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ABSTRACT

Investment decision making process is an important concept within consumer behaviour and behavioural finance discipline. The term 'investment decision making' has come to the attention of the general public for the past 50 years that acts as a guide in making decisions related to business investment. Moreover, investment decision making has received considerable attention from scholars and investment managers, but its complex concepts are yet to be understood and explored especially in Shariah perspective. Hence, the main purpose of this study is to investigate the determinants of investment decision making in Islamic unit trust (IUT) among Muslim investors in Malaysia. More importantly, this study also investigated several factors which include demographic characteristics, Islamic financial literacy (IFL), information sources (IS), religiosity (RE), and investment risk (IR) which can influence the Muslim investors in Islamic unit trust investment decision making (IUTID). In addition, this study also examined the role of product knowledge (PK) in the model of IUTID. The novelty of this study was to determine the mediating effects (intervening effects) of product knowledge on the relationship between Islamic financial literacy and information sources with IUTID. The second uniqueness of this study was to identify the moderation effects (interaction effects) of product knowledge on the relationship between information sources and religiosity with IUTID. The present study adopted the quantitative method research approach to conduct a survey using questionnaire. A total of 1000 questionnaires were distributed to Muslim investors in Islamic unit trust in Malaysia. In relation to this, descriptive analysis, Mann-Whitney U Test, Kruskal-Wallis H Test, and Partial Least Square Structural Equation Modelling (PLS-SEM) were employed for analysis purposes. The results obtained from Mann-Whitney U Test and Kruskal-Wallis H Test revealed that age and

income significantly influence IUTID. Moreover, PLS-SEM results showed the positive relationship between Islamic financial literacy, information sources, religiosity, investment risk, and product knowledge with IUTID. The results are consistent with the Engel, Blackwell, and Miniard Decision Making Model. Furthermore, the PLS-SEM results showed that product knowledge partially mediates the relationship between Islamic financial literacy and information sources with IUTID. Meanwhile, the PLS-SEM results also proved the moderate relationship between information sources and religiosity towards IUTID by product knowledge. This study presented three contributions to the behavioural decision research which are described as follows: (1) the scope of the relationship between Islamic financial literacy, information sources, religiosity, and investment risk among Muslim investors considering that it is new to the Islamic context and act as additional literature in that particular area, (2) the mediation and moderation effect of product knowledge in the model of decision making, and (3) a new model in investment decision making which can be tested in other area of financial decision making.

Keywords: Islamic unit trust, investment decision making, Muslim investors, Malaysia

ABSTRAK

Keputusan membuat pelaburan adalah satu konsep yang penting di dalam skop tingkahlaku pengguna dan tingkahlaku kewangan. Istilah ini telah lama wujud di kalangan umum sejak 50 tahun dahulu untuk membimbing keputusan pelaburan perniagaan. Walaupun keputusan membuat pelaburan mendapat perhatian besar daripada para ilmuan dan pengurus pelaburan, namun konsep ini masih kurang jelas lebih-lebih lagi menurut kaedah Syariah. Oleh itu, tujuan utama kajian ini adalah untuk menyiasat apakah faktor yang mendorong pemilihan dalam membuat keputusan pelaburan di dalam dana unit amanah Islam di kalangan pelabur Islam di Malaysia. Kajian ini menyiasat faktor-faktor demografi, literasi kewangan Islam, sumber maklumat, keagamaan dan risiko pelaburan yang mana boleh mempengaruhi pelabur Islam dalam membuat keputusan pelaburan unit amanah Islam. Selain itu, kajian ini juga meneliti peranan pengetahuan terhadap produk di dalam membuat keputusan pelaburan unit amanah Islam. Sumbangan baharu kajian ini adalah mengkaji kesan perantaraan diantara pengetahuan terhadap produk dalam hubungan antara literasi kewangan Islam dan sumber maklumat dalam pengambilan keputusan pelaburan unit amanah Islam. Sumbangan kedua kajian ini adalah mengkaji kesan interaksi pengetahuan produk dalam hubungan antara sumber maklumat dan keagamaan dalam membuat keputusan pelaburan unit amanah Islam. Kajian ini dijalankan menggunakan pendekatan penyelidikan kaedah kuantitatif melalui tinjauan soal selidik. 1000 soal selidik telah diedarkan di kalangan pelabur Islam yang pernah melabur dalam dana unit amanah Islam di Malaysia. Analisis deskriptif, Ujian U Mann-Whitney, Ujian Kruskal-Wallis dan PLS-SEM digunakan dalam kajian ini. Keputusan analisis menggunakan Ujian U Mann-Whitney dan Ujian Kruskal-Wallis menunjukkan umur dan pendapatan sangat mempengaruhi pelabur Islam dalam membuat keputusan pelaburan unit amanah Islam. Selain itu, keputusan analisis menggunakan

PLS-SEM menunjukkan hubungan yang positif di antara literasi kewangan Islam, sumber maklumat, keagamaan, risiko pelaburan dan pengetahuan terhadap produk dalam membuat keputusan pelaburan unit amanah Islam. Dapatan ini menyokong model membuat keputusan daripada Engel, Blackwell dan Miniard. Selain itu, hasil daripada analisis PLS-SEM menunjukkan pengetahuan produk sebagai pengantara separa dalam hubungan di antara literasi kewangan Islam dan sumber maklumat dengan keputusan membuat pelaburan unit amanah Islam. Hasil analisis PLS-SEM juga menunjukkan kesan interaksi pengetahuan produk dalam hubungan di antara sumber maklumat dan keagamaan dalam membuat keputusan pelaburan unit amanah Islam. Kajian ini memberikan tiga sumbangan utama iaitu, (1) skop perhubungan antara literasi kewangan Islam, sumber maklumat, keagamaan dan risiko pelaburan di kalangan pelabur Islam kerana ia agak baru di dalam konteks Islam dan menjadi kesusasteraan tambahan (2) kesan perantaraan dan kesan interaksi pengetahuan terhadap produk dalam model membuat keputusan pelaburan dan (3) penemuan ini memberikan model baru dalam aspek membuat keputusan pelaburan dan boleh diuji di dalam bidang membuat keputusan untuk produk kewangan yang lain.

Kata Kunci: Unit amanah Islam, keputusan membuat pelaburan, pelabur Islam, Malaysia.

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List of Symbols and Abbreviations

АКРК	Agensi Kaunseling dan Pengurusan Kredit
ASNB	Amanah Saham Nasional Berhad
BNM	Bank Negara Malaysia
CDP	Consumer Decision Process Model
CIS	Collective Investment Scheme
CMSA	Capital Market and Services Act 2007
DCA	Dollar Cost Averaging
DV	Dependent Variable
EBM	Engel, Blackwell, Miniard Decision Making Model
EKB	Engel, Kollat, Blackwell Decision Making Model
ETF	Exchange-Traded Fund
FIMM	The Federation of Investment Managers Malaysia
ICM	Islamic Capital Market
IFL	Islamic Financial Literacy
IR	Investment Risk
IS	Information Sources
IUT	Islamic Unit Trust
IUTID	Islamic Unit Trust Investment Decision Making
IV	Independent Variable
MAR	Missing at Random
MCAR	Missing Completely at Random
NAV	Net Asset Value
p.b.u.h.	Peace Be Upon Him
РК	Product Knowledge
PRS	Private Retirement Scheme

- RE Religiosity
- REIT Real Estate Investment Trust
- SC Securities Commission Malaysia
- SRO Self-Regulatory Organization

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Publications and Presentation

Publications

- Noraini Yusuff and Fadillah Mansor (2016). Proposed Model for The Factors Influencing Muslim Investors in Choosing Islamic Unit Trust Funds. *Journal of Global Business and Social Entrepreneurship*, 1(2), 113-120.
- Noraini Yusuff, Fadillah Mansor and Abu Bakar Hamed (2017). The Measurement of Islamic Unit Trust Investment Decision in Malaysia: An Exploratory Factor Analysis. *International Journal of Islamic Business*, 2(1), 38-47.

Presentation

 Noraini Yusuff and Fadillah Mansor (2016). Factors Influencing Muslim Investors in Choosing Islamic Unit Trust Fund, Presenting on the Eight Foundation of Islamic Finance Conference, Sasana Kijang, Kuala Lumpur on 24th and 25th August 2016.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

The global Islamic fund and wealth management sectors are shown to be experiencing the growing trend. The increase in the demand of *Shariah*-compliant investment continues to be the main driver that leads to the development of both sectors. The strong demand from investors is further supported by the increasing number of offers that are available in the market from a wide range of Islamic financial assets. Moreover, this trend is reflected in the number of Islamic fund which have increased to 1,535 funds at the end of the first quarter of 2017 from a small amount of 802 funds in 2008. Both sectors continue to grow and they have the ability to cater to the need of investors who wish to invest surplus funds in a *Shariah*-compliant manner (Malaysia International Islamic Financial Centre, 2017).

Malaysian contributes the largest market share in the global Islamic' fund industry, which caused it to remain as the key domiciles in global Islamic fund and wealth management sectors. Up to now, Malaysian holds the largest number of Islamic funds globally with a total of 388 funds managing the total asset under management (AUM) of USD22.6 billion. The Islamic funds mentioned here are composed of the equity funds (45%), money market funds (32%), and real estate, sukuk, and mixed funds (23%) from the total AUM (Malaysia International Islamic Financial Centre, 2017).

With the given statistic, it can be indicated that the Islamic fund and wealth management is a key area of growth in Malaysia Islamic Capital Market (ICM). In this case, both the Islamic fund and wealth management are the catalyst for the growth and enhancement of global competitiveness of ICM in Malaysia. Moreover, ICM plays a vital role in creating an economic evolution in the country. More importantly, it is a significant pillar of Malaysia well-developed Islamic finance industry and widely recognized as the leading center for innovation in *Shariah*-compliant products and services. All activities in ICM beginning March 1993 are regulated by Securities Commission of Malaysia (SC) under the Securities Commission Act 1993 for the purpose of monitoring the effectiveness of ICM. The process of monitoring closely follows the three mutually-reinforcing strategic thrusts in "Islamic Fund and Wealth Management Blueprint" which are set up by SC. The objective of the blueprint is to fulfill the vision of Malaysia (2017a), this blueprint consists of three mutually-reinforcing strategic thrusts described as follows: (i) to strengthen Malaysia's positioning as a global hub for Islamic funds, (ii) to establish Malaysia as a regional center for *Shariah*-compliant sustainable and responsible investments, and (iii) to develop Malaysia as an international provider of Islamic wealth management services.

