# MODERATOR EFFECT OVER INVESTORS BEHAVIOR: LOWER PREFERENCE TOWARDS MUTUAL FUND IN MALAYSIA

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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.

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## DEDICATION

This study is wholeheartedly dedicated to our beloved parents, who have been our source of inspiration and gave us strength when we thought of giving up, who continually provide their moral, spiritual, emotional and financial support. Secondly, dedicate to our brothers, sisters, friends, mentor, supervisor and second examiner who shared their words of advice and encouragement to finish this study.

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| | |
|---|---|
| ANOVA | Analysis of Variance |
| AVE | Average Variance Extracted |
| CA | Cronbach's Alpha |
| CR | Composite Reliability |
| F-square | Effect Size |
| GDP | Gross Domestic Product |
| $H_0$ | Null Hypothesis |
| $H_1$ | Alternative Hypothesis |
| IV | Independent Variable |
| NAV | Net Asset Value |
| NCR | National Capital Region |
| PLS | Partial Least Square |
| PLS-SEM | Partial Least Square Structural Equation Modelling |
| R-square | Coefficient of Determination |
| RM | Ringgit Malaysia |
| Smart PLS | Smart Partial Least Square |
| SPSS | Statistical Package for the Social Sciences |
| SSR | Residual Sum of Square |
| SST | Total Sum of Square |

| | |
|---|---|
| TPB | Theory of Planned Behaviour |
| US | United State |
| USD | United State dollar |
| VIF | Variance Inflation Factors |

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# PREFACE

The basis for this study initially stemmed from our intention to start investing activities. Before doing so, we began doing researches on which financial products to invest. Which we found out that, investors have a low preference towards mutual fund. This realization stimulated our curiosity and led to the start of the title, **"Moderator Effect Over Investors Behavior: Lower Preference Towards Mutual Fund In Malaysia"**. To determine the factors that influence investor intention to have a low preference towards mutual fund with income level as moderator. The reason we included moderator is that we wanted to find out does an investor's income level affect their decision to invest—as well as, a comparison between with and without a moderator to have a precise result.

## ABSTRACT

Mutual fund is an investment vehicle that pools money from investors to invest in investment products like stocks, bonds, money market instruments and other assets. The purpose of this study is to determine the factors that influence investors to have a low preference towards mutual fund with moderator effect, income level. By determining the relationship, the relationship between awareness, financial products, investment considerations and income level as the moderator towards investor intention. The data collection method used is a questionnaire survey with 416 respondents collected. Results are generated through Smart PLS 3.0. The findings of this study indicate that the model with moderator shows awareness, financial products and investment considerations has a positive relationship towards investor intention. In contrast, the model without a moderator, only awareness has a positive relationship towards investor intention, while financial products and investment considerations have shown a negative relationship towards investor intention.

# CHAPTER 1: INTRODUCTION

## 1.0 Introduction

The purpose of this study is to determine the factors that influence an investor to have a lower preference towards investing in mutual fund. The research background and problem statement are presented in detailed. While research objectives, research questions and research hypothesis are developed. The significance of this study is described. General objectives and specific objectives are the categories of research objectives. In the end, the conclusion will conclude the chapter layout.

## 1.1 Research Background

El-Ansary & Elrashidy (2019) stated that mutual funds could be defined as an investment tool that consists of many funds that pooled by similar investment objective investors, which is managed by professional asset management companies. Mutual funds have an advantage, which is to allow small investors to participate in the financial markets that may bring to a rise in the size and liquidity of the mutual fund. The need for diversification and well-managed portfolios has led to the widespread of mutual fund in the world.

In Malaysia, mutual funds are unique, compared with other countries. Based on Rafidah et al. (2017), the uniqueness of mutual funds is categorized in two ways, which are Islamic mutual funds and conventional mutual funds. Muslims need to comply with the Shariah rules that prohibit illegal (haram) businesses, such as gambling and weaponry, as well as risky (gharar) investments that related to

speculation and that's why Islamic mutual funds occur. This uniqueness will lead to some disadvantages in the Islamic mutual fund manager's performance because of their limited place to invest as the investment needs to follow the shariah rules. Despite the fact that growth is seen in the industry of mutual fund, but research found out that mutual fund in Malaysia has not been particularly favourable in fund performance.

According to the net inflows into Malaysia's mutual funds by Zembrowski (2018), the net inflow of total mutual funds, which included Islamic and Conventional mutual funds in 2015, was about RM9 billion. In 2016, the net inflow of total mutual funds increased to RM20 billion. The net inflow of total mutual fund increases sharply to RM45 billion in 2016, while the net inflow of total mutual fund decrease rapidly to RM8 billion in the year 2018.

**Net Inflows into Malaysia's Mutual Funds**

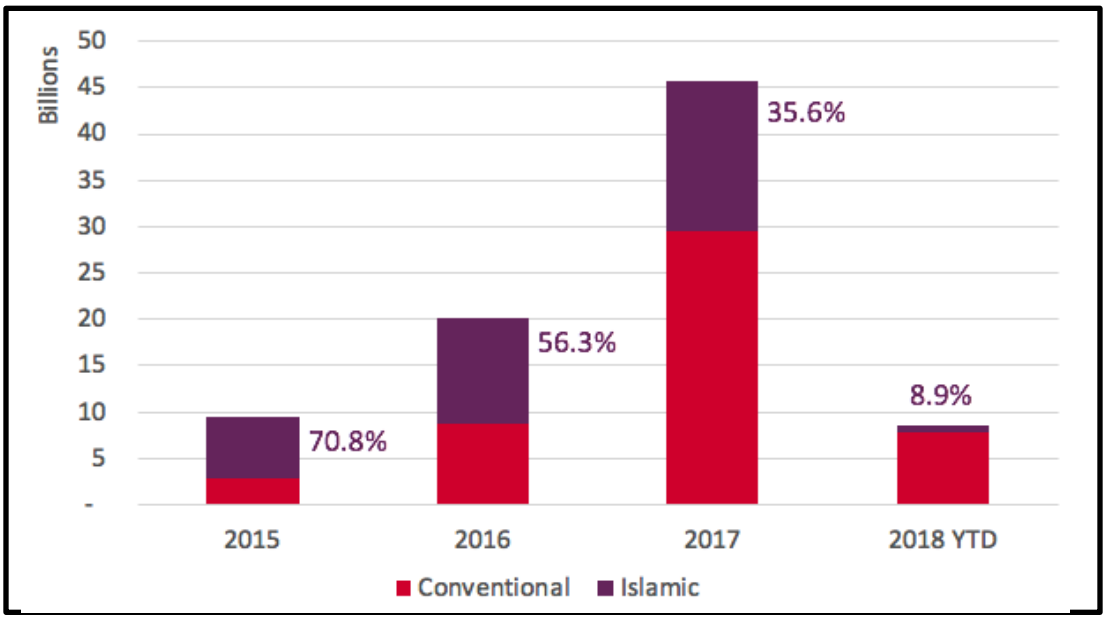


*Figure 1.1.* Net inflows into Malaysia's mutual funds. Adapted from Zembrowski (2018) Malaysia's Islamic funds struggle to attract new assets. Retrieved from https://fundselectorasia.com/malaysias-islamic-funds-struggle-to-attract-new-assets/.

Qureshi et al. (2016) indicated that mutual funds are financial intermediaries developed in the financial markets of developed countries. The development of mutual funds can be demonstrated by the degree of theoretical and technical research carried out in these markets. However, the number of mutual funds in Asian is lower than the US market as the mutual fund is still at the embryonic stage. This is the reason why Malaysia investor has lower preferences in investing in mutual funds compared to other investments.

Determine the factors that influence investors to have lower preference towards investing in the mutual fund is the aim of this study. The variables that were used in this research are awareness, financial products, and also investment considerations.

## 1.2 Research Problem

Nowadays, mutual fund is one of the most common finance items. Amiri & Gil-Lafuente (2017), Nur Baiti (2018), and Anas & Ainulashikin (2019) had researched Malaysian's preferences towards the mutual fund. Based on Amiri & Gil-Lafuente (2016), mutual funds in Malaysia has increased to 81 billion dollars in net asset value (NAV). The NAV of the mutual fund industry occupies 20.77% of the market capitalization of Bursa Malaysia. The number of mutual funds accounts holders has increased to 17, 415,418 million at the end of the year 2014. Besides, according to Anas & Ainulashikin (2019), the number of Islamic Mutual Funds in 2009 was 150, with total assets under management of USD12.0. Malaysia had 388 Islamic Mutual Funds with total assets under control of USD 22.60 in the first quarter of 2017. The limitation of these researchers is that they only focus on the reasons why investors have the preference towards mutual fund instead of low preference towards mutual fund in Malaysia. This study will cover the limitation by conducting a new research topic.

Most of the recent researchers did their research about mutual fund preferences in India and Pakistan. Yet, refer to the graph in the research background, there is a significant decline in mutual funds in Malaysia. Public Ittikal Sequel Fund (2019) stated that mutual fund in Malaysia increases rapidly from the year 2016 to 2017. Yet, the performance history showed that the mutual fund started to fluctuate early in the year 2018 and eventually decline around 10% at the end of 2018. On the one hand, Principal Asset Management Berhad (2019) had shown the NAV of mutual fund in Malaysia had gone through an unexpected reverse growth in 2018. Hence, this study will cover the research in four areas in Malaysia, which are Penang, Johor, Selangor, and Kuala Lumpur, to investigate the reasons that affect those Malaysians to be low preferences towards mutual fund based on awareness, financial products and investment considerations towards the mutual fund.

According to Prabhu & Vechalekar (2014), the type of investors that prefer mutual funds is the ones with higher incomes. Another study by Kaveri & Bindu (2017) also stated that demographic factors like gender and income have a positive impact on the preferences towards mutual fund. Sailaja (2018) reported that, between the annual household income of the respondents and the mutual fund investment, there is a significant relationship. The previous researchers have shown that the income level is always significant to investor intention. Yet, this study will use the income level as a moderator variable instead of an independent variable to investigate the ways of income level to change the influence of independent variables towards investor intention. The previous researchers have done their research without adding the moderator. Thus, this study will test whether those independent variables and dependent variable still maintain a significant relationship after adding on the moderator variable.

# 1.3 Research Objectives

## 1.3.1 General Objective

This study focus to determine the factors that influence investor to have lower preference towards investing in mutual fund.

## 1.3.2 Specific Objectives

1. To determine the relationship between awareness and investor intention towards mutual fund.

2. To determine the relationship between financial products and investor intention towards mutual fund.

3. To determine the relationship between investment considerations and investor intention towards mutual fund.

4. To determine the relationship between awareness and investor intention with moderator effect, income level.

5. To determine the relationship between financial products and investor intention with moderator effect, income level.

6. To determine the relationship between investment considerations and investor intention with moderator effect, income level.

## 1.4 Research Question

1. Is there any relationship between awareness and investor intention towards mutual fund?

2. Is there any relationship between financial products and investor intention towards mutual fund?

3. Is there any relationship between investment considerations and investor intention towards mutual fund?

4. Is there any relationship between awareness and investor intention with moderator effect, income level?

5. Is there any relationship between financial products and investor intention with moderator effect, income level?

6. Is there any relationship between investment considerations and investor intention with moderator effect, income level?

## 1.5 Research Hypothesis

### 1.5.1 Awareness

$H_0$ = There is no relationship between awareness and investor intention.
$H_1$ = There is a relationship between awareness and investor intention.

If the awareness has a relationship with investor intention, reject $H_0$. This means awareness will influence the investor intention towards mutual fund.

### 1.5.2 Financial Products

$H_0$ = There is no relationship between financial products and investor intention.
$H_1$ = There is a relationship between financial products and investor intention.

If the financial products have a relationship with investor intention, reject $H_0$. This means financial products will influence the investor intention towards mutual fund.

### 1.5.3 Investment Considerations

$H_0$ = There is no relationship between investment considerations and investor intention.
$H_1$ = There is a relationship between investment considerations and investor intention.

If the investment considerations have a relationship with investor intention, reject $H_0$. This means investment considerations will influence the investor intention towards mutual fund.

### 1.5.4 Awareness based on Income Level

$H_0$ = There is no relationship between awareness and investor intention with moderator effect, income level.

$H_1$ = There is a relationship between awareness and investor intention with moderator effect, income level.

If the income level has a relationship with awareness, reject $H_0$. This means income level will influence the awareness towards investor intention.

### 1.5.5 Financial Products based on Income Level

$H_0$ = There is no relationship between financial products and investor intention with moderator effect, income level.

$H_1$ = There is a relationship between financial products and investor intention with moderator effect, income level.

If the income level has a relationship with financial products, reject $H_0$. This means income level will influence the financial products towards investor intention.

### 1.5.6 Investment Considerations based on Income Level

$H_0$ = There is no relationship between investment considerations and investor intention with moderator effect, income level.

$H_1$ = There is a relationship between investment considerations and investor intention with moderator effect, income level.

If the income level has a relationship with investment considerations, reject $H_0$. This means income level will influence the investment considerations towards investor intention.

## 1.6 Significance of Study

Contributing in determining the factors that affect Malaysia investors to have a low preference in mutual fund. In the year 2018, the volume in investing mutual funds in Malaysia has shown a decline. It showed a low investor intention in investing mutual funds, and this becomes the dependent variable of this study. As for the independent variables, financial products, investment considerations, and awareness have been chosen. Besides, income level is chosen as the moderator variable in this study, to figure out the intensity of the relationship between income level and each independent variable.

In contrast with past studies which mainly uses only 100 sample size, this study increases the sample size to 416 as larger sample size provides a more accurate result which makes the findings of this study more convincing. On the other hand, this study is a study base in Malaysia, while most past studies don't focus on Malaysia, which

doesn't reflect the real situation of Malaysia. Most importantly, earlier studies haven't taken into account the moderating effect of income level. A moderator variable is to strengthen the relationship between the dependent variable and independent variables. By studying these factors, mutual fund managers can learn more about the factors affecting investors' intentions. They will be able to know how to create a more effective strategy to draw more investors to invest in the mutual fund. Besides, this study could help future researchers to be knowledgeable of the factors that influence investors' intentions. It will help them in a better analyst and as a reference for their studies.

## 1.7 Conclusion

This chapter includes a brief concept of the factors that influence an investor to have a lower preference towards investing in mutual fund. The research background and research problem will first be discussed, afterwards accompanied by the development of research objectives, research questions, and research hypotheses. The contribution of this study is also mentioned in this chapter.

# CHAPTER 2: LITERATURE REVIEW

## 2.0 Introduction

In this chapter, this study will discuss the factors that influence investors to have a lower preference towards investing in mutual fund. After reviewing the previous research regarding the factors that influence the intention of investors in investing in mutual fund, this study identified three determinants which are awareness, financial products and investment considerations on mutual fund. In this study has added on one moderator, income level to enhance the relationship between the dependent variable and independent variables. A conceptual framework was developed based on the three independent variables, one moderator and the investor's intention to invest in mutual fund in Malaysia as the dependent variable. With this conceptual framework, the relationship between the three factors and the investor's intention to invest can be examined.

## 2.1 Theoretical Framework

### 2.1.1 Theory of Planned Behavior

According to LaMorte (2018), the dependent variable (investor intention), moderator (income level) and two independent variables (awareness and investment considerations) can be linked to Theory of Planned Behaviour (TPB).

Theory of Planned Behaviour is defined as the prediction of a person's intention on an action at a certain time and location.

**Theory of Planned Behavior**

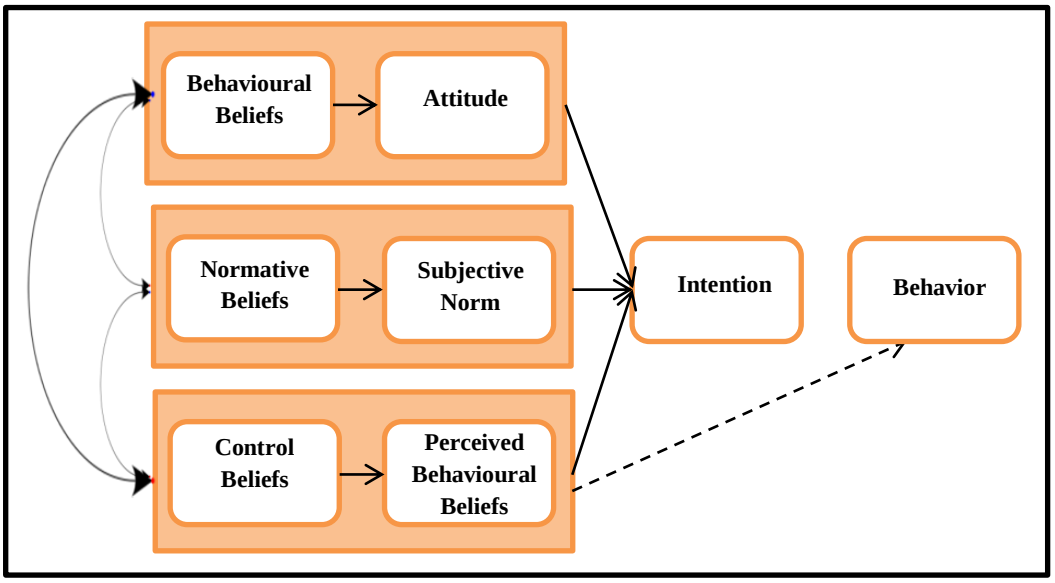


*Figure 2.1* Theory of planned behaviour. Adapted from Barnes et al. (2008) Implementing the Action Programme for Nitrate Vulnerable Zones in Scotland: Farming Practices and Awareness. 1-4.

As at Figure 2.1, there are three classifications for Theory of Planned Behavior and those are behavioural beliefs, control beliefs and normative beliefs. The Behavioural beliefs are the relationships between behaviours and the expected outcomes of behaviour. It is a person's behavioural beliefs directly affect one's attitude towards their behaviour. In this study, a respondent will base on his investment considerations (independent variable) to consider should him invest in mutual fund.

