in investing decision.

In contrast, Payne (2014) study on personal characteristic related to financial well-being among 584 married individuals reveal an opposite conclusion which income was found having indirect relationship in prediction rate of retirement savings. As mentioned, increasing in income level not compulsory to determine the amount for household to distribute into pension fund account. Financial prudence is the main factor in decision making whether to save more percentage of income for retirement. This study applied family financial socialization framework which taking dependents expenditures as consideration. Previously, by applying same framework and observed among 334 married couples, the researchers defined materialism and religiosity as psychological factor impact on how a couple allocate their income in doing retirement preparation (Payne, Yorgason, & Dew, 2013). Therefore, each personal traits give different outcome of retirement planning. It was suggested low-income group has

later retirement age as compared to those wealthier (Gough, Adami, & Waters, 2008).

Agunga (2018) researched based in Nairobi, Kenya recognized negative relationship between retirement preparedness and family income with the sample size of 384 workers. Research destructed self administered questionnaires and analysis done with ANOVA test. Conclusion defined that retirement plan fund affected based on income level and numbers of dependents. In another word, high income level workers have to spend more if dependents number is high and it would affected to retirement planning. This is aligning with Rehman, Bashir, and Faridi (2011) to explained that savings of household was differ from each income group which considering expenditure of household spend on education fees and family members and debts enduring. Kepha (2017) also argue that income level not a primary factor to affect retirement planning as considered taxation charged. This study draws 96 of sample size out of 126 of the population and ANOVA test applied for data analysis. Turn out, negative relationship among incomes and retirement planning, due to the taxation reduce remaining income for further doing investment and consumptions of household. Therefore, there is no direct influence of income.

On the other viewpoint, projection of decreasing income in the future also impacted on people's likelihood to contribute into pension scheme (Monero-Herrore, Salas-Velasco, & Sánchez-Campillo, 2017). Meanwhile, if one views the income not bode well, it will impact to less participant in retirement savings. This statement is supported by Salas (2014), unstable income in household caused difficulty in doing mental accounting because they face hardship in savings money. While Covid-19 has believed to impact to stability of income among employed persons.

Hanspal, Weber, and Wohlfart (2020) survey on 8000 households on their income shock during Covid-19 and the findings show that impact is most severe for those low-income earners, research also suggested that there would be increases of expected retired age because households have to find way to offset those losses. Income shock is representing salary cut off or unemployment. Previously, in research conducted by Ghilarducci, Radpour, and Webb (2019) observed effect of income shocks towards pension fund withdrawal, findings show low incomes households are more likely to take pre-retirement withdrawals whenever they are having economic shocks. In another word, workers hardly to contribute pension fund during economic downturn, adversely, they would need for the pension savings to help them endure with the struggles of lifetime during pandemic.

Lim et al. (2021) conducted research among Malaysia employee's income in affecting retirement savings behavior during pandemic of Covid-19 with mixed method including surveys and interviews. It was concluded that income level significantly positively related to retirement savings, which increase in income lead to increasing allocation on retirement fund. Moreover, reduction of income level during pandemic impacting inversely to retirement savings. It explained by the income level for Malaysian is provided for survival other than savings. Financial hardship is expression of people hard to make end meet or in simple word to have no sufficient money for survival, measured in income level, was defined to have significant impact towards retirement planning (Fan, Stebbins, & Kim, 2021). In their finding, those who faced financial hardship may own self sponsored retirement plans, however, insufficient income to pay for monthly expenditures caused them unable to contribute.

To be clarified, income has no significant relationship with savings behaviour, as proved the low-income earners able to save more if they have strong motivating and incentives in doing so (David, Yoko, Teressa, & Kim, 2013; Chang & Sherraden, 2009). Furthermore, there is no positive

correlation supported the aggregate Unites State savings rate and income (Dynan, Skinner, & Zeldes, 2004). In this research, we study income and savings behaviour as each independent variable towards retirement planning.

2.2.2.2 Financial Literacy

Financial literacy could be viewed as possessing working knowledge into the subsequent four areas, including retirement planning, general money management, investment management and credit management (Bianco & Bosco, 2011). Other than that, financial literacy could be explained as the understanding and knowledge on the concepts of finance and risks, having the skills, incentive and able to apply the understanding and knowledge in order to enable individuals to participate in their economic life, to decide effectively in the variety of financial environments, and to obtain better individuals' and society's financial well-being (OECD, 2013). Therefore, financial literacy is the fundamental and foundation for a successful retirement planning (Andrade et al., 2014). As proven, working adults bearing with high level of financial literacy consequently led to a comfortable living in elderly life (Selvadurai, 2018). Thus, the role of individuals to adequate themselves with better understanding on financial knowledge exert significant impact for a successful retirement planning as a means for effective decision-making pertaining to their future retirement planning or other financial environments.

There are many research concluded the relationship between financial literacy and retirement planning is positively correlated. According to Dovie (2018), the study in the context of Ghana implied the financial literacy is significant and viewed as the key path to improve and enhance the quality of making financial decision for retirement preparedness. Low pension finance literacy consequence by low accessibility to the information on pension fund system subsequently entail to the failure on retirement

planning contribution. In addition, the study conducted by Nolan and Doorley (2019) had showed consistent results that financial literacy is the key factor of financial protection in Ireland's senior pre-retirement population. This study found different evidence that high level of education and self-employed had a positive relationship with high level of financial literacy. According to the empirical findings, individuals with higher financial literacy level tend to have higher retirement income expectation. There was also evidence pointed out that the various forms of supplementary pension protection came along with the high level of financial literacy. Not only that, Achari, Oduro, and Nyarko (2020) conducted a total of 203 respondents in University of Mines and Technology, Tarkwa to study the significant of financial literacy on retirement planning. Based on findings, the results exposed that financial literacy is significant to measure retirement planning. The financial illiterate group with low retirement preparedness consequently leads to raise of dependency ratio such as government welfare. As recent effect of Covid-19 pandemic hardest-hit on financial sector, the study also concluded the workers with different financial literacy background not comparing the interest rate offered for various instruments. Instead, invest in traditional deposit instrument and low risk investment for retirement planning. In addition, the study also showed additional research model inconsistent with previous reviewed literature by including mediator effect of income level and education level. High income level and high education level are found to have significant relationship with the average high pass rate of financial literacy and retirement planning.

On top of that, the significant of financial literacy on retirement planning also being studied in Malaysia. According to Masran and Hassan (2017), the research found that financial literacy significant to retirement planning focusing on Malaysia millennials workers from private sector. Study concludes a good financial literacy will assist the working groups to make good and substantive retirement planning with informed decision in asset allocation as the consequences of avoiding from financial stress while they

are still at a young age. Based on survey result by the Asian Institute of Finance (AIF) on Malaysia's Gen-Y in 2015, this group have poor financial education which 58% of the respondents claiming to have average financial knowledge while 28% of the respondents claiming to be confident in handling daily financial activities. Besides, the survey conducted by AIF revealed that Malaysian young adults are facing financial stress and are living on financial edge ("Malaysia's Gen-Y in debt", 2015). This study showed that most of young adults are in setback for loan and credit card repayment. To explain, 38% of Malaysian young adults take out loans and 47% are involved in expensive credit card borrowings leading them to financial distress; therefore, causing to the impediment and constraint for their retirement planning (Asian Institute of Finance [AIF], 2015). In addition, the survey supported that financial literacy is important to the working groups especially the Gen-Y workers since this group of individuals have insufficient knowledge and indecisive for the options to begin with their retirement planning. In order to avoid facing financial stress that restrict retirement planning, the study stated young workers are encouraged to seek for assistance or advice from financial advisors or planners as well as to obtain appropriate financial knowledge as the it exerts significant impact on retirement planning.

Furthermore, according to Selvadurai (2018) study the significant of financial literacy and retirement planning, there are many senior citizens faced with the dilemma of not having enough money to sustain their life after retirement due to the lack of financial literacy education in Malaysia case. Lack of financial literacy contribute to high chance of senior citizens to make poor decision on retirement planning. The study concludes the significance of financial literacy including strengthen confidence of individuals in managing financial resources as well as assist in strategized on retirement planning in the ultimate goals to achieve financial freedom during retirement. Thus, the financial literacy is important for both young and older individuals to perform their retirement planning. In addition, Kimiyagahlam et al. (2019) surveyed a sample of 900 adults in the Kelang

Valley area to examine the influential behavioral factors on retirement planning behavior. In this proposed framework, the mediator is the role of saving attitude. The result shown the respective variables of financial literacy with mediator of saving attitude have significant positive relationship on retirement planning behavior. The finding supported that people who has high level of financial literacy and positive savings attitude can make an effective retirement planning. As referenced to study by Mahdzan and Tabiani (2013), the study proved that financial literacy bring impact on retirement savings of the individuals. Individuals found with high level of financial literacy have better capability to accumulate wealth as well as prepare themselves for their retirement plan through diversify financial resources compared to individuals with low level of financial literacy.

In the event of Covid-19 pandemic, the study found significant as the financial literacy especially the role of risk literacy able to build financial security of the America individuals; therefore, enhance debt management and lowering their feeling of being debt constrained which is matter and crucial to enhance retirement planning and retirement readiness (Hasler, Lusardi, and Mitchell, 2022). In addition, according to Rasiah, Halim, and Kasimon (2021), the research brought about to the consistent result as financial literacy act as critical factor for better retirement preparedness among working adults during the Covid-19 situation. As Malaysia under the recovery situation from pandemic, this study concludes that several areas needed to be prioritized including retirement asset management, long-term old-age care planning, debt management and emergency fund planning in order to be financial resilient as the implication brought by high degree of financial literacy contribute to the improvement in retirement readiness.

According to Zulfaka and Kassim (2020), the researchers conducted the role of the Covid-19 pandemic in the retirement planning of Malaysia's working population. Based on the result, it shown that retirement knowledge and financial literacy is a crucial factor for the retirement planning. The low

level of retirement knowledge and financial literacy will impact on retirement fund for the working populations especially during the Covid-19 pandemic. According to Yuesti, Rustiarini, and Suryandari (2020) study in Indonesia, during the period of Covid-19, a good financial literacy can help individuals to manage or plan for their personal finances and to prioritize in prudent as well as right financial decisions in planning for retirement in order to avoid financial problems. A better financial literacy consequently led to good financial behavior in response to adverse economic situation and therefore increase financial welfare during retirement. As suggested by Deputy Finance Minister II Mohd Shahar Abdullah, in this era of Covid-19, it is increasingly important to incorporate elements of financial literacy into lifestyle and daily routine due to the Covid-19 has caused a global life effect, further highlighting the importance of people taking precautions to manage or plan their finances including retirement planning during the pandemic ("Covid Highlights", 2020).

Besides, there are inconsistent research model by previous studies which revealed the mediation effect of demographic factor between financial literacy and retirement planning. According to Ng, Tay, Tan and Lim (2011), the study conducted in view to Malaysia context revealed that almost all respondents aged among 20-29 years old consider it is too early and less commitment to think about retirement planning at a young age. According to the survey collected from Malaysians nationwide through the self-administered questionnaire online with a total of 10628 surveys revealed that 50% of youths who under 35 practically have not started planning their retirement plan (RinggitPlus, 2020). There are also 45% of respondents have not started any retirement plan even though their EPF savings are not enough for retirement or the EPF savings can only last for 10 years (RinggitPlus, 2020). The young have proven to have low level of financial knowledge attainment induce to low probability to begin for retirement planning consistent with the previous studies results obtained in the context of Japan (Sekita, 2011). Therefore, increasing in financial literacy at young

age important for the working group to make the early retirement planning (Masran & Hassan, 2017).

According to Koenen and Lusardi (2011), the researchers used three financial literacy questions from SAVE survey which included interest rate, inflation, and risk and diversification to observe the financial literacy on retirement planning in Germany. The surveys are done by the respondents among 22 to 91 years old. The results revealed women and individuals with low level of education may have relatively lower degree of financial literacy. The study also revealed that financial literacy level may different based on the demographic area. The findings indicated that the financial literacy is positively associated to retirement planning. Individuals with high level of financial literacy are more likely to plan their retirement. In contrast, individuals with low level of financial literacy may be less likely to fill in their retirement income gap; as a result, impacting the financial security with lower pension fund during retirement. Also, similar studies which examined in Switzerland had indicated individuals with low-income level and low education level including the immigrant household as well as women respondents are consider as having low level of financial literacy (Brown & Graf, 2013). The study concluded that financial literacy policy must focus on the individuals with low-income level and low education level as well as women since financial literacy correlated strongly to the voluntary contribution for the retirement savings.

However, according to Kadir et al. (2020) conducted a study with a total of 112 workers among 18 to 41 years old in Klang Valley, the result revealed that the financial literacy is not significant with retirement planning. The research also stated the major of workers are not well-prepared for their future financial. However, the study concluded that the economic issues of inflation, currency depreciation as well as higher living standard might me challenges for retirement planning that affect future retirement life. Besides, according to Knoll (2010), higher qualification of education and knowledge

in term of financial are not significant to relate optimal decision making in Americans' retirement savings. There is also another past study proved the connection between financial literacy and planning for retirement (Meir, Mugerman & Sade, 2016). Distributing into two aspects of financial literacy, the study concludes financial information searching significant to retirement planning while financial knowledgeability is not significant to retirement planning. Financial literacy about savings for retirement does not necessarily translate into higher levels of retirement literacy since it does not result in a mastery of pension features as well as the awareness on the total retirement savings concluded by the study.

Since there are argument and various result studies by previous research; therefore, in this study, researchers hypothesized that financial literacy is positively significant with retirement planning due to the effect of Covid-19. This is because there are more evidence been shown that financial literacy is the key determinant of retirement planning.

2.2.2.3 Saving Behaviour

Savings behaviour or stated as savings attitude in some research is defined as how people save their money for future use. If people save more, their level of disposable income is also increasing. This also means that people's living standards will also improve. Savings behaviour is one of the variables raise significant impact on retirement planning. Masran & Hassan (2017) reveals that the independent variable of personal savings behaviour was positively significant to retirement planning among the Gen-Y employees in the private sector in Malaysia. The result obtained based on SPSS version 2.0 with 74 sampling of Gen-Y workers in the private sector. Researchers concluded once the worker requires good personal savings behaviour, they will more consider their retirement planning to meet their future needs. Gen-Y workers in the private sector in Klang Valley has been affected by their

personal savings behaviour and different retirement planning decisions will make for different personal savings behaviour. Meaning as well regardless how diversified of savings method would be, savings behaviour eventually lead to more concern of retirement planning. The researchers also suggest to increase the sample size for further study and expand the sampling locations to increase analysis. Indeed, chance of false premise to be true might increase when sample size is too small (Faber & Fonseca, 2014).