However, the blueprint itself is insufficient to support the aspiration of being the leading international center for Islamic fund and wealth management. Hence, the policy makers and regulators with the support from industry players will need to continuously monitor the rapid pace of change and development in the ICM to ensure Malaysia ICM remains competitive at the international level. Therefore, it is highly recommended for the respective parties to carefully draw and develop appropriate action plans in order to enhance Malaysia's proposition as the leading global Islamic finance marketplace (Securities Commission Malaysia, 2017a).

The attractiveness of ICM also relies on the instruments offering. In particular, Malaysia offers a diverse range of Islamic collective investment schemes (CIS) which consists of

unit trust funds, wholesale funds, private retirement schemes (PRS), exchange-traded funds (ETFs), and real estate investment trusts (REITs). Nevertheless, it should be noted that the present study will only focus on one instrument which is the Islamic unit trust (IUT) among all the instruments offered in ICM.

The purpose of choosing to focus solely on Islamic unit trust (IUT) is due to its pivotal role in encouraging the practice of saving and investing among the investors. Unit trust is unique because it will reassure the individuals to have a practice of saving and investing (R. Abu Bakar, Nawawi, & Puteh Salin, 2015). In addition, this scheme is able to help the economy of local communities by increasing the pace of their economic life, which will subsequently assist the development of the national economy (A. Abu Bakar, 2016). The fundamental objective behind the investment in the unit trust fund is to earn a good return with relatively low risk, which acts as an important investment alternative for general investors (Begum & Rahman, 2016).

Hence, several aims of this thesis are as follows: (i) to empirically explore the potential impact of the selected demographic factors on Islamic unit trust investment decision making (IUTID), (2) to determine whether Muslim investors are risk averse or risk taker, (3) to examine whether Islamic financial literacy (IFL), information sources (IS), religiosity (RE), and investment risk (IR) have significant impact on IUTID, (4) to assess the possibility of product knowledge (PK) to become a moderating and mediating variable in IUTID, (5) to evaluate whether the above variables can be developed as a model for investment decision making.

1.2 Background of Study

Islamic unit trust (IUT) is one of the popular products in the Islamic Capital Market (ICM) that has been gaining the benefit of a diversified portfolio apart from offering low to medium risk level to the investors. IUT managers pool the funds from various small investors who share similar goal and objective regarding the risk and return level of the funds as well as the investment in the funds which are in compliance with the *Shariah* principles such as stocks and sukuks (F. Abdullah, Hassan, & Mohamad, 2007). Moreover, this obligation makes it possible to differentiate between IUT and conventional unit trust considering that IUT can only be invested in *Shariah*-compliant assets. On top of that, IUT is deemed appropriate for those who are interested in *Shariah* investment but possesses very limited knowledge on it due to the fact that unit trust fund is fully managed by the asset management company.

In the year 2016, there were 35 management companies that proposed a variety of unit trust funds with a total of 638 funds made available in the market. In less than a decade, the funds that were launched grew from 65 funds in 2004 to 199 funds in 2016 (Securities Commission Malaysia, 2017c). More importantly, the performance of IUT was observed to increase aggressively and remain stable even when the economy was in a downturn (N. Alam, Kin, & Rajjaque, 2013). Apart from that, the total net asset value (NAV) of IUT was shown to rapidly increasing each year. As presented in Figure 1.1, the total NAV increases from RM9.761 billion to RM60.915 billion between 2004 and 2016 (Securities Commission Malaysia, 2017c).



Figure 1.1: Growth Trends Lines for Net Asset Value (NAV) for the year 2004 – 2016. Source: Securities Commission Malaysia (2017c).

As can be observed in the following figure, the number of accounts in IUT shows a growing trend each year. In 2004, the total accounts are 427,000 which are then increased to a total of 2,822,326 accounts in 2016 as shown in Figure 1.2. Hence, this further indicates the rapid growth of Islamic unit trust funds. More importantly, this proves that this product has received increasing attention from investors due to the robustness of the Islamic funds which tend to influence them to choose IUT as one of their saving instruments (N. Alam et al., 2013).



Figure 1.2: Number of unit holder accounts in Unit Trust Funds from 2004 to 2016 (Securities Commission Malaysia, 2017c)

Basically, the most important element behind the rapid development of IUT refers to the decision making process of the investors in choosing the investment products. Specifically, investment decision making process is associated with investment planning whereby the investors choose to invest in the right investments that will enable them to achieve the desired returns within the level of risk that they can assume (Mohamed, 2017). The decision making process is one of the most difficult mechanisms of human thinking (Lizárraga, Baquedano, & Cardelle-Elawar, 2007). Therefore, the process of making the right decision is very crucial for the investors.

In relation to the above matter, the decision making of the investors is correlated to their own behavior (Lai, Low, & Lai, 2001; Tseng, 2006; Hossain & Nasrin, 2012). In most cases, they are influenced by personal and situational factors (Lizárraga et al., 2007; Sadiq & Ishaq, 2014). Generally, the investors are required to choose the products which suit their goals and allow them to achieve the expected returns. Hence, it cannot be denied that it is a complex task for the investors to select funds that are capable of offering high earnings with acceptable risk (Oldham & Kroeger, 2005).

Most of the scholars in the decision making area has agreed that the decision making of individual or consumer is commonly influenced by three main elements, namely individual factors, environmental influences, and psychological process (Capon, Fitzsimons, & Price, 1996; Blackwell, Miniard, & Engel, 2001a; Wan Nawang, Hashim, & Marzuki, 2008; Jamaludin, 2013; Jamaludin, Smith, & Gerrans, 2013; Baker & Ricciardi, 2014). In this case, it is important to note that each individual is different in their own way and possess unique characteristics and opinions. Hence, it is deemed crucial to understand the individual criteria, especially those who run a business that involve selling off products.

In a general sense, individual characteristics can be measured according to their demographic characteristics considering that it is one of the factors that can influence the decision making of the investors (Abdul Jamal, Ramlan, Pazim, & Budin, 2014; Sadiq & Ishaq, 2014). According to Sasirekha and Jerinabi (2015), the demographic characteristics and the social economic factors tend to affect their memories, which then influence their investment decision making.

Moreover, the decision making of investors in investment decision is influenced by the level of religiosity. Religiosity (RE) plays an important role in shaping human minds and attitude towards purchasing or utilising goods and services (Mukhtar & Mohsin Butt, 2012). Religion has a substantial impact on individuals' systems of beliefs, behaviours, and attitudes. Other than that, religiosity may also affect individuals' lifestyle, which can dictate their purchase decisions and consumption behaviour (Dekhil, Jridi, & Farhat, 2017). According to Hilary and Hui (2009), investors who have high religious belief are more likely to prefer savings. According to the Islamic perspective, religious traditions might forbid certain possessions and services; for example, the product of conventional investment that consists of several forbidden elements which include *riba*, *maysir*, and *gharar*.

According to Ahmad (2010), Islamic financial literacy (IFL) is deemed very important to the Muslim investors. IFL is beneficial due to its capability to guide the investors to provide an investment decision that is in accord to *Shariah* perspectives. Specifically, IFL can be well-defined as the capability to understand Islamic finance. Moreover, it is considered as an obligation for the Muslims to understand Islamic finance as it will allow them to fulfill their religious duty. More importantly, it will be difficult for Islamic financial system to develop if the Muslims are not concerned about the prohibition of *riba, maysir,* and *gharar* which leads them to continue consuming conventional products that are known to be sinful (M. Ahmad, 2010).

On a similar note, it is important for IFL to be understood among middle-class society considering that they are the majority of financial product consumers. In other words, the middle-class society becomes the target among the sales agent of unit trust fund (M. Ahmad, 2010). Moreover, they will easily believe the salesman if they find it difficult to understand finance. More importantly, those who are poorly literate on finance will be easily fallen to financial scams. According to the speech by Deputy Finance Minister of Malaysia, Datuk Johari Abdul Ghani in International Conference on Wealth Management and Financial Planning organized by the Malaysian Financial Planning Council, there are still a high number of Malaysians who still fall for getting rich under quick schemes due to their limited understanding on financial products (Abdul Ghani, 2016). It is more surprising that some of the graduates and professionals are among those who still get trapped by these schemes which is believed to be cause by the lack of knowledge on finance and financial system (Aruna, 2016). Most of the victims of this scheme are those who have a lot of saving but have no idea about the suitable products that should be utilized for their investment.

In addition, individual investors tend to rely on information sources (IS) in their decision making process (Capon et al., 1996; Satti, Ud Din, & Ali, 2013). Mayoral and Vallelado (2012) state that information sources are significant in decision making as it can increase investor's knowledge. According to Mahmood, Ahmad, Khan, and Anjum (2011), investors will make up their mind regarding any investment uncertainties based on the information they obtain from different sources which include digital information or advice from financial advisors (Satti et al., 2013). It should be noted that there is a

tendency for the investors to be influenced by family members and close friends when making an investment decision. Apart from that, advertisements on unit trusts that are available on the billboard along the main road or highway will attract people to the product, including understanding its existence by digging deeper about it.

Other than that, it is crucial for the investors to understand the type of investment risk (IR). Generally, each type of investment product brings a different level of investment risk. Hence, it is necessary for the investors to analyze the product which can help them to achieve their investment goal prior to making any investment decision. Asset management companies provide a full explanation on each of the product offered by them to the investors in the master prospectus which will enable them to clearly understand the type of risks involved in each investment funds.