Normative beliefs include key people or the character of the individual, especially their behavioural expectations, because he thinks they are. On top of that, it was partly determined by the importance of what he expected of these people. Together, these determine the subjective norms that will play an essential role in

deciding whether to act in a certain way. In this study, if a respondent has awareness (independent variable) on mutual fund, he might invest in mutual fund. A person's perception of how easy it is to perform an activity that interests them refers to control beliefs. Perceived behavioural control varies from situation to situation, which results in a person's perception of control beliefs differ from one situation to situation. In this study, a respondent may due to his income level (moderator) whether should he invest in mutual fund.

When these three beliefs are combined will lead to the intention (dependent variable, investor intention) of their action, which inevitably leads to the action itself. There is a direct relationship between these three elements. If attitudes and subjective norms are positive, and they believe that they can do certain behaviours, then it will undoubtedly reinforce their intentions and determination to act the way they expect. (Martin, 2017)

### 2.1.2 Behaviour Decision Theory

According to Slovic et al. (1977), one of the independent variables, financial products can be linked to behaviour decision theory. Normative and descriptive are the two interrelated aspects of the behavioural decision theory. The normative theory focuses on the process of prescribing actions that best match the beliefs and values of decision-makers. The goal of descriptive decision theory is to explain these beliefs and values as well as the way individuals integrate them in their decisions. Before a respondent invests in mutual fund, he will make some study on mutual fund to know more about it then consider should him invest in mutual fund or other financial products.

# 2.2 Empirical Review

## 2.2.1 Investor Intention

Purohit & Chutani (2016) is studying the relationship between the investment option, investment returns, awareness, preference upon information mode and women investment behaviour. It mentioned that women tend to invest in the mutual fund. Based on their study, the main factors that cause women respondents to buy mutual fund are safety and diversification as women are not a risk-taker as mutual fund is very safe and can get more return. Invest in mutual fund also can diversify investors' portfolio. Their study only has 100 respondents. So this study will cover this limitation and will collect an average amount of 416 respondents. Octarina et al. (2019) determined the influence of TPB variables (attitude toward behaviour, perceived behavioural control, and subjective norm), religiosity, awareness, and risk perception on the intention to invest in shariah mutual fund. The result of this study showed that the independent variable influenced the dependent variable attitude toward behaviour and subjective norm positively and significantly. Religiosity and awareness have no significant impact on purchasing intention, although perceived behavioural control and perception of risk did not have any significant influence on investment intention. The other result showed that religiosity had a strong positive influence on behavioural attitude. The conclusion of this study showed that religiosity is the factor influencing behavioural attitude, behavioural attitude and subjective norm are factors influencing intention buying shariah mutual funds.

Trivedi et al. (2017) study the relationship between investment decision and factors like liquidity, financial awareness, and demography. It was found that low-risk funds and the liquidity of the investment scheme influence the preference of

the investor to invest in the mutual fund. This study shows that there is a direct relation in the mutual fund between the level of financial understanding, liquidity of mutual fund, gender and investment behaviour. A direct relationship exists between age and risk-taking. Rathnamani (2013) stated that the benefits of high return at a low level of risk, safety and liquidity are one of the reasons that investors preferred to invest in mutual fund in this study conducted in Trichy that analyse the investor's attitude towards mutual funds investment. As most of the investors belong to modest investment style, they preferred taking moderate and low-level risk.

According to Kothari & Mindargi (2013), the effect of various demographic variables on investors ' attitude towards mutual funds is analyzed. The results of their analysis have shown that 50% of investors have no intention of investing in mutual funds. It is due to limited knowledge because 33% of investors have not invested capital in mutual funds. People in business are more likely to invest in the current account, women are more likely to invest in gold and jewellery, and service class people are more likely to invest in fixed deposit. However, 42% of investors are still investing in the mutual fund for tax assumption; 33% of investors are investing in the mutual fund to gain a higher return. Their research suggests that investors are less fond of investing in mutual funds.

The factors driving Malaysian investors to invest in mutual funds are investigated by Nur Baiti (2018). The dependent variable of their study is investment decision making while pass performance, diversification, and mutual fund manager gender are the independent variables. Form their study showed that pass performance and diversification are significant. However, mutual fund manager gender is not significant. It is suggested that future study should be a larger sample, so this study will have 416 respondents which are 66 respondents more than their study.

Chavan (2018) studies the factors that are considered by mutual fund investors while investing in mutual funds and the level of satisfaction. Based on their analysis, it has been shown that there is no association between age and intention of the investor. Since there is a broad range of mutual fund schemes available on the market and there are mutual funds available on the market by various mutual fund providers offering good mutual funds for specific age groups needs. Therefore, nearly every person's age can invest in mutual funds that match their profile. Their research has gathered about 100 respondents. Their study has collected 100 respondents. Therefore, in this study will gather around 416 respondents.

### 2.2.2 Awareness

Bhushan (2014) covers the relationship between awareness and investment preferences. The outcome reveals that respondents are well aware of traditional and safe financial products, although there is a poor understanding of the population of new-age financial products. In conventional and safe investing ways, most respondents park their capital. By contrast to the stock market, more investors invest by mutual funds. Investment activity of respondents investing in the traditional way can be due to not aware of the capabilities of modern financial offerings. The result is in line with Prathap & Rajamohan (2013). Their study analyses the mutual fund investments concerning the investor's level of awareness. The present investigation outlined that mostly the investors have a high level of awareness and positive approach towards investing in a mutual fund. Their study proved that investor's preference to invest is closely related to the awareness level of the financial products. However, the focus of their research is mainly on various types of financial products. Therefore, this study will be focusing on only the awareness of the mutual fund.

Kaur & Kaushik (2016) suggested that investor behaviour towards mutual funds could be defined by an investor's attitude towards mutual fund investments (perception of return and risk), an investor's socio-economic environment and mutual fund awareness/knowledge. The study presented that a greater awareness of different facets of mutual funds ought to have a positive impact on mutual fund investment. While the research has some significant implications, its main drawback has been that the results could not be extended due to differences with particular regions in it. Consequently, the findings may only apply to Delhi-NCR and cannot be applied to other regions. Since there were only 81 females in the survey, the survey was biased towards the male respondents. Therefore, this study may include in a more representative study for other areas, or with larger sample size. Based on Bhushan (2014), the paper explores the degree of awareness of salaried individuals and their investment actions towards financial goods. Study findings show that respondents are aware of conventional and secure financial products while awareness among the population about new-age financial products is small. Many respondents also park their capital in conventional, stable investment avenues.

Rehan et al. (2018) indicate that various demographic variables such as education and age have a major effect on the level of investor awareness along with them, different factors such as fund transparency, investment risk and the credibility of the fund have a significant impact on influencing the attitude of investors of mutual funds. The research, however, notes that demographic variables such as income level have a marginal effect on perception. Therefore, in this study, income level will act as the moderator variable instead of the independent variable, which would likely enhance the relationship between awareness and investor's intention. A change in role in the variables would probably make an influence in the result of this study Trivedi et al. (2017) focuses on the relationship between investment decision and factors like liquidity, financial awareness, and demography. It was found that there is a clear link between the degree of financial awareness and mutual fund investing behaviour. The youngsters and the elderly

are less conscious of the details about the mutual fund. Prathap & Rajamohan (2013) researched the awareness status among mutual fund investors and their level of satisfaction related to various issues such as the return rate, liquidity, protection, tax consideration, growth perspective, capital gain, maturity period. The research found that investors mainly have a high level of awareness and a constructive attitude to investing in mutual funds. Mukesh (2015) had researched the perception of investors on the mutual fund for return, tax advantage and capital appreciation, but most investors lack mutual fund awareness. Thus, by organizing conferences, financial market workshops and publishing data such as newspapers, magazines and journals, it is essential to increase awareness among investors.

### 2.2.3 Financial Products

The financial products are those choices for the investor to generate profits or interest through allocating their funds in the right way. Every investor has different motives to indulge in investment, such as to ensure their money will not depreciate or to earn some extra income. Different investment vehicles have different characteristics that will satisfy the investors' objective in investing. Thus, this study will cover financial products as an independent variable to find out whether financial products will affect investor intention towards mutual funds.

A substantial relationship is found between the financial products and the investor goal, according to Bajracharya & Mathema (2017) and Kothari & Mindargi (2013). In addition, Purohit & Chutani (2016) suggested that a substantial relationship exists between financial products and investor intention. For such financial products, their analysis shows the result that, while investors appear to invest in fixed deposits and gold, mutual funds only occupied a small percentage.

Apart from that, Agrawal & Jain (2013) and Raju et al. (2018) had suggested that there is no relationship between financial products and investor intention. Prabhavathi & Kishore (2013) also agreed that both of the variables have no significant relationship. These researchers showed that mutual funds are one of the popular choices among financial products. Those financial products included mutual funds, shares, insurances, gold, real estate and stocks.

Different investment options have various advantages and disadvantages. The benefits of mutual fund are professional management, diversification, transparency, lower cost and liquidity while the disadvantages are volatility, authorization procedures and limited flexibility. It is a well-known fact that real estate is a typical investment. Yet, there are some disadvantages of real estate stated by Oyewole (2019), there are illiquidity, the fixity of location and high management costs. The gold investment is known as the best investment to protect the investors when the stock market tends to declines and inflation (Nawaz & Sudindra, 2013). It would not be affected too much by the recession time with high inflation risks, depreciation of exchange rate and bank collages. Besides, shares investment has immense potential to bring a large return to the investors since the risk of shares is higher than other investments. The investors will face risks such as volatility risk, timing risk, currency risk and legislative risk while investing in stocks. Apart from that, the fixed deposits will provide a higher rate of interest compared to the regular savings account during the arrival of the maturity date (Singhal, 2015). According to Bong et al. (2017), investors will prefer to invest in fixed deposits when they do not know much of financial products.

All of these researchers did their study and showed the results only in a city. Yet, the results of investor intention from a city cannot represent the investor intention of a country. Thus, this study will cover this limitation by doing the questionnaire in different cities from Malaysia.

### 2.2.4 Investment Considerations

Investment considerations are defined as the factors of each investor prefer to consider while selecting investments. This study supposes that investment considerations have a great influence on their investment intentions. Rakesh & Srinivas (2013) stated that the investors below 35-year-old prefer to take more risk to get a higher return. It shows the investors' preference may influence their investment intention. Based on Arathy et al. (2015), High return is one of the key drivers that influence the investment decisions of retail investors.

According to Chavan (2018), investors who get higher income will give more importance to the return while investing mutual fund. It showed there is significance relationship between moderating of this study (income level) and investors' preference (return).

Rathnamani (2013) showed that most investors prefer to invest in mutual funds due to high returns, low risk and liquidity stability. Besides, they usually belong to a moderate investment style, only willing to take a low risk. Sebastian (2017) has suggested that investors should consider a high return for investing in mutual fund. George & Chandran (2016), High return and growth in net asset value attracted invest toward mutual fund. Mutual fund is the most attractive option for women investors to invest as women investors prefer investment carrying the low risk and yielding high return stated Purohit & Chutani (2016). Based on Gandhi & Joshi (2018), majority of mutual fund investors take a moderate risk to earn a modest return. On the other hand, Subramanya & Murthy (2013) stated that majority of investors prefer mutual fund because it is at low risk. While Reddy (2017) stated that high return is an influencing factor for the selection of mutual fund in India.

Investors in India prefer to invest in fixed deposits because of its lower risk as stated in Kothari & Mindargi (2013). Besides, investors in Nepal also prefer investing in bank deposits because it is nearly no risk involved and fixed return according to Bajracharya & Mathema (2017).

On the other hand, Rana & Joshi (2019) has concluded that there is no significant difference in the factors relating to high returns, liquidity, low risk and profitability influencing the mutual fund investment plan.

### 2.2.5 Financial Products, Investment Considerations and Awareness Based on Income Level

According to Rehan et al. (2018) stated that the relationship between income level and awareness is not significant. Raju et al. (2018) also mentioned that lower-income investor has no awareness about mutual fund can be an investment avenue to invest their savings because they lack knowledge about it. Based on Kaur & Kaushik (2016), their results showed that older, better-educated and self-employed respondents were less aware of the mutual fund related risks, while those with higher earnings were more aware of mutual fund related risks. As a result, the higher education community has a better understanding of the advantages of mutual funds, but not mutual fund related risks. However, R Padmaja (2013) stated that income level has no significant with the awareness of investor to invest in mutual funds. Khitoliya (2014) found that income has a substantial relationship with awareness toward mutual funds.

Based on Kothari & Mindargi (2013), their study has observed that more businessmen option to invest is in current account while the women investment

option is more on gold and jewellery. For the people in the service sector and retired class people, they tend to choose saving either than investing. The high-income people tend to choose fixed deposit as their investment option. Besides, Alamelu & Indhumathi (2017) indicated that the female segment with high income rarely chooses mutual fund as their investment option due to lack of mutual fund knowledge towards them. Bhushan (2014) found that income level was one of the critical factors that will influence investors investment option. The resulted stated that high-income people investment option is in share market, middle and low-income people investment option is in insurance and bank. Velmurugan et al. (2015) also reported that between income level and investment option there is significance relationship which the high-income group more preferred real estate, equity shares, insurance, mutual funds and commodities as their investment tools. Nevertheless, insurance and bank deposit are preferable for the low and middle-income group.

According to Chavan (2018), the higher the investor's income, the more they demand high return when they choose mutual fund as their investment option. While for the low-income investor, they have less demand for the high return compares with the high-income investor. Thus, the increase in income level will affect the investment considerations in term of return. Zafar et al. (2013) study found that investors will choose mutual fund as their investment option when their income level increases as mutual funds are an effective way to reduce risk through diversification which is managed by qualified fund managers. Kumar and Haryana (2014) agreed that investing in mutual fund is suitable for middle-income investors as mutual fund comes with a good return at the end of the maturity period. However, Bhushan (2014) found an insignificant relationship exists between investor preference and investment considerations. Kaur et al. (2013) also indicated that between income level and investment considerations, there is no significant relationship as long as the return in the mutual funds is benefits to the investor.

## 2.3 Conceptual Framework

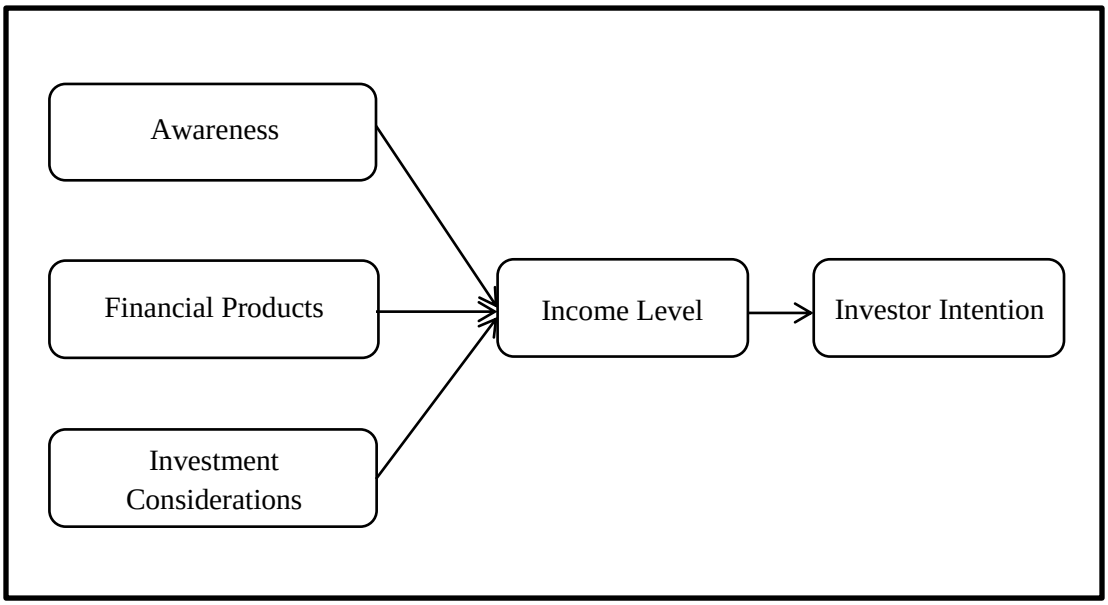


*Figure 2.2* Factors that influence investors to have lower preference towards investing in mutual fund. Adapted from Bajracharya & Mathema (2017), Kothari & Mindargi (2013), Bhushan (2014), Chavan (2018) and Trivedi et al. (2017).

The model formed reviews the conceptual framework of the factors influencing investor's to have a lower preference towards mutual fund. This framework is constructed to serve as a context for analyzing the relationship between three independent variables (awareness, financial products and investment considerations) and the dependent variable (investors intention). The income level will serve as the moderator variable that affects the intensity of the relationship between the dependent and independent variables.

As shown by Bajracharya & Mathema (2017) and Kothari & Mindargi (2013), between financial products and investor intention, there is a significant relationship. Apart from that, Agrawal & Jain (2013) and Raju et al. (2018) had indicated that between financial products and investor intention, the relationship is insignificant. Investor intention and financial products have been frequently used as the dependent

variable and independent variables, but the results are inconsistencies. Therefore, this study aims to identify the relationship with the help of moderator, income level.

Raju et al. (2018) also mentioned that lower-income investor has no awareness about mutual fund can be an investment avenue to invest their savings because of lack of knowledge. Bhushan (2014) found that income level was one of the essential factors that will affect investor selecting financial products. Chavan (2018) stated that the increase in income level would affect the investment considerations in term of return. In summary, income level has an impact on the independent variables; therefore, it acts as a moderator in this study.

According to Trivedi et al. (2017), investors are being attracted by mutual funds low-risk feature while existing mutual fund investors consider liquidity as an essential reason to invest in such. Therefore, investment considerations are chosen as one of our independent variables. Rathnamani (2013) and Prabhu & Vechalekar (2014) have suggested improving awareness level to have more investors to choose mutual fund as their investment vehicle. Trivedi et al. (2017) have also mentioned the importance of awareness among people on mutual fund study works. From what the above studies emphasis on, awareness level plays a vital role in investor's intention to choose mutual fund as their investment vehicle.