Later, Kadir et al. (2020) had investigated retirement planning behaviour in related to savings behaviour. Data retrieved from 112 workers in Klang Valley and ages between 18 to 41 years and above. In this investigation, the researcher developed a questionnaire with 5 Likert-scale and used the SmartPLS to analyze data. The research results show that savings behaviour would be a great way to increase retirement confidence as it plays a major role in influencing retirement planning for Malaysians. Researchers explained that an individual who had targeted quality retirement life will be cautious in making financial decision, therefore they adopt behaviour of savings.

Lim et al. (2021) supported the previous research by adopting the same 5 Likert-scale method. This research concluded that savings behaviour has a positive impact on retirement planning behaviour during Covid-19 pandemic. They conducted questionnaires and interviews in their research. The questionnaires collect data on employees of Malaysians aged range from 20 to 50 above. There are 300 surveys in total collected by using social media. For the interview, there were 11 respondents collected, all of them have experience dealing with financial issues or are prepared for retirement in some way. As part of the findings, most of them comment that savings behaviour has been influenced by the coronavirus pandemic, thus also affecting retirement planning behaviour. Malaysians are having wise savings decision for current pandemic form one of the findings in this study

to conclude that as absorbed the impact of Covid-19, people perceive savings behaviour is priority leading to practice of retirement planning. The researchers suggested strictly disciplined savings behaviour is essential because it can ensure that employees have sufficient assets for post-retirement expenditures, thereby reducing their financial burden throughout their retirement life. Besides, Jin, Zhao, Song, and Zhao (2021) shows the relationship between the pandemic and consumers' savings and spending behaviour in China. They performed two online surveys and tested hypotheses using methods including stepwise regression analysis and bootstrapping. First survey had collected 1,511 participants from China and the second survey consisted of 466 instances using a 7 Likert-type items. Considerable beneficial impact can be found out when population's willingness to adopt savings has increase due to the severity of crisis and emergencies. Supported by the Survey and Research Center for China Household Finance (2020), this study result shows that due to the pandemic, exceed 50% of China's households had reduced spending instead to boost savings. Linkage between the savings behaviour changes as impacted by Covid-19 pandemic to be explained by increasing savings intention can those employed persons cope with emergencies, also means that they have prepare savings for future use, as well as retirement planning.

Furthermore, Rameli and Marimuthu (2018) shows that the attitudes towards retirement have impacted the savings intention as the planners who have retirement planning were more willing to have a high wealth level of retirement life than non-planners. The study also proposed that people are more focused to have savings plans when they think ahead. However, saving intentions as mediation variables, so it will be affected by independent variables which is the attitude towards retirement. Therefore, the higher the desire to adopt certain attitude, the more likely that attitude will be practiced. On the other hand, if the attitude towards retirement is not sufficient will influence saving intention toward retirement planning behaviour. Thus, the result shows that saving intentions do not directly influence retirement planning behaviour due to the change of attitude towards retirement.

To further illustrate, based on the research conducted by Kaur and Lehal (2020) which is other than Malaysia context, employees with a positive attitude toward retirement savings are predicted to report higher levels of retirement confidence, whereas employees with a relaxed attitude toward retirement savings are expected to report lower levels of retirement confidence. In this research, a convenience sampling method and 5 Likert-type items was applied by researchers in collecting the data from 400 service sector employees with annual income exceeding the tax exemption limit (Rs.2,50,000) from Punjab. This research considers service industry employees from four sub-sectors which are education, health, banking, and insurance and SEM (structural equation modelling) technique was applied to analysis data. In general, men reported higher retirement confidence levels than women. However, retirement confidence is an indicator of the retirement readiness level, which is further dependent on several social, economic and psychological factors. Retirement confidence also implies how confident retirees are of their finances in order to live comfortably in retirement. This research result disclosed that the savings behaviour was significantly related to the retirement confidence.

Hayes and Parker (1993) stated that it was worth mentioning that most individuals being negligent about importance of savings for retirement, especially single heads of households and women. They were unaware that they must set aside 65% to 70% of their income for retirement. However, Hsiao, Lin, and Dambaraydan (2016) argued uphold annual income in average, women and households are more actively participating in planning for retirement and agreed that individuals' savings behaviour is main determinant leading to retirement planning level for Taiwan. Taiwan Financial Supervisory Commission (FSC) carried out the data collection based on National Financial Literacy Survey for this study with totally collected of 3,365 respondents over the age of 40 years old. The result of this study proved savings behaviour is strong positively correlated to retirement planning. A diversification towards retirement planning would be undertaken by the individual with a good savings behaviour. In this study,

the research diffuse savings behaviour in family and personal context, both results showed notably positive.

According to study conducted by Sabri and Teo (2014), the impact of savings behaviour towards retirement confidence among workers of Malaysian public sector and investigated only female as their respondents. In this research, researchers used a multistage random sampling technique as the sampling technique to collect 708 women respondents' data in the Malaysian public sector. The Pearson correlational analysis used to determine the correlations between the variables. In the finding, 96.30% of respondents had their own personal savings account in bank. Mean that most of the respondents had do the savings for retirement. As a result, there was a significant correlation between savings behaviour and retirement confidence. In addition, the study conducted by Scholz, Seshadri, and Khitatrakun (2014) had found similar findings, which that people must require savings behaviour to ensure the future retirement life. The researchers also mentioned that American would make savings in their personal savings account to ensure their standard of living after retirement.

Ibrahim, Isa, and Ali (2012) also study on the relationship between Malaysian's savings behaviour and retirement planning, a majority of Malaysian employees were lacking in retirement related knowledge due to their low awareness level on retirement savings issues. Retirement awareness is still a vague issue in Malaysian society. Their personal savings behaviours will vary with the population conditions such as income, prosperity, age, marital states, and other socioeconomic standing at different stages of life. Therefore, it will also change the relationship between savings behaviour and retirement planning. Moreover, Kimiyaghalam et al. (2019) proved savings attitude was insufficient to determine direct relationship to retirement planning due to partial mediation effect raised in the model included financial knowledge, propensity to plan and future expectation

towards planning for retirement. The questionnaire was distributed to 520 Malaysian respondents from Klang Valley area, covered age from 18 to above 60. Respondents worked from private sector covered two-third from the total respondents. The Convergent Validity Analysis was applied to evaluate the mediation effect has proven the three variables stated above has partially impact to the savings attitude towards retirement planning. Indeed, knowledges and experience are influence an individual to build up significant attitude and action.

Refer to Millar and Devonish (2009) who study in United Kingdom, employees frequently place a low priority on matters concerning retirement. In this study, there were 134 respondents who were employed in the private and public sectors in Barbados collected through the survey and the data show that most respondents reported that the employees were saving too little for their retirement planning. One-third employees were not even sure whether they were saving enough for their retirement planning as they lacked the willpower to follow through on their retirement plans to save more money. The employees in the high-income category were more likely to make enough savings for their retirement planning compared to those low-income employees. Therefore, the results show that demographic factors will affect savings behaviour toward retirement planning.

Savings behaviour defined to have direct relationship to retirement planning before the outbreak of Covid-19 and as effected by Covid-19 based on the previous studies. However, some researchers claimed indirect relationship among two variables when there is mediation effect by socio-demographic factors. In this study, researcher want to study direct relationship as impacted by Covid-19 pandemic.

2.2.2.4 Goal Clarity

The definition of goal is cognitive representation of desired states (Fishbach & Ferguson, 2007). In other words, it is a psychological thought or mental idea of individual on how they want the things to come out in the future. Goal clarity is about knowing what the desired outcomes are an individual would like to achieve in the future; no matter short term or long term, by thinking and planning for the future at the current time. Based on study on 'goals' by Austin and Vancouver (1996), goals can be categorized in several types which includes content research describe on the content or the substance of certain individual's goals, structural research describes on the interrelationship between the goals as well as process research describe on how goals influence the motivation, guide the action of an individual as they strive to achieve the desired goals. Subsequently, this part of the study focusses on relationship between goal clarity and retirement planning, which emphasis on the process research. The goal clarity is classified as one of the consequential determinants which will give impact to the retirement planning. According to Winnell (1987), goal clarity is significant in guiding and giving people strong direction. As a result, people who have defined life goals should have higher level of personal effectiveness and greater satisfaction in life. This supported by Gollwitzer (1993) suggested a clear and specific goals establish a framework to help in determining future intention, in other word, it help individual to frame on their future expectation about resources need as well as help in boosting the actual level of savings and the intention of savings. Therefore, numerous research have been conducted on figuring out the determinants of goal clarity on retirement planning.

Stawski, Hershey, and Jacobs-Lawson (2007) presented that retirement planning found has significantly affected by goal clarity. This study has been conducted with 100 workers aged 19 to 63 in North Central Okhaloma. Goal clarity has been proven to be an essential psychological mechanism to

motivates and encourage individuals on future financial planning. The research also speculatively presented that as age increase it may associate with strengthening the goal clarity, inspiring to carry out greater proportion of retirement planning during pre-retirement stage. This is due to in view of the proximity of retirement, this group of employees may more likely to plan for retirement. The study had developed 5 Likert-type items to address the factors of goal clarity on retirement planning where these items respectively reflect the way of thinking, discussing and retirement goals setting for the future. Subsequently, most of the recent research adopting these items on figuring out the impact of goal clarity on retirement planning.

Jiménez, Chiesa, and Topa (2019) supported the previous research by adopting the same 5 Likert-type items mentioned. A sample of 948 Spanish full-time workers aged 30 to 63 being selected and requested to focus on past 12 months. The research implied that individuals may periodically evaluate their savings pattern to have better understanding in designing retirement plan based on the retirement goals tailored to their needs and priorities in post-retirement life. However, the mediation effect of age on association between goal clarity and financial planning for retirement showed insignificant which contradict with previous research reviewed. The inconsistent in result may arise from different sample size, age group as well as location in conducting the study. Besides, another research showed that goal clarity posted highest significancy toward retirement planning by adopting partial least squares regression which is incompatible with previous research (Tomar, Baker, Kumar, & Hoffmann, 2021). However, this research primary focus on women workers group with sample of 485 profession Indian women majority age 30 to 60. This show inconsistent in gender group compare with those studies reviewed. The research suggested that with clear, well defined and realistic goals, women more likely to present high proportion engaging in retirement planning. An assessments of post retirement needs may assist in framing specific goals and begin in retirement planning. To further illustrate, Herrador-Alcaide (2021) make use of the same Retirement Goal Clarity Scale also proposed that financial

goal exert significant impact on retirement planning. The sample size of the research included 452 Spanish employees aged 60 and above by conducting in three different phrases.

To another extent, there are also numerous relevant research been conducted in Malaysia. According to Shanmugam and Faudziah (2013), goal clarity realized as a major determinant of retirement planning with sample of 150 working individuals age between 21 to 55 in a northern state in Malaysia. The research suggested working individuals should have retirement goal to set them up to be confidence and be prepared to confront retirement. In any case, these retirement goals must be reasonable and feasible. Consequently, they may able to stick with their plan by not losing the direction. To further explain, Lim et al. (2021) also showed that retirement goal clarity is significant in retirement planning with mixed method research design. Both quantitative and qualitative approach are adopted in the research with sample of 300 Malaysian Employees for questionnaire as well as 11 financially well-planned interviewees for qualitative research with age ranged 20 to 50 and above. They presented that a practical and achievable retirement goal is crucial for better retirement planning. Employees would be more disciplined in retirement savings by setting a clear and attainable goal. However, the study is conducted in view to the retirement planning situation during Covid-19 pandemic. The study led to a conclusion that the planned retirement goal significantly influenced by the unanticipated risk brought by the Covid-19 pandemic. Hence, employees need to be more vigilance in retirement planning in term of time horizon and amount needed to attain their goal. As such, the retirement goals become vague, confusing, and undecidable since the economy disrupted and income level shrunk for the employees.

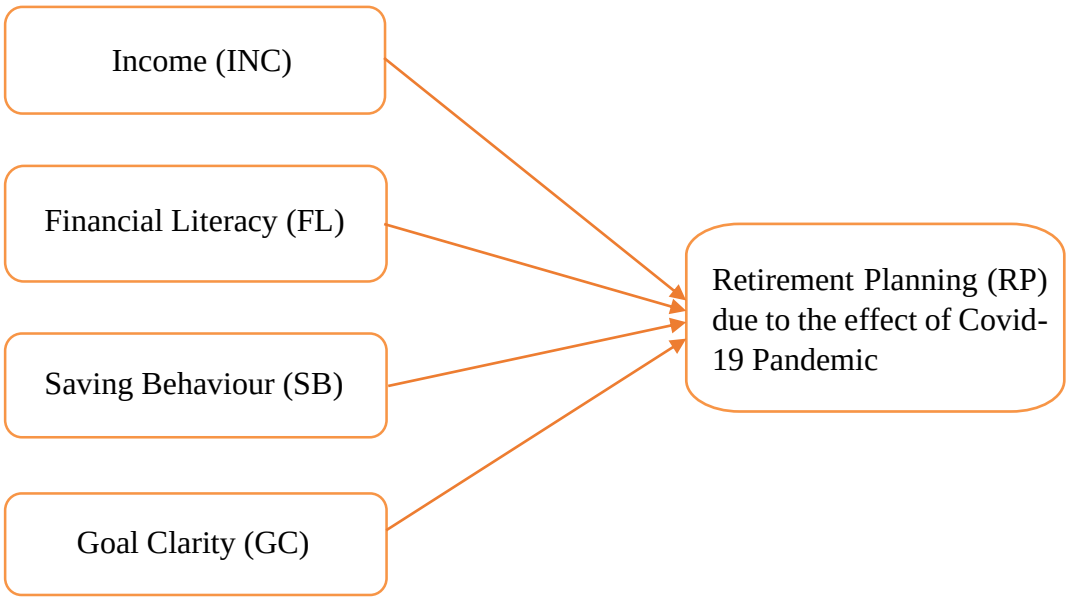
Moreover, Rasiah et al. (2020) explained that individual with specific goals more likely to initiate planning ahead for retirement, giving them more confidence as they approach retirement life. As a result, the study by

adopting Partial Least Squares-Structural Equation Modelling method with 200 sampling age 35 to 60 in Malaysia has been found that goal clarity considered to be the most significant determinants of preparedness for retirement. From this evidence, it appears that individuals with better perception of goal clarity at young age may start early retirement planning and exhibit favorable retirement planning behavior. Besides, according to Kadir et al. (2020) using the same modelling method, found that goal clarity is positively related to retirement planning. The sample includes 112 workers located in Klang valley with age 18 to 41. Study further explain that the respondents have clear vision on how the life after retirement would be. In addition, they may also concern on their post retirement life. A strong financial well-being is associated with long term development. It may serve as contingency for individuals in their post-retirement life as well as for any situations that are critical. This support by Afthanorhan, Mamum, Zainol. Foziah, and Awang (2020) suggested that demographic variables like age, gender, income, marital status and education which act as moderation factors also exert significant influence relationship between goal clarity and retirement planning by focusing on sample of 323 working individuals age under 40 from 42 companies in Malaysia. The research is inconsistent in term this research inserting additional demographic variables as mediation factors to study indirect effect between goal clarity and retirement planning. Not only that this research also adopts covariance-based structural equation modelling. In contrast, according to Shafee, Mohamed, Suhaimi, and Ahmad (2018), retirement goal clarity is not important to explain retirement planning by adopting sample of 200 youth age between 16 to 40 in Malacca state. The study perform analysis using multiple linear regression model in SPSS system. Even though the age group are similar with previous research; however, due to inconsistent study location, sample size as well we analysis method, the study shown a contradict result. The study concluded that youth respondents less probable to set specific retirement goal as well as not design a comprehensive retirement plan.