Overall, it can be sum up that a full understanding on IFL, IS, and IR can increase the investors' knowledge on the basics of financial products. More importantly, they will get a better idea on each of the investment product and also create awareness on the characteristic risks of investing in unit trusts such as market risk, stock specific risk, fluctuation price risk, and credit or default risk (Mishra & Kumar, 2012; R. Abu Bakar et al., 2015). Higher PK on the mind of investors might help them to make a right decision that is in line with their financial objectives. According to Sasirekha and Jerinabi (2015), the present day scenario shows that more laymen are participating in investment market due to their increased knowledge and awareness which assist them to be very analytical in their investment behaviour.
The behaviour of investors in investment decision making is also related to the rational and irrational conditions of individual investors. The traditional finance theories assume that investors are rational, or in other words, act rationally. For example, they are usually rationale in choosing between the alternatives while also making their investment decisions (Neumann & Morgenstern, 1944). Nevertheless, the new outcomes from other researchers revealed that individual investors sometimes make irrational decisions about their investment (Barberis & Thaler, 2003). This finding supported the concepts of behavioural finance. Behavioural finance is relatively a new concept in the financial markets (H. Park & Sohn, 2013). Moreover, it examines the impact of psychology on market participants' behaviour as well as the resulting outcomes in the market by, focusing how individual investors make a decision, particularly how they interpret and act on specific information.

Therefore, the aim of this study is to explore on decision making of Muslim investors in Malaysia towards investing in Islamic unit trust. More importantly, it can give an idea to the authority and IUT agents to find a new approach that can attract potential investors to invest in this product.

1.3 Justification for the Study

The justifications for the study are as follows:

First, it should be acknowledged that Malaysians are generally a risk-averse society that practices prudence and caution in their decision-making process (Wong & Yeoh, 2004). Interestingly, majority of the risk averse investors are female who generally try to avoid to invest in risky products (Powell & Ansic, 1997; Nelson, 2015; Rizvi & Fatima, 2015). On a similar note, investors who are risk averse tend to possess limited knowledge and

understanding on investment choice (Collard, 2009). In other words, those who are poorly literate on finance will easily fall to financial scams (Lusardi, 2008; Abdul Ghani, 2016).

As mentioned in the earlier section, a high number of Malaysians are still falling for the getting rich quick schemes due to their limited understanding about financial products. It is even more unfortunate that there are graduates and professionals who fall for such schemes due to their ignorance on finance and financial system (Aruna, 2016). Most of the victims of this scheme are those who have a lot of saving but no knowledge on the products that are suitable for investment.

Hence, if they are aware of IUT product, it is more likely for them to choose IUT rather than a rich quick scheme for their investment instrument. Therefore, it is deemed critical to examine the selection criteria that can influence Muslim investors in choosing IUT, particularly Muslim investors in Malaysia.

Furthermore, another justification for this study is the limited knowledge on IUT product. According to A. Abu Bakar (2016), majority of Malaysians have limited knowledge on IUT, while some of them are not even aware of the existence of this product. Hence, this limitation affects the growth of IUT to achieve the target of CMP2 in 2020. This issue is reflected on Eastspring Investment Berhad (2014), whereby most of the investors in that company have low knowledge on IUT which limits their confidence to invest in these funds. As a result, it is important to investigate the effect of PK and IS on IUTID.

The last justification for the study is the demand to investigate the impact of IFL among Malaysians, especially Muslim investors in IUTID. In this case, it is obligatory for Muslims to have an idea of IFL for the purpose of influencing them to make a life decision based on the true *Shariah* method, especially in financial activities (M. Ahmad, 2010). To the best knowledge of the researcher, the studies on IFL are still limited and much uncertainty still exists in the decision making area. According to M. Ahmad (2010) and Abdullah and Chong (2014), IFL is considerably new and most of the research carried out on the topic is restricted to the conceptual basis.

1.4 Problem Statement

The purpose of Islamic unit trust is to fulfil the needs of Muslims in Malaysia, especially those who prefer to invest in a safer situation (A. Abu Bakar, 2016). Generally, IUT is managed by asset management companies that can provide help to those who have limited knowledge on investment but are interested to invest. The wide range of products offered by unit trust fund comes from various level of risk which is suitable for all type of investors. On top of that, the growth of unit trust fund has been found to tremendously increase every year.

In the year 2011, Securities Commission Malaysia (SC) planned a growth in the capital market area for the next ten performances until 2020 in the Capital Market Masterplan 2 (CMP2). One of the goals of CMP2 is to promote the IUT as the main product for the evolution of unit trust industry. More importantly, CMP2 reported that Malaysia Islamic capital market has grown steadily over the past decade and generally outpace the conventional sector. Other than that, the rapid growth of IUT has influenced SC to estimate the growth prospects for ICM until the year 2020. According to Securities Commission Malaysia (2011), the total NAV of IUT is expected to achieve RM158 billion by 2020. However, the total NAV of IUT for the duration of six years between 2011 until 2016 only managed to achieve RM60.915 billion, which reflects a slow growth of 23.33 percent. This situation indicates that another RM97.085 billion of the total NAV

of IUT should be obtained from investors and future investors in order to achieve the target plan in 2020.

Therefore, the asset management companies should consider attracting the investors to invest in IUT in order to increase the NAV of IUT until the target of CMP2 is achieved. This is in line with the suggestion from the inaugural industry dialogue by Federation of Investment Managers Malaysia (FIMM)¹ in July 20ll that emphasizes the need to increase investors' awareness and understanding about IUT as well as its benefits. Moreover, a study by Abu Bakar (2016) covering four states in Malaysia shows that the understanding of the society towards IUT is still weak whereby some of them are not even aware about the existence of this product. This situation is similar to the research carried out by Eastspring Investment Berhad (2014) which found that majority of the investors in that company possess a low level of understanding on *Shariah* investments, thus showing their lack of confidence to invest in IUT fund. On top of that, they perceive that *Shariah* investments offer less capital appreciation compared to conventional investment products.

In this case, it is everyone's dream to become a successful investor; hence, financial literacy is considered the most important element that needs to be understood by all investors. Generally, financial literacy will definitely help individuals to control their money or wealth based on the economic situation. However, a study by Ahmad Sabri (2016) found that Millennials or Generations Y of Malaysian have limited understanding on financial literacy. Their knowledge on finance is only limited to the interest charge

¹ The Federation of Investment Managers Malaysia (FIMM) was recognized by the Securities Commission (SC) Malaysia as a self-regulatory organization (SRO) via a gazette order on 20th January 2011. This empowered FIMM to regulate its own members. With this new mandate, FIMM will play a larger role in ensuring that the unit trust industry continues to grow, at the same time making certain that investors' and the public's interests remain as its main priority.

involved in loan transaction. Moreover, it is unfortunate that they are not financially literate when it comes to inflation issues. More importantly, it should be noted that inflation is one factor which will affect the value of money; hence, it is crucial for each of the consumers to understand the fundamental of inflation. Consumers are able to purchase less with the same amount of ringgit, as the prices of goods and services increase. The understanding on inflation is important; hence, investors should look for real return in order to evaluate the returns of investment which is described as the return after inflation (Ngwane, 2014).

Several efforts have been invested by Islamic banks and asset management companies to promote IUT to their end-users which include advertisement, over the counter promotion, and weekend exhibition. However, the penetration of IUT offered by Islamic financial institutions in Malaysia is relatively low compared to the conventional funds. In the year 2015, the NAV for market capitalisation of IUT was only 3.08 percent compared to the conventional unit trust which was 17.37 percent (Securities Commission Malaysia, 2015b). In response to this issue, Amin, Rizal, and Supinah (2015) found the need to investigate the factors that can influence investors to invest in IUT, particularly in Sabah. However, their study cannot be generalized based on the fact that all of the respondents of that study were not consumers of IUT and it was only conducted in Labuan, Malaysia. Therefore, it is compulsory to choose those who have invested in IUT as the respondents of the present study in order to understand the behaviour of investors in IUT. Hence, this limitation has further motivated the researcher to investigate the investment decision making in each state of Malaysia.

The research on decision making of investors has been widely carried out in the field of investment all over the world. However, only a limited number of studies that focused on

the decision making in Islamic unit trust fund (Amin et al., 2015). The main reason is that most of the previous studies on Islamic unit trust fund only focused on the common research areas which include the investigation on the performance of the funds (Abdullah Othman, Mydin Meera, & Abdul Aziz, 2015a, 2015b; Elfakhani & Hassan, 2005; A. G. Ismail & Shakranib, 2003; Kassim & Kamil, 2012; Nassir, Shadi, & Abdul Hamid, 2012; Nik Muhammad & Mokhtar, 2008; Suhana, Raja Zuraidah, Nooririnah, Ruziah, & Zaibedah, 2012; Widiyanti, Adam, & Ismail, 2013), the comparison between the performance of Islamic and conventional funds (F. Abdullah et al., 2007; Ashraf, 2013; M. S. Bashir, Rasyidah, & Nawang, 2011; Choong, Thim, Fie, & Ng, 2012; Hassan, Khan, & Ngow, 2010; Hoepner, Hussain, & Rezec, 2011; Mansor & Bhatti, 2011b; Md. Saad, Abd Majid, Kassim, Hamid, & Mohd. Yusof, 2010; Norman, Khalid Almsafir, & Smadi, 2013; Rubio, Hassan, & Merdad, 2012), investment behaviour (S. Ali, Md Zani, & Kasim, 2014; Amin et al., 2015; Nathie, 2009), and the perception towards investing in conventional and Islamic unit trust fund (A. Abu Bakar, 2016; Mohamed Ibrahim, Mohd Rashid, Ali, & Abd Wahid, 2006; Wan Nawang et al., 2008). However, the researcher still regards that research in IUTID that focuses only on Muslim investors is still limited based on the previous studies. Please refer the table in Appendix A for the summary of previous studies in Islamic unit trust fund.

Barberis and Thaler (2003) on their study of behavioural finance also suggested the importance of understanding how investors develop their choices of portfolio. On top of that, they also claimed that the related research was notably absent from the collection of financial economists. Presently, it can be seen that financial economists have acknowledged the important role of human behaviour in finance by further indicating that human elements are able to enrich the knowledge in finance research (H. Park & Sohn, 2013).