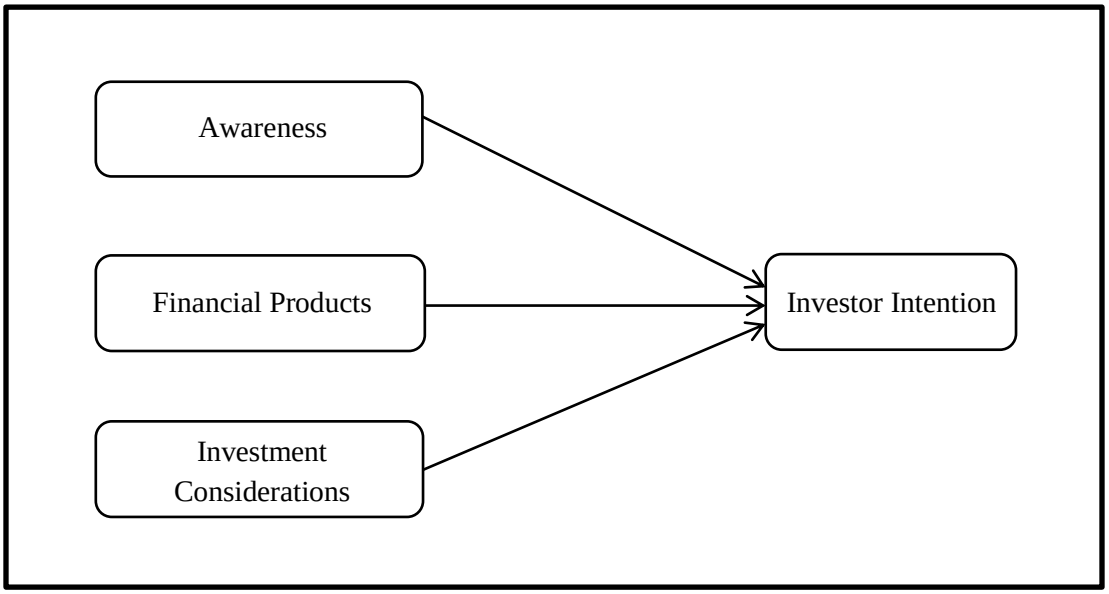


*Figure 2.3* Factors that influence investors to have lower preference towards investing in mutual fund. Adapted from Bajracharya & Mathema (2017), Kothari & Mindargi (2013), Bhushan (2014), Chavan (2018) and Trivedi et al. (2017).

Based on Figure 2.3, it shows a direct effect framework and this framework is as a base of Figure 2.2. This study not just to study the investor to has a lower preference towards mutual fund only. This study also to investigate is the model that include moderator will affect the independent variables (awareness, financial products and investment considerations) and dependent variable (investor intention).

# 2.4 Hypothesis Development

## 2.4.1 Awareness

According to Swain et al. (2017), their study is the various parameters that affect the decision making of investors in mutual fund. The factors are risk, return, liquidity, consistency, awareness and specialization. In their study has stated that financial awareness has a direct relationship towards investment behaviour in mutual fund. Thus, this study purpose is to test the relationship between awareness and investor intention.

$H_0$ = There is no relationship between awareness and investor intention.
$H_1$ = There is a relationship between awareness and investor intention.

## 2.4.2 Financial Products

Based on Bajracharya & Mathema (2017) their study is to determine investment preference towards mutual fund. From their data analysis stated that there is no significant difference between financial products and investment preference towards mutual funds. So, this study purpose is to test the relationship between financial products and investor intention.

$H_0$ = There is no relationship between financial products and investor intention.
$H_1$ = There is a relationship between financial products and investor intention.

### 2.4.3 Investment Considerations

Subramanya & Murthy (2013) stated that the secondary purpose of investors to invest in mutual fund is for safety (45.3%), 21.33% of investors invest for tax savings, 18% of investors invest for getting high returns on investment and 15.33% of investors invest for growth of invested amount. Therefore, this study purpose is to test the relationship between investment considerations and investor intention.

$H_0$ = There is no relationship between investment considerations and investor intention.
$H_1$ = There is a relationship between investment considerations and investor intention.

### 2.4.4 Awareness based on Income Level

According to Raju et al. (2018), most of the lower-income level has no awareness towards mutual fund and this it is a direct effect model. So, to enhance the model this study will add on one moderator. Therefore, this study purpose is to test the relationship between awareness and investor intention with moderator effect, income level.

$H_0$ = There is no relationship between awareness and investor intention with moderator effect, income level.
$H_1$ = There is a relationship between awareness and investor intention with moderator effect, income level.

### 2.4.5 Financial Products based on Income Level

Based on Velmurugan et al. (2015), there is a relationship between income level and investment option and this it is a direct effect model. So, to enhance the model this study will add on one moderator. Therefore, this study purpose is to test the relationship between financial products and investor intention with moderator effect, income level.

$H_0$ = There is no relationship between financial products and investor intention with moderator effect, income level.

$H_1$ = There is a relationship between financial products and investor intention with moderator effect, income level.

### 2.4.6 Investment Considerations based on Income Level

According to Zafar et al. (2013) added to that investors choose mutual fund as their investment vehicle when their income level increases since mutual funds are considered to be a low-risk investment and this it is a direct effect model. So, to enhance the model this study will add on one moderator. Therefore, this study purpose is to test the relationship between investment considerations and investor intention with moderator effect, income level.

$H_0$ = There is no relationship between investment considerations and investor intention with moderator effect, income level.

$H_1$ = There is a relationship between investment considerations and investor intention with moderator effect, income level.

## 2.5 Conclusion

In conclusion, the past studies of the previous researchers have been reviewed in this chapter. The dependent variable, along with the independent variables of this study, were explored in this chapter as well. Thus, a better cognition to those variables has been obtained after this chapter.

# CHAPTER 3: METHODOLOGY

## 3.0 Introduction

A thorough research methodology for this study are going to be covered in this chapter. Where research design points out the overall process of conducting this study, while data collection method, sampling design, research instrument and construct measurement explains the approaches on collecting data. Lastly, data processing and data analysis are about the process after data have been collected. It provides an overview of how this study is performed and enables to choose the most suitable approach for analysing data and interpreting findings.

## 3.1 Research Design

A structured plan that contains specific procedures which execute research to test the hypothesis and fulfil the research objectives are the purpose of research design. The three basic research designs, which are exploratory research, descriptive research or causal research are used to gather primary data. In this study, to get information from the primary data, descriptive research is chosen as the research method. The core concept behind using this type of research is to define better an opinion, attitude, or behaviour held by a group of people on a given subject.

Quantitative research had been employed in this research. Using the questionnaire method, a large scale of survey research will be collected. Questionnaires are distributed to numerous respondents and the Smart PLS is used to investigate the result into empirical results after collecting data.

## 3.2 Data Collection Method - Primary Data

Primary data is also known as the initial data gathered by researchers to solve the problem in question. Primary data is real-time data stated in Ajayi (2017). A survey is the most effective approach in obtaining primary data to get quantitative information of the population. A questionnaire will be adequately prepared to get sufficient information through common questionnaire formats like nominal scales, ordinal scales and likert scales.

## 3.3 Sampling Design

Kabir (2016) stated that sampling design refers to the plan and method to be followed in selecting samples from the targeted population and the technical formula of estimating sample statistics. Besides, sampling design also includes sampling framework and sampling location not to forget sampling elements, sampling techniques and sampling size.

### 3.3.1 Target Population

Based on McLeod (2019), the total group of individuals where the researchers can take samples from are called the target population. In this study, will aim to determine the investor intention towards mutual fund for the target population of the age of 18 and above.

### 3.3.2 Sampling Framework & Sampling Location

Elfil and Negida (2017) indicated that the list of all subjects in the target population that the investigators have is the sampling frame. Hence, to know why investor has low preference towards mutual fund, the sampling frame for this study, non-mutual fund investors from the age of 18 and above will be targeted.

Selangor, Kuala Lumpur, Johor and Penang had been chosen for the sampling location. These four locations are the ones with the highest GDP in Malaysia, which is mention in the Department of Statistics Malaysia. According to Mahmoud & Zurina (2015), private investment is positively related to GDP, which indicates that states with higher GDP will have more people involved in investment activities.

**Table 3.1:**

| **GDP by State, 2010 – 2016 at Current Prices – RM Million** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **State** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
| **Johor** | 74,102 | 83,044 | 87,783 | 91,405 | 99,991 | 106,709 | 116,679 |
| **Pulau Pinang** | 52,946 | 56,878 | 60,145 | 63,995 | 70,678 | 76,130 | 81,284 |
| **Selangor** | 177,718 | 193,088 | 209,845 | 224,801 | 245,346 | 263,315 | 280,698 |
| **WP Kuala Lumpur** | 113,095 | 125,125 | 137,221 | 148,223 | 134,641 | 176,723 | 190,075 |

Adapted from Department of Statistics Malaysia (2016)

### 3.3.3 Sampling Elements

This study invites non-mutual fund investors to participate in the questionnaires.

### 3.3.4 Sampling Techniques

Non-probability sampling is applied for the sampling techniques. Convenience sampling and snowball sampling method is chosen among the types of non-probability sampling. It is high accessibility, cost-effective and convenient for the collection of sample. As the sample size is large while taking into consideration that time and cost are limited; therefore, this method has been chosen.

### 3.3.5 Sampling Size

416 sample sizes are aimed to be collected from Selangor, Kuala Lumpur, Johor and Penang. According to Morgan's table of sample size showed that when accuracy level is 0.05, the population is 250,000 and above the sample size will be 384. Assume this study uses 0.05 of accuracy level.

**Table 3.2:**

**Morgan's Table for Sample Size**

## MORGAN'S TABLE FOR SAMPLE SIZE

| Population Size | Confidence = 95% | | | | Confidence = 99% | | | |
|---|---|---|---|---|---|---|---|---|
| | Margin of Error | | | | Margin of Error | | | |
| | 5.0% | 3.5% | 2.5% | 1.0% | 5.0% | 3.5% | 2.5% | 1.0% |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 20 | 19 | 20 | 20 | 20 | 19 | 20 | 20 | 20 |
| 30 | 28 | 29 | 29 | 30 | 29 | 29 | 30 | 30 |
| 50 | 44 | 47 | 48 | 50 | 47 | 48 | 49 | 50 |
| 75 | 63 | 69 | 72 | 74 | 67 | 71 | 73 | 75 |
| 100 | 80 | 89 | 94 | 99 | 87 | 93 | 96 | 99 |
| 150 | 108 | 126 | 137 | 148 | 122 | 135 | 142 | 149 |
| 200 | 132 | 160 | 177 | 196 | 154 | 174 | 186 | 198 |
| 250 | 152 | 190 | 215 | 244 | 182 | 211 | 229 | 246 |
| 300 | 169 | 217 | 251 | 291 | 207 | 246 | 270 | 295 |
| 400 | 196 | 265 | 318 | 384 | 250 | 309 | 348 | 391 |
| 500 | 217 | 306 | 377 | 475 | 285 | 365 | 421 | 485 |
| 600 | 234 | 340 | 432 | 565 | 315 | 416 | 490 | 579 |
| 700 | 248 | 370 | 481 | 653 | 341 | 462 | 554 | 672 |
| 800 | 260 | 396 | 526 | 739 | 363 | 503 | 615 | 763 |
| 1000 | 278 | 440 | 606 | 906 | 399 | 575 | 727 | 943 |
| 1200 | 291 | 474 | 674 | 1067 | 427 | 636 | 827 | 1119 |
| 1500 | 306 | 515 | 759 | 1297 | 460 | 712 | 959 | 1376 |
| 2000 | 322 | 563 | 869 | 1655 | 498 | 808 | 1141 | 1785 |
| 2500 | 333 | 597 | 952 | 1984 | 524 | 879 | 1288 | 2173 |
| 3500 | 346 | 641 | 1068 | 2565 | 558 | 977 | 1510 | 2890 |
| 5000 | 357 | 678 | 1176 | 3288 | 586 | 1066 | 1734 | 3842 |
| 7500 | 365 | 710 | 1275 | 4211 | 610 | 1147 | 1960 | 5165 |
| 10000 | 370 | 727 | 1332 | 4899 | 622 | 1193 | 2098 | 6239 |
| 25000 | 378 | 760 | 1448 | 6939 | 646 | 1285 | 2399 | 9972 |
| 50000 | 381 | 772 | 1491 | 8056 | 655 | 1318 | 2520 | 12455 |
| 75000 | 382 | 776 | 1506 | 8514 | 658 | 1330 | 2563 | 13583 |
| 100000 | 383 | 778 | 1513 | 8762 | 659 | 1336 | 2585 | 14227 |
| 250000 | 384 | 782 | 1527 | 9248 | 662 | 1347 | 2626 | 15555 |
| 500000 | 384 | 783 | 1532 | 9423 | 663 | 1350 | 2640 | 16055 |
| 1000000 | 384 | 783 | 1534 | 9512 | 663 | 1352 | 2647 | 16317 |
| 2500000 | 384 | 784 | 1536 | 9567 | 663 | 1353 | 2651 | 16478 |
| 10000000 | 384 | 784 | 1536 | 9594 | 663 | 1354 | 2653 | 16560 |
| 100000000 | 384 | 784 | 1537 | 9603 | 663 | 1354 | 2654 | 16584 |
| 300000000 | 384 | 784 | 1537 | 9603 | 663 | 1354 | 2654 | 16586 |

Adapted from The Research Advisors (2006)

**Table 3.3:**

| **State Population** | | | | | |
|---|---|---|---|---|---|
| **Population** | **Selangor** | **Kuala Lumpur** | **Johor** | **Penang** | **Total ('000)** |
| **2018** | 6,472,000 | 1,795,200 | 3,742,200 | 1,766,800 | **13,776,600** |

Adapted from Population quick info

From the table on above showed the total of population of 4 states is over 250,000. So, the sample size will be 384. Therefore, this study aims to reach 416 respondents.

# 3.4 Research Instrument

## 3.4.1 Questionnaire Survey

The most widely applied method for research purposes is The questionnaire survey. Before doing data analysis, a questionnaire is a tool for data collection. A questionnaire is a series of questions which the researcher prepares to let targeted participants fill in. This survey commonly used to collect data on behaviour and attitudes stated in Mathers et al. (2007).

The data collection tool in this study is the questionnaire. Before carrying out the official questionnaire survey, draft questionnaires are distributed. 80 sets are used for pilot testing to spot possible problem areas before conducting the large-scale data collecting. After collecting data, Smart PLS is used to analyse the data.

### 3.4.2 Questionnaire Design

The title and the objectives of this study will include in the cover page of all questionnaires. The questionnaire is made up of 6 sections, which are Section A (Demographic Profile), Section B (Investor Intention), Section C (Income Level), Section D (Awareness), Section E (Financial Products) and Section F (Investment considerations). Some of the questions in the questionnaire are self-developed. Some of the questions are referred to journals and make changes.

Section A contains questions asking about respondents' demographic profiles to conduct descriptive analysis based on the frequency and percentage analysis. Section A questions are based on Wanyoike (2016) and modified.

*Section A: Demographic Profile*

*1. Gender:*

*2. Age:*

*3. Status:*

*4. State:*

*5. Occupation:*

Section B are questions regarding the dependent variable of this study, investor intention. Question number 1, 2 and 4 are self-developed questions while question 3 is based on Wanyoike (2016) and modified. The following questions are to determine the respondents' intention in investing in mutual fund now or in the future. If the intention is low, what are the factors causing it.

*Section B: Investor Intention*

*1. Have you ever invested in a mutual fund? (Past/Present)*

*2. Are you planning to buy mutual fund in the future?*

*3. If you have the opportunity, will you buy mutual fund in the future?*

*4. Will you recommend mutual fund to others to invest?*

Questions in Section C are about the moderator, income level. In Section C, Question 2 to 6 are self-developed questions except for Question 1, which is based on Wanyoike (2016). These questions are used to determine whether the income level will influence the respondents' investment decision towards mutual fund.

*Section C: Income Level*

*1. Self Income: (Monthly)*

*2. If your level of income is higher, will you do investment to generate extra income?*

*3. If your level of income is higher, will you have a higher awareness with investment?*

*4. If you have a higher awareness with investment, will it influence your investment's intention?*

*5. If your level of income is higher, will the variety of financial products influence your investment's intention?*

*6. If your level of income is higher, will the investment considerations (risk / liquidity / expected return / reliability) of investment influence your investment's intention?*

Section D are questions regarding the independent variable, awareness. Question 2 and 3 in Section D are modified based on Raju et al. (2018) and Gandhi & Joshi (2018), respectively. While the other two questions (Question 1 and 4) are self-developed. These questions are modified and established to obtain the awareness level of respondents towards mutual fund and other financial products as well as to get to know more on the respondent's investment style.

*Section D: Awareness*

*1. Have you ever heard of mutual fund?*

*2. Where do you get to know about mutual fund?*

*3. What is your level of awareness towards these following financial products?*

*4. What type of investors are you?*

The following questions in Section E are in financial products this independent variable. Whereby Question 5 and 6 are self-developed questions and Question 7 are based on Prabhu & Vechalekar (2014) and modified. In the situation where the respondents can choose their financial products, what will they choose as their priority.

*Section E: Financial Products*

*5. Will the variety of financial products affect your intention to invest in mutual funds?*

*6. What financial products have you purchased recently?*

*7. If you have the chance, which financial products will you choose as priority?*

The following questions in Section F are questions on investment considerations. The questions are based on Prabhu & Vechalekar (2014) and modified. It is to determine the investment preference of respondents in investment activities and whether will it influence their preference towards mutual fund.