To conclude, the previous research inconsistent in term of target population, different sample size, age group as well as study location. In addition, there are limited studies conducted in term of the effect Covid-19 pandemic in retirement planning. Hence, these bring intention to us to further study on goal clarity in affecting retirement planning due to the effect of Covid-19 pandemic.

2.3 Conceptual Framework

Figure 2.1 *Conceptual Framework*



Note: Developed for this study

2.4 Hypothesis Development

2.4.1 Income and Retirement Planning

H_0: There is no significant relationship between income and retirement planning due to the effect of Covid-19 pandemic.

H_1: There is significant relationship between income and retirement planning due to the effect of Covid-19 pandemic.

Income is amount of money earned over one period of time. Workers who earned high level of income allocate more portion of retirement savings as compared to those low-income earner (Hassan et al., 2016; Shariff & Isah, 2019). Reduction of income is defined inversely impacted to retirement planning (Lim et al., 2021). Unstable income caused practice of retirement planning harder (Salas, 2014).

2.4.2 Financial Literacy and Retirement Planning

H_0: There is no significant relationship between financial literacy and retirement planning due to the effect of Covid-19 pandemic.

H_1: There is significant relationship between financial literacy and retirement planning due to the effect of Covid-19 pandemic.

Financial literacy refers to the ability of the people in understanding the knowledge of financial concepts and make the effective decisions. Previous studies observed significant correlated of financial literacy and retirement planning (Koenen & Lusardi, 2011; Brown & Graf, 2013; Sekita, 2011).

Plus, proven that having good financial literacy can assist in financial planning as such retirement when undergoing Covid-19 pandemic (Yuesti et al., 2020).

2.4.3 Savings Behaviour and Retirement Planning

H_0: There is no significant relationship between savings behaviour and retirement planning due to the effect of Covid-19 pandemic.

H_1: There is significant relationship between savings behaviour and retirement planning due to the effect of Covid-19 pandemic.

Savings behaviour refers to the action toward the savings such as people put money in their personal savings and save money for emergency funds, so that they can properly help them to solve emergency problems and can let them to meet their planning of retirement. The past researchers concluded the savings behaviour is affecting the retirement planning (Masran & Hassan). This is similar to the findings of other studies who have found a positively correlated relationship between savings behaviour and retirement planning. (Lim et al., 2021; Zazili et al., 2017; Hsiao et al., 2016).

2.4.4 Goal Clarity and Retirement Planning

H_0: There is no significant relationship between goal clarity and retirement planning due to the effect of Covid-19 pandemic.

H_1: There is significant relationship between goal clarity and retirement planning due to the effect of Covid-19 pandemic.

Goal clarity refers to the ability of an individual to establish a clear and precise objective which is attainable and strive in achieving it. Goal clarity is an important factor to have life satisfaction throughout the retirement period. A great contribution done by Stawski et al. (2007) which investigating relationship of individual's goals toward retirement planning by initiating the 5 likert scale items. The result shown that goal clarity is positively related to retirement planning which align with most of the recent studies (Moorthy et al., 2012; Kadir et al., 2020; Afthaorhan, 2020; Rasiah et al., 2020).

2.5 Conclusion

Literature review is the focus in this chapter, based on previous studies on income, financial literacy, savings behaviour and goal clarity to impact of retirement planning. However, less studies measured these variables on impacting retirement planning in due to the effect of Covid-19 pandemic. Therefore, the effect of Covid-19 on retirement planning will be further observed in this research. Theoretical framework was proposed to identify relationship among the variables.

CHAPTER 3: METHODOLOGY

3.0 Introduction

The goal of this chapter is to ensure the research methods that applied in this study are applicable for data collection and analyzation as to fulfil the research objectives. Therefore, discussion on research design, data collection method, proposed analysis tools are included to represent research methodology. This study will distribute and collect 384 of survey questionnaires from the targeted respondents.

3.1 Research Design

To examine the determinants of retirement planning on private employed persons due to the effect of Covid-19 pandemic, researchers applied quantitative research method. According to Burns and Grove (1987), quantitative research is an official, unbiased and systematic process for obtaining information about the world by using numerical data. Quantitative research also can be applied to identify relationship of DV and IV, and their casual-effect interactions as well. Quantitative research is suitable for wide coverage and large population of the targeted respondents. Quantitative research can provide an easy-to-understand on study due to the explanation of data collection can be shown in various forms such as table, graph, and chart.

In addition, descriptive research design grouped under quantitative research also being applied in this research to discover the determinants of retirement planning on working adults. According to Glass and Hopkins (1984), data is collected by

questionnaire to define characteristics or factors and the data collection is then organized, tabulated, depicted and described in descriptive research. The determinants of retirement planning on private employed persons due to the effect of Covid-19 pandemic can be explained using descriptive research as well as how significant of the relationship between variables can be described.

3.2 Data collection method

Ajayi (2017) stated that real time data can represent primary data, which are obtained through primary experience by the researcher itself. As compared to secondary data, primary data is rather authentic and reliable as those collected data are not being published and changed by human beings (Kabir, 2016). Therefore, in order to identify the determinants of retirement planning on private employed persons due to the effect of Covid-19 pandemic, the primary data is being adopted. Source primary data can be obtained based on experiments, survey, observations, and interview.

In this study, researcher choose survey as source of data. Questionnaire will be distributed through online to the private employed person in Malaysia is by using random sampling method. The content of survey questionnaire is included RP, INC, FL, SB and GC. There are total 384 of survey questionnaires need to hand out to targeted respondents. The targeted respondents from certain regions in Peninsular Malaysia can participate in this survey questionnaire which explained further in next section.

3.3 Design of Sampling

A portion of the population is called sample, which to represents the whole population's characteristics. It is a method by selecting a sample for the purpose of estimating population characteristics. More simply, it is the process by investigating only part from population in order to acquire knowledge about the whole population (Kabir, 2016). Sample design are defined as the plan of action and processed to be applied in choosing sample from the target population, in addition, this approach assumed to be applied in computing sample statistics, it is also an estimate utilized to derive population parameters (Kabir, 2016).

3.3.1 Target Population

Where data will be collected and conclusions are obtained is referred as target population. It can also be defined as any unit of analysis with features that meet the research's purpose (Kabir, 2016). The objective of this study is to investigate the effect of Covid-19 on determinants of retirement planning among private employed person. Therefore, the target population in this research is private employed person as defined as people fall within working age between 15 to 64 years old, profit or family gain oriented and had worked minimum one hour in a reference week (DOSM, n.d.-a). Status of employed included employer, employee and self-employed. Employer and self-employed running for own business, plantation or trade, however, employer hired workers in assisting the business while own account worker manage own trade without hiring others. Private employees are those perform work and regularly paid with wages and salaries, or other remuneration such as commission and tips (DOSM, n.d.-b).

EPF account members included those mandatory contribution by private employees and employers, as well as self-employed who are voluntary

registered and contribute, driven by willingness to accumulate for retirement savings. In this study, EPF members from Peninsular Malaysia aged between 36 to 55 are targeted. Based on life-cycle consumption smoothing (Tan, 2015), people aged from 26 to 35 years old are considered young cohorts who are not desire for retirement and pension benefits, seldom to plan for retirement. The theory also suggested that this group of individuals finance their consumption by applying borrowing, this phenomenon could viewed in Malaysia as well. According to Statistic from EPF disclosed in December 2020 in the midst of pandemic, researchers found that age group from 18 to 35 who had not achieved basic savings rate recorded higher percentage compared to those aged from 35 to 55 among the total EPF members. The result prove that young cohort has no desire in fulfilling the minimum retirement savings rate. Aligning with life-cycle theory, assume young cohort has lower intention to save for retirement.

Table 3.1: *Total EPF Members not achieved Basic Savings Rate*

Age Group	Male	Female	Percentage (%)
26-30	838,010	799,366	12.77
31-35	719,203	696,400	11.04
36-45	690,199	654,170	10.48
46-50	653,903	608,825	9.84
51-55	617,453	585,679	9.38

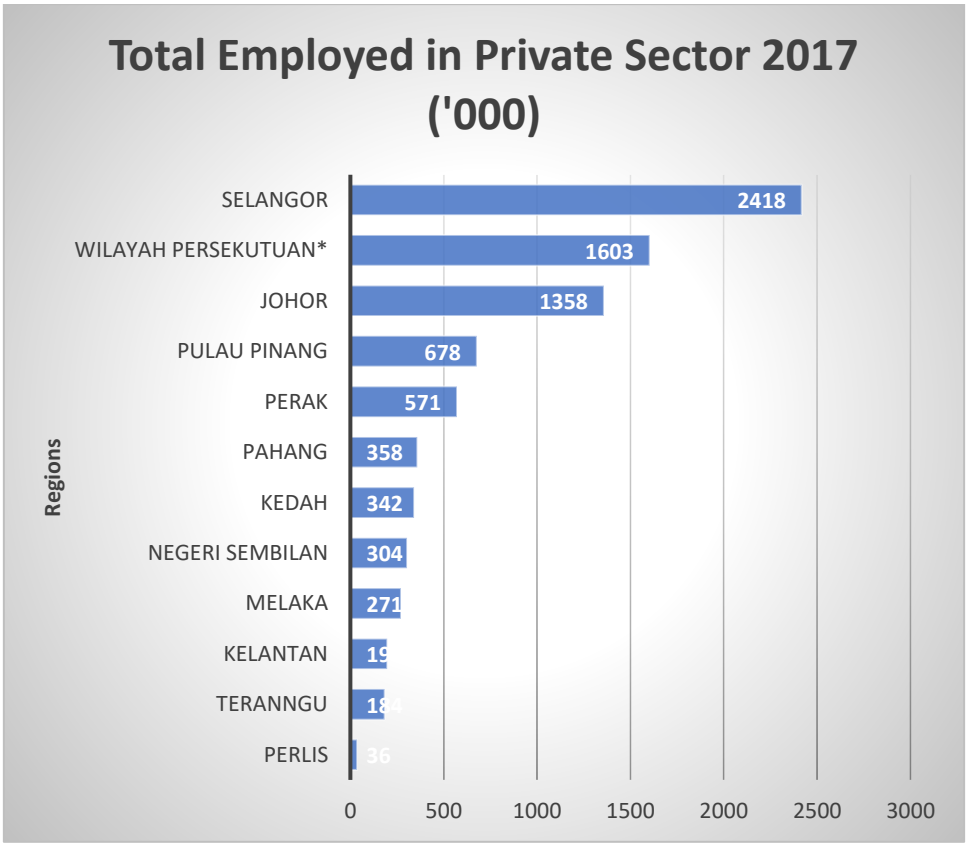
Source: Employees Provident Fund. (2021b). Active EPF Members' Achievement of Basic Savings by Age and Gender, Dec 2020 [Letter to the editor]. *Social protection insight, 5*, 77.

In contrast, individual aged from 36-45 as prime and 46-55 as group of middle aged, will save and amortize. Lastly for those exceed 55 years old will start to spend on savings. In order to avoid bias, this research target population age from 36 to 55 years old. This age group showing lower not achieving basic EPF savings rate from the statistic.

3.3.2 Sampling Frame and Location

Listing all real cases form sampling frame which to draw samples among the list while those samples used to represent the population (Taherdoost, 2016). The sampling location is the region where the survey will be distributed. Hence, private employed persons from peninsular Malaysia are targeted. While certain regions are selected included Selangor, Johor, Perak, Penang and Wilayah Persekutuan (Kuala Lumpur and Putrajaya).

Figure 3.1: *Numbers of Private Employed Persons by Regions*



*Inclusive Kuala Lumpur & Putrajaya

Source: DOSM. (2019). *Employment and Salaries & Wages Statistics 2018.*

Besides, the questionnaires for this research are through Google Form. Google Form is a web-based spreadsheet program, it allows anyone to

collect data quickly, conveniently, and efficiently from respondents, saving the time it takes to collect data and automatically analysing it with a graphic.

3.3.3 Elements of Sampling

The sampling units are used to sampled and categorized the population. The sampling units include single element and group of elements (Kabir, 2016). In this research, the sampling element is employed persons who own EPF account. EPF account is a measurement term of retirement planning for private employed persons in our study. Therefore, only EPF account owner are acceptable to answer this survey. Researchers will be asked in advance if the respondents fulfilled the requirement before further responding.

3.3.4 Sampling Techniques

Approaches under the sampling techniques included probability and non-probability. Researcher has selected cluster sampling method categorized under probability sampling approach. Probability sampling was chosen as samples are randomly selected a sample from the entire population. As one of the requirement of probability sampling is that every sample has same chance to be selected from the population, so that the result obtained is trustworthy and it could reduce systematic errors to the minimum level (Kabir, 2016).

Furthermore, a single cluster sample strategy was adopted in this study as the population is divided into each cluster units which the grouping is naturally to happen. In this study, clusters differentiated based on geographical region. Based on Philip (2014), random sampling of cluster

caused costly, time-intensive and impractical, therefore, random selection of cluster based on conveniently are usually been practiced.

3.3.5 Size of Sampling

Table 3.2: *Table for Determining Sample Size from a Given Population*

Population Size (*N*)	Sample Size (*S*)	Population Size (*N*)	Sample Size (*S*)	Population Size (*N*)	Sample Size (*S*)
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354

95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note: Adapted from Krejcie & Morgan, 1970

Krejcie and Morgan (1970) study is commonly applied to explain how many sample sizes are sufficient for a known population. As shown in table 3.2, the population size of 1,000,000 is explained by the minimum sample size of 384. Indeed, the number of private employed in Malaysia was roughly 6.63 million. As a result, the questionnaires will be administered to a sample size of 384 to ensure an accurate and reliable result.

3.4 Research Instrument

3.4.1 Questionnaire Design

Each independent variable that are relevant to describe the dependent variable as well as pertain to the research problem are developed into questionnaire design with a series of questions. Questionnaire survey can be defined as a technique to collect information about a population's attitudes, behaviors and attributes by conducting statistical analysis with data from structured set of questions (Preston, 2009).

Online survey is conducted by distributing Google Form to the respondents through the online platform. Each questionnaire set comprise 30 questions in total which separated into three sections. The questionnaire begins with basic information such as researchers' information, research topic, research purpose as well as confidentiality assurance. According to Roopa and Rani (2012), privacy protection by hiding identities and maintaining confidential of respondents will aid in motivation and honest respond to the questionnaire.