Hence, this study attempts to explore the factors that influence Muslim investors in choosing IUT, which covers the aspects of IFL, IS, RE as well as the understanding of IR and PK for the purpose of narrowing the gap of body knowledge. Therefore, all of the factors are believed to be able to help the agent and asset management company to create the strategies to attract investors in choosing Islamic unit trust fund, which will definitely assist the effort to achieve the target of CMP2 in 2020.

1.5 Research Questions

A total of eight research questions (RQ) are developed for this study in relation to the research objectives (RO). In particular, RQ 1 and 2 are developed to achieve RO 1, while RQ 3 is developed to achieve RO 2. Meanwhile, RQ 4 and 5 are designed to answer RO 3. On another note, RQ 6 is designed to achieve RO 4. RQ 7 is designed to answer RO 5. Finally, RQ 8 is developed to achieve RO 6. The research questions are presented as follows:

- Is there any difference on Islamic unit trust investment decision among various demographic characteristics which include age, gender, income, educational level, type of occupation, and type of residence?
- 2. Is there any relationship between risk preferences and familiarity with Islamic unit trust investment decision?
- 3. What are the criteria chosen by Muslim investors in Islamic unit trust investment?
- 4. What is the level of Islamic financial literacy, sources of information, religiosity, type of investment risk, and understanding of Islamic unit trust fund among Muslim investors?
- 5. Is there any relationship between the Islamic unit trust investment decision with Islamic financial literacy, information sources, religiosity, and investment risk?

- 6. What is the extent that product knowledge mediates the relationship between Islamic financial literacy and information sources with Islamic unit trust investment decision making?
- 7. Does product knowledge capable of moderating the relationship between information sources and religiosity with Islamic unit trust investment decision making?
- 8. Is it possible to develop all the relationships into one model, particularly on the characteristics of individual investor in investment decision making?

1.6 Research Objectives

In relation to the problem statement, the aim of this study is to investigate the factors that can influence Muslim consumers to select Islamic unit trust fund as their alternative saving instrument. Hence, the present study endeavors to achieve the following objectives based on the above statement:

- 1. To investigate the effect of demographic characteristics on Islamic unit trust investment decision making.
- 2. To examine the selection criteria of Muslim investors on Islamic unit trust investment decision making.
- 3. To investigate the relationship between Islamic financial literacy, information sources, religiosity, and investment risk with Islamic unit trust investment decision making.
- To evaluate the mediating effect of product knowledge on the relationship between Islamic financial literacy and information sources with Islamic unit trust investment decision making.

- To assess the moderating effect of product knowledge on the relationship between information sources and religiosity with Islamic unit trust investment decision making.
- 6. To examine a model developed on the characteristics of the individual investors on investment decision making.

1.7 Scope of Study

The current research is set within the context of Malaysian investors and focuses on individual investors in IUT. Individual investors are important to be investigated because this group has the capability to increase the growth of NAV in unit trust investment. Moreover, this research analyses the characteristics of Muslim investors on investment decision making in IUT. The respondents of this study are selected among Muslim investors who have an experience investing in IUT. Experienced investor is important in this research as they are able to show their satisfaction towards the investment in Islamic unit trust fund.

Furthermore, the respondents of this study are from the age of 18 and above only considering that this group of age are able to make investment without needing permission from parents or guardians. They can be categorised as matured people and can make their own decisions in regard to their life. The respondents are identified based on the four regions (northern, southern, eastern, and western) of Malaysia. A survey method using self-administered questionnaires was conducted for the purpose of data collection. Hence, the data for the analysis are confined to primary data obtained from the survey.

1.8 Significance of Study

The present study intends to contribute to both theory and practice which covers the area of education, consumers, financial advisors, unit trust agencies, and government which are described as follows:

This study will expand the limited research of Islamic unit trust investment decision making in the field of education and knowledge. On top of that, this study hopes to fill the gap in the literature of investment decision from the Islamic perspective. Moreover, it is hoped to enhance the literature on Islamic financial literacy, information sources, religiosity, investment risk, and product knowledge. Finally, this study provides new insights to the literature on the mediation and moderation effects of product knowledge on Islamic unit trust investment decision making.

In terms of the significance to consumers, this study is hoped to provide better understanding and knowledge to the investors on the growing area of research on Islamic unit trust investment. They can realise the importance of Islamic financial literacy in their lives and how to manage their financial management based on Islamic perspective. The importance of this study is that it can increase the understanding of the consumers on different types of investment risk in Islamic unit trust fund. Understanding investment risks will help consumers to make good investment decisions based on a particular situation; for example, making a decision by comparing the economic condition with the political condition.

The findings of the present study should make an important contribution to the government, unit trust companies, and financial advisors as it will enhance their understanding on the factors that can assist them to provide appropriate marketing

strategies which can improve the level of awareness and acceptance of IUT among Muslim consumers. According to Blackwell, Miniard, and Engel (2001c), it is important to understand the key characteristics of target consumers as well as investors when developing a business strategy. This study sheds new lights to the unit trust authority by providing them with the information to create products that are suitable for all the categories of investors.

1.9 Organization of the Chapters

The present study is composed of seven themed chapters which are organized as follows:

Chapter 1: Introduction

The first chapter describes the introduction of the study by highlighting the background of the research, research questions, research objectives, and the justification of conducting the research.

Chapter 2: Investment from Islamic Perspectives

This chapter begins by discussing the *Shariah* rulings in Islamic Capital Market. On top of that, it further highlights the fundamental of Islamic investment, the essence of Islamic investment, the prohibition elements in Islamic investment, and an in-depth review on Islamic unit trust fund.

Chapter 3: Literature Review

The third chapter begins by laying out the theoretical dimensions of the research which include the discussion on the underpinning theories of decision making, investment, and Islamic concept. Apart from that, this chapter also highlights the previous literature on investment decision making and other factors that tend to influence investment decision making.

Chapter 4: Research Methodology

This chapter is concerned with the methodology employed for this study which consists of research paradigm, research design, research purpose, and research framework. Moreover, it also describes the hypotheses developments, research instruments, exploratory factor analysis, and the techniques involved in the process of data analysis as well as the aspects related to the ethical issues of conducting the research.

Chapter 5: Descriptive Analysis and Discussion

This chapter presents the results performed using descriptive analysis obtained from the survey. More importantly, it emphasized the overall hypotheses of the present study.

Chapter 6: Results of PLS-SEM Analysis and Discussion

This chapter draws together the results of analysis obtained using PLS-SEM. The current chapter consists of two sections of analysis which are (i) testing the relationships of all variables according to the direct relationship as well as the mediation and moderation effects in building a model of investment decision making, and (ii) assessing the relationships according to the theoretical framework which was proposed at the beginning of the study. Overall, this chapter presents the discussion on the finding of this study by comparing it with the previous literature.

Chapter 7: Key Findings, Limitation and Recommendation

The purpose of the final chapter is to discuss the key findings of the study as well as to reflect on what extent the study can contribute in many aspects. Finally, it provides a brief summary on the implication of the study, limitation, and suggestion for future study.

CHAPTER TWO: INVESTMENT FROM ISLAMIC PERSPECTIVES

2.1 Introduction

The current chapter provides a detailed explanation on investment from the Islamic perspectives which consists of the fundamental of Islamic investment, the essence of Islamic investment, *Shariah* rulings in investment contract, and the prohibition elements in IUT. On top of that, this section also discusses the Islamic capital market, the development of unit trust funds, and the mechanism of Islamic unit trust fund.

2.2 Fundamental of Islamic Investment

The fundamental of modern investment under *Shariah* is governed based on the guideline set by Allah s.w.t. In other words, all Islamic activities must be carried out in accordance to the *Shariah*. Allah s.w.t has created *khalifah*² in this world and provide them with all the necessary resources which include property and foods. Moreover, Allah s.w.t have provided the guidance for them to handle their resources that will enable them to meet their needs and gain enjoyment with blessings.

In Islamic investment, all activities must be in accordance to *Shariah* principles. Hence, risk sharing technique should be applied in investment activities to provide benefit to both parties. In relation to this, the returns obtained from any investment activities shall be subjected to payment *zakat* (alms) considering that it is an obligation for the Muslims as well as for the purpose of charity (Billah, 2015).

² *Khalifah* means mankind which have been created by Allah s.w.t in this world to manage all the wealth from Him accordance to His principles which can give prosperous to all the human being in the world and hereafter.

The role of Islamic investment is developed based on Islamic sources. Islamic investment falls under the area of Islamic finance which is defined as the financial service or product that are produced according to the *Shariah* law or Islamic law (N. Alam, Gupta, & Shanmugam, 2017; Gait & Worthington, 2007). More importantly, it should be noted that there are four main sources of *Shariah*, namely al-Quran, al-Hadith, *ijma'*, and *qiyas*.

2.2.1 Al-Quran

The first source of reference in Islamic finance refers to the rules and laws stated by Allah sw.t mentions in the al-Quran. Al-Quran is the main source of information in Islam, which consists of 114 chapters (surah) of different lengths with a total of 92 surah revealed in Makkah and 22 surah in Madinah (Haron & Wan Azmi, 2009). Al-Quran is written in Arabic, in which it starts with surah Al-Fatihah and ends with surah An-Nas. Moreover, al-Quran was delivered to Prophet Muhammad p.b.u.h. through *Jibrail*. More importantly, Allah s.w.t. promises good returns and benefit to those who read al-Quran as an ibadah. All the principles in the al-Quran are written according to *kulliy ijmaliy* (general and concise), whereas the details of these principles are clearly explained in al-Hadith of Prophet Muhammad p.b.u.h ('Abd al-Karim Zaydan, 1997).