*Section F: Investment Considerations*

*8. How will the risk level of financial products influence your investment decision?*

*9. How will the expected return level of financial products influence your investment decision?*

*10. How will the liquidity level of financial products influence your investment decision?*

*11. How will the reliability of investment company/broker influence your investment decision?*

## 3.4.3 Pilot Study

The data collection method of this study is through a questionnaire. This study will conduct a pilot study first before issuing the questionnaire to the public. According to Teijlingen & Hundley (2001), pilot study means small versions of a full-scale research. The pilot study is known as the feasibility study. The pilot study also indicates that specific pre-testing for particular research such as a questionnaire or interview. Wolfe (2013) has stated that in the pilot study, there are two common aspects of research protocols which are "feasibility" and "acceptability". 80 sets of draft questionnaires are for the pilot test to spot possible problem areas before conducting the large-scale data collecting.

## 3.5 Construct Measurement

Raiphea (2015) indicated that scale is an equipment used in the process of assigning numbers to an object of observation. This questionnaire uses three types of scale.

### 3.5.1 Nominal Scale

Dalati (2018) stated that nominal data includes the collection of information about a variable that can be divided into two or more categories that are mutually exclusive and mutually exhaustive. The relevant factors such as marital status, gender and nationality were the classifications of nominal data. In this study, a part of the questions is formulated according to the nominal scale.

### 3.5.2 Ordinal Scale

There is always an order in ordinal data stated in Marateb et al. (2014). Under the ordinal scale, the characteristics of subjects or objects will commonly be ranked in terms of degree. An ordinal scale indicates ranking to show the condition of the questions.

### 3.5.3 Likert Scale

A statement of real or hypothetical situation related to the study is termed likert scale. Those respondents are given a metric scale from strongly agree to disagree strongly and they are needed to provide their level of agreement to the question according to Joshi et al. (2015).

## 3.6 Data Processing

The collected data from the questionnaire are needed to be processed before inputting it into Smart PLS. The data processing involves data coding.

### 3.6.1 Data Coding

A process to recode the data collected and title in the questionnaire is known as data coding. The data collected from the questionnaire survey in this study are required to recode to be available to analyse by Smart PLS.

# 3.7 Data Analysis

## 3.7.1 Descriptive Analysis

To describe the trend in the data that refers to the questions on why, when, where, where, how and to what degree, as described in Loeb et al. (2017) is known as descriptive analysis. In contemporary work, descriptive analysis is often seen simply as an essential part of a research and inspiring the tests of validity or comparisons of research samples with interested populations. This study can be made use from the data from the questionnaire to carry out the descriptive analysis.

## 3.7.2 Path Coefficient

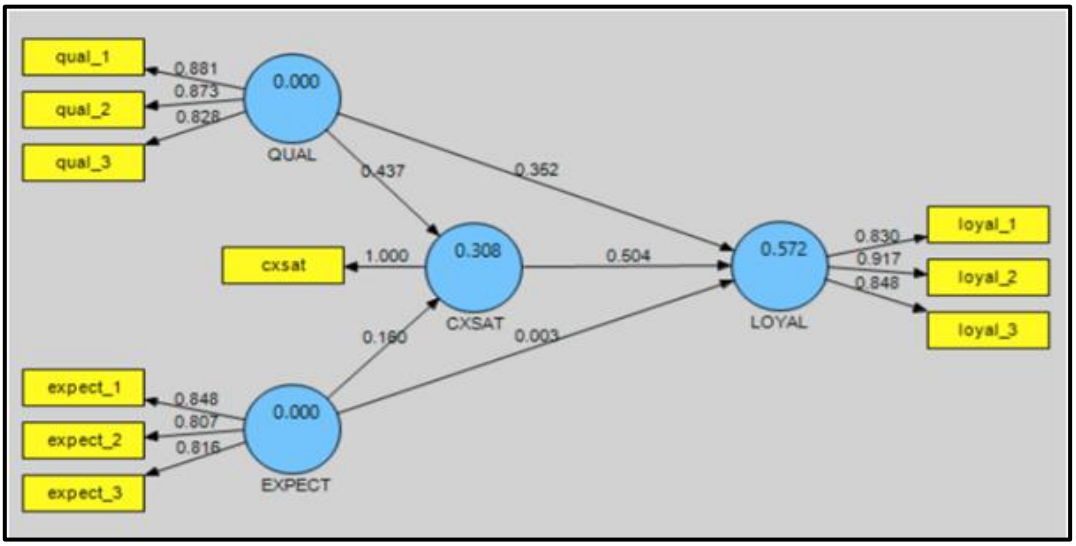


*Figure 3.1* Path Coefficient. Adapted from Wong, K. K.-K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques, 1-32.

Based on the above table, path coefficients are represented by the number on the arrow. The function of path coefficients is used to explain the strengthening of the effect between each variable. Different path coefficient represented different weight and can be used to rank the relative statistical important stated in Wong, (2013).

### 3.7.2.1 Indirect Effect

Since this study has included the moderator, the relationship between an independent variable and the dependent variable is separate into two relationships. Thus, the relationships occur as below.

**Indirect Effect**

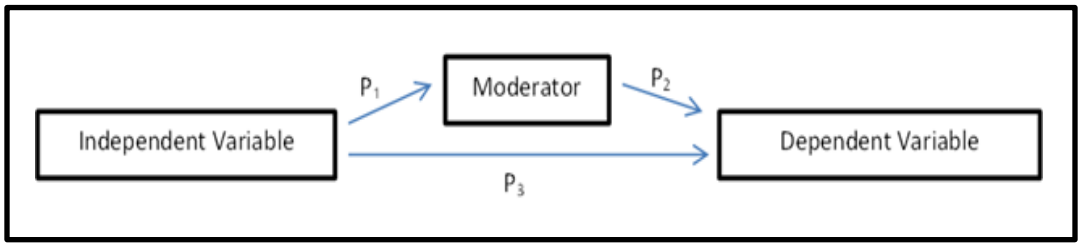


*Figure 3.2* Indirect effect. Adapted from Smart PLS Indirect Effect

$P_1$ and $P_2$ are the indirect effects and $P_3$ is the direct effect. In the research, indirect effects are used to analyst the model with moderator and direct effect is used to analyst the model without moderator.

#### 3.7.2.2 Total Effect

Based on Cepeda et al. (2017), a simple moderator model which is the combination of direct effect ($P_3$) and indirect effect ($P_1 \cdot P_2$) as shown on Figure 3.2 is known as the total effect. If the indirect effect ($P_1 \cdot P_2$) is not significant while the direct effect is significant ($P_3$), it means that the moderator has no impact on the variables. If the indirect effect of ($P_1 \cdot P_2$) is significant, there will be no effect which means the total effect can still be significant.

## 3.7.3 Construct Reliability and Validity

#### 3.7.3.1 Cronbach's Alpha (CA)

Cronbach's Alpha is applied for the measurement of the internal consistency reliability. It estimates reliability depending on the inter-correlation of the observed indicators. Under normal circumstances, a value greater than 0.7 is usually acceptable.

#### 3.7.3.2 Composite Reliability (CR)

Also, known as omega reliability. Similarly to Cronbach's Alpha, composite reliability (CR) is often used to calculate reliability for internal consistency. Not only that, but it is also proposed to be more applicable than Cronbach's Alpha as it considers the loading of indicators. If the value reaches 0.60, this is deemed appropriate in exploratory science. A value ranging between 0.70 and 0.90 is deemed to be acceptable. While any value above 0.9 is undesirable.

#### 3.7.3.3 Average Variance Extracted (AVE)

Convergent validity is evaluated by using the average variance extracted (AVE). Hair at el. (2014), it is the grand mean value of the squared loadings of all indicators correlated with the construct. As to achieve adequate convergent validity, a minimum of 50% should be captured in each construct to confirm the convergent validity.

### 3.7.4 Collinearity Statistics (VIF)

Multicollinearity is a type of disturbance in the data when there is a high intercorrelation among the independent variables. Multicollinearity occurs when inaccurate dummy variables are used, the presence of the same kind, independent variables and the variables are highly correlated to each other.

The VIF, defined as the Variance Inflation Factors, is used to determine correlation intensity among all independent variables. The formula of VIF is stated as below:

VIF=1/(1-R^2 )

When the VIF is equal to:

- 1 = not correlated.
- Between 1 and 5 = moderately correlated.
- Greater than 5 = highly correlated.

The predictor is not correlated with other variables when the value is 1. The higher the value, the greater the variable's correlation with other variables.

### 3.7.5 R-squared ($R^2$)

R-squared ($R^2$), also known as coefficient of determination, indicates how well independent variables explain the dependent variable in proportion of variance (%). By running Smart PLS, it will provide $R^2$ value for the dependent variable. The formula for $R^2$ is as below stated in Hayes (2019)

$$R^2 = 1 - \frac{Explained\ Variation}{Total\ Variation} = 1 - \frac{SSR}{SST}$$

Thus, the $R^2$ is a value between 0 and 1. The following table shows the considerations of $R^2$ in different ranges.

**Table 3.4:**

| **R-Square** | |
|---|---|
| $R^2 < 0.3$ | None or Very weak effect size |
| $0.3 < R^2 < 0.5$ | Weak or Low effect size |
| $0.5 < R^2 < 0.7$ | Moderate effect size |
| $R^2 > 0.7$ | Strong effect size |

Adapted from R-square definition.

The adjusted $R^2$ compares the explanatory power of regression models that contain different number of predictors. It is used to compare the two models while the models have different numbers of predictors. The model which has higher adjusted $R^2$ is more fit to the data collected stated inMinitab Blog Editor (2013)

## 3.7.6 F-square ($F^2$)

Cohen's $F^2$ is an effect size measurement used in the context of the F-test for ANOVA or multiple regressions. F-square also common for PLS modeling and it is defined as below.

$$f^2 = \frac{R_{AB}^2 - R_A^2}{1 - R_{AB}^2}$$

where

$R_A^2$: variance accounted for by a set of one or more independent variables A

$R_{AB}^2$: combined variance accounted for by A and another set of one or more IVs B

Especially, Cohen's $F^2$ effect size values of 0.02, 0.15 and 0.35 represented small, medium and large effects respectively stated in Cohen (1988).

## 3.8 Pilot Study Result

### 3.8.1 Path Coefficient

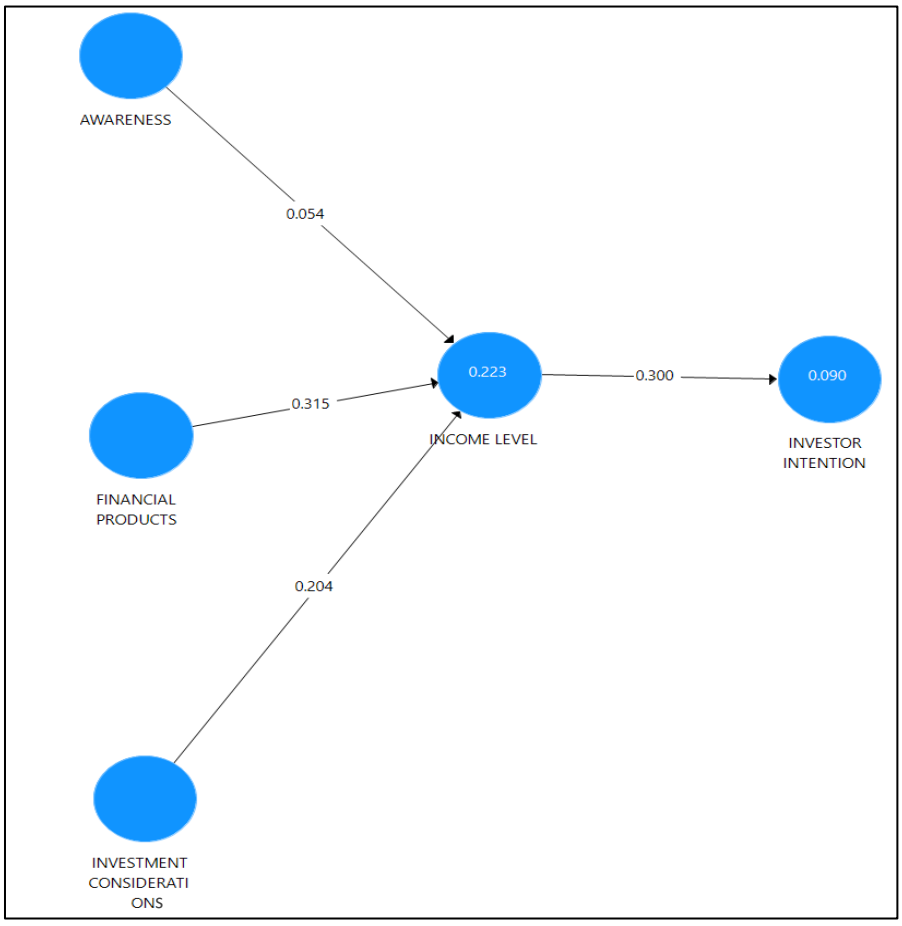


*Figure* 3.3 Path coefficient with moderator. Adapted from Smart PLS

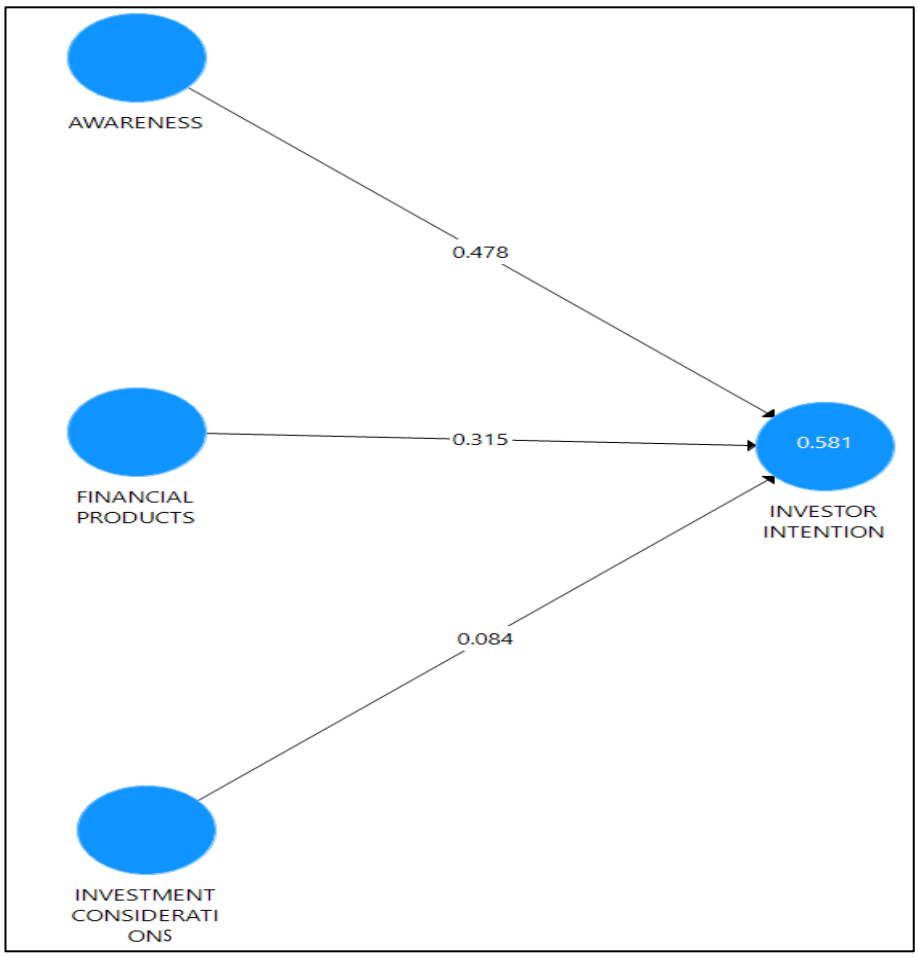


*Figure* 3.4 Path coefficient with moderator. Adapted from Smart PLS

Based on Figure 3.3, showed that all independent variables with moderator have a positive relationship as well as moderator with the dependent variable. This means that the changes in the independent variable either increase or decrease will directly affect the changes in the moderator in the same direction. In Figure 3.3, financial products have the strongest path coefficient to income level with 0.315 compare to awareness, 0.054 and investment considerations, 0.204.

Figure 3.4 also showed that all independent variables have a positive relationship with the dependent variable. In Figure 3.4, awareness has the strongest path

coefficient with 0.478 compare to financial products, 0.315 and investment considerations, 0.084. From the overall result, it clearly explained that Figure 3.4 has the strongest path coefficient compare to Figure 3.3.

### 3.8.2 Indirect Effect

**Table 3.5:**

| **Result Of Indirect Effect With Moderator And Without Moderator** | | |
|---|---|---|
| Variables | With Moderator | Without Moderator |
| | Investor Intention | Investor Intention |
| Awareness | 0.016 | 0.478 |
| Financial Products | 0.094 | 0.315 |
| Investment Considerations | 0.061 | 0.084 |

Adapted from Smart PLS for this study

From Table 3.5, the result of indirect effect without a moderator is more effective to dependent variable compare to the result of indirect effect with a moderator. Awareness in result without moderator model, 0.478, is higher than awareness in result with moderator model, 0.016. Financial products in result without moderator model, 0.315 is also higher than financial products in result with moderator model, 0.094. For investment considerations in result without a moderator, 0.084 is higher than investment considerations in result with moderator model, 0.061.

### 3.8.3 Total Effect

**Table 3.6:**

| **Result Of Total Effect With Moderator And Without Moderator** | | | |
|---|---|---|---|
| Variables | With Moderator | | Without Moderator |
| | Income Level | Investor Intention | Investor Intention |
| Awareness | 0.054 | 0.016 | 0.478 |
| Financial Products | 0.315 | 0.094 | 0.315 |
| Investment Considerations | 0.204 | 0.061 | 0.084 |
| Income Level | - | 0.300 | - |

Adapted from Smart PLS for this study

Based on Table 3.6, investor intention is the dependent variable which directly predicted by awareness, investment considerations, financial product and also the moderator of income level. The independent variables of awareness (0.054), investment considerations (0.204) and financial products (0.315) have indirect effect on investor intention via income level (0.300). While the awareness, investment considerations and financial products also have direct effect of 0.016, 0.061, and 0.094 on investor intention.