Section A aims to study the demographic background including gender, age, employment status and states of the respondents. There is also one special item whether the respondent is an EPF account holder in section A. Besides, section B purpose to study the dependent variable of retirement planning. There are total of 5 items consist in this section classified as dichotomous question form. Respondents are given 2 options and requested to choose the option best describe the situation on themselves. Moreover, section C representing the items for the 4 different independent variables. Each independent variable involves 5 items respectively on income, financial literacy, savings behaviour as well as goal clarity to study the impact on retirement planning. These questions are designed using five-point Likert Scale which classified as scaled response question form. With a given series of items representing each independent variable, the respondents are required to choose one among the five-points which indicating their degree of agreement or disagreement for each item.

The questionnaire retrieved from previous studies are being modified to meet the objective of the research. Since previous research not emphasis on current pandemic situation, the items are being altered to adapt the present study. Besides, the financial instruments may also be replaced with those available in Malaysia in order to fit the target population. Any irrelevant item to the targeted population will be taken out from the questionnaire.

3.4.2 Pilot Test

Pilot test is a pre-testing on the validity of questionnaires conducted before the actual distribution of questionnaire. Pilot test is conducted on the purpose to minimize the error for the research. Pilot test can be defined as feasibility study conducted by aiming small scale of respondents before conducting the large scale and rigorous research (Arnold et al., 2009). Pilot test helps in administer and test on the survey questionnaire to ensure respondents have a clear understanding on survey questionnaire as well as their ability in answering the questionnaire in order to obtain a reliable and validate data for analysis.

To conduct pilot test, a sample of 30 respondents from the target population are being selected to test for the designed questionnaire. According to Lancaster, Dodd, and Williamson (2004), the total number of 30 set questionnaire is appropriate to conduct the pilot study. The data collection based on the 30 sets questionnaire will be inserted to SPSS software for processing to test for reliability.

Table 3.3: *Cronbach's Alpha for Pilot Testing*

Code	Variable	Cronbach's Alpha (α)	Item
RP	Retirement Planning	0.704	5

INC	Income	0.718	5
FL	Financial Literacy	0.709	5
SB	Savings Behaviour	0.705	5
GC	Goal Clarity	0.796	5

Note: Developed for this research

Table 3.3 shown the overall Cronbach's Alpha (α) for Pilot testing generated from SPSS software. The α value fall in between 0.704 to 0.796. According to Nunnally (1978), α with the value greater than 0.7 is considered reliable and acceptable follow the general rule of thumb of Cronbach' Alpha. Based table 3.4, the α for dependent variable RP as well as independent variable INC, FL, SB and GC is reliable. The independent variable GC marked the highest α of 0.796. The variable INC recorder the second highest with the value 0.718 followed by FL and SB with the value 0.709 and 0.705 respectively. Moreover, the dependent variable of retirement planning records the lowest α value of 0.704. Hence, these results indicating the reliability of each variable is acceptable that is proceedable to the actual test and the main research.

3.5 Constructs Measurement

The types of survey question adopted is closed-ended question. The responses of the respondents are limited to the fixed set of options. This close ended question consists of dichotomous questions, structured questions and scaled response questions; at the same time, the scale of measurement to conduct these questions include ordinal, nominal and interval scales that are to be adopted in this research.

Section A: Demographic Variable

Table 3.4: *Scale of Measurement for Demographic Variable*

Variables	No of Items	Scales of Measurement
Demographic	4	
• Gender		• Nominal
• Age		• Nominal
• Regions		• Nominal
• Employment Status		• Nominal

Note: Developed for this research

Section B: Dependent Variable

Table 3.5: *Scale of Measurement for Dependent Variable*

Variables	**Sources**	**No. of items**	**Scales of Measurement**
Retirement Planning (RP)	Self-structured to meet research objectives	2	Nominal
	Afthanorhan et al. (2020)	1	
	Tomar et al. (2021)	2	

Note: Developed for this research

Section C: Independent Variable

Table 3.6: *Scale of Measurement for independent Variable*

Variables	**Sources**	**No. of items**	**Scales of Measurement**

Income	Kepha (2017)	1	Interval (5-
	Lim et al. (2021)	3	point Likert
	Salas (2014)	1	Scale)
Financial Literacy	Shanmugam & Faudziah (2013)	5	
Savings Behaviour	Afthanorhan et al. (2020)	2	
	Brandstätter (2005)	3	
Goal Clarity	Afthanorhan et al. (2020)	2	
	Stawski et al. (2007)	3	

Note: Developed for this research

3.5.1 Nominal Scale

Nominal scale is a measuring scale adopted to categorize the objects and events into a discrete group. Categories ranking or sorting by class as well as numeric value are not necessitated in this scale form. Instead, the unique designators are designated to represent each different category (Salkind, 2010). Based on the questionnaire, the demographic profile of gender, age, states and employment status as well as the dependent variable of retirement planning with 5 dichotomous items are classified as nominal scale. This is due to there are differ by quality instead of quantity, at the same time, no value ordering implied between the categories. The respondents are necessary to choose the one of the categories for each item set. At the same time, the number of the observations obtained falling into each category can be counted but the nominal value unable to be subjected to mathematical operations.

3.5.2 Interval scale

Order in form and rating in scale is so called interval scales are standard for survey. The quantitative value can be reflected in this scale. It is an equal portion scale where the variables are assessed using specified values or numerical scores, and the distances between the scale elements are equal (Statista, n.d.). Hence, this implies that the changes in distance along the scale elements can be interpreted where the different between the scale is meaningful. Refer to the table 3.6, the items from independent variables of income, financial literacy, savings behaviour and goal clarity have adopted 5 Likert-type item to represent interval scale to conduct the survey. The respondents are given 5 scales represent strongly disagree, disagree, neutral, agree and strongly agree to indicate their level of agreement.

3.6 Data processing

These steps are conducted on data in order to validate, organize, and extract the data in a usable format for using in analysing data. Data processing is also an important aspect of simplifying facts and preparing the reports, it included collecting, editing, coding and tabulating of data, and last by interpretation of results.

3.6.1 Data collection

Data processing initiated with data collection and the data should be acquired from identified and precise sources so that the findings are reliable and useable. The primary data is used to compile the statistics for this study. Therefore, the real time data has to collected from working adults in Malaysia through survey questionnaire.

3.6.2 Data Editing

The following process is data editing. Objective to carry out data editing is to guarantee that the data collected meets the fundamental standard. Hence, the data need to be examined or checked after the data is collecting from survey questionnaire in order to ensure the data is corrected. After examining the data, the further processing may be carry out.

3.6.3 Data Coding

The process followed by data coding. The process aimed to separate the data collected into categories and then assign a code or number to each data based on the categories. For example, gender, female is assigned with value 1 and male is assigned with value 2.

3.6.4 Data Tabulation

The subsequent process is data tabulation. Objective to carry out data tabulation is to summarize the data and present it in a concise format for the advance analysis. The concise format can be in the form of statistical table, frequency table, time series table and so on.

3.6.5 Interpretation of results

The last step of data processing is to interpret the results of the data. Interpretation of results refers to the process of understanding what findings of the research and also explaining how it was achieved. According to the

data analysis, the conclusion about the relationship between the data is drawn and the detailed context is given.

3.7 Data analysis

Researchers utilized specific programme which is Statistical Package Social Science (SPSS) version 26 programme in analysing all data collected. SPSS had been widely used for academic and business purpose by its large coverage of analysis and conveniency.

3.7.1 Descriptive analysis

According to Woodrow (2014), data collected from respondents were described based on descriptive analysis for research to better understanding with the data in one glance. Descriptive statistics are significant and as part of basic for further analysis. For this study, pie charts will be used to present nominal variables including respondents' demographics profile.

Frequency tables are to show numbers or percentage for each category of responses. Central tendencies including mean, mode and median of all independent variables will be presented in organized tables with frequencies. According to Greener (2008), interval variables measured with mean or median, while ordinal variables measured with median, mode is suitable to measure every variable. For this study, mean will be applied since the question design based on interval.

3.7.2 Scale Measurements:

3.7.2.1 Reliability analysis

Livingstion (2018) defined reliability as consistency which it affected by any chance factors. Cronbach's Alpha (α) coefficient will be used to determine how consistent and reliable of a set of indicators related to its group. Calculation would be done based on SPSS and result obtain within range of 0 to 1.0. Which, higher the figure, higher reliability. For this study, reliability range as followed:

Table: 3.7 *Cronbach's Alpha Rule of Thumb*

Alpha ranges	**Reliability level**
Above 0.9	Excellent
Above 0.8	Good
Above 0.7	Acceptable
Above 0.6	Questionable
Above 0.5	Poor
Below 0.5	Unacceptable

Note: George & Mallery (2003), SPSS for Windows Step by Step: A Simple Guide and Reference, Allyn & Bacon, Boston.

Commonly, internal consistency and reliability is sufficient to be represented by alpha with value above 0.7, (Taber, 2018). For this study, with the score of 0.7 and above of alpha (α), is reliable while below 0.7 is unacceptable.

3.7.3 Inferential Analysis

3.7.3.1 Pearson's Correlation Coefficient

In measure degree of relatedness between variables, Pearson correlation coefficient (*r*) will be calculated. This coefficient fall between -1 to 1, with the sign (+) indicate the positive relationship among the variables while sign (-) explained inverse relationship. Coefficient figure 0 represent there is no relationship among the variables. Perfect correlation between variables achieved when coefficient equals to -1 or 1, whereas the others interpretation of Pearson Correlation Coefficient as followed:

Table 3.8 *Pearson Correlation Coefficient Rule of Thumb*

Size of Correlation	**Interpretation**
0.9 - 1.0 (-0.9 to -1.0)	Very high positive (negative) correlation
0.7 - 0.9 (-0.7 to -0.9)	High positive (negative) correlation
0.5 - 0.7 (-0.5 to -0.7)	Moderate positive (negative) correlation
0.3 - 0.5 (-0.3 to -0.5)	Low positive (negative) correlation
0.0 - 0.3 (0.0 to -0.3)	Negligible correlation

Note: Mukaka M. M. (2012). Statistics corner: A guide to appropriate use of correlation coefficient in medical research. *Malawi medical journal: the journal of Medical Association of Malawi, 24*(3), 69–71.

In this study, Pearson coefficient applied in testing the relationship between independent variables (income, financial literacy, savings behaviour, clarity goal) and dependent variable (retirement planning due to the effect of Covid-19 pandemic).

3.7.3.2 Multiple Regression Analysis

When exceeding one independent variables in counted the relationship with dependent variable, multiple regression analysis would be applied.

Model designed for this study is as following:

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$$

y = DV (retirement planning)

x_1, x_2, x_3, x_4 = IV (income, financial literacy, savings behaviour, goal clarity)

β_0= Constant of intercept of the model

β_1, β_2, β_3, β_4 = partial coefficient of regression

According to Hoyt, Leierer and Millington (2006), obtaining t-statistic and p-value, each independent variable is considered relatively significant with the p-value lower than alpha 0.05. R^2 as the reporting size effect all predictors in set towards variance of dependent variable.

3.8 Conclusion

Detailed explanation and design of methodology is the central of this chapter. This study adopts quantitative research to conduct the relationships between dependent and independent variables. Primary data through survey questionnaire is collected to be analysed for this study. Besides, the structure of this chapter includes design of sampling, design of questionnaire and scale of measurement construction, process of data and last by analyse data. Researchers will continue examinate and analyse data obtained in Chapter 4 using the methodology developed in Chapter 3.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

Researchers run the system of SPSS v26 with the data obtained as well as display findings to fulfil the objective of study. Total of 393 set of surveys from respondents who fulfilled the requirements will be utilized for data analysis. To convert data into informative result, several analysis have been performed. Descriptive analysis used to describe the data obtained. Scale measurement aim to analyse validity of data obtained. Plus, inferential analysis to display relationship among variables. The results that get from SPSS will be further discussed in the below part.

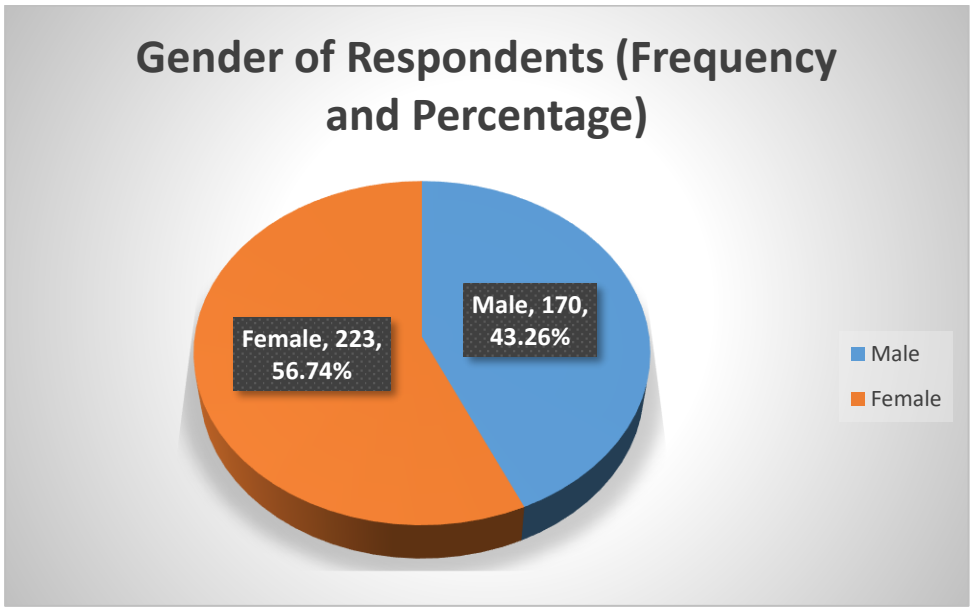
4.1 Descriptive Analysis

The goal in this part is to clearly and accurately expound the results. Therefore, for better understanding, graphical constructions including tables and pie charts will be used on result presentation.