Furthermore, it is the responsibility of the human being to follow al-Quran as it contains words from Allah s.w.t., including the rules and guidance for all the behaviour and activities performed in everyday life throughout their lifetime. On top of that, there are solutions to every problem and issues related to human life inside the al-Quran. Islam encourages its followers to refer to the al-Quran and al-Hadith as the sources for every solution which is clearly explained in Surah An-Nisa: 59. Hence, all the research, especially in Islamic capital market are required to refer to al-Quran as the main source of information. يَا أَيُّهَا الَّذِينَ آمَنُوا أَطِيعُوا الله وَأَطِيعُوا الرَّسُولَ وَأَوْلِي الأَمْر مِنكُمْ فَإِن تَنَازَ عْتُمْ فِي شَرَ الله وَالرَّسُول إن كُنتُمْ تُؤْمِنُونَ بالله وَالنَوْمِ الأَخِرِ ذَلِكَ خَيْرٌ وَأَحْسَنُ تَأُويلاً

"O you who have believed, obey Allah and obey the Messenger and those in authority among you. And if you disagree over anything, refer it to Allah and the Messenger, if you should believe in Allah and the Last Day. That is the best (way) and best in result."

(An-Nisa, 4: 59)

All the content in al-Quran comes from Allah s.w.t.; hence, it is the responsibility of Muslims to abide by the content of al-Quran. Apart from that, it is written in the al-Quran regarding the need of referring to scholars as the referral to gain understanding on all the content of the al-Quran. This is clearly described in Surah An-Nisa: 83.

وَإِذَا جَاءهُمْ أَمْرٌ مِّنَ الأَمْنِ أو الخَوْفِ أَذَاعُوا بِهِ وَلَوْ رَدُّوهُ إِلَى الرَّسُول وَإِلَى أَوْلِي الأَمْرِ مِنْهُمْ لَعَلِمَهُ الَّذِينَ يَسْتَنبِطُونَهُ مِنْهُمْ وَلَوْ لا فَضْلُ الله عَلَيْكُمْ وَرَحْمَتُهُ لاَتَبَعْتُمُ الشَّيْطانَ إِلا

"And when there comes to them information about (public) security or fear, they spread it around. But if they had referred it back to the Messenger or to those of authority among them, then the ones who (can) draw correct conclusions from it would have known about it. And if not for the favour of Allah upon you and His mercy, you would have followed Satan, except for a few."

(An-Nisa, 4:83)

2.2.2 Al-Hadith

The second source of *Shariah* is al-Hadith with the literal meaning described as a way or rule or manner of acting or mode of life of Prophet Muhammad p.b.u.h. According to Al-Ghazali (1997), there are three types of al-Hadith which can be described as follows: (i) the words spoken by the Prophet Muhammad p.b.u.h. in regard to religious issues (*qaul*), (ii) the actions or practices of the Prophet Muhammad p.b.u.h. (*fi'il*), and (iii) the Prophet Muhammad p.b.u.h. 's silent approval of the actions or practice of another (*taqrir*). In the context of *Shariah*, the word al-Hadith is described as a story, narration, or report of the

Prophet Muhammad p.b.u.h. Al-Hadith is also known as a tradition based on the fact that it was passed down from one person to another as well as from one generation to another generation (Haron & Wan Azmi, 2009).

All scholars agree that al-Hadith can be regarded as the secondary source in *Shariah* as Prophet Muhammad p.b.u.h. was selected by Allah s.w.t. Hence, obeying the words or actions of Prophet Muhammad p.b.u.h. is closely considered of obeying Allah.s.w.t. A Muslim's *iman* is not valid if they do not follow the al-Hadith of Prophet Muhammad p.b.u.h. for their judgement to solve their daily problems and issues.

وَمَا كَانَ لِمُؤْمِنٍ وَلا مُؤْمِنَةٍ إِذَا قَضَى الله وَرَسُولُهُ أَمْرًا أَن يَكُونَ لَهُمُ الْخِيَرَةُ مِنْ أَمْرِ هِمْ وَمَن يَعْص الله وَرَسُولُهُ فَقَدْ ضَلَّ ضَلَالا مُبِيدً

"It is not for a believing man or believing woman, when Allah and His Messenger have decided a matter, that they should (thereafter) have any choice about their affair. And whoever disobeys Allah and His Messenger has certainly strayed into clear error."

(Al-Ahzab, 33:36)

The above ayah clearly indicates that al-Quran and al-Hadith are the main sources of *Shariah*. More importantly, not even one person can reject these sources and replace it with another, thus implying that al-Quran and al-Hadith can be used by Muslims as the main references to solve all their problems. However, they can refer to other sources of *Shariah* if the problem is not stated in al-Quran and al-Hadith ('Abd al-Karim Zaydan, 1997).

2.2.3 Ijma'

Ijma' is the third source of *Shariah* in Islamic finance. *Ijma*' can be defined as the agreement of qualified legal scholars in a particular generation where such a consensus of opinion is deemed infallible (N. Alam et al., 2017). The legal scholars must be honest

and possess a high level of integrity. Imam Shafii was the first individual that introduced the concept of *ijma*' as a source of law following the al-Quran and al-Hadith (Haron & Wan Azmi, 2009). *Ijma*' is widely applied following the death of Prophet Muhammad p.b.u.h. pass away prior to the establishment of *Qiyas* ('Abd al-Karim Zaydan, 2000).

According to Al-Ghazali (1996), the rules of *Ijma*' consists of four main factors which are described as follows:

- (1) The agreement of all scholars on Islamic law on the relevant issues,
- (2) The existence of a number of scholars at the time of occurrence in regard to a problem or subject matter,
- (3) The agreement of all mujtahid³ scholars regarding the status of the law,
- (4) The firmness of all scholars in providing their opinions whether alone or in groups, either in the form of words or deeds.

Ijma' is not an agreement that can be easily achieved among the Muslims because it must be accomplished through *ijhitad* or exertion. *Ijtihad* is a conscientious examination and meditation on the subject under consideration. Commonly, the desired consensus can be achieved using three methods described as follows: (1) it can be reached through agreement of words or declaration of opinion in words, (2) by agreement of act, practice, or expressed in unanimity of action or practice, and (3) agreement of silence or tacit assent by silence or non-interference.

Ijma' is accepted as the third source in *Shariah* after al-Quran and al-Hadith. According to 'Abd al-Karim Zaydan (1997), it is compulsory to refer to al-Quran, al-Hadith, and all the opinion of scholars. Moreover, it should be noted that the opinion of scholars is

³ Mujtahid means a person who does ijtihad or who is an expert of Islamic laws.

accepted by Allah s.w.t., thus becomes a requirement for the Muslim to follow. Surah al-Baqarah: 143 has revealed the acceptability of *Ijma*' as one of the *Shariah* sources in Islam.

وَكَذَلِكَ جَعَلنَاكُمْ أُمَّهُ وَسَطَ لِتَكُونُوا شُهَدَاء عَلى النَّاسِ وَيَكُونَ الرَّسُولُ عَلَيْكُمْ شَهيدًا وَمَا جَعَلنَ الَّتِي كُنتَ عَلَيْهَا إلاَ لِنَعْلَمَ مَن يَتَبَعُ الرَّسُولَ مِمَّن يَنقَلِبُ عَلى عَقِبَيْهِ وَإِن كَانَتْ لكَبِيرَةَ إلاَ لَى الَّذِينَ هُدَى الله وَمَا كَانَ الله لِيُضِيعَ إيمَانَكُمْ الله لرَوُوفٌ رَحِيمٌ "And thus we have made you a just community that you will be witnesses over the people and the Messenger will be a witness over you. And We did not make the qiblah which you used to face except that We might make evident who would follow the Messenger from who would turn back on his heels. And indeed, it is difficult except for those whom Allah has guided. And never would Allah have caused you to lose your faith. Indeed, Allah is, to the people, Kind and Merciful."

(Al-Baqarah, 2:143)

Prophet Muhammad p.b.u.h. has said "whatever the opinion is good, it is also good in Allah s.w.t, what is bad in the Muslims, it is bad in Allah s.w.t." (Al-Syatibi, 1996). Hence, it becomes compulsory for all Muslims to accept ijtihad as well as the opinion of the scholars. More importantly, they will be labelled *'kufur'* if they reject *ijma'* that is based on *dalil qat'ie*⁴. In other words, the rejection of *ijma'* is similar to the rejection of *dalil qat'ie* (Al-Hudhari, 1988).

2.2.4 Qiyas

The fourth source of *Shariah* law is *qiyas*. *Qiyas* is an approach to solve difficult and confusing problems that are associated with the issues of doctrines or religious practices. On a more important note, *Qiyas* is one technical process that is related to the previous principle (hukm) which is derived from the pioneer problem towards the new problems that share the same *'illah* (same reason) (Al-Syirazi, 1988). The approach uses the

⁴ *Dalil qat'ie* means convincing proof, a cogent proof, a proof which creates conviction about the proven laws. *Dalil qat'ie* is 80 percent based on al-Quran and al-Hadith, and it is a valid source for the *Shariah* laws.

wisdom of thought by seeking realistic reasons and rationale, followed by the comparison of the problem at hand with the past problem which is considerably similar but managed to be resolved by the al-Quran and al-Hadith ('Abd al-Karim Zaydan, 2000; Haron & Wan Azmi, 2009). The acceptance of *Qiyas* can be referred in Surah al-Hasyr: 2 described as below:

هُوَ الَّذِي أَخْرَجَ الَّذِينَ كَفَرُوا مِنْ أَهْل الْكِتَّابِ مِن دِيَارِ هِمْ لِأَوَّل الْحَشْرِ مَا ظنَنتُمْ أَن يَخْرُجُ أَنَّهُم مَّانِعَتْهُمْ حُصُونْهُم مِّنَ اللَّهِ فَأَنَّاهُمُ اللَّهُ مِنْ حَيْثُ لَمْ يَحْتَسِبُوا وَقَدَفَ فِي قُلُوبِهِمُ الرُّعْبَ يُخْرِبُونَ بُيُوتَهُم بِأَيْدِيهِمْ وَأَيْدِي الْمُؤْمِنِينَ فَاعْتَبِرُوا يَا أُولِي الْأَبْصَارِ

"It is He who expelled the ones who disbelieved among the People of the Scripture from their homes at the first gathering. You did not think they would leave, and they thought that their fortresses would protect them from Allah; but (the decree of) Allah came upon them from where they had not expected, and He cast terror into their hearts (so) they destroyed their houses by their (own) hands and the hands of the believers. So take warning, O people of vision."