Results in total effect without moderator model, the independent variables of awareness, investment considerations, and financial products have direct effect of 0.478, 0.084, and 0.315 on the investor intention. Result in Table 3.6 showed that all independent variables are positive relationship with the investor intention.

## 3.8.4 Construct Reliability and Validity

### 3.8.4.1 Average Variance Extracted (AVE)

**Table 3.7:**

| **Result Of AVE With Moderator And Without Moderator** | | | | | |
|---|---|---|---|---|---|
| Variables | No. of Indicators | With Moderator | | Without Moderator | |
| | | AVE | Result | AVE | Result |
| Awareness | 4 | 0.363 | Not fulfilled | 0.373 | Not fulfilled |
| Investment Considerations | 4 | 0.640 | Fulfilled | 0.644 | Fulfilled |
| Financial Products | 13 | 0.325 | Not fulfilled | 0.335 | Not fulfilled |
| Income Level | 7 | 0.546 | Fulfilled | - | - |
| Investor Intention | 5 | 0.590 | Fulfilled | 0.616 | Fulfilled |

Adapted from Smart PLS for this study

Table 3.7 has shown the result without moderator. There are two variables, awareness and financial products have the 0.373 and 0.335 AVE, which means that the variable can explain lesser variance than the error in the measurement. Besides, the other variables are at least reach 50% of the variance. The investment considerations have the highest AVE value, which is 0.644, followed by investor intention (0.616).

Table 3.7 also has shown the result with moderator. There are two variables awareness (0.363) and financial products (0.325) which are the AVE lower than 0.5. Besides, there are three variables can capture more than 50%. They are investment considerations with 0.640, income level with 0.546 and investor intention with 0.590.

### 3.8.4.2 Composite Reliability

**Table 3.8:**

| **Result Of Composite Reliability With Moderator And Without Moderator** | | | | | |
|---|---|---|---|---|---|
| Variables | No. of Indicators | With Moderator | | Without Moderator | |
| | | Composite Reliability | Result | Composite Reliability | Result |
| Awareness | 4 | 0.487 | Unreliable | 0.658 | Unreliable |
| Investment Considerations | 4 | 0.874 | Reliable | 0.878 | Reliable |
| Financial Products | 13 | 0.847 | Reliable | 0.852 | Reliable |
| Income Level | 7 | 0.890 | Reliable | - | - |
| Investor Intention | 5 | 0.876 | Reliable | 0.887 | Reliable |

Adapted from Smart PLS for this study

Table 3.8 has shown the result without moderator. There are three reliable variables and one unreliable variable. The investor intention has the highest composite reliable value, which is 0.887 and continue with investment considerations (0.878) and financial products (0.852). The smaller the composite

reliable value, the lower the reliability level is. Another one variable has the composite reliable value lower than 0.7 and they are considered as unreliable.

Table 3.8 also has shown the result with moderator. There are only one unreliable variable, which is awareness (0.487). The highest composite reliability value is income level (0.890), followed by investor intention (0.876), investment considerations (0.874) and financial products (0.847).

### 3.8.4.3 Cronbach's Alpha

**Table 3.9:**

| **Result Of Cronbach's Alpha With Moderator And Without Moderator** | | | | | |
|---|---|---|---|---|---|
| Variables | No. of Indicators | With Moderator | | Without Moderator | |
| | | Cronbach's Alpha | Result | Cronbach's Alpha | Result |
| Awareness | 4 | 0.375 | Unreliable | 0.375 | Unreliable |
| Investment Considerations | 4 | 0.812 | Reliable | 0.812 | Reliable |
| Financial Products | 13 | 0.833 | Reliable | 0.833 | Reliable |
| Income Level | 7 | 0.849 | Reliable | - | - |
| Investor Intention | 5 | 0.837 | Reliable | 0.837 | Reliable |

Adapted from Smart PLS for this study

Table 3.9 shows the result without moderator. The investment considerations, financial products and investor intention have the of 0.812, 0.833 and 0.837 respectively for Cronbach's Alpha. Thus, these three variables are reliable since the Cronbach's Alpha value is higher than 0.7. Besides, there are one unreliable variable with 0.375 Cronbach's Alpha value which is awareness.

Table 3.9 also shows the result with moderator. Most of the result with moderator is similar to result without moderator. The only difference is result with moderator shows that the income level is a reliable variable with Cronbach's Alpha value of 0.849.

## 3.8.5 Collinearity Statistics (VIF)

**Table 3.10:**

| **Result Of VIF With Moderator And Without Moderator** | | | |
|---|---|---|---|
| Variables | With Moderator | | Without Moderator |
| | Income Level | Investor Intention | Investor Intention |
| Awareness | 1.438 | - | 1.779 |
| Financial Products | 1.521 | - | 1.675 |
| Investment Considerations | 1.254 | - | 1.362 |
| Income Level | - | 1.000 | - |

Adapted from Smart PLS for this study

The overall VIFs of the variables of the both results with moderator and without moderator is considered very good since all VIFs are not more than 5 which mean there is no multicollinearity problem occurs.

Table 3.10 shows the results without moderator. There were 1.362 for investment considerations and investor intention, followed by 1.675 for financial products and investor intention, 1.779 for awareness and investor intention.

Table 3.10 also shows the results with moderator and the results have better VIFs compared to the results without moderator. There were 1.000 for income level and investor intention, 1.254 for investment considerations and income level, 1.438 for awareness and income level, 1.521 for financial products and income level.

The average VIFs of the results with moderator is lower and it is more satisfied results.

### 3.8.6 R-squared ($R^2$)

**Table 3.11:**

| **$R^2$ With Moderator** | | |
|---|---|---|
| | $R^2$ | $R^2$ Adjusted |
| Income Level | 0.223 | 0.193 |
| Investor Intention | 0.090 | 0.078 |

Adapted from Developed for this study.

As the $R^2$ of income level is 0.223, 22.3% of the observed variation of income level can be explained by awareness, investment considerations and financial products. It considered a weak effect size.

As the $R^2$ of investor intention is 0.090, 9% of the observed variation of investor intention can be explained by income level. It considered a very weak effect size.

**Table 3.12:**

| **$R^2$ Without Moderator** | | |
|---|---|---|
| | $R^2$ | $R^2$ Adjusted |
| Investor Intention | 0.581 | 0.565 |

Adapted from Developed for this study.

As the $R^2$ of investor intention is 0.581, 58.1% of the observed variation of investor intention can be explained by awareness, investment considerations and financial products. It considered a moderate effect size.

Comparing the adjusted $R^2$ between the models with and without a moderator, the adjusted $R^2$ in the model without a moderator, 56.5% is higher than the adjusted $R^2$ in the model with a moderator, 19.3% and 7.8%. Thus, the data which collect in the pilot study are more fit to the model without a moderator.

### 3.8.7 F-square ($F^2$)

**Table 3.13:**

| **$F^2$ With Moderator** | |
|---|---|
| Awareness → Income Level | 0.003 |
| Investment Considerations → Income Level | 0.043 |
| Financial Products → Income Level | 0.084 |
| Income Level → Investor Intention | 0.099 |

Adapted from Developed for this study.

Since Cohen's $F^2$ effect size values of 0.02, 0.15 and 0.35 are the benchmark of small, medium and large effects respectively, all of the independent variables, awareness, investment considerations and financial products, are little effect to income level which carry 0.003, 0.043 and 0.084 of $F^2$ respectively. As a moderator, the income level is also a small effect on investor intention with 0.099 of $F^2$.

**Table 3.14:**

| **$F^2$ Without Moderator** | |
|---|---|
| Awareness → Investor Intention | 0.306 |
| Investment Considerations → Investor Intention | 0.012 |
| Financial Products → Investor Intention | 0.141 |

Adapted from Developed for this study.

As the table above, awareness is a large effect on investor intention, with 0.306 $F^2$ value. Independent variable "investment considerations" has no significant effect

on investor intention because the 0.012 $F^2$ value is below than 0.02. Variable "financial products" is a common effect on the investor intention with 0.141 $F^2$ value.

## 3.8.8 PLS-SEM Results from PLS Algorithm for Pilot Study

**PLS Algorithm with Moderator**

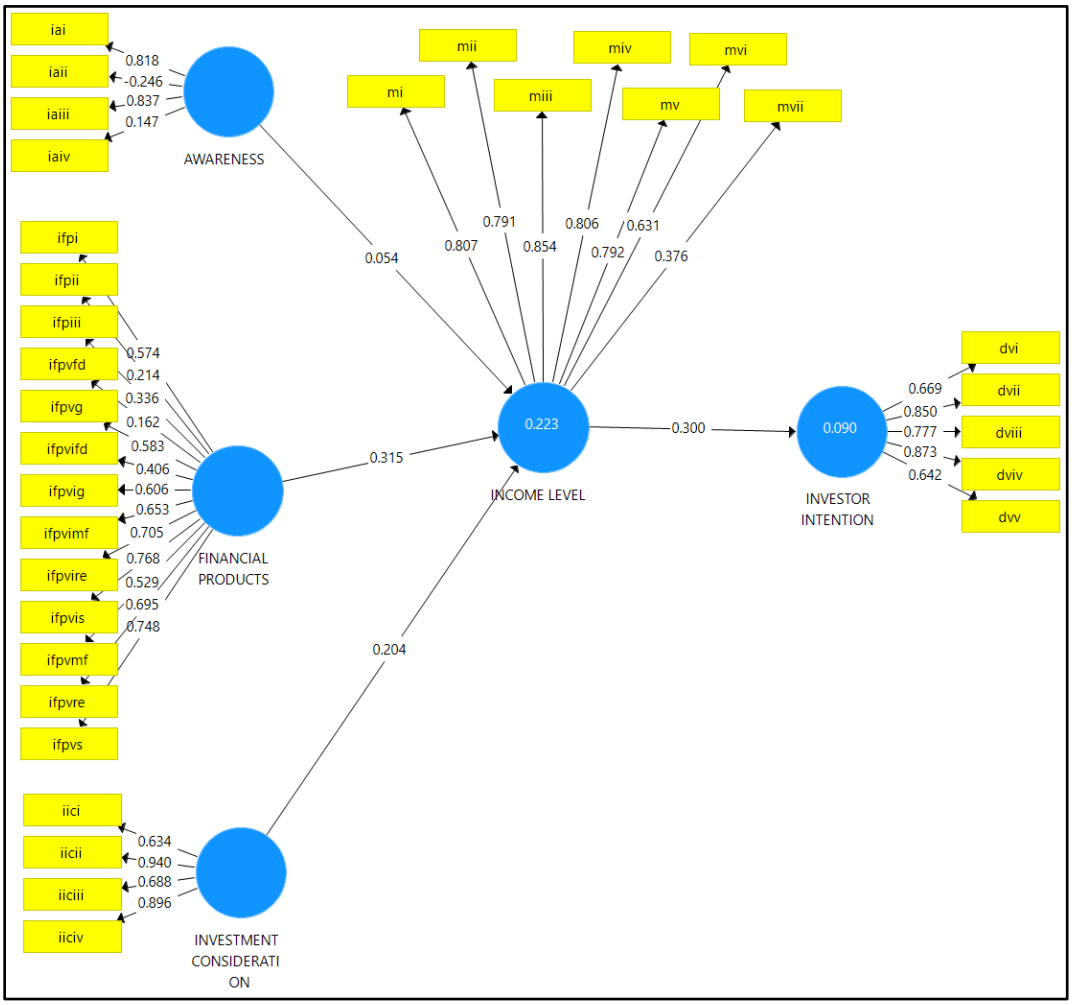


*Figure 3.5* PLS algorithm with moderator. Adapted from Smart PLS results from PLS algorithm with moderator

Based on Figure 3.5, the R-square of the income level was 0.223 which shown that the independent variable of awareness, financial products and investment considerations can be explained about 22.3% of the variance in income level. While the investor intention R-square was 0.090, which means that the moderator income level can be explained about 9% of the variance in investor intention.

**PLS Algorithm without Moderator**

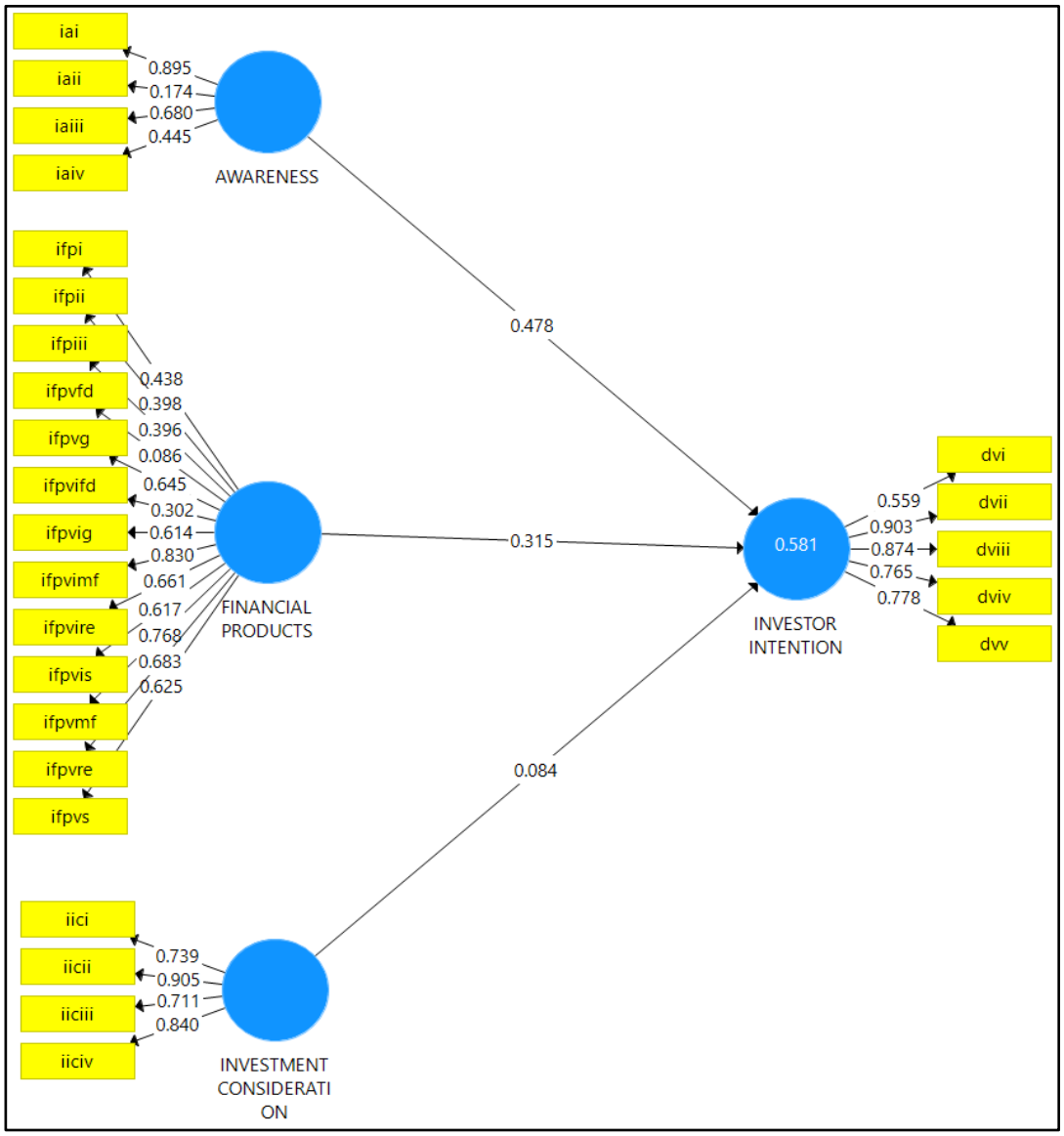


*Figure 3.6* PLS algorithm without moderator. Adapted from Smart PLS results from PLS algorithm without moderator

Based on Figure 3.6 data that without the moderator, the dependent variable, investor intention's R-square was 0.581 shows that the independent variables of awareness, financial products and investment considerations can be explained about 58.1% of the variance independent variable investor intention.

## 3.9 Conclusion

Methods to analyse data and ways to interpret the result in this study has been shown in detailed and tested with a pilot study. According to the result of the pilot study, amendment has been made on the questionnaire questions and distributed by convenience sampling and snowball sampling method. In a nutshell, this study has covered the research methodology in detail. This could provide related and applicable information for further researchers.

# CHAPTER 4: DATA ANALYSIS

## 4.0 Introduction

In this study, 416 questionnaires are collected from respondents. The data collected had been transcribed and processed using the Smart PLS. After obtaining the results, it has been analysed to examine the validity, reliability and signification of the data to this study.

## 4.1 Descriptive Analysis

Descriptive analysis is the start of conducting statistical analysis. It gives a brief understanding regarding the sample and measures. In this study, graphic, histogram and tabular form are used to analyse the result generated.