4.1.1 Respondent Demographic Profile

4.1.1.1 Gender

Figure 4.1 *Gender of Respondents*

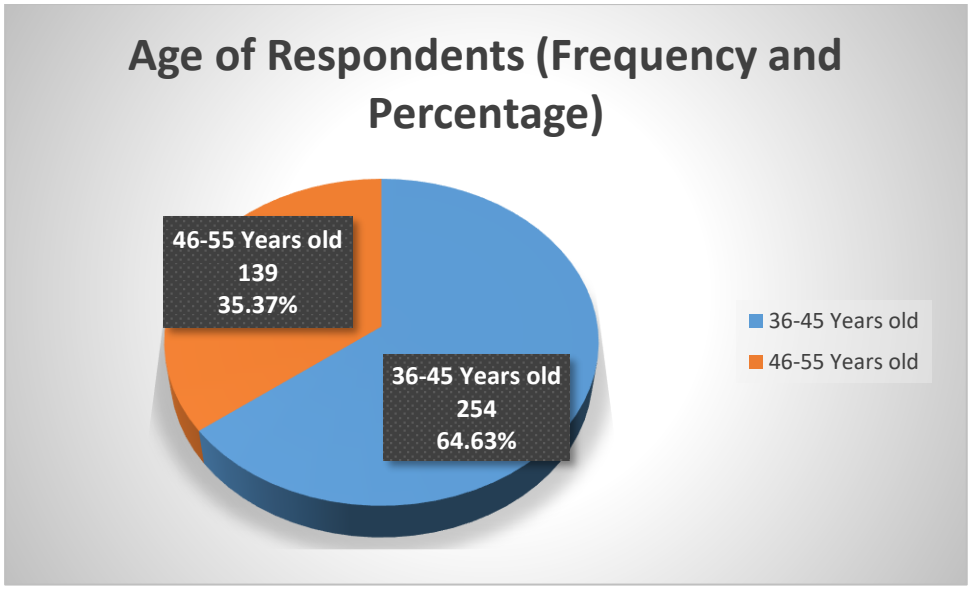


Note: Developed for this research

Exhibit of Figure 4.1 functioned to indicate the gender of respondents who filled the survey. In this research, male respondents are fewer and the female respondents are more. Female respondents are more than male respondents by 53 people (13.48%). Female take over 56.74% of the entire group respondents, with numbers of 223 in total. While the remaining 43.26% are contributed by male respondents with total of 170.

4.1.1.2 Age

Figure 4.2 *Age of Respondents*

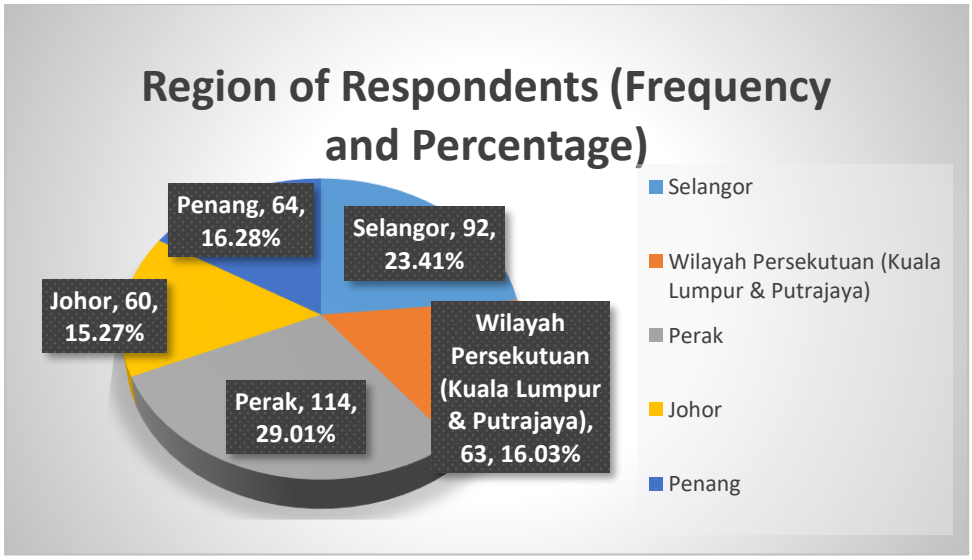


Note: Developed for this research

Exhibit to Figure 4.2 functioned to classify the age class of the respondents who filled the survey. This part has been divided into 2 classes. The first class ranged from 36 to 45 years old, take over about 64.63% of the entire group of respondents with 254 total frequencies. Meanwhile, the second class ranged from 46 to 55 years old occupied the remaining 35.37% by contributing frequency of 139.

4.1.1.3 Region

Figure 4.3 *Region of Respondents*

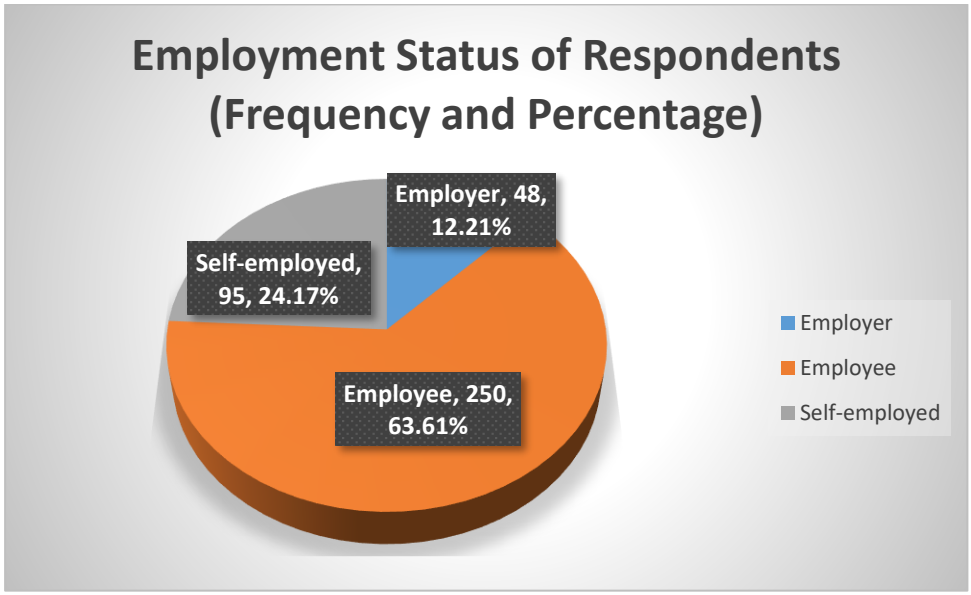


Note: Developed for this research

Exhibit Figure 4.3 is functioned to demonstrate the location of respondents who filled the survey. In this study, total 393 respondents collected. Most of the respondents are from Perak which has 114 respondents (29.01%), followed by Selangor which has 92 respondents (23.41%). The amount of the respondents from Penang, Wilayah Persekutuan (Kuala Lumpur & Putrajaya) and Johor almost the same, which are 64 respondents (16.28%), 63 respondents (16.03%) and 60 respondents (15.27%) respondents respectively.

4.1.1.4 Employment Status

Figure 4.4 *Employment Status of Respondents*



Note: Developed for this research

Exhibit Figure 4.4 is functioned to display employment status of respondents who filled this survey. Employment status derived into three classes. Employees take over 63.61%. of the overall group of respondents with frequency of 250. While self-employed with 95 frequencies take over second highest percentage about 24.17%. Remaining 12.21% occupied by the group of employer with only 48 of the respondents.

4.1.2 Central Tendencies Measurement of Constructs

In the part central tendencies measurement of constructs, SSPS software is used to measure the mean and standard deviation for all the interval scale question of the survey. The mean calculated by dividing the sum of all values in the dataset by the number of values will be represented by *M*. Besides, the standard deviation is to measure data dispersion in proportion to the mean will be represented by *SD*. Both *M* and *SD* are the statistical abbreviation which represent mean and standard deviation and will be applied to the subsequent discussion.

4.1.2.1 Retirement Planning

Table 4.1 *Central Tendencies Measurement of Retirement Planning*

Item	*M*	Ranking of *M*	*SD*	Ranking of *SD*
1. Did you apply withdrawal of EPF (Eg: i-Lestari and i-Citra) for consumption without investing during Covid-19 pandemic?	3.99	1	1.744	5
2. Do you think the current savings in EPF account is sufficient for retirement life?	3.17	5	1.995	1
3. Did you regularly contribute fix percentage of income to pension fund during Covid-19 pandemic?	3.91	2	1.783	4

4. Did you make calculation to estimate amount that require for retirement life during Covid-19 Pandemic?	3.81	3	1.831	3
5. Did you visit any website, articles or brochures regarding to retirement planning during Covid-19 pandemic?	3.39	4	1.964	2

Note: Developed for this research

Exhibit Table 4.1 is functioned to describes the *M* and *SD* of dependent variable (retirement planning). The highest *M* of the value is 3.99 which related to the statement of "Did you apply withdrawal of EPF (Eg: i-Lestari and i-Citra) for consumption without investing during Covid-19 pandemic". Besides, the smallest *M* is 3.17 concern to the item "Do you think the current savings in EPF account is sufficient for retirement life".

On the contrary, for *SD* of retirement planning, the greatest *SD* value is 1.995 relates to the statement "Do you think the current savings in EPF account is sufficient for retirement life". Besides, the least standard deviation value is 1.744 relates to the statement of "Did you apply withdrawal of EPF (Eg: i-Lestari and i-Citra) for consumption without investing during Covid-19 pandemic".

4.1.2.2 Income

Table 4.2 *Central Tendencies Measurement of Income*

Item	*M*	Ranking of *M*	*SD*	Ranking of *SD*

As consider the effect of Covid-19:				
1. My income most likely affected during the pandemic.	3.70	5	1.166	2
2. My decision to invest for retirement depends on my income.	3.88	2	1.119	4
3. Income shrunk can affect my retirement planning.	3.86	3	1.110	5
4. With stable income, I can do better retirement planning.	4.00	1	1.154	3
5. I allocate more portion of my salary to pension fund when I could earn more.	3.72	4	1.281	1

Note: Developed for this research

Exhibit Table 4.2 is functioned to describe the *M* and *SD* of independent variable (income). Refer to Table 4.2, the greatest *M* value is contributed by item "With stable income, I can do better retirement planning" with the value of 4.00 obtained from overall repondents. Furthermore, lowest *M* value found from item "My income most likely affected during the pandemic" with the figure 3.70.

Moreover, the item "I allocate more portion of my salary to pension fund when I could earn more" performed greatest *SD* value recorded at 1.281. However, 1.110 as *SD* value for item "Income shrunk can affect my retirement planning" ranked at lowest.

4.1.2.3 Financial Literacy

Table 4.3 *Central Tendencies Measurement of Financial Literacy*

Item	*M*	Ranking of *M*	*SD*	Ranking of *SD*
As consider the effect of Covid-19:				
1. I acknowledge all alternative sources for my retirement income, for example investments and public pension fund.	3.81	5	1.227	1
2. I can clearly distinguish difference of retirement fund and other fund (Eg: Insurance, medical fund, children education fund).	3.86	4	1.112	4
3. I understand clearly impact of inflation towards my value of retirement savings.	3.88	2	1.171	2
4. I understand benefits of interest in my retirement savings account.	3.87	3	1.154	3
5. I am aware of my right to claim retirement benefits offered by my company.	3.90	1	1.100	5

Note: Developed for this research

Exhibit Table 4.3 is functioned to describe *M* and *SD* of independent variable (financial literacy). Table 4.3 reveal that the item "I am aware of my right to claim retirement benefits offered by my company" with the highest *M* (3.90) and the item "I acknowledge all alternative sources for my

retirement income, for example investments and public pension fund" with the lowest *M* (3.81).

In contrast, item "I acknowledge all alternative sources for my retirement income, for example investments and public pension fund" recorded greatest *SD* (1.227). At the same time, lowest *SD* (1.100) appeared in item "I am aware of my right to claim retirement benefits offered by my company".

4.1.2.4 Savings Behaviour

Table 4.4 *Central Tendencies Measurement of Savings Behaviour*

Item	*M*	Ranking of *M*	*SD*	Ranking of *SD*
As consider the effect of Covid-19:				
1. I save money to achieve financial independency.	4.01	2	1.141	5
2. I know it is always important to save for emergency, like happening outbreak of Covid-19.	4.09	1	1.181	4
3. I contribute monthly savings in bank account.	3.97	3	1.229	2
4. I frequently keep tracking on my spending.	3.80	5	1.208	3
5. I save as much as possible instead spend all my money immediately.	3.85	4	1.300	1

Note: Developed for this research

Exhibit Table 4.4 is functioned to describe *M* and *SD* of independent variable (savings behaviour). The result stated in table 4.4, 4.09 recorded for item of "I know it is always important to save emergency, like happening outbreak of Covid-19" represent the highest rank. On the other hand, the statement "I frequently keep tracking on my spending" with the smallest value of the mean is 3.80.

Moreover, the *SD* (1.300) ranked the highest represent to the item of "I save as much as possible instead spend all my money immediately". Besides, lowest ranked of item with *SD* (1.141) presented at the item "I save money to achieve financial independency".

4.1.2.5 Goal Clarity

Table 4.5 *Central Tendencies Measurement of Goal Clarity*

Item	*M*	Ranking of *M*	*SD*	Ranking of *SD*
As consider the effect of Covid-19:				
1. I establish specific goals for how much I will need to save for my retirement.	3.91	1	1.105	4
2. I have change of thinking about quality of life I want to lead after retirement.	3.87	2	1.061	5
3. I have a clear vision of how my life shall be after retirement.	3.78	4	1.203	2
4. My financial goal is to prepare if I lose my job.	3.70	5	1.221	1

5. My financial goal is to settle debt faster.	3.79	3	1.136	3

Note: Developed for this research

Exhibit Table 4.5 is functioned to describe the *M* and *SD* of independent variable (goal clarity). According to the result in table 4.5, the item of "I establish specific goals for how much I will need to save for my retirement" reaches the greatest value of mean score which is 3.91. However, the item of "My financial goal is to prepare if I lose my job" reaches the least value of *M* (3.70).

In addition, the highest ranked of *SD* (1.221) appeared in the item of "My financial goal is to prepare if I lose my job". Furthermore, the item of "I have change of thinking about quality of life I want to lead after retirement" reaches the smallest *SD* (1.061).

4.1.2.6 Summary of Central Tendencies Measurement

Table *4.6 Summary of Central Tendencies Measurement*

Variable		*M*	*SD*
DV	Retirement Planning	3.6524	1.26030
IV	Income	3.8331	1.05831
	Financial Literacy	3.8646	1.07371
	Savings Behaviour	3.9405	1.13435
	Goal Clarity	3.8102	1.04476

Note: Developed for this research

Exhibit Table 4.6 above is functioned to indicate that the *M* and *SD* of DV and IV. Savings behaviour with *M* of 3.9405, ranked highest among the others. Retirement planning has smallest *M* which is 3.6524. Moreover, retirement planning is the highest *SD* value of 1.26030 and goal clarity is the smallest *SD* value of 1.04476.

4.2 Scale Measurement

4.2.1 Reliability Test (Cronbach's Alpha)

Table 4.7 *Outcomes of Cronbach's Alpha*

Variable	Cronbach's Alpha (α)	Number of items	Reliability Level
Retirement Planning	0.702	5	Acceptable
Income	0.946	5	Excellent
Financial Literacy	0.961	5	Excellent
Savings Behaviour	0.964	5	Excellent
Goal Clarity	0.949	5	Excellent

Note: Developed for this research

Cronbach's Alpha is represented by statistical abbreviation, Cronbach's α. Exhibit Table 4.7 is functioned to demonstrate the result of Cronbach's α for DV (retirement planning) and IV (income, financial literacy, savings behaviour, and goal clarity). In this study, 25 items were used to test the reliability. Refer to the Table 4.7, IV (savings behaviour) with 0.964 appeared as highest Cronbach's α, indicating highest reliability among all variables. IV (income) performed lowest reliability with Cronbach's α

(0.946). IV (financial literacy and goal clarity) are obtained the value at 0.961 and 0.949 respectively. Indeed, with exceed 0.9 of Cronbach's α, all IV are classified as excellent reliability. Besides, DV retirement planning (α = 0.702) is categorized as having an acceptable reliability as the value of Cronbach's α is above the range of 0.7.