(Al-Hasyr, 59:2)

Even an analogous *qiyas* is deemed as the fundamental proposition apart from al-Quran and al-Hadith. On another note, it is highly dependent on local and current values, especially in determining the *'illah* which should be the basis of the acceptance of acceptable law for the cases where the *'illah* itself failed to be identified in the original law ('Abd al-Karim Zaydan, 1997). The *qiyas* instrument actually serves to move and extend the meaning of the al-Quran and al-Hadith for the purpose of solving new cases rather than relying on the laws that were developed without referring to al-Quran, al-Hadith, and *ijma*' as a legal technique that stands by itself (Al-Syirazi, 1988).

The practice of *qiyas* in Islamic capital market activity is to evaluate the securities that perform its core activities based on a halal framework as well as to provide significant contribution to the society and Islamic state. However, some of the companies consists of

mixing securities with non-*Shariah* securities and unavoidable at the same time. According to A. Abu Bakar (2009), the mixing of the illegitimate elements in this little and inevitable rate is acceptable based on *qiyas* obtained from the al-Hadith of Prophet Muhammad p.b.u.h.:

Narrated by Suwaid bin Ghafalah: That 'Umar gave a khutbah at al-Jabiyah and he said: "The Messanger of Allah (Sallallahualayhi wassalam) prohibited silk except for two finger's worth of space, or three or four"

(Sahih Muslim: volume 5, number 423)

From the above al-Hadith, SC has governed the guidelines for the mixing company as discusses in depth in subsection 2.6 (refer to page 36).

2.3 Essence of Islamic Investment

Investment has been known to be very important to human beings as it allows them to gain in terms of wealth for the purpose of their future. Investment can be considered as a part of wealth creation strategy but not for consumption purposes due to its ability to create new capital such as land, building, stock, property, securities, bonds, and unit trust fund.

"When money is kept idle, that is not invested, it loses own value or purchasing power overtime because of inflation. Studies have conclusively proven that un-invested wealth suffered tremendous loses of its purchasing power over the decades" (Billah, 2015).

The above statement clearly explains that investment plays an important role in human life. It is important to note that the value of money will decrease as a result of inflation if the people simply choose to save their money in deposit account instead of investing it. In most cases, they will lose the purchasing power despite the fact that they are able to buy less with the same amount of ringgit, which is resulted by the increasing prices of goods and services.

Islamic investment activities are related to one's awareness regarding one's safety and security for the future, including the guide prepared by the al-Quran and al-Hadith (Billah, 2015). This matter is clearly explained in Surah Yusuf: 47-49 as presented below:

سَبْعَ سِنِينَ دَأَبًا فَمَا حَصَدتُمْ فَدَرُوهُ فِي سُنبُلِهِ إلاَ قَلِيلاً مِّمَّا تَأْكُلُونَ ثَمَّ يَأْتِي مِن بَعْدِ دَلِكَ سَبْعٌ شِدَادٌ يَأْكُلْنَ مَا قَدَمْتُمْ لَهُنَ إلاَ قَلِيلاً مِّمَّا تُحْصِنُونَ ثَمَّ يَأْتِي مِن بَعْدِ دَلِكَ عَامٌ فِيهِ يُغَاثُ النَّاسُ وَفِيهِ يَعْصِرُونَ

"He (Yusuf) said: You shall sow for seven years continuously, then what you reap leave it in its ear except a little of which you eat. Then there shall come after that seven years of hardship which shall eat away all that you have beforehand laid up in store, except a little of what you shall have preserved. Then there will come after that a year in which people shall have rain and in which they shall press (grapes)".

(Yusuf, 12:47-49)

Other than that, Billah (2015) further emphasizes that developing saving culture through investment can definitely help individual to secure their future as they do not need to borrow from others. Moreover, the income or profit obtained from the investment does not only benefit the individual, but also provide them with the opportunity to care and share with their family and society through *zakat* (alms) and *sadaqah* (charity) (Billah, 2015).

2.4 Shariah Ruling in Investment Contract

According to Billah (2015), the *Shariah* law does not allow Muslims to invest or buy shares from any business or activity that consists of *haram* (unlawful) elements; for

example, companies that provide financial services based on interest, conventional banks, insurance companies, selling or serving liquor, pork, gambling services, night club activities, and pornography.

The above description is in line with the fatwa⁵ issued by Mufti Muhammad Taqi Usmani (2004) which states that:

"If the main business of a company is not halal (lawful) in terms of Shariah, it is not halal for one to purchase, hold, or sell its shares, because it will entail the direct involvement of the shareholders in that Haram (prohibited) business".

Hence, it is important for the investments to be free from the elements of *riba*, *gharar*, and *maysir*.

2.5 Prohibition Elements in Islamic Unit Trust Investment

According to *Shariah* law, all activities that are associated with trade and commerce must comply with the requirements of the *Shariah*, or in other words, all the activities must be clear from any prohibitive (*haram*) matters (Saat, Ramli, & Aminuddin, 2011). Generally, there are many prohibitions, which are deemed as invalid '*aqad* or contracts such as producing and selling impure goods or goods with no value, the existence of *riba* that is made of interest charging factor, *gharar* which refers to ambiguity or uncertainty, and finally, *maysir* that describes gambling or anything that involves betting. Therefore, *riba* and *gharar* are clearly prohibited and invalid (Saat et al., 2011).

⁵ Fatwa is a ruling on a point of Islamic law which have been recognize by the authority.

2.5.1 Riba

Literally, *riba* are defined as extra or excess, augmentation, increase, addition or growth which can be further divided into two categories: (1) *riba al-duyun* which is defined as *riba* in lending and borrowing, and (2) *riba al-buyu*' which is described as *riba* in trading or exchange of goods. Both categories of *riba* are considered as part of the greatest sins in the teaching of Islam (Saat et al., 2011). As stated in the al-Quran which is pointed out in Surah Al-Baqarah: 275;

الَّذِينَ يَأْكُلُونَ الرِّبَا لا يَقُومُونَ إلاَ كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ المَسِّ ذَلِكَ بِأَنَّهُمْ قَا البَيْعُ مِثْلُ الرِّبَا وَأَحَلَّ الله البَيْعَ وَحَرَّمَ الرِّبَا فَمَن جَاءهُ مَوْ عِظَهٌ مِّن رَّبِهِ فَانتَهَىَ فَلَهُ مَا سَلَفَ وَأَمْرُهُ إلى اللهِ وَمَنْ عَادَ فَأَوْلَئِكَ أَصْحَابُ النَّارِ هُمْ فِيهَا خَالِدُونَ

"Those who eat riba will not stand (on the Day of Resurrection) expect like the standing of a person beaten by satan leading him to insanity. That is because they say: Trading is only like riba, whereas Allah has permitted trading and forbidden riba. So whosever receives an admonition from his Lord and stops eating riba shall not be punished for the past; his case is for Allah (to judge); but whoever returns (to riba), such are the dwellers of the Fire-they will abide therein."

(Al-Baqarah, 2:275)

According to Billah (2015), Islam prohibit the concept of *riba* because it brings harm to the society due to the fact that *riba* only benefits one party in the transaction. However, Islam encourages the concept of collaboration, donations, and *Qard al-Hassan* (benevolent loan) which motivates the feeling of brotherhood to the society. The collection of wealth through *riba* is related to several negative personalities such as selfishness, greed, impatience, and cruelty.

2.5.2 Gharar

Gharar is the second element that is prohibited in Islamic finance. According to its literal meaning, *gharar* is defined as uncertainty or speculation. Hence, all the parties involved

in the transaction should be knowledgeable, possess full disclosure, and transparent for the purpose of avoiding any *gharar* element in the contract of Islamic product and escaping future arguments (Johan & Putit, 2016). On top of that, it is crucial for each matter in Islamic financial services to be transparent regarding to the subject matter and terms and conditions of the contract to avoid any confusion and fraudulence among the parties involved (Laldin, 2008b).

Allah s.w.t has pointed out regarding the prohibition on gharar in Surah Al-Ma'idah: 90;

يَا أَيُّهَا الَّذِينَ آمَنُوا إِنَّمَا الْخَمْرُ وَالْمَيْسِرُ وَالأَنصَابُ وَالأَزْ لاَمُ رِجْسٌ مِّنْ عَمَل الشَّيْطان

"O you who believe! Intoxicants (all kinds of alcohol drinks), gambling, al-Ansab, and al-Azlam (arrows for seeking luck or decision) are an abomination of Shaitan's (Satan) handiwork. So avoid (strictly all) that (abomination) in order that you may be successful."

(Al-Ma'idah, 5: 90)

2.5.3 Maysir

The third main prohibition in Islamic financial system is the element of gambling (*maysir*). *Maysir* can be defined as "easily available wealth or acquisition of wealth by chance, whether or not it deprives the other's right" (Laldin, 2008a). The prohibition of *maysir* has been stated a few times in the Quran, including Surah Al-Ma'idah: 90 shown below:

يَا أَيُّهَا الَّذِينَ آمَنُوا إِنَّمَا الْخَمْرُ وَالْمَيْسِرُ وَالأَنصَابُ وَالأَرْ لاَمُ رِجْسٌ مِّنْ عَمَل الشَّيْطان

"O you who believe! Intoxicants (all kinds of alcohol drinks), gambling, al-Ansab, and al-Azlam (arrows for seeking luck or decision) are an abomination of Shaitan's (Satan) handiwork. So avoid (strictly all) that (abomination) in order that you may be successful."

(Al-Ma'idah, 5: 90)

2.5.4 Non- Halal Activities

Islam strictly prohibits Islamic financial system from being involved in the investment of non-halal activities such as conventional banks, insurance companies, selling and offering liquors, pornography, and weapon. As pointed out by Mufti Muhammad Taqi Usmani (2004), the main business of the company may be halal like agriculture; however, it becomes *haram* when the money is deposited in an interest-bearing account. As a result, it is required for the shareholder to express his disapproval against such dealings. Therefore, the proportion of such income in the dividend paid to the shareholder must be given in charity and not be retained by him if some income from interest-bearing accounts is included in the income of the company.