### 4.1.1 Respondents Demographic Profile

#### 4.1.1.1 Gender of Respondents

**Table 4.1:**

| **Gender of Respondents** | | | | |
|---|---|---|---|---|
| **Gender** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| **Male** | 194 | 47% | 47% | 47% |
| **Female** | 222 | 53% | 53% | **100%** |
| **Total** | **416** | **100%** | **100%** | |

Adapted from Google form for this study

**Gender of Respondents**

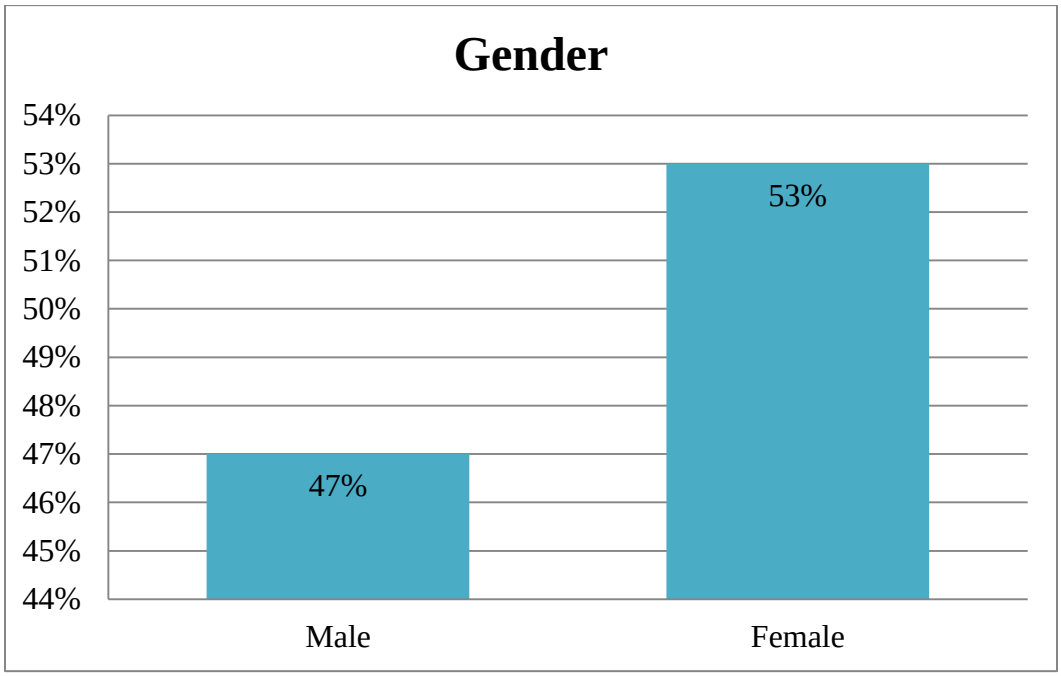


*Figure 4.1* Gender of respondents. Adapted from Google form for this study

Table 4.1 and Figure 4.1 have shown that gender of respondents that have participated in this survey. The data shown that majority of respondents are female with 222 respondents, 53% and male respondents only have 194, 47%.

#### 4.1.1.2 Age of Respondents

**Table 4.2:**

| **Age of Respondents** | | | | |
|---|---|---|---|---|
| **Age** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| **18-24** | 139 | 33% | 33% | 33% |
| **25-40** | 214 | 52% | 52% | 85% |
| **41-60** | 55 | 13% | 13% | 98% |
| **61-80 & above** | 8 | 2% | 2% | **100%** |
| **Total** | **416** | **100%** | **100%** | |

Adapted from Google form for this study

**Age of Respondents**

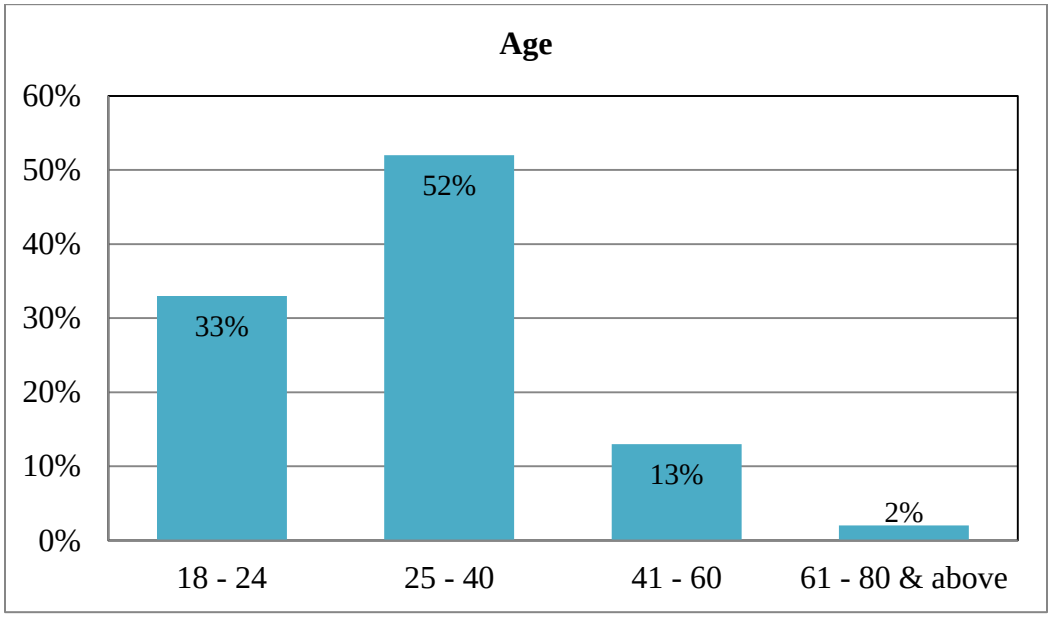


*Figure 4.2* Age of respondents. Adapted from Google form for this study

Table 4.2 and Figure 4.2 have shown that age of respondents that have participated in this survey. From the data above, age between 25 – 40 has the highest frequency with 214 respondents, 52% among all ages, followed by 139 respondents, 33% that age between 18 – 24, 55 respondents, 13% falls under age between 41 – 60 and lastly 8 respondents, 2% that age between 61 – 80 & above.

#### 4.1.1.3 Status of Respondents

**Table 4.3:**

| **Status of Respondents** | | | | |
|---|---|---|---|---|
| **Status** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| **Single** | 234 | 57% | 57% | 57% |
| **Married** | 162 | 39% | 39% | 96% |
| **Divorced** | 10 | 2% | 2% | 98% |
| **Widowed** | 10 | 2% | 2% | **100%** |
| **Total** | **416** | **100%** | **100%** | |

Adapted from Google form for this study

**Status of Respondents**

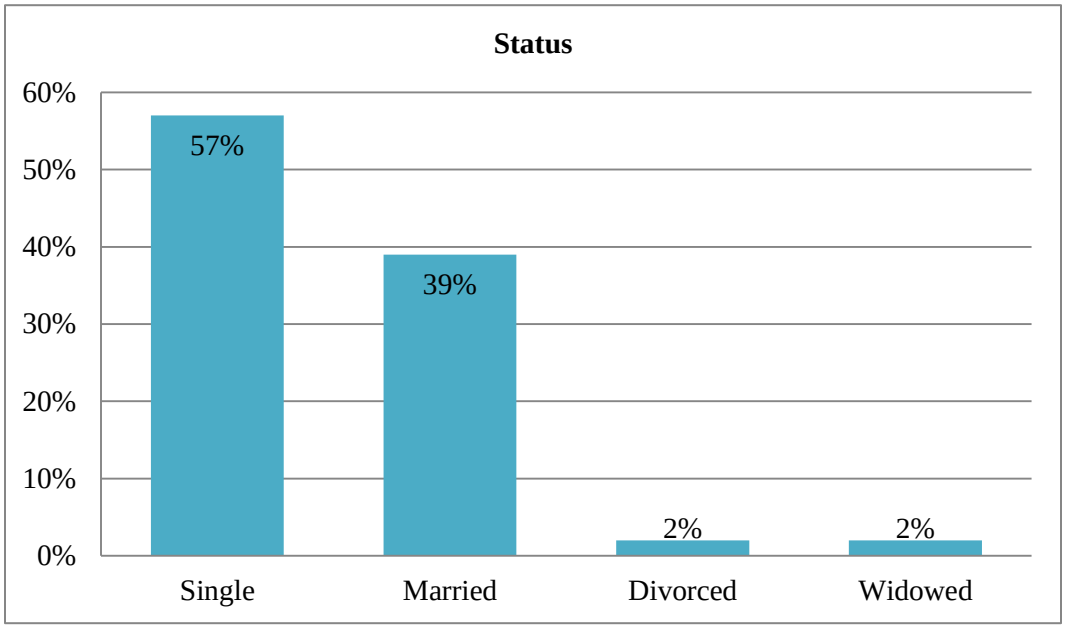


*Figure 4.3* Status of respondents. Adapted from Google form for this study

Table 4.3 and Figure 4.3 have shown that the status of respondents that have take part in this survey. Information above has shown that the status is single has the highest frequency with 234 respondents, 57% among all status, followed by 162 respondents, 39% that status is married. Divorced and widowed have the same respondents which are 10 respondents, 2%.

#### 4.1.1.4 State of Respondents

**Table 4.4:**

| State of Respondents | | | | |
|---|---|---|---|---|
| **State** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| **Penang** | 113 | 28% | 28% | 28% |
| **Kuala Lumpur** | 112 | 27% | 27% | 55% |
| **Selangor** | 106 | 25% | 25% | 80% |
| **Johor** | 85 | 20% | 20% | **100%** |
| **Total** | **416** | **100%** | **100%** | |

Adapted from Google form for this study

**State of Respondents**

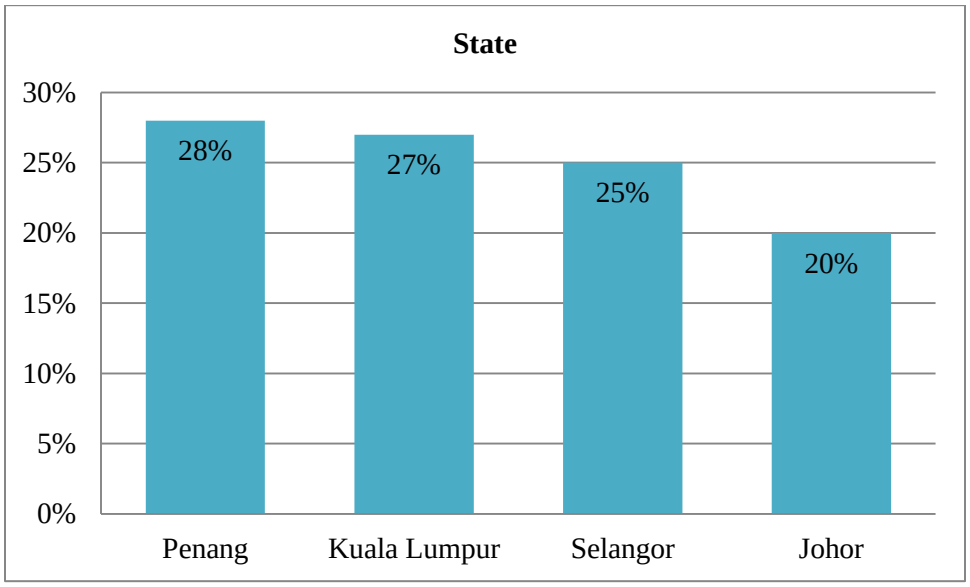


*Figure 4.4* State of respondents. Adapted from Google form for this study

Table 4.4 and Figure 4.4 have shown that state of respondents. According to the data, there are 113 respondents, 28% are from Penang. Respondents from Kuala Lumpur have 112, 27%. Selangor and Johor have 106 respondents, 25% and 85 respondents, 20%.

#### 4.1.1.5 Occupation of Respondents

**Table 4.5:**

| **Occupation of Respondents** | | | | |
|---|---|---|---|---|
| **Occupation** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| **Students** | 107 | 26% | 26% | 26% |
| **Self-Employed** | 44 | 11% | 11% | 37% |
| **Business** | 30 | 7% | 7% | 44% |
| **Employee** | 222 | 53% | 53% | 97% |
| **Retired** | 13 | 3% | 3% | **100%** |
| **Total** | **416** | **100%** | **100%** | |

Adapted from Google form for this study

**Occupation of Respondents**

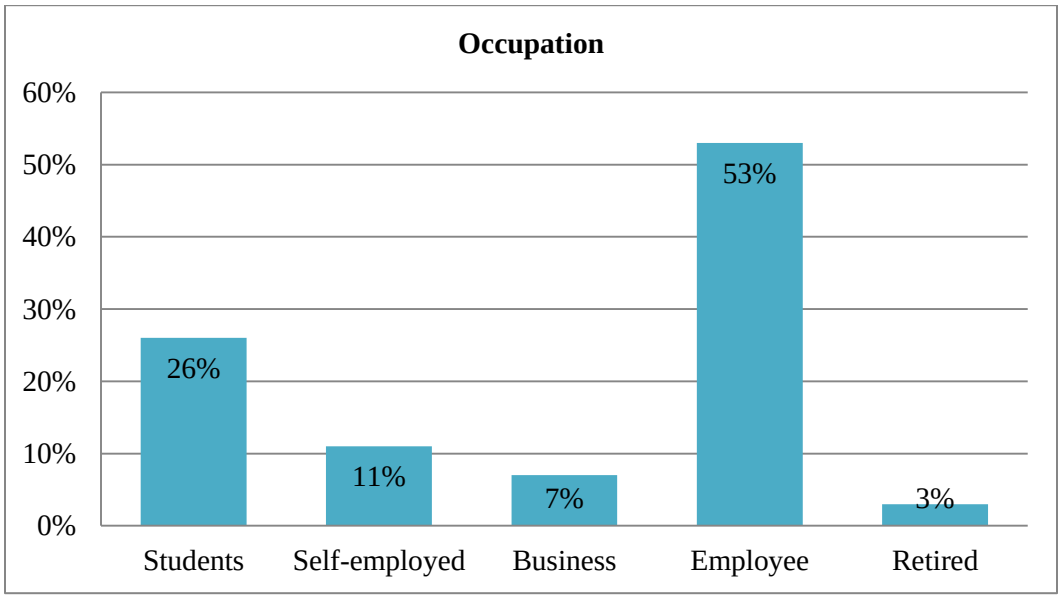


*Figure 4.5* Occupation of respondents. Adapted from Google form for this study

Table 4.5 and Figure 4.5 have shown that the occupation of respondents from this survey. Based on the results, majority of respondents are employee. There are 222 respondents, 53% are employee. Followed by, 107 respondents, 26% are students. Respondents that are self-employed, business and retired have 44 respondents, 11%, 30 respondents, 7% and 13 respondents, 3%.

# 4.2 Result of PLS-SEM

Data result of PLS-SEM will be interpreted. Using this data to analyze whether it is reliable, valid or significance.

## 4.2.1 Path Coefficient

**Path Coefficient with Moderator**

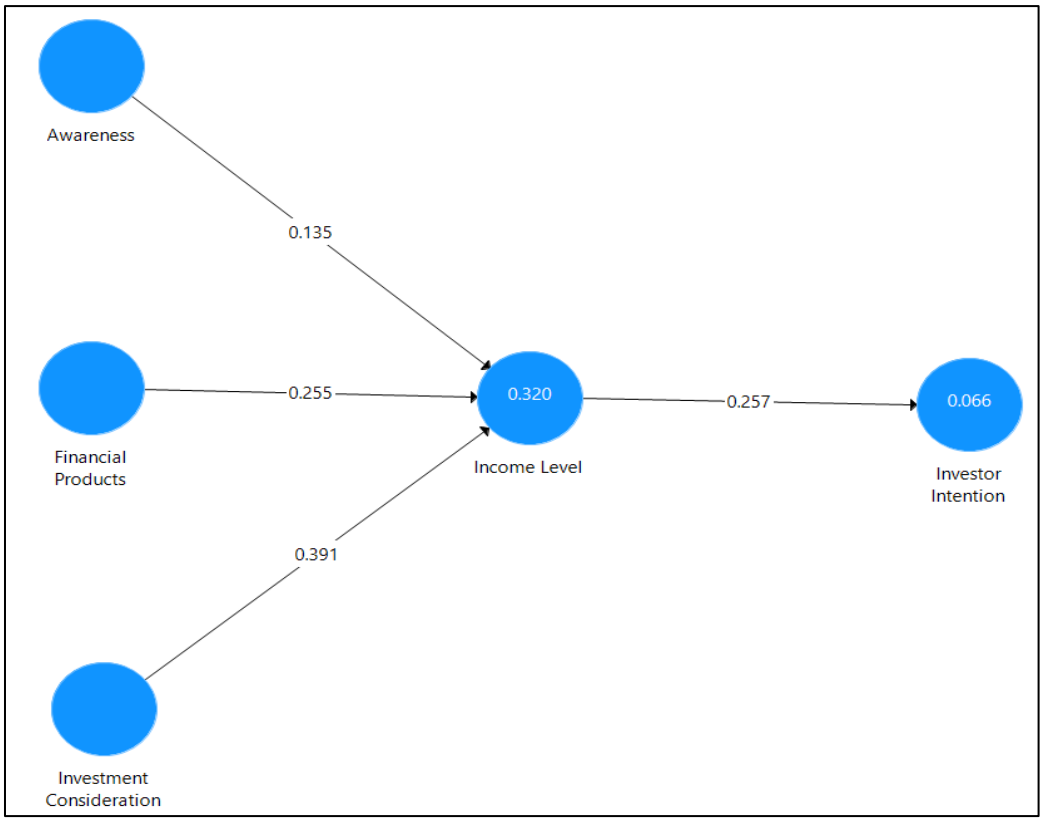


*Figure 4.6* Path coefficient with moderator. Adapted from results with moderator from Smart PLS

**Path Coefficient without Moderator**

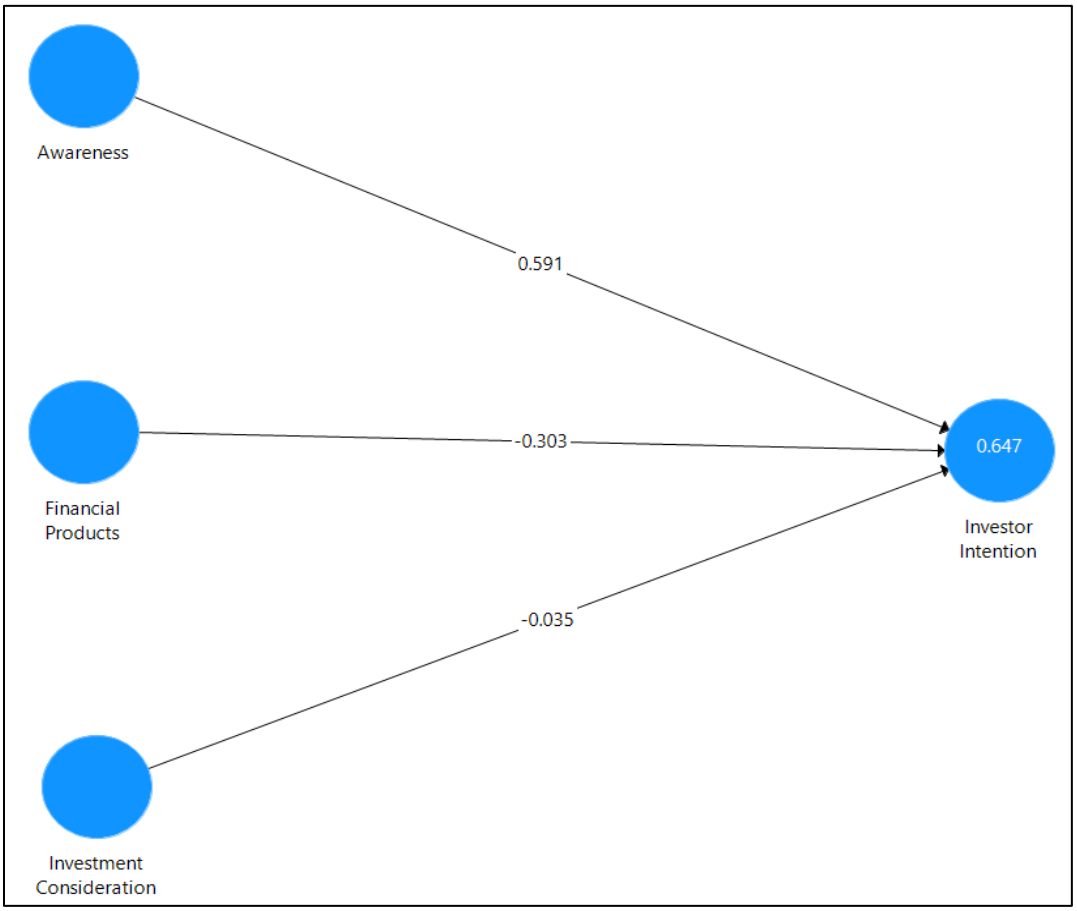


*Figure 4.7* Path coefficient without moderator. Adapted from results without moderator from Smart PLS

Based on Figure 4.6 and Figure 4.7, there were two different results to be compare which are path coefficient result with moderator from Smart PLS and path coefficient result without moderator from Smart PLS. From the overall result that with moderator, it clearly explained that independent variable with moderator has positive relationship as well as moderator with dependent variable which mean the changes in independent variable either increase or decrease will directly affect the changes in the moderator in the same direction.