4.3 Inferential Analysis

4.3.1 Pearson's Correlation

Table 4.8 *Pearson's Correlation Matrix*

DV	IV	N	p-value	Pearson's *r*
Retirement Planning	Income	393	0.000	0.693
	Financial Literacy	393	0.000	0.715
	Savings Behaviour	393	0.000	0.718
	Goal Clarity	393	0.000	0.696

Note: Developed for this research

Pearson's *r* refer to statistical abbreviation for Pearson's Correlation will be applied in the discussion. Refer to Table 4.8 is functioned to show that there are correlation between DV (retirement planning) and IV (income, financial literacy, savings behaviour, goal clarity). Since all Pearson's *r* are in positive values, researchers defined positive correlation among variables. Correlation is defined as moderate for income and goal clarity towards DV, with Pearson's *r* of 0.693 and 0.696 respectively as a reference from Table 3.8. Also, high correlation defined for retirement planning and financial literacy with Pearson's *r* (0.715) and savings behaviour (0.718). In addition, all IV recorded highest significancy at 1%. The result bring into conclusion

that all correlation between DV (retirement planning) and all of the IV (income, financial literacy, savings behaviour, goal clarity) to be positively significant.

4.3.2 Multiple Linear Regression & ANOVA

Table 4.9 *Coefficients to Retirement Planning*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	Beta	**Std.Error**	**Beta**		
Constant	0.145	0.170		0.854	0.394
INC	0.235	0.087	0.197	2.705	0.007
FL	0.238	0.116	0.203	2.049	0.041
SB	0.238	0.114	0.214	2.077	0.039
GC	0.197	0.097	0.163	2.024	0.044

Note: Developed for this research

H0: There is no significant relationship between dependent variable (retirement planning) and respective independent variable (income, financial literacy, savings behaviour and goal clarity).

H1: There is a significant relationship between dependent variable (retirement planning) and respective independent variable (income, financial literacy, savings behaviour and goal clarity).

Exhibit by Table 4.9, researchers defined all IV (income, financial literacy, savings behaviour and goal clarity) are significant to contribute toward DV (retirement planning) at the significance level of 0.05. For the reason, all p-

values (0.007, 0.041, 0.039, 0.044) of IV (income, financial literacy, savings behaviour and goal clarity) had fulfilled the 95% confidence level. The result brings into conclusion that all H_0 for IV (income, financial literacy, savings behaviour, goal clarity) to be rejected.

Multiple Linear Regression Equation

Refer to the coefficient value (β) in Table 4.9:

Expected $RP_i = 0.145 + 0.235INC_i + 0.238FL_i + 0.238SB_i + 0.197GC_i$

Where,

RP = Retirement Planning

INC = Income

FL = Financial Literacy

SB = Savings Behaviour

GC = Goal Clarity

Table 4.10 *Ranking on Coefficient of Independent Variables*

Variable	Coefficient	Rank
Income	0.197	3
Financial Literacy	0.203	2
Savings Behaviour	0.214	1
Goal Clarity	0.163	4

Note: Developed for this research

Standardised coefficient contribution level for each IV to DV are arranged in ranking in order to be compared as exhibited in Table 4.10. Savings behaviour has the highest contribution to affect the retirement planning due to standardized coefficient is highest which is 0.214. Followed by financial literacy which is the second highest rank of contribution with the standardized coefficient of 0.203. Besides, the income ranks third of contribution, with the standardized coefficient of 0.197. In this research, the

goal clarity has least influence on retirement planning which is 0.163 standardized coefficient.

Table 4.11 *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.741	0.549	0.544	0.85086

Note: Developed for this research

Table 4.11 is model summary for researchers identifying overall strength of IV (income, financial literacy, savings behaviour, goal clarity) as a whole to explain DV (retirement planning.) First of all, R is 0.741 proved the overall model is strongly correlated between DV and IV. R-Square of 0.549 indicates the efficacy of IV in explaining the dependent variable. From the figure, the variation in the independent variables of income, financial literacy, savings behaviour and goal clarity accounted for 54.90% of the variation in retirement planning. On the other hand, it implies that 45.10% of the total variation in retirement planning not able to be explained by total variation of tested IV (income, financial literacy, savings behaviour, goal clarity). As a result, researchers concluded that there are more significant variables in interpreting retirement planning that has yet to be examined in this study. Furthermore, the adjusted R-Square = 0.544 to illustrate variation of DV impacted by variation of IV with the percentage of 54.40% taking into consideration degree of freedom.

Table 4.12 *ANOVA*

	Sum of Square	df	Mean Square	F	Sig.
Regression	341.745	4	85.436	118.013	0.000

Residual	280.895	388	0.724
Total	622.640	392	

Note: Developed for this research

H_0: All $\beta_{INC} = \beta_{FL} = \beta_{SB} = \beta_{GC} = 0$,

H_1: At least one of the $\beta_{i\ (INC,\ FL,\ SB,\ GC)} \neq 0$

Exhibit of Table 4.12 illustrate that probability of F-statistics (0.000) is less than alpha (0.01). This mean that income, financial literacy, savings behaviour and goal clarity are jointly important in interpreting retirement planning. Generally, model is explained to be not significant if H_0 being accepted whereas it is significant if H_1 is being accepted. As a result, researchers concluded that model is significant by not rejecting H_1 at 1%.

4.4 Conclusion

As a conclusion, there are several analysis performed by the researchers to generate informative result. While the tables or pie charts constructed aimed to present information in a clear and simple way. Besides, researchers study relationship of DV and IV assisted by programme SSPS v26, as well as to determine the validity and reliability of variables. The consequences of the findings described here will be further discussed in Chapter 5.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

Researchers study on the statistical analysis consisting analysis of descriptive and inferential by transferring data obtaining in chapter 4 into summary. The chapter subsequently followed by major findings discussion to verify with the hypothesis of this research. The researchers also discuss on implication as well as limitation and recommendation of the research. The chapter lasts with conclusion.

5.1 Summary of Statistical Analysis

5.1.1 Summary of Result

Table 5.1 *Demographic Group*

Demographic Group	Demographic Category	Distribution Frequency	Distribution Percentage
Gender	Male	170	43.26%
	Female	223	56.74%
Age	36 to 45 years old	254	64.63%

	46 to 55 years old	139	35.37%
Regions	Selangor	92	23.41%
	Wilayah Persekutuan (Kuala Lumpur, Putrajaya)	63	16.03%
	Perak	114	29.01%
	Johor	60	15.27%
	Penang	64	16.28%
Employment Status	Employer	48	12.21%
	Employee	250	63.61%
	Self-employed	95	24.17%

Note: Developed for this research

Exhibit Table 5.1 is functioned to demonstrate the summarized of the demographic groups including the frequency and the percentage of the respondents for each category under the respective demographic factors. For the gender demographic group, the total respondents contribute from 43.26% male respondents and 56.74% female respondents. Besides, the respondents occupied 64.63% are those aged range from 36 to 45 years old. The remaining 35.37% are those aged range from 46 to 55 years old. These age groups are classified as group of prime and middled aged who start saving and amortizing for retirement planning. Furthermore, for regions of the respondents, Perak contribute the highest percentage with 29.01% followed by Selangor 23.41%. The regions of Wilayah Persekutuan (Kuala Lumpur

and Putrajaya), Penang and Johor contribute respondents of 16.03%, 16.28% and 15.27% respectively. These regions are selected mainly due to accounted high working population in Peninsular Malaysia. Lastly, for the employment status, there are total 63.61% of respondents are employee, 24.17% are self-employed while 12.21% are employer. These respondents are classified as employed person and have to be an EPF account holder as a requirement of this research study.

Table 5.2 *Central Tendencies Measurement*

Variable	Mean	Standard Deviation
Retirement Planning	3.6524	1.26030
Income	3.8331	1.05831
Financial Literacy	3.8646	1.07371
Savings Behaviour	3.9405	1.13435
Goal Clarity	3.8102	1.04476

Note: Developed for this research

Refer to table 5.2, the independent variable of savings behaviour records highest mean of 3.9405 followed by financial literacy, income and goal clarity which are 3.8646, 3.8331 and 3.8102 respectively. The dependent variable of retirement planning records mean of 3.6524 which is the lowest.

Standard deviation with highest value 1.26030 under retirement planning while the lowest value is 1.04476 under goal clarity. The remaining variables of income, financial literacy and savings behaviour record 1.05831, 1.07371 as well as 1.13435 respectively.

Table 5.3 *Reliability Test*

Variables	Cronbach's Alpha	Reliability
Retirement Planning	0.702	Acceptable
Income	0.946	Excellent
Financial literacy	0.961	Excellent
Savings Behaviour	0.964	Excellent
Goal Clarity	0.949	Excellent

Note: Developed for this research

Refer to table 5.3, independent variables consist of income, financial literacy, savings behaviour and goal clarity records "Excellent" for the reliability level with the Cronbach's α value above the range of 0.90. In contrast, the reliability level for retirement planning is acceptable since the Cronbach's α value is in between 0.70 to 0.80.

Table 5.4 *Pearson Correlation Matrix*

Retirement Planning		Income	Financial Literacy	Savings Behaviour	Goal Clarity
	Pearson Correlation	0.693	0.715	0.718	0.696
	P-value	0.0000	0.0000	0.0000	0.0000
	Strength of Association	Moderate correlation	High correlation	High correlation	Moderate correlation

Note: Developed for this research

Refer to Table 5.4, in term of Pearson Correlation, all independent variables of income, financial literacy, savings behaviour and goal clarity is significantly correlated with retirement planning. The independent variable of income and goal clarity exhibit moderate correlation which records the value of 0.693 and 0.696 respectively ranged in between 0.50 to 0.70. In contrast, the independent variables included financial literacy and savings behaviour are highly correlated with the value of 0.715 and 0.718 respectively ranged in between 0.70 to 0.90.

Table 5.5 *Multiple Regression Analysis*

Variables	Coefficient	Sig	R^2
Constant	0.145		0.549
Income	0.235	<0.05	
Financial Literacy	0.238	<0.05	
Savings Behaviour	0.238	<0.05	
Goal Clarity	0.197	<0.05	

F-statistic = 118.013***

Note: Developed for this research

Refer to Table 5.5, all the independent variables of income, financial literacy, savings behaviour and goal clarity has significant relationship with retirement planning as proved to fulfilled had fulfilled the 95% confidence level. The R-Square records 0.549 explain that the independent variables of this study accounted for 54.90% of variation in retirement planning. In contrast, the 45.10% of variation in retirement planning is not determined by the IV. Researchers concluded the model is significant at level of 1%.

5.2 Discussion on Major Findings

Table 5.6 *Summary of Research Findings*

Research Question	Hypotheses	Result
1. Is there positive or negative relationship between income and retirement planning due to the effect of Covid-19 pandemic?	H_1 : Income has significant relationship with retirement planning due to the effect of Covid-19 pandemic.	Hypothesis is accepted. r = 0.693 Significant at 0.05.
2. Is there positive or negative relationship between financial literacy and retirement planning due to the effect of Covid-19 pandemic?	H_2 : Financial Literacy has significant relationship with retirement planning due to the effect of Covid-19 pandemic.	Hypothesis is accepted. r = 0.715 Significant at 0.05
3. Is there positive or negative relationship between savings behaviour and retirement planning due to the effect of Covid-19 pandemic?	H_3 : Savings Behaviour has significant relationship with retirement planning due to the effect of Covid-19 pandemic.	Hypothesis is accepted. r = 0.718 Significant at 0.05
4. Is there positive or negative relationship between goal clarity and retirement planning due to the effect of Covid-19 pandemic?	H_4 : Goal Clarity has significant relationship with retirement planning due to the effect of Covid-19 pandemic.	Hypothesis is accepted. r = 0.696 Significant at 0.05

Note: Developed for this research

5.2.1 Income

H1: Income has significant relationship with retirement planning due to the effect of Covid-19 pandemic.

Due to the effect of Covid-19 pandemic, this study found positive significant relationship between income and retirement planning. The respondents agreed increase in income level will increase their intention in doing retirement planning. This is aligned with the previous studies to concluded that when people have higher level of income sources remaining after paying off expenses, they are more willing to contribute retirement savings, (Hassan et al., 2016). However, in circumstance of Covid-19, most of the respondents claimed that their income being affected. As waged employees occupied the largest percentage in the sample size, this group had endured with pay cut as burden sharing with their employers due by undesirable business performance. Income reduced while household expenses remain unchanged associated to financial hardship erode the capability to plan for long-term retirement since limited income obtained to solve living expenses for the emergence of pandemic crisis. This fit with study conducted by Lim et al. (2021), claimed that employees faced difficulties to allocate retirement savings with reduced income in consider the effect of Covid-19. Plus, shrunk of income affected retirement planning as one of the findings in this study. For the reason income shocks has proven to undermine one's retirement planning because of retirement savings withdrawal, while the effect is more frequent to happen among low-income household compared to moderate and high-income household (Ghilarducci et al., 2016). Based on our findings, most of the respondents agreed that they are more likely to plan for retirement if their income improve or at least in stability as consider to the effect of Covid-19. As the pandemic situation volatile in Malaysia, it result to income instability for respondents receiving wages or commission with performance based which income may be improved in better economic

situation, or in contrast eroded when severe economic situation. And therefore, respondents agreed if their income are in stability, they will perform more for retirement savings. Retirement planning required mental accounting as a task of budgeting. With stable income, people may perform better retirement planning as they are able to project of future income inflow. In a nutshell, people intention to save for retirement as taking consideration of the effect of Covid-19 pandemic very depend on their income flow and stability.

5.2.2 Financial Literacy

H2: Financial Literacy has significant relationship with retirement planning due to the effect of Covid-19 pandemic.

Financial literacy has found positive significant relationship towards retirement planning as affected by Covid-19. Individuals better equipped with financial literacy tend to save and manage personal finance leading to good financial decision making to avoid financial distress in order to prepare for retirement (Mahdzan & Tabiani, 2013). As affected by the Covid-19 pandemic indicated by our study, respondents who understand well about the economic impacts that may lead by Covid-19 pandemic are more cautious in retirement planning. As proven that most of the respondents aware the impact of inflation that may erode the purchasing power, therefore leads to more desired savings rate for retirement planning. Poor financial literacy with unnecessary withdrawal of retirement savings bring detrimental effect on compound interest rate for accumulated savings, consequently induce to vulnerability to their pension protection system as the effect the Covid-19 pandemic. This significancy adapted that low retirement planning consequences of low level of financial literacy may result to individuals less likely to recognize and fill the retirement income

gap which may impact on insufficient retirement income of the individuals (Koenen & Lusardi, 2011).