2.6 Islamic Capital Market (ICM)

ICM plays an important role in generating economic growth for the country (Securities Commission Malaysia, n.d.). The existence and growth of the IUT industry in Malaysia has indirectly contributed to the development of the Islamic equity market in the country. More importantly, this allows the Islamic community to mainly invest in *Shariah* compliance stocks. Moreover, there are significant differences between IUT and conventional unit trusts, particularly in terms of portfolio investment selection. Conventional unit trusts will invest in any securities that are deemed viable without any restrictions, whereas IUT will only invest in the securities with halal certified companies. Furthermore, Bursa Malaysia (2017) makes it compulsory for all companies listed in Bursa Malaysia to undergo screening before being listed at the halal counter. The screening process is performed by the Shariah Advisory Council (SAC) of the Securities Commission Malaysia (SC), while the list of *Shariah* compliant equities will be updated every May and November. Therefore, this situation can provide investment reference for Islamic unit trust funds and investors that are looking for *Shariah* compliant investment.

The SAC of SC will measure the level of mixed contributions from halal and non-halal activities towards the turnover and profit before the tax of a company for the companies that conduct both halal (permissible) and non-halal (non-permissible) activities. The benchmark used by SAC of SC is based on *Ijtihad* (*Shariah* based reasoning). Hence, the securities shall be classified as *Shariah* non-compliant if the contributions of non-halal activities exceed the benchmark.

The screening process performed by SAC on the listed shares is based on certain methodology, which particularly involves the process of quantitative and qualitative. SAC has setup screening process methodology according to two-tier approach of quantitative assessment that can be applied to the business activity benchmarks (5% and 20%) as well as the newly-introduced financial ratio benchmarks (33%). On top of that, the SAC also maintains the qualitative assessments in regard to public perceptions or image of the company's activities based on the perspective of Islamic teaching. The current ratio for business activity benchmarks can be referred in Table 2.1 presented below.

Table 2.1 Business Activity Benchmarks (Securities Commission of Malaysia, 2013)

Benchmark	Activity

5%	Conventional banking, conventional insurance, gambling, liquor and
	liquor-related activities, pork and pork-related activities, non-halal food
	and beverages, Shariah non-compliant entertainment, interest income
	from conventional accounts and instruments, tobacco and tobacco-related
	activities, and other activities that are deemed non-compliant according
	to Shariah.
20%	Share trading, stockbroking business, rental received from Shariah non-
	compliant activities, and other activities deemed non-compliant
	according to Shariah.

Moreover, the SAC of SC subsequently assesses the financial management company which apply for Shariah listing by employing the financial ratio benchmarks for the purpose of measuring *riba* and *riba*-based elements within a company's statement of financial positions. The financial ratio benchmarks applied are further described as follows:

- Cash over total assets: cash will only include those cash that are placed in the conventional accounts and instruments, whereas cash placed in Islamic accounts and instruments will be excluded from the calculation.
- Debt over total assets: debt will only include interest-bearing debt, thus excluding Islamic debt/financing or *sukuk* from the calculation. Therefore, both ratios which are intended to measure *riba* and *riba*-based elements within a company's balance sheet must be lower than 33%.

Principally, the SAC of SC is responsible to screen the company activities to make sure that they are not against the *Shariah* guidelines. In addition, Bursa Malaysia (2017) states that companies will be declared as *Shariah* non-compliant if the company activities are highly associated with the following main activities:

- 1. financial services based on riba (interest),
- 2. gaming and gambling,
- 3. manufacture or sale of non-halal products or related products,

- 4. conventional insurance,
- 5. entertainment activities that are non-permissible according to *Shariah*,
- 6. manufacture or sale of tobacco-based products or related products,
- 7. stock broking or share trading on *Shariah* non-compliant securities,
- 8. other activities that are deemed non-permissible according to *Shariah*.

2.7 The Development of Unit Trust fund in the World and Malaysia

The history of unit trust industry began in Belgium in the 19th century when King William I established the first unit trust fund known as *Societe General de Belgique* in 1822 (McWhinney, 2018). From Belgium, the unit trust fund was spread to France in 1852 whereby French launched its first investment fund. Meanwhile, London introduced the Foreign and Colonial Government Trust in 1868. In 1924, the United States of America established their first unit trust known as the Massachusetts Investor trust (McWhinney, 2018). Hence, it is safe to say that the unit trust industry started blooming when the Wall Street stock collapsed in October 1929 by witnessing the shift of interest to unit trust among American investors.

According to The Federation of Investment Managers Malaysia (2014), unit trust has been introduced in Malaysia since 1959 with the establishment of Malayan Unit Trust Ltd. Hence, this shows that Malaysia has brought in the unit trust idea considerably early compared to other Asian countries. Therefore, it can be concluded that unit trust has taken its place in Malaysia for more than five decades.

The early stage of unit trust industry in Malaysia from the year 1959 to 1979 experienced a sluggish progress in the sales of units. This is believed to be the result of the lack of interest towards the new investment product in the society. However, only five-unit trust management companies were established in the two decades of the development of unit trust industry, with a total of 18 funds introduced over that period. Nevertheless, the growth of unit trust fund started during the 1970s when the state government started to get involved in this industry in response to the call of the Federal Government regarding the need to organise domestic household savings (The Federation of Investment Managers Malaysia, 2014a).

The active participation of the government in unit trust industry started in 1979 with the launch of Skim Amanah Saham Nasional (ASN) by Permodalan Nasional Berhad (PNB). Interestingly, this scheme received amazing response from the public based on the unexpected amount of increase in the total unit subscribed by the public. Moreover, there were expansion of more unit trust management companies in the same year which are regarded as subsidiaries of financial institutions. Their involvement has enabled the marketing and distribution of unit trust through the bank branch network which seems to expand the choice of investor.

Islamic fund management introduced in Malaysia during the 1990's (Mansor & Bhatti, 2011b). The first structured private IUT, namely Tabung Ittikal was launched on 12th January 1993 by Arab-Malaysian securities. Nevertheless, there was an Islamic fund established back in 1971 known as Tabung Amanah Bakti managed by Asia Unit Trust Berhad, but its existence failed to generate a significant impact on the industry.

The unit trust industry grew rapidly from the period of 1991 to 1999. As a result, the number of new management companies and funds under management was found to increase speedily. The period also witnessed greater product innovation and deregulation of the industry. The financial crisis that occurred from the year 1997-1998 moderate the

growth of unit trust industry in Malaysia but still managed to maintain its upward trend (Securities Commission Malaysia, 2015a).

The unit trust industry is seen to be rapidly growing in the 21st century. However, it was unfortunate that the financial crisis occurred in 2008 in Malaysia. This situation produced a huge impact on the conventional unit trust funds. The growth of conventional unit trust dropped from RM151 billion to RM114 billion. However, this financial crisis did not affect the growth of IUT as the increase is maintained each year until present. The total NAV of IUT was found to increase from RM 9.7 billion in 2004 to RM60.9 billion in 2016 (Securities Commission Malaysia, 2017c).

Up to the present, there is a total of 38 management companies of unit trust funds that have been registered under Securities Commission of Malaysia (SC) (Securities Commission of Malaysia, 2016). The management companies can be divided into two categories, namely government linked funds and private linked funds of financial intermediaries linked funds. Government linked funds is managed by Permodalan Nasional Berhad (PNB) with the purpose of improving the economics of Bumiputera in Malaysia; while other management companies is positioned under the private linked funds.

2.8 Islamic Unit Trust Fund

Islamic unit trust fund is an essential part of Islamic capital market. IUT schemes is a product based on *Shariah* that operates as a pool of collective investment funds which is managed by professional managers. On top of that, it also provides an opportunity for investors to invest in a diversified portfolio of securities (Noordin, 2002). More importantly, securities must be clean from products or services that are against the law of

Islam which include product or services from the conventional bank, interest, doubtful transactions, short selling, and market manipulations (Alhabshi, 1994). IUT is only allowed to invest in *Shariah* approved financial assets such as Islamic stocks, Islamic bonds, Islamic deposits, and Islamic money market instruments. In Malaysia, the custody of *Shariah* boards for Islamic funds is compulsory by law (Laldin, 2008a).

The return for investors is typically based on dividends and capital appreciation. More importantly, the process of cleansing or purification of the profit is necessary if there exists the element of (i) interest, (ii) dividends of permissible securities that originate from mixed sources with non-halal, and (iii) securities which were formerly permissible but had been declared non-halal and removed from the updated list of approved *Shariah* securities but could not be disposed or sold due to the market conditions. It is important to note that the amount obtained from the cleansing process will be donated at the end of each financial year to charitable organisations approved by trustee and the management company as agreed by the *Shariah* Advisor Council (SAC) of the Security Commission (SC).

Each unit trust company is required to publish a master prospectus every year. According to Investopedia (2016), prospectus can be defined as an official authorised documents which is obligatory and filed with the Securities and Exchange Commission that delivers the particulars about an investment offering for the sale to public. A prospectus should contain the details that can provide clear direction and knowledge about the investment fund and situation, which will eventually assist the investor to make an investment decision. In other words, master prospectus can help investors to have an in-depth understanding about the investment products.

2.9 Shariah Standard on Islamic Unit Trust

It is crucial to note that Malaysia has developed a standard to help Muslim to make decision in ethical or *halal* investment (Abdul Rahman, Yahya, & Mohd Nasir, 2010). On top of that, *Shariah* Advisor Council (SAC) has applied the standard criteria as the guidelines in determining whether the core activities of the companies are permissible for investment purposes under *Shariah* law. As has been mentioned, the activities are considered impermissible if they involve the elements explained in Subsection 2.5. Moreover, Securities Commission Malaysia (2007) has presented a list of the acceptable *Shariah* principles and concepts which can be applied in an Islamic fund management business as presented in Appendix B.