While from the result of path coefficient that without moderator, one of the independent variable, awareness has positive relationship of 0.591 with the dependent variable but the other two independent variables of financial products and investment considerations get the negative relationship of -0.303 and -0.035 with the dependent variable. From the overall result, it clearly explained that not all changes in the independent variables will have a direct effect on the dependent variable in the same direction.

Financial products and investment considerations have showed a negative relationship towards investor intention. This is because, when no income investor has no intention to invest because there are variety of financial products to choose and some financial products' investment threshold is high, investors are not enough to afford. Moreover, there are more investment considerations to concern. For example, investor with no income cannot accept high risk investment.

## 4.2.2 Indirect Effect

**Indirect Effect with Moderator**

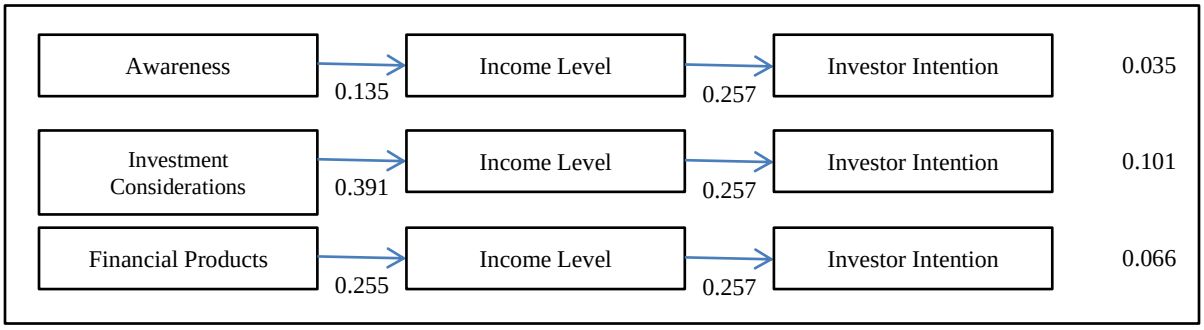


*Figure 4.8* Indirect effect with moderator. Adapted from results with moderator from Smart PLS

The independent variable, awareness has positive effect to the moderator, income level, which is 0.135. Besides, moderator has positive effect to the dependent variable, investor intention, which is 0.257. Thus, there is a positive specific indirect effect, 0.035 from awareness to investor intention.

The independent variable, investment considerations has positive effect to the income level, which is 0.391 and income level has positive effect to investor intention, which is 0.257. Thus, there is a positive specific indirect effect, 0.101 from investment considerations to investor intention.

The independent variable, financial products has positive effect to the income level, which is 0.255 and income level has positive effect to investor intention, which is 0.257. Thus, there is a positive specific indirect effect, 0.066, from financial products to investor intention.

**Table 4.6:**

| **Indirect Effect Without Moderator** | |
|---|---|
| Independent Variable | Direct Effect |
| Awareness | 0.591 |
| Investment Considerations | -0.035 |
| Financial Products | -0.303 |

Adapted from results without moderator from Smart PLS

In the results from Smart PLS, awareness has positive effect to investor intention, which is 0.591. Besides, both investment considerations and financial products have negative effect to investor intention, with -0.035% and -0.303 respectively.

Both models show effect between the independent variables and dependent variable. Thus, these two models are acceptable through the data have collected in this study.

### 4.2.3 Total Effect

**Table 4.7:**

| **Total Effect With Moderator** | | |
|---|---|---|
| | Income Level | Investor Intention |
| Awareness | 0.135 | 0.035 |
| Investment Considerations | 0.391 | 0.101 |
| Financial Products | 0.255 | 0.066 |
| Income Level | - | 0.257 |

Adapted from results with moderator from Smart PLS

Based on Table 4.7, investor intention will be the final target variable which directly predicted by awareness, investment considerations, financial products and also the moderator of income level. The independent variables of awareness (0.135), investment considerations (0.391) and also financial products (0.255) have indirect effect on investor intention via income level (0.257). While the awareness, investment considerations and financial products also have direct effect of 0.035, 0.101, 0.066 on investor intention.

**Table 4.8:**

| **Total Effect Without Moderator** | |
|---|---|
| | Investor Intention |
| Awareness | 0.591 |
| Investment Considerations | -0.035 |
| Financial Products | -0.303 |

Adapted from results with moderator from Smart PLS

Based on Table 4.8, results of the total effect that without moderator, the independent variable of awareness, investment considerations, financial products have direct effect of 0.591, -0.035, -0.303 on the investor intention. From the above table, it can be explain that two of the independent variables have negative relationship with the investor intention.

## 4.2.4 Construct Reliability and Validity

### 4.2.4.1 Average Variance Extracted (AVE)

**Table 4.9:**

| **AVE Without Moderator** | | | |
|---|---|---|---|
| Variables | Number of Indicators | AVE | Result |
| Awareness | 9 | 0.308 | Not fulfilled |
| Investment Considerations | 4 | 0.696 | Fulfilled |
| Financial Products | 3 | 0.510 | Fulfilled |
| Investor Intention | 4 | 0.694 | Fulfilled |

Adapted from results without moderator from Smart PLS

**Table 4.10:**

| **AVE With Moderator** | | | |
|---|---|---|---|
| Variables | Number of Indicators | AVE | Result |
| Awareness | 9 | 0.279 | Not fulfilled |
| Investment Considerations | 4 | 0.697 | Fulfilled |
| Financial Products | 3 | 0.419 | Not fulfilled |
| Income Level | 6 | 0.573 | Fulfilled |
| Investor Intention | 4 | 0.486 | Not fulfilled |

Adapted from results with moderator from Smart PLS

The Table 4.9 has shown the result without moderator. One of the latent variables, awareness has the 0.308 AVE, which means that latent variable can explain lesser variance than the error in the measurement. Besides, the other variables can reach at least 50% of the variance. The investment considerations have the highest AVE value, which is 0.696, followed by investor intention (0.694) and financial products (0.510).

The Table 4.10 has shown the result with moderator. The result seems worse than the result from table 4.1.1 since there are three variables with AVE lower than 0.5, which are awareness (0.279), financial products (0.419) and investor intention (0.486). Besides, there are only two variables more than 50%. They are investment considerations with 0.679 and income level with 0.573.

### 4.2.4.2 Composite Reliability

**Table 4.11:**

| **Composite Reliability Without Moderator** | | | |
|---|---|---|---|
| Variables | Number of Indicator | Composite Reliability | Result |
| Awareness | 9 | 0.105 | Unreliable |
| Investment Considerations | 4 | 0.901 | Reliable |
| Financial Products | 3 | 0.648 | Unreliable |
| Investor Intention | 4 | 0.900 | Reliable |

Adapted from results without moderator from Smart PLS

**Table 4.12:**

| **Composite Reliability With Moderator** | | | |
|---|---|---|---|
| Variables | Number of Indicator | Composite Reliability | Result |
| Awareness | 9 | 0.724 | Reliable |
| Investment Considerations | 4 | 0.902 | Reliable |
| Financial Products | 3 | 0.016 | Unreliable |
| Income Level | 6 | 0.876 | Reliable |
| Investor Intention | 4 | 0.777 | Reliable |

Adapted from results with moderator from Smart PLS

The Table 4.11 and Table 4.12 show the result without moderator and the result with moderator. The Table 4.11 shows two reliable variables and two unreliable variables. The investment considerations have the highest composite reliable value, which is 0.901 and followed by the investor intention (0.900). The smaller the composite reliable value, the lower the reliability level is. Another two variables have the composite reliable value lower than 0.7 and they are considered as unreliable.

On the other hand, the Table 4.12 shows a better result than Table 4.11. There are only one unreliable variable, which is financial products (0.016). The highest composite reliability value is investment considerations (0.902), followed by income level (0.876), investor intention (0.777) and awareness (0.724).

#### 4.2.4.3 Cronbach's Alpha

**Table 4.13:**

| **Cronbach's Alpha Without Moderator** | | | |
|---|---|---|---|
| Variables | Number of Indicator | Cronbach's Alpha | Result |
| Awareness | 9 | 0.567 | Unreliable |
| Investment Considerations | 4 | 0.856 | Reliable |
| Financial Products | 3 | 0.299 | Unreliable |
| Investor Intention | 4 | 0.850 | Reliable |

Adapted from results without moderator from Smart PLS

**Table 4.14:**

| **Cronbach's Alpha With Moderator** | | | |
|---|---|---|---|
| Variables | Number of Indicator | Cronbach's Alpha | Result |
| Awareness | 9 | 0.567 | Unreliable |
| Investment Considerations | 4 | 0.856 | Reliable |
| Financial Products | 3 | 0.299 | Unreliable |
| Income Level | 6 | 0.809 | Reliable |
| Investor Intention | 4 | 0.850 | Reliable |

Adapted from results with moderator from Smart PLS

The Table 4.13 shows the result without moderator. The investment considerations and investor intention have the value of 0.856 and 0.850 respectively for Cronbach's Alpha. Thus, both variables are reliable since the Cronbach's Alpha value is higher than 0.7. Besides, there are two unreliable variables with 0.567 and 0.299 Cronbach's Alpha value. They are awareness and financial products.

On the other hand, the Table 4.14 reveals the result with moderator. Most of the result of Table 4.14 is similar to the Table 4.13. The only difference is, the Table 4.14 shows that the income level is a reliable variable with Cronbach's Alpha value of 0.809.

### 4.2.5 Collinearity Statistics (VIF)

**Table 4.15:**

| **VIF With Moderator** | | |
|---|---|---|
| | Income Level | Investor Intention |
| Awareness | 1.211 | - |
| Investment Considerations | 1.110 | - |
| Financial Products | 1.116 | - |
| Income Level | - | 1.000 |

Adapted from results without moderator from Smart PLS

**Table 4.16:**

| **VIF Without Moderator** | |
|---|---|
| | Investor Intention |
| Awareness | 1.462 |
| Investment Considerations | 1.104 |
| Financial Products | 1.387 |

Adapted from results with moderator from Smart PLS

The overall VIFs of the variables of the both results with moderator and without moderator is considered very good since all VIFs are not more than 5 which mean there is no multicollinearity problem occurs.

The Table 4.15 shows the results without moderator. There were 1.104 for investment considerations and investor intention, followed by 1.387 for financial products and investor intention, 1.462 for awareness and investor intention.

On the other hand, the Table 4.16 shows the results with moderator and the results have better VIFs compared to the results without moderator. There were 1.000 for income level and investor intention, 1.110 for investment considerations and income level, 1.116 for financial products and income level, 1.211 for awareness and income level.

The average VIFs of the results with moderator is lower and it is more satisfied results.

## 4.2.6 R-squared ($R^2$)

**Table 4.17:**

| **$R^2$ With Moderator** | | |
|---|---|---|
| | $R^2$ | $R^2$ Adjusted |
| Income Level | 0.320 | 0.315 |
| Investor Intention | 0.066 | 0.064 |

Adapted from results with moderator from Smart PLS

As the $R^2$ of income level is 0.320, 32% of the observed variation of income level can be explained by awareness, investment considerations and financial products. It considered a weak effect size.

As the $R^2$ of investor intention is 0.066, 6.6% of the observed variation of investor intention can be explained by income level. It's considered a very weak effect size. The reason for a weak R2 may occur probably because of the intervention of the moderator variable.

**Table 4.18:**

| **$R^2$ Without Moderator** | | |
|---|---|---|
| | $R^2$ | $R^2$ Adjusted |
| Investor Intention | 0.647 | 0.644 |

Adapted from results without moderator from Smart PLS

As the $R^2$ of investor intention is 0.647, 64.7% of the observed variation of investor intention can be explained by awareness, investment considerations and financial products. It considered a moderate effect size.

Comparing the adjusted $R^2$ between the models with and without moderator, the adjusted $R^2$ in the model without moderator, 0.644 is higher than the adjusted $R^2$ in the model with moderator, 0.315 and 0.064. Thus, the data which collect in this study are more fit to the model without moderator.

### 4.2.7 F-square ($F^2$)

**Table 4.19:**

| **$F^2$ With Moderator** | |
|---|---|
| Awareness → Income Level | 0.022 |
| Investment Considerations → Income Level | 0.203 |
| Financial Products → Income Level | 0.086 |
| Income Level → Investor Intention | 0.071 |

Adapted from results with moderator from Smart PLS

Since Cohen's $F^2$ effect size values of 0.02, 0.15 and 0.35 represented small, medium and large effects respectively, only investment considerations is medium effect to income level, with 0.203 value of $F^2$. The rest of the independent variables, awareness and financial products, are small effect to income level which carry 0.022 and 0.086 of $F^2$ respectively. As a moderator, income level is also small effect to investor intention, which the dependent variable in this paper.

**Table 4.20:**

| **$F^2$ Without Moderator** | |
|---|---|
| Awareness → Investor Intention | 0.676 |
| Investment Considerations → Investor Intention | 0.003 |
| Financial Products → Investor Intention | 0.187 |

Adapted from results without moderator from Smart PLS

In the model without moderator, independent variables are directly effect to the dependent variable. As the table above, awareness is large effect to investor intention, with 0.676 $F^2$ value. Independent variable investment considerations" has no significant effect to investor intention because the 0.003 $F^2$ value is below than 0.02. Variable, "financial products" is medium effect to the investor intention.

## 4.2.8 PLS-SEM Results from PLS Algorithm

**PLS Algorithm with Moderator**

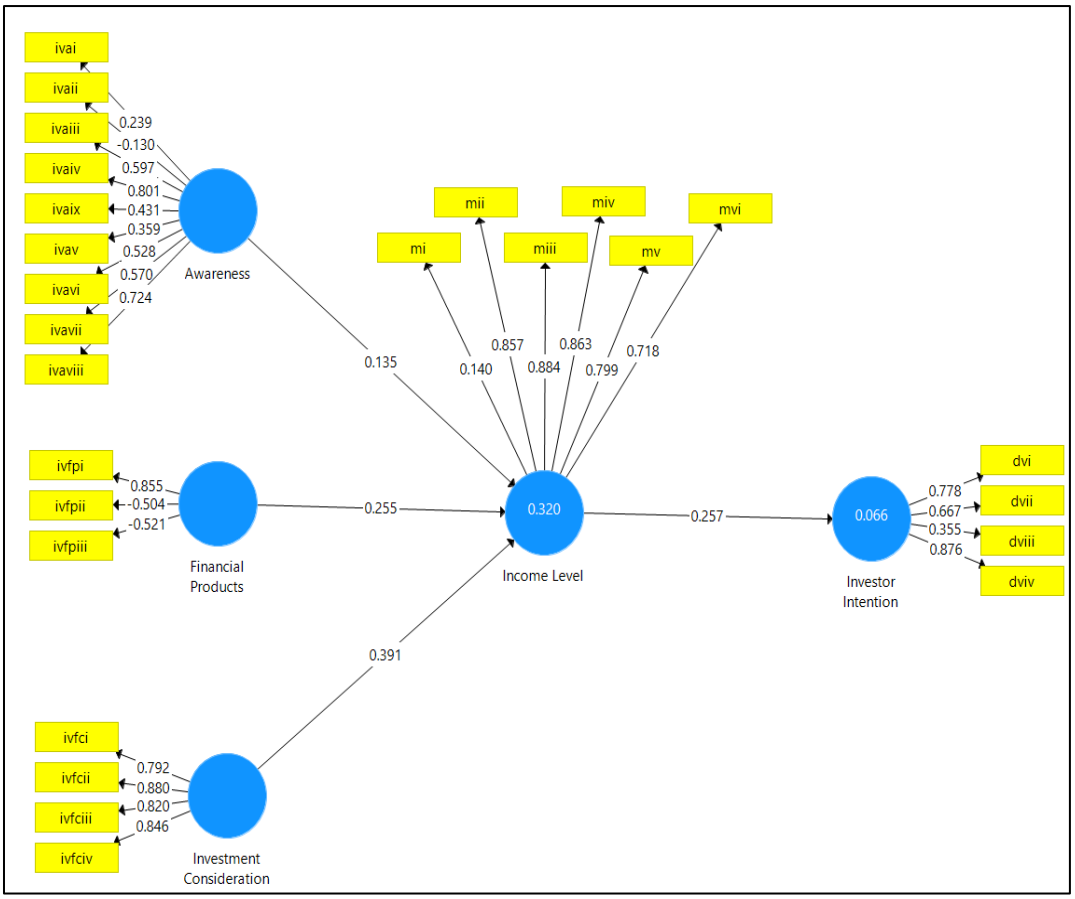


*Figure 4.9* PLS algorithm with moderator. Adapted from PLS-SEM results from PLS algorithm with moderator

Based on Figure 4.9, the R-square of the income level was 0.320 which shown that the independent variable of awareness, financial products and investment considerations can be explained about 32% of the variance in income level. While the investor intention R-square was 0.066 which mean that the moderator income level can be explained about 6% of the variance in investor intention.