Under the circumstance of adverse economic condition, diversify income sources and prudent assets accumulation are essential skills. According to our findings, respondents claimed that they acknowledge the alternative source for retirement income. Therefore, as increase in market volatility caused by pandemic, they react to be confidence on low-risk investment tool, which is pension fund. This fit the study by Achari et al. (2020) who concluded due to the recent pandemic, traditional depository tool or low risk investment are selected rather to choose for high-risk investment among workers. Therefore, the significant of financial literacy believed to have impact on good retirement planning due to the effect of pandemic.

5.2.3 Savings Behaviour

H3: Savings Behaviour has significant relationship with retirement planning due to the effect of Covid-19 pandemic.

Significant positive relationship was defined between savings behaviour and retirement planning which supported by past study (Rameli & Marimuthu, 2018). As concluded, people with savings behaviour are highly concern and consciously in making financial decision. According to our study, the relationship found to be significant as well impacted by Covid-19 pandemic can be explained. When people perceived uncertainty about future events, they tend to take more precautionary steps. The undergoing Covid-19 pandemic threat financial security among private employed persons on their control of assets to cover for retirement. While Covid-19 played as a role of risk, respondents are more prudent to perceive savings behaviour and increase willingness to save for future in order to avoid impediment for

retirement planning. Most of the respondents agree that they will save as much as possible instead of spending. They responded to be conscious on spending, perceived as protection behaviour so that they can against uncertain events to retain retirement planning. These findings agree with Malaysia Financial Literacy Survey (2021) defined that Covid-19 as catalyst to raise awareness among Malaysian to be proactive in setting up emergency fund and therefore resilient in retirement planning. As conclusion, individual who adopt savings behaviour considering the effect of Covid-19 able to plan well for retirement (RinggitPlus, 2021).

5.2.4 Goal Clarity

H4: Goal clarity has significant relationship with retirement planning due to the effect of Covid-19 pandemic.

Goal Clarity is found to have significant relationship on retirement planning due to the effect of Covid-19 pandemic. Based on the findings, one will create future vision, goals and strategies to be consistent with their "self-image" which serve as further inspiration and motivation in planning for retirement well supported by the past studies (Hershey et al., 2007 & Tomar et al., 2021). In view to the impact of Covid-19, most of the responses emphasized that the desired goal being affected and change on perception about quality of post-retirement life. The effect of Covid-19 brought about to crisis of confidence among the private employed person in achieving retirement goals due to the draining of retirement savings putting them into incompetent financial position and cause challenges to sustain desired post-retirement living standard. As impacted by Covid-19, respondents had thinking more on the accumulated savings required for retirement as resulted by previous practices of decreasing in pension savings rate, inconsistent in savings frequency and withdrawing pension. Individuals caused to be more vigilant in retirement planning as affected by pandemic

in terms of time horizon and amount required to achieve their retirement goals (Lim et al., 2021). To cope with unanticipated events, the respondents of the research mostly agree that contingency planning including develop financial goals to be well prepared to face the circumstances of job loss are necessary in order not affecting on retirement planning. Due to the effect of Covid-19, the findings found that an achievement of debt-free status become the goals among most of the respondents in this study. Priority in settling debt significant to successful retirement planning since the excess fund after debt repayment could be reallocated into retirement savings system. Therefore, designing a practical and achievable retirement goal is crucial and exert significant impact for better retirement planning.

5.3 Managerial Implication

5.3.1 Income

Result determine that income has significantly affect private employed person to plan for retirement, however; income as the source of pension fund contribution affected during the outbreak of pandemic. As to minimize the severity, government is suggested to design financial incentives which encourage people to contribute more to retirement savings in premise that income is not affected. Most common incentive is tax treatment such as tax reduction or tax credit on individual's income tax. As view the pandemic cause passive nation's growth, government should reduce the tax level to a maintain rate for regular nation's expenditure. Cutting expenses for employed persons means there are more to save. However, individual might not contribute their refundable tax income to their retirement savings, instead, they have more to spend rather than savings. As suggested by

OECD, to prevent implement of policy to lose its effectiveness, the refundable income is mandatory to allocate into pension fund.

Education on income shock prediction and management is important preventive step to ensure employed person able to calculate how much is the financial setback they are facing so that sustain retirement planning during the setbacks. Government responsible to encourage growth of diversified side jobs in the nation, as to boost income resources for those shrunk account due to passive business activities. Up to this point, rather than approve licensed foreign workers, government should focus on creating higher competitiveness and high-quality works for local working population.

5.3.2 Financial Literacy

The findings emphasize the significance of financial literacy in retirement planning. As practical implication, the government agencies should be in collaboration to provide financial education and promote awareness at the national level with focused message targeting to the publics at different life stage. According to Creador, Malaysian with almost 70% are in need for the support in financial literacy (Murugiah, 2020). Therefore, it is crucial to address these gaps to promote sound retirement planning among the publics. The government should take measures in ensuring integrated financial literacy training into the education system from the primary to tertiary level. The authorities should also improve the understanding of the public on the functions of pension fund system such as the recent EPF payout of 6% in encouraging and motivating the retirement savings contribution (Zainudin & Kumari, 2022). Meanwhile, it is also crucial in improving in personal financial management of the public by providing adequate financial knowledge including cope with the challenges of economics factors such as income instability, inflation, increasing in medical cost as well as knowledge in interest-compounding, needs of insurance and income sources

diversification in preparing their retirement plan. As such, the initiatives including The National Strategy for Financial Literacy 2019-2023 by the Financial Education Network (FEN) as well as programme by the Malaysian Financial Planning Council (MFPC) are those good leads to promote financial literacy and boost retirement planning in the long-term basis. With adequate financial knowledge, as a result, the public may enhance retirement preparedness to cope with the ever-changing economic condition such as the current pandemic situation. For example, individuals adequate with financial literacy may realize and fill the retirement income gap after the action such as withdrawal from EPF account to enhance retirement security. Hence, the public may emphasize on actions to plan for retirement without solely depend on the EPF pension benefits but having other asset management to plan for retirement.

5.3.3 Savings Behaviour

Savings behaviour is a practice of influence by one's personal values, which need be nourished among the employed person for a better retirement planning. Social marketing campaign is suggested for government, commercial banks and other related authorities to civilize importance of savings. The design of content is crucial for the campaign. As proven, "TAK NAK" which is a antismoking campaign once proven its effectiveness to influence smoker's intention to quit from smoking, the key for success is engagement of respondents in cognitive and affective purpose (Lee et al., 2015). In order to achieve behavioural change, exposure rate or frequency of appear must be relatively high among the target population. Greater effect may be achieved if collaborate with commercial banks and insurance agencies to design diversified of savings products with attractive interest rate. Indeed, people are realistic when measuring their own benefits, preferred interest return give sense that by practicing savings behaviour is not sacrifice but an alternative option to earn for something.

5.3.4 Goal Clarity

The practical implications according to the findings of this research suggest that interventions of the authorities as well as awareness of publics in setting desired retirement goals are significant. For financial planners, it is crucial to consistently spread the awareness and advise to wider population on the importance of setting clear and specific retirement goals. The goal clarity is significant to act as a roadmap to build long term wealth in order to achieve life satisfaction post-retirement. Thus, they should help in designing personalized retirement plan tailored to their clients' goals (Jiménez et al., 2019). For the publics, they are capable to seek professional assistance to involve in retirement planning activities. They could seek help in designing and performing evaluations periodically on their specific goals. As the impact of Covid-19, it is recommended that the temporary market corrections may take into consideration by the public to plan for the alternatives with their personal financial advisor to address with the adverse impact and disruption on their specific retirement goals. Retirement planning is a long-term process, at the same time; they may uncertainty including economic shock such as current pandemic time would disrupt in retirement planning (Hershey et al., 2007). Hence, the public should aware the crucial to increase time frame in wealth accumulation process by starting the retirement planning earlier; therefore, reducing the periodic cash flow required as well as capable to cope with the uncertain to meet their retirement goals.

5.4 Limitations

Impact of Covid-19 in retirement planning is considered a new topic to discussed, as there are few researches found especially in Malaysia context. For this study, researchers focus on determine the direct relationship between retirement planning

and other independent variables (INC, FL, SB, GC) before further analyze on mediation effect that could intervene respondents' decision on planning. As known, mediation effect is more powerful than total effect. The information obtained based on this research is limited even though all variables are tested to be significantly affect retirement planning, but there can only resemble the overall concept while the scope is full wide.

To study the impact the Covid-19 pandemic on retirement planning, this research undertaken cross-sectional study. Survey distribution from October 2021 until February 2022 at the midst of pandemic. Which, there is potential on changes of variables over time and findings captured only a snapshot of retirement planning during this particular of pandemic.

5.5 Recommendations

Demographics factors as mediation effect are suggested to be added into the model, such as age group, gender, employment status and marital status. Improvement of overall research can be reached based on this model because it draws a clearer projection to explain how different demographics will affect respondents' degree to retirement planning as lead by the existing determinants. Purpose for doing so is add on valuable information to ensure practical implications by authorities are implemented contrary to different needs of respondents.

On top of this, language of the questionnaire should be designed based on English, Bahasa Melayu and Chinese at the same time as considered races and educational background diversified within Malaysia, ensure respondents fully understanding about the questionnaire can boost accuracy and effectiveness of survey.

Retirement planning is a long-term issue which require a time to time observation to ensure improvement on implications. Therefore, future researchers are suggested to carry in long-term study to track on the changes of variables that may lead to better retirement planning, especially during post-pandemic. Researchers required to amend on the implications which raise long-term effect in building retirement profile.

5.6 Conclusion

Research tested on determinants of retirement planning of employed persons due to the effect of Covid-19 pandemic. Discussion on relationship among both dependent variable (RP) and each independent variables (INC, FL, SB, GC) had been done in this chapter. Proven that all determinants are significant to affect practice of retirement planning. As a result, authorities can get better understanding current retirement planning adoption and improve by some suggested implications. Limitations and recommendations also listed in this chapter as reference for future research in conducting their research in a more efficient way.

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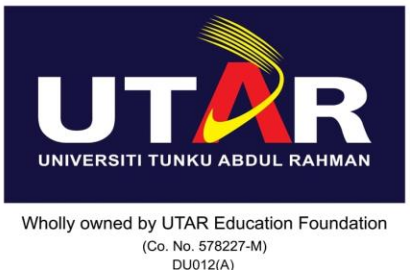
Appendix A: Research Survey Questionnaire



UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF BUSINESS AND FINANCE

FINAL YEAR PROJECT [FYP]

BACHELOR OF FINANCE (HONS)

The Effect of Covid-19 Pandemic on Retirement Planning: Evidence from Private Employed Persons.

Survey Questionnaire

Dear Respondents,

We are students of Bachelor of Finance from UTAR final year, currently taking Final Year project in our final year of study. This survey is aim to define the effects of Covid-19 pandemic on retirement planning: evidence from private employed persons. We are here to look for your assistance by filling up the questionnaire. It may take you about 5 - 8 minutes for answering each question in section A, B and C.

Your voluntary participation is highly appreciated, and we promise to keep your information strictly confidential. Feel free to contact us if you have any enquires.

Best Regards,

Fan Yong En fanyongen0306@1utar.my

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PERSONAL DATA PROTECTION STATEMENT

Please be informed that in accordance with Personal Data Protection Act 2010 ("PDPA") which came into force on 15 November 2013, Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

Notice:

1. The purposes for which your personal data may be used are inclusive but not limited to:-
    - For assessment of any application to UTAR
    - For processing any benefits and services
    - For communication purposes
    - For advertorial and news
    - For general administration and record purposes
    - For enhancing the value of education
    - For educational and related purposes consequential to UTAR
    - For the purpose of our corporate governance
    - For consideration as a guarantor for UTAR staff/ student applying for his/her scholarship/ study loan

2. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

3. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

4. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

Consent:

1. By submitting this form you hereby authorise and consent to us processing (including disclosing) your personal data and any updates of your information, for the purposes and/or for any other purposes related to the purpose.

2. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfill our obligations or to contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose.

3. You may access and update your personal data by writing to us at _____.

Acknowledgment of Notice

[ ] I have been notified by you and that I hereby understood, consented and agreed per UTAR above notice.

[ ] I disagree, my personal data will not be processed.

Questionnaire

Do you have EPF account?

☐ Yes ☐ No

SECTION A: Demographic Factors

Please tick (✔) in the space as provided.

Gender:

☐ Male ☐ Female

Age:

☐ 36-45

☐ 46-55

Regions:

☐ Selangor

☐ Wilayah Persekutuan (Kuala Lumpur and Putrajaya)

☐ Perak

☐ Johor

☐ Penang

Employment Status:

☐ Employer

☐ Employee

☐ Self-employed

SECTION B

Please tick (✔) in the space as provided.

We would like to know about your retirement planning as affected by Covid-19 pandemic.

1. Did you apply withdrawal of EPF (Eg: i-Lestari and i-Citra) for consumption without investing during Covid-19 pandemic?