**PLS Algorithm without Moderator**

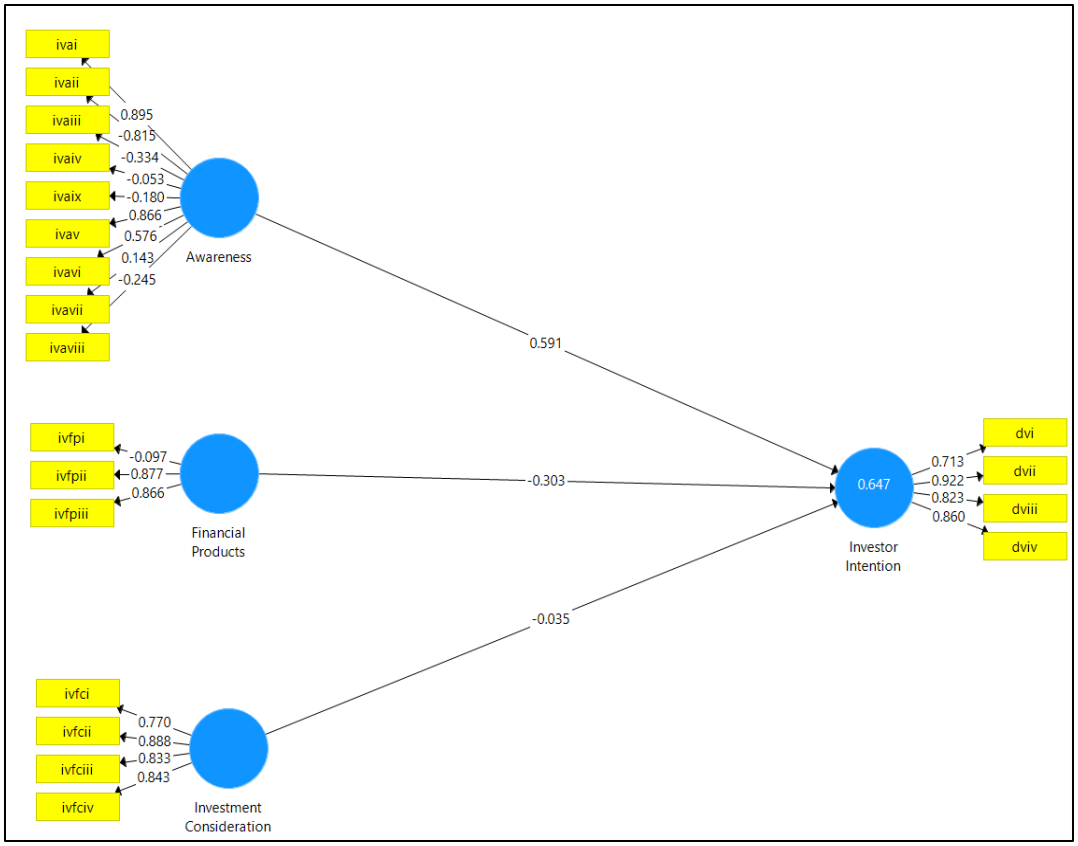


*Figure 4.10* PLS algorithm without moderator. Adapted from PLS-SEM results from PLS algorithm without moderator

Based on 4.10, data that without the moderator, the dependent variable, investor intention's R-square was 0.647 shows that the independent variable of awareness, financial products and investment considerations can be explained about 64.7% of the variance in dependent variable investor intention.

## 4.3 Conclusion

Descriptive and data analysis are carried out to analyse the result obtain from Smart PLS to find out whether the independent variables will influence the dependent variable. Moreover, all result obtained is tested for validity and reliability. Comparison between direct and indirect effect has also been carried out. After comparing the model with and without a moderator, the model with the moderator shows all independents variables have a positive influence on the dependent variable. While the model without a moderator, financial products and investment considerations has a negative influence on investor intention and awareness has a positive influence on investor intention.

# CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

## 5.1 Introduction

This chapter will analyse the overall discussion of this report. It will consist of the review of major findings and next with the implication of this study. This study will end with the limitation of this study, together with recommendations for future researches.

## 5.2 Discussions of Major Findings

### 5.2.1 Awareness

According to Figure 4.7, awareness is having a positive relationship variable to investor intention when there is no moderator between awareness and investor intention. Besides, in chapter 4.2.2, the table shows that awareness has a positive indirect relationship with investor intention. Awareness shows the positive relationship to the moderator variable, which is income level and the moderator variable shows the positive relationship to investor intention. This result is supported by Kaur & Kaushik (2016). The previous researchers stated that better awareness related to various aspects of mutual funds, would have a positive effect

on investment in mutual funds. Other than that, Prathap & Rajamohan (2013) also supported that mostly the investors have a high level of awareness and positive approach towards investing in mutual fund and eventually the consumer's preference to invest are closely linked to the awareness level of the financial products had been proved by their study. Therefore, reject $H_0$ in the research hypothesis since the awareness has relationship to the investor intention.

### 5.2.2 Financial Products

Financial products can affect the investor intention towards the mutual fund. When there is no moderator variable, the relationship between the financial products and investor intention is negative based on Figure 4.7. Yet, from Chapter 4.2.2, financial products show a positive relationship to the income level, while income level has a positive relationship to investor intention. Bajracharya & Mathema (2017) and Kothari & Mindargi (2013) supported and proved that relationship is found between the financial products and investor intention.

On the other hand, Purohit & Chutani (2016) showed that there is a relationship between financial products and investor intention. Their study showed that investors would tend to choose fixed deposits and gold to invest if compared to mutual fund among those financial products. Therefore, $H_0$ is rejected because financial products are related to investor intention.

### 5.2.3 Investment Considerations

Based on the Figure 4.7, when the moderator is absent, between investment considerations and investor intention there is a negative relationship. Yet, the investment considerations have shown a positive relationship result in chapter 4.2.2 when the moderator is present. It can affect the income level directly and affect the investor intention indirectly. According to Chavan (2018), there is a relationship between the investment considerations and the investor intention towards mutual fund. Investors who get higher income will tend to emphasize more to the return while investing mutual fund.

Besides, there are some researchers also proved that the investment considerations are related to the investor intention. Rathnamani (2013) showed that most of the investors prefer to invest in mutual fund because of high return, low risk and safety liquidity. The moderate investment style investor only willing to take a low risk. Other than that, mutual fund is the most attractive investment option for women investors since women investors always tend to have low risk but get a high return (Purohit & Chutani 2016). In conclusion, $H_0$ is rejected since there is a relationship between investment consideration and investor intention.

### 5.2.4 Income Level

There are positive relationship between independent variables (awareness, financial products and investment considerations) and intention with moderator effect, income level. There are some researchers proved this with their study.

First, Raju et al. (2018) had mentioned that most of the lower-income investor has no awareness about mutual fund. They have no idea that mutual fund can be an investment avenue for them to invest their savings since they lack the knowledge about mutual fund. Since the awareness and investor intention with moderator effect, income level has relationship, reject $H_0$.

Velmurugan et al. (2015) mentioned that there is a relationship between income level and investment option. The higher income group more preferred real estate, equity shares, mutual funds and commodities as their investment tools. Thus, reject $H_0$ because there is a relationship between financial products and investor intention with moderator effect, income level.

Zafar et al. (2013) added to that investors choose mutual fund as their investment vehicle when their income level increases since mutual funds are considered to be a low-risk investment. Aside from that, it is an effective way to reduce risk through diversification and it also managed by qualified fund managers. Hence, reject the $H_0$ in research hypothesis because the result shows that there is a relationship between investment considerations and investor intention with moderator effect, income level.

## 5.3 Implication of the Study

Based on the overall result from the previous chapter, all of the independent variables show the results of positive relationship toward the income level (moderator) which also indicates a positive relationship from the income level (moderator) to investor intention (dependent variable). This means that income level (moderator) will influence the awareness, financial products, investment considerations (independent

variables) towards investor intention (dependent variable). The results also show that the conceptual framework (Chapter 2) of the factors influencing investors to have a lower preference towards mutual fund can be implied in this study.

However, based on the result that without a moderator, one of the independent variables (awareness) shows the results of positive relationship towards the investor intention (dependent variable). However, the other two of the independent variables (financial products and investment considerations) show the results of negative relationship towards the investor intention (dependent variable). This means that only awareness will influence the investor intention towards mutual fund in a positive relationship while financial products and investment considerations will influence the investor intention through the negative relationship.

As this study is focused on the Malaysia situation, mutual fund managers in Malaysia can adapt the results from this study as it is useful for the Malaysia mutual fund managers to know why is the investor intention towards the mutual fund decrease over the year. Mutual fund managers can analysis throughout the result to identify and implement new plan such as to increase investor awareness on the mutual fund by posting more benefits of mutual fund on the social media to attract investor to invest in mutual fund compare with others investment such as fixed deposit, stock, gold, insurance or even real estate.

Furthermore, the future researcher can adapt the results from this study to implement in their future research as the moderator (income level) in this study is a new item that past researcher never studies about. It could help the future researcher in getting a new idea about the research based on this study.

## 5.4 Limitation of the Study

There is certain limitation in this study must be mentioned. Foremost, there is only one platform for the questionnaire, which is through Google form. In this case, the respondents are not guaranteed to answer the questionnaire genuinely. The results may not reflect the actual opinions of respondents. Therefore, this condition may eventually cause the data collected in this study biased. Other than that, distributions of questionnaire through the internet lead to the majority of respondents are below 40-year-old. Surveying through an online form may exclude non-internet users in the sample and hence lack of data collected from senior citizens. Since most of the internet users aged between 18-year-old to 40-year-old, the majority respondents in this study are aged in this range, which is 85% of the respondents causes the low in age diversity of respondents in this study.

Besides, Smart PLS is used to analyse in this study while the journals reference in this study uses mostly SPSS analysis. Which make it hard to compare the model in this study with other models. Apart from that, the version of Smart PLS used in this study is not the latest version.

For the limitation on moderator in this study, R-square and adjusted R-square of the dependent variable in the model with a moderator are too low. In model with moderator, R-square of dependent variable is 6.6% and considered a very weak effect size to the moderator. Only 6.6% of the observed variation of investor intention can be explained by income level. Thus, the income level may not be capable of becoming a moderator of the dependent variable in this study.

## 5.5 Recommendations for Future Research

These recommendations may be helpful to overcome the limitations mention above. Foremost, to ensure the respondents answer the questionnaire genuinely, the questionnaire is suggested to distribute through interview. Distribute through an interview is not only enabling the distributors to ensure respondents are answering sincerely; this prevents respondents to randomly select the answers because of not understanding the questions as distributors can explain the terms immediately. Distribution of the questionnaire through the interview also solves the problem that non-internet users may be excluded in the sample. Since the interview method takes time and thus, the interview method to distribute is not selected in this study.

In respond to the limitation of using Smart PLS, it is recommended to use both Smart PLS and SPSS together according to the latest market trend. Not only recommend using both, using the new version of this two analysis tool is suggested. The respondents' demographic profile uses SPSS version 22 to analyse while the measurement and structural model of the research framework uses SmartPLS 3.2 to analyse. Just like the research of Khalil-Ur-Rehman et al. (2018) and Abdul Munir (2018) in human behaviour.

Only 6.6% of the observed variation of investor intention can be explained by income level, the income level may not be suitable for becoming a moderator of the dependent variable in this study. Here are some recommendations to become a new moderator in the model, which are education level and age. In the previous researches, education level and age are usually as the independent variables in the model, not as the moderator. Based on Kaur & Kaushik (2016), the higher education community has a better understanding of the benefits of mutual fund and may affect investor intention. Rehan et al. (2018) have mentioned that age has a significant impact on an

investor's awareness. Since awareness is one of the independent variables in this study and it has a positive relationship with investor intention, which act as the dependent variable, age may be suitable as a new moderator in a future model.

## 5.6 Conclusion

The objective of this study is to determine why investors have a lower preference towards investing in mutual fund. The investor intention is determined by factors such as awareness, financial products and investment considerations. A total of 416 responses were collected and run by Smart PLS. A comparison has been made between the model with the moderator and model without a moderator. The results found that the model with moderator shows all independents variables have a positive relationship with the dependent variable. While the model without a moderator, financial products and investment considerations has a negative relationship with investor intention and awareness has a positive relationship with investor intention.

The major findings and impact contributed by this study are discussed. The limitation of this study has also been reviewed and recommendation has been given for future researches. It can be concluded that the objective of this study has been accomplished by determining the factors that influence investors to have a lower preference towards investing in mutual fund.

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# APPENDICES

Appendix 6.0: Questionnaire


## Moderator Effect Over Investors Behavior: Lower Preference Towards Mutual Fund In Malaysia

This survey aims to determine the factors that influence investor to have lower preference towards investing in mutual fund.

All data collected in this survey will be kept confidential and will strictly be used in research purposes only.

Section A: Demographic Profile

1. Gender:

☐ Female

☐ Male

2. Age:

☐ 18 – 24

☐ 25 – 40

☐ 41 – 60

☐ 61 – 80 & above

3. Status:

☐ Single

☐ Married

☐ Divorced

☐ Widowed

4. State:

☐ Penang

☐ Kuala Lumpur

☐ Selangor

☐ Johor

5. Occupation:

☐ Student

☐ Self-Employed

☐ Business

☐ Employee

☐ Retired

Section B: Investor Intention

The following questions represent investor intention towards mutual fund.

1. Have you ever invested in a mutual fund? (Past/Present)

☐ Yes

☐ No

2. Are you planning to buy mutual fund in the future?

| Extremely Unlikely | Unlikely | Neutral | Likely | Extremely Likely |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

3. If you have the opportunity, will you buy mutual fund in the future?

☐ Yes

☐ No

4. Will you recommend mutual fund to others to invest?

☐ Yes

☐ No

Section C: Income Level

The following questions represent the income level as the moderator that will influence the factors.

1. Self Income: (Monthly)

☐ RM 0 - RM 1,000

☐ RM 1,001 - RM 2,500

☐ RM 2,501 - RM 5,000

☐ RM 5,001 - RM 7,500

☐ RM 7,501 - RM 10,000 & above

2. If your level of income is higher, will you do investment to generate extra income?

☐ Yes

☐ No

3. If your level of income is higher, will you have a higher awareness with investment?

☐ Yes

☐ No

4. If you have a higher awareness with investment, will it influence your investment's intention?

☐ Yes

☐ No

5. If your level of income is higher, will the variety of financial products influence your investment's intention?

☐ Yes

☐ No

6. If your level of income is higher, will the investment considerations (risk / liquidity / expected return / reliability) of investment influence you investment's intention?

☐ Yes

☐ No

Section D: Awareness

The following questions represent the independent variable, awareness influencing investor intention towards mutual fund.

1. Have you ever heard of mutual fund?

☐ Yes

☐ No

2. Where do you get to know about mutual fund?

☐ Social Media (Eg. Facebook & Instagram)

☐ Email Marketing

☐ Friends and Family

☐ Financial Advisor

☐ Never heard of mutual fund

3. What is your level of awareness towards these following financial products?

| | Not At All Aware | Not Very Aware | Somehow Aware | Aware | Highly Aware |
|---|---|---|---|---|---|
| Fixed Deposit | | | | | |
| Real Estate | | | | | |
| Mutual Fund | | | | | |
| Gold | | | | | |
| Stock | | | | | |
| Insurance | | | | | |

4. What type of investors are you?

☐ Can invest even without knowledge about the financial products

☐ Follow others blindly to invest in products with no knowledge

☐ Must have the full knowledge and awareness about the financial products before investing

Section E: Financial Products

The following questions represent financial products this independent variable influencing investor intention towards mutual fund.

5. Will the variety of financial products affect your intention to invest in mutual funds?

☐ Yes

☐ No

6. What financial products have you purchased recently?

☐ Mutual Fund

☐ Real estate

☐ Insurance

☐ Stock

☐ Gold

☐ Fixed deposit

☐ None

7. If you have the chance, which financial products will you choose as priority?

☐ Mutual Fund

☐ Real estate

☐ Insurance

☐ Stock

☐ Gold

☐ Fixed deposit

☐ None

Section F: Financial Products

The following questions represent investment considerations this independent variable influencing investor intention towards mutual fund.

| |
|---|
| No Influence (NI) |
| Slightly Influence (SI) |
| Neutral (N) |
| Influence (I) |
| Highly Influence (HI) |

| | NI | SI | N | I | HI |
|---|---|---|---|---|---|
| 8. How will the risk level of financial products influence your investment decision? | 1 | 2 | 3 | 4 | 5 |
| 9. How will the expected return level of financial products influence your investment decision? | 1 | 2 | 3 | 4 | 5 |
| 10. How will the liquidity level of financial products influence your investment decision? | 1 | 2 | 3 | 4 | 5 |
| 11. How will the reliability of investment company/broker influence your investment decision? | 1 | 2 | 3 | 4 | 5 |