( ) Yes ( ) No

2. Do you think the current savings in EPF account is sufficient for retirement life?

( ) Yes ( ) No

3. Did you regularly contribute fix percentage of income to pension fund during Covid-19 pandemic?

( ) Yes ( ) No

4. Did you make calculation to estimate amount that require for retirement life during Covid-19 Pandemic?

( ) Yes ( ) No

5. Did you visit any website, articles or brochures regarding to retirement planning during Covid-19 pandemic?

( ) Yes ( ) No

SECTION C

Income

We would like to understand your income during Covid-19 pandemic. For each statement, please circle the number that indicate your degree of agreement.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

As consider the effect of Covid-19:

1.	My income level most likely affected during the pandemic.	1	2	3	4	5

2.	My decision to invest for retirement depends on my income.	1	2	3	4	5
3.	Income shrunk can affect my retirement planning.	1	2	3	4	5
4.	With stable income, I can do better retirement planning.	1	2	3	4	5
5.	I allocate more portion of my salary to pension fund when i could earn more.	1	2	3	4	5

Financial Literacy

We would like to understand your financial literacy during Covid-19 pandemic. For each statement, please circle the number that indicate your degree of agreement.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

As consider the effect of Covid-19:

1.	I acknowledge all alternative sources for my retirement income, for example investments and public pension fund.	1	2	3	4	5
2.	I can clearly distinguish difference of retirement fund and other fund (Eg: Insurance, medical fund, children education fund).	1	2	3	4	5
3.	I understand clearly impact of inflation towards my value of retirement savings.	1	2	3	4	5

4	I understand benefits of interest in my retirement savings account.	1	2	3	4	5
5.	I am aware of my right to claim retirement benefits offered by my company.	1	2	3	4	5

Savings Behaviour

We would like to know your savings behaviour during Covid-19 pandemic. For each statement, please circle the number that indicate your degree of agreement.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

As consider the effect of Covid-19:

1.	I save money to achieve financial independency.	1	2	3	4	5
2.	I know it is always important to save for emergency, *like happening outbreak of Covid-19.*	1	2	3	4	5
3.	I contribute monthly savings in bank account.	1	2	3	4	5
4.	I frequently keep tracking on my spending.	1	2	3	4	5
5.	I save as much as possible instead spend all my money immediately.	1	2	3	4	5

Goal Clarity

As consider to the effect of Covid-19, we would like to know about your goal clarity. For each statement, please circle the number that indicate your degree of agreement.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

As consider the effect of Covid-19:

1.	I establish specific goals for how much I will need to save for my retirement.	1	2	3	4	5
2.	I have change of thinking about quality of life I want to lead after retirement.	1	2	3	4	5
3.	I have a clear vision of how my life shall be after retirement.	1	2	3	4	5
4.	My financial goal is to prepare if I lose my job.	1	2	3	4	5
5.	My financial goal is to settle debt faster.	1	2	3	4	5

Appendix B: Pilot Test (Reliability Test – Cronbach's Alpha)

Case Processing Summary

		N	%
Cases	Valid	30	100.0
	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure

1. Retirement Planning

Reliability Statistic

Cronbach's Alpha	N of Items
.704	5

2. Income

Reliability Statistic

Cronbach's Alpha	N of Items
.718	5

3. Financial Literacy

Reliability Statistic

Cronbach's Alpha	N of Items
.709	5

4. Savings Behaviour

Reliability Statistic

Cronbach's Alpha	N of Items
.705	5

5. Goal Clarity

Reliability Statistic

Cronbach's Alpha	N of Items
.796	5

Appendix C: Frequencies of Demographic Profile

1. Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	170	43.3	43.3	43.3
	Female	223	56.7	56.7	100.0
	Total	393	100.0	100.0	

2. Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	36-45 years old	254	64.6	64.6	64.6
	46-55 years old	139	35.4	35.4	100.0
	Total	393	100.0	100.0	

3. Regions

Regions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Selangor	92	23.4	23.4	23.4
	Wilayah Persekutuan (Kuala Lumpur & Putrajaya)	63	16.0	16.0	39.4
	Perak	114	29.0	29.0	68.4
	Johor	60	15.3	15.3	83.7
	Penang	64	16.3	16.3	100.0
	Total	393	100.0	100.0	

4. Employment Status

Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employer	48	12.2	12.2	12.2
	Employee	250	63.6	63.6	75.8
	Self-employed	95	24.2	24.2	100.0
	Total	393	100.0	100.0	

Appendix D: Frequencies of Variables

1. Retirement Planning

Statistics

		Did you apply withdrawal of EPF (Eg: i-Lestari and i-Citra) for consumption without investing during Covid-19 pandemic?	Do you think the current savings in EPF account is sufficient for retirement life?	Did you regularly contribute fix percentage of income to pension fund during Covid-19 pandemic?	Did you make calculation to estimate amount that require for retirement life during Covid-19 Pandemic?	Did you visit any website, articles or brochures regarding to retirement planning during Covid-19 pandemic?
N	Valid	393	393	393	393	393
	Missing	0	0	0	0	0
Mean		3.98	3.17	3.91	3.81	3.39
Stad. Deviation		1.744	1.995	1.783	1.831	1.964
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5

Did you apply withdrawal of EPF (Eg: i-Lestari and i-Citra) for consumption without investing during Covid-19 pandemic?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	100	25.4	25.4	25.4
	No	293	74.6	74.6	100.0
	Total	393	100.0	100.0	

Do you think the current savings in EPF account is sufficient for retirement life?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	180	45.8	45.8	45.8
	Yes	213	54.2	54.2	100.0
	Total	393	100.0	100.0	

Did you regularly contribute fix percentage of income to pension fund during Covid-19 pandemic?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	107	27.2	27.2	27.2
	Yes	286	72.8	72.8	100.0
	Total	393	100.0	100.0	

Did you make calculation to estimate amount that require for retirement life during Covid-19 Pandemic?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	117	29.8	29.8	29.8
	Yes	276	70.2	70.2	100.0
	Total	393	100.0	100.0	

Did you visit any website, articles or brochures regarding to retirement planning during Covid-19 pandemic?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	158	40.2	40.2	40.2
	Yes	235	59.8	59.8	100.0
	Total	393	100.0	100.0	

2. Income

Statistics

		My income most likely affected during the pandemic.	My decision to invest for retirement depends on my income.	Income shrunk can affect my retirement planning.	With stable income, I can do better retirement planning.	I allocate more portion of my salary to pension fund when I could earn more.
N	Valid	393	393	393	393	393
	Missing	0	0	0	0	0
Mean		3.70	3.88	3.86	4.00	3.72
Stad. Deviation		1.166	1.119	1.110	1.154	1.281
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5

My income most likely affected during the pandemic.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	4.1	4.1	4.1
	Disagree	70	17.8	17.8	21.9
	Neutral	37	9.4	9.4	31.3
	Agree	163	41.5	41.5	72.8
	Strongly Agree	107	27.2	27.2	100.0
	Total	393	100.0	100.0	

My decision to invest for retirement depends on my income.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	1.5	1.5	1.5
	Disagree	71	18.1	18.1	19.6
	Neutral	22	5.6	5.6	25.2
	Agree	158	40.2	40.2	64.4
	Strongly Agree	136	34.6	34.6	100.0
	Total	393	100.0	100.0	

Income shrunk can affect my retirement planning.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1.8	1.8	1.8
	Disagree	68	17.3	17.3	19.1
	Neutral	27	6.9	6.9	26.0
	Agree	162	41.2	41.2	67.2
	Strongly Agree	129	32.8	32.8	100.0
	Total	393	100.0	100.0	

With stable income, I can do better retirement planning.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.5	2.5	2.5
	Disagree	60	15.3	15.3	17.8
	Neutral	21	5.3	5.3	23.2
	Agree	131	33.3	33.3	56.5
	Strongly Agree	171	43.5	43.5	100.0
	Total	393	100.0	100.0	

I allocate more portion of my salary to pension fund when I could earn more.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	44	11.2	11.2	11.2
	Disagree	26	6.6	6.6	17.8
	Neutral	49	12.5	12.5	30.3
	Agree	150	38.2	38.2	68.4
	Strongly Agree	124	31.6	31.6	100.0
	Total	393	100.0	100.0	

3. Financial Literacy

Statistics

		I acknowledge all alternative sources for my retirement income, for example investments and public pension fund.	I can clearly distinguish difference of retirement fund and other fund (Eg: Insurance, medical fund, children education fund).	I understand clearly impact of inflation towards my value of retirement savings.	I understand benefits of interest in my retirement savings account.	I am aware of my right to claim retirement benefits offered by my company.
N	Valid	393	393	393	393	393
	Missing	0	0	0	0	0
Mean		3.81	3.86	3.88	3.87	3.90
Stad. Deviation		1.227	1.112	1.171	1.154	1.100
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5

I acknowledge all alternative sources for my retirement income, for example investments and public pension fund.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	32	8.1	8.1	8.1
	Disagree	38	9.7	9.7	17.8
	Neutral	33	8.4	8.4	26.2
	Agree	159	40.5	40.5	66.7
	Strongly Agree	131	33.3	33.3	100.0
	Total	393	100.0	100.0	

I can clearly distinguish difference of retirement fund and other fund (Eg: Insurance, medical fund, children education fund).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	2.3	2.3	2.3
	Disagree	59	15.0	15.0	17.3
	Neutral	42	10.7	10.7	28.0
	Agree	150	38.2	38.2	66.2
	Strongly Agree	133	33.8	33.8	100.0

	Total	393	100.0	100.0	

I understand clearly impact of inflation towards my value of retirement savings.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	4.3	4.3	4.3
	Disagree	54	13.7	13.7	18.1
	Neutral	31	7.9	7.9	26.0
	Agree	148	37.7	37.7	63.6
	Strongly Agree	143	36.4	36.4	100.0
	Total	393	100.0	100.0	

I understand benefits of interest in my retirement savings account.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	4.6	4.6	4.6
	Disagree	51	13.0	13.0	17.6
	Neutral	30	7.6	7.6	25.2
	Agree	161	41.0	41.0	66.2
	Strongly Agree	133	33.8	33.8	100.0
	Total	393	100.0	100.0	

I am aware of my right to claim retirement benefits offered by my company.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	67	17.0	17.0	17.8
	Neutral	39	9.9	9.9	27.7
	Agree	140	35.6	35.6	63.4
	Strongly Agree	144	36.6	36.6	100.0
	Total	393	100.0	100.0	

4. Savings Behaviour

Statistics

		I save money to achieve financial independency.	I know it is always important to save for emergency, like happening outbreak of Covid-19.	I contribute monthly savings in bank account.	I frequently keep tracking on my spending.	I save as much as possible instead spend all my money immediately.
N	Valid	393	393	393	393	393
	Missing	0	0	0	0	0
Mean		4.01	4.09	3.97	3.80	3.85
Stad. Deviation		1.141	1.181	1.229	1.208	1.300
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5

I save money to achieve financial independency.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.5	2.5	2.5
	Disagree	59	15.0	15.0	17.5
	Neutral	17	4.3	4.3	21.9
	Agree	140	35.6	35.6	57.5
	Strongly Agree	167	42.5	42.5	100.0
	Total	393	100.0	100.0	

I know it is always important to save for emergency, like happening outbreak of Covid-19.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	3.1	3.1	3.1
	Disagree	56	14.2	14.2	17.3
	Neutral	18	4.6	4.6	21.9
	Agree	107	27.2	27.2	49.1
	Strongly Agree	200	50.9	50.9	100.0
	Total	393	100.0	100.0	

I contribute monthly savings in bank account.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	4.8	4.8	4.8
	Disagree	54	13.7	13.7	18.6
	Neutral	27	6.9	6.9	25.4
	Agree	114	29.0	29.0	54.5
	Strongly Agree	179	45.5	45.5	100.0
	Total	393	100.0	100.0	

I frequently keep tracking on my spending.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	24	6.1	6.1	6.1
	Disagree	52	13.2	13.2	19.3
	Neutral	34	8.7	8.7	28.0
	Agree	153	38.9	38.9	66.9
	Strongly Agree	130	33.1	33.1	100.0
	Total	393	100.0	100.0	

I save as much as possible instead spend all my money immediately.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	39	9.9	9.9	9.9
	Disagree	32	8.1	8.1	18.1
	Neutral	36	9.2	9.2	27.2
	Agree	129	32.8	32.8	60.1
	Strongly Agree	157	39.9	39.9	100.0
	Total	393	100.0	100.0	

5. Goal Clarity

Statistics

		I establish specific goals for how much I will need to save for my retirement.	I have change of thinking about quality of life I want to lead after retirement.	I have a clear vision of how my life shall be after retirement.	My financial goal is to prepare if I lose my job.	My financial goal is to settle debt faster.
N	Valid	393	393	393	393	393
	Missing	0	0	0	0	0
Mean		3.91	3.87	3.78	3.70	3.79
Stad. Deviation		1.105	1.061	1.203	1.221	1.136
Minimum		1	1	1	1	1
Maximum		5	5	5	5	5

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

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.0	1.0	1.0
	Disagree	66	16.8	16.8	17.8
	Neutral	37	9.4	9.4	27.2
	Agree	141	35.9	35.9	63.1
	Strongly Agree	145	36.9	36.9	100.0
	Total	393	100.0	100.0	

I have change of thinking about quality of life I want to lead after retirement.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	.8	.8	.8
	Disagree	65	16.5	16.5	17.3
	Neutral	37	9.4	9.4	26.7
	Agree	164	41.7	41.7	68.4
	Strongly Agree	124	31.6	31.6	100.0
	Total	393	100.0	100.0	

I have a clear vision of how my life shall be after retirement.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	7.6	7.6	7.6
	Disagree	34	8.7	8.7	16.3
	Neutral	55	14.0	14.0	30.3
	Agree	148	37.7	37.7	67.9
	Strongly Agree	126	32.1	32.1	100.0
	Total	393	100.0	100.0	

My financial goal is to prepare if I lose my job.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	27	6.9	6.9	6.9
	Disagree	54	13.7	13.7	20.6
	Neutral	44	11.2	11.2	31.8
	Agree	152	38.7	38.7	70.5
	Strongly Agree	116	29.5	29.5	100.0
	Total	393	100.0	100.0	

My financial goal is to settle debt faster.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2.0	2.0	2.0
	Disagree	68	17.3	17.3	19.3
	Neutral	50	12.7	12.7	32.1
	Agree	138	35.1	35.1	67.2
	Strongly Agree	129	32.8	32.8	100.0
	Total	393	100.0	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
RP	393	1.00	5.00	3.6524	1.26030
INC	393	1.00	5.00	3.8331	1.05831
FL	393	1.00	5.00	3.8646	1.07371
SB	393	1.00	5.00	3.9405	1.13435
GC	393	1.00	5.00	3.8102	1.04476

Valid N (listwise)	393				

Appendix E: Reliability Test (Cronbach's Alpha)

Case Processing Summary

		N	%
Cases	Valid	393	100.0
	Excluded[a]	0	.0
	Total	393	100.0

a. Listwise deletion based on all variables in the procedure.

1. Retirement Planning

Reliability Statistics

Cronbach's Alpha	N of Items
.702	5

2. Income

Reliability Statistics

Cronbach's Alpha	N of Items
.946	5

3. Financial Literacy

Reliability Statistics

Cronbach's Alpha	N of Items
.961	5

4. Savings Behaviour

Reliability Statistics

Cronbach's Alpha	N of Items
.964	5

5. Goal Clarity

Reliability Statistics

Cronbach's Alpha	N of Items

.949	5

Appendix F: Pearson's Correlation Analysis

Correlations

		RP	INC	FL	SB	GC
RP	Pearson Correlation	1	.693**	.715**	.718**	.696**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	393	393	393	393	393
INC	Pearson Correlation	.693**	1	.858**	.868**	.831**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	393	393	393	393	393
FL	Pearson Correlation	.715**	.858**	1	.926**	.884**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	393	393	393	393	393
SB	Pearson Correlation	.718**	.868**	.926**	1	.888**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	393	393	393	393	393
GC	Pearson Correlation	.696**	.831**	.884**	.888**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	393	393	393	393	393

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix G: Multiple Linear Regression Model

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	GC, INC, FL, SB[b]		Enter

a. Dependent variable: RP

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.549	.544	.85086

a. Predictors: (Constant), GC, INC, FL, SB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	341.745	4	85.436	118.013	.000[b]
	Residual	280.895	388	.724		
	Total	622.640	392			

a. Dependent Variable: RP

b. Predictors: (Constant), GC, INC, FL, SB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.145	.170		.854	.394
	INC	.235	.087	.197	2.705	.007
	FL	.238	.116	.203	2.049	.041
	SB	.238	.114	.214	2.077	.039
	GC	.197	.097	.163	2.024	.044

a. Dependent Variable: RP