2.10 Mechanism of Investment in Islamic Unit Trust

Investment in IUT can be performed based on lump sum purchase and regular saving. Specifically, investor who possesses a large amount of money and interested to invest in Islamic unit trust will choose to invest by lump sum purchase for long period of three to twenty years. Over the period, the amount of original investment will grow as dividends and other income will be received by the fund. The unit selling price will reflect the accumulation and compounding of capital over the relevant number of periods when the redemption or sale of the unit occur. In this case, the compounding effect over time is deemed attractive to the investors because it produces accumulation type investments such as unit trusts (Billah, 2015).

The second investment style is based on regular saving or also known as dollar-cost averaging (DCA), whereby investors make an investment through a regular or monthly contribution to their funds. DCA is an investment technique where investor invests a fixed amount of money over a long period of time (The Federation of Investment Managers Malaysia, 2017). In the case of DCA, investors will purchase more unit of shares when the prices are low, while less shares will be purchased when the prices are high.

In Malaysia, individuals can invest by making a contribution using money from Employee Provident Fund $(EPF)^6$ account. In this case, they will make a regular saving for every three months into their investment funds. The sum accumulated at the end of the period through a regular contribution over a period of time will increase quickly compared to those involved in a single investment at the beginning of the period. At the end of the stipulated period, the redemption (or sale) price of the units held will be represented as the accumulation of all contributions, including the returns generated from the total contributions made since the first purchase (Billah, 2015).

2.11 Unit Trust Process

A unit trust fund is a collective investment scheme that pools the savings of the public into a special unit trust fund, which is actively managed by professional fund manager. A unit trust fund is constituted pursuant to a deed executed by the trustee and the manager on behalf of the unit holders. The deed is registered with the SC and the right of the investor as a unitholder will be set out, including the responsibilities and liabilities of the trustee and the manager.

The unit trust fund will invest in equities, fixed income securities, and other assets authorised under the "Guidelines on Unit Trust Funds". On top of that, management company is required to comply with the requirements on Unit Trust Fund Deed, the Capital Market and Services Act, 2007, the Guidelines on Unit Trust Funds, and other

⁶ Employee Provident Fund (EPF) is a social security institution formed according to the Laws of Malaysia, Employee Provident Fund Act 1991 (Act 452) which provides retirement benefits for members through management of their savings in an efficient and reliable manner. EPF allows members to make an investment in unit trust using the money from the account 1.

relevant laws when managing the unit trust fund. Moreover, an independent auditor will be appointed to prepare and audit the accounts of the unit trust fund each year. After an investment tenure of a year and above, the unit holders will receive the possible capital gains and distributions. If loss, it will borne by the unitholders and asset management company. Unitholders will loss the capital, and the asset management company will lost their effort.

2.12 The Performance's Measurement of a Unit Trust Fund

An investor should understand the basic definitions of fund returns in order to measure funds' performance. The example of funds' performance measurement of Amanah Saham Nasional Berhad (ASNB) is as follows (Amanah Saham Nasional Berhad, 2016):

- i. Total Returns: The change in the net asset value (NAV) of a fund over time based on the assumption that income distribution is reinvested with no purchases or redemptions made during the period.
- ii. Average Annual Total Return: The total return for the period is divided by the number of years under review.
- iii. Distribution Yield (for fixed-price funds): The income distribution is divided by the price of the fund which is fixed at RM1.00 per unit.
- iv. Performance Benchmark: The past performance of a fund is not indicative of its future performance, but it is useful to compare the funds' performance to its benchmark and other funds with similar investment objectives. The use of an appropriate benchmark that fits a fund's investment objectives or asset classes can be extremely useful due to the fact that different asset classes perform differently based on the changing market conditions. For instance, an equity fund which is primarily invested in Malaysian equities would be appropriately benchmarked against the Kuala Lumpur Composite Index (KLCI) or any Bursa Malaysia

indices, while a balance fund would be appropriately benchmarked against a composition of asset classes, for example 50:50 between KLCI and 3-month Kuala Lumpur Interbank Offered Rate. An investor should be looking for a fund that consistently outperforms its benchmark or competitors when selecting a fund.

2.13 Different Fatwa's on ASN and ASB towards Muslims in Malaysia

Permodalan Nasional Berhad (PNB) is one of the companies in Malaysia that offers unit trust funds. The most famous products among Malaysian citizen offered by this company are ASN (Amanah Saham Nasional) and ASB (Amanah Saham Bumiputera).

Recently, different opinions on investment in ASN and ASB products towards Muslims have been discussed through online medium, particularly personal blog and social media. Hence, this situation leads to a huge confusion among Muslims who are interested to invest in this product. Moreover, this is believed to be caused by different fatwas among the states in Malaysia in terms of investment rules in ASN and ASB among Muslims. The National Fatwa Council Committee (JAKIM) has decided that the investment in ASNB investment funds' unit is permissible (*Harus*). All the State Fatwa Committee shares similar opinion with JAKIM regarding the issue *Harus* status on ASNB investment. The main problem in this situation is related to the activities of investment in *halal* and *haram* elements. However, the Fatwa Committee of Pulau Pinang has changed the investment status to permissible investment on 15th August 2017 (Shaharuddin, 2017).

National Fatwa Council Committee has decided the permissible status (*harus*) on investment is ASN and ASB and the dividend according to five elements in *Al-Maqasid al-Shariah*. The main element is on *Hifz Al-Mal* (the economic strength of Muslims) which is considered as *daruriyah* due to the need to strengthen the economy of Muslim.

Moreover, PNB/ASNB plays a big role to increase the socioeconomic of Bumiputera and Muslims in Malaysia and they clearly do not invest in the elements of alcohol and gambling. PNB/ASNB also have their own *Shariah* Advisory Committee (Jabatan Kemajuan Islam Malaysia, n.d.). Therefore, the present study acknowledges ASN and ASB as IUT fund.

2.14 Islamic Unit Trust as an Alternative to Conventional Unit Trust

In the fundamental sense, the process of unit trust for Islamic unit trust and conventional unit trust is similar, thus leading to the same concept of one process in accumulating the capital from smaller investors until it turns into a huge fund (Yaccob, Abdul Karim, & Khalid, 2015). The management will invest that accumulated funds in the selected portfolio such as shares, bond, money market, or other securities after a huge fund has been established in order to achieve the objective of funds.

The difference between both products refers to the rules in conducting an investment in each portfolio (F. Abdullah et al., 2007). The style of investment will differentiate both type of unit trust fund. Islamic unit trust is based on *Shariah* rules, whereas conventional unit trust is profit oriented without concerning other religious aspects or ethics. The conventional unit trust only focuses on the benefit towards individual and market, while the Islamic unit trust is performed according to the principle of Islamic economic. In Islamic investment, investors cannot split the asset based on desires because they need to obey the guidelines in accordance to al-Quran and al-hadith. More importantly, the conventional economy system consists of negative elements such as *riba*, *maysir* and *gharar* (F. Abdullah et al., 2007). Business is a halal activity in Islam rather than taking *riba* (interest) which is clearly prohibited in Islam. Most of the activities in conventional economics are related to *riba* (interest), which clearly opposes the element of cooperation
between human beings. *Riba* does not only bring injustice, but also creates fights and disputes among the people (Jalil & Rahman, 2010). Allah s.w.t. clearly bans *riba* as stated in Surah al Baqarah :278;

يَا أَيُّهَا الَّذِينَ آمَنُوا اتَّقُوا الله وَدْرُوا مَا بَقِيَ مِنَ الرِّبَا إِن كُنتُم مُّؤْمِنِينَ

"O you who have believed, fear Allah and give up what remains (due to you) of interest, if you should be believers."

(Al-Baqarah,2: 278)

This verse is a warning to the practitioner of *riba* and security assurance regarding the importance of avoiding it. Justice is among the greatest values strengthened by Islam in the field of business as well as Islamic economic activities. Therefore, Islam forbids usury which contains elements of cruelty (Mufti Muhammad Taqi Usmani, 2004a). Other than that, honesty is one of the ethics demanded in the transaction process. Moreover, this is the core of morality and faith considering that it comes from prophets and the believers.

2.15 Summary of Chapter

This chapter has briefly reviewed investment from the Islamic perspectives. In this chapter, the discussion started with matters related to the fundamental of Islamic investment by providing a detailed explanation on Islamic sources. The following section described the essence of Islamic investment, *shariah* ruling in investment, and the prohibition elements in Islamic investment. Apart from that, it also reviewed Islamic capital market, the development of unit trust fund, and Islamic unit trust fund in Malaysia and all over the world as well as the mechanism of Islamic unit trust fund.

The next chapter of this research will discuss the literature on the theories related to investment decision making, past researches on investment decision making, and the factors that influence the decision of investors.

CHAPTER THREE: LITERATURE REVIEW

3.1 Introduction

The purpose of this chapter is to describe the literature review from past researches and theories that lead to the development of the research framework of the present study. This chapter begins with the discussion on the underpinning theories and empirical studies, followed by the literature on investor's decision making as well as the determinants that influence the investment decision making of individuals.

Meanwhile, the subsequent sections present a detailed literature review on the underpinning theories, IFL, IS, RE, IR, and PK. Overall, this section is considered crucial prior to a detailed investigation that will be conducted on decision making of investors in investment, especially in IUT.

3.2 Behavioural Finance

Behavioural finance is an area within finance that focuses on the behaviour of investors as well as their decision making process (Qureshi, 2012; Baker & Ricciardi, 2014). According to Mehta and Shah (2012), behavioural finance area is derived from consumer behaviour which originated from the marketing world and financial economics. Generally, behavioural finance mainly focuses on how investors interpret and react towards micro (individual and group) and macro (financial markets) information in producing investment decisions (Shleifer, 2000; Baker & Ricciardi, 2014; Begum & Rahman, 2016). The field of investor behaviour and investor decision have become a very exciting area to be explored which has also gained considerable importance over the recent years, particularly in the form of behavioural finance. In relation to this, it is important to acknowledge the key concept of behavioural finance which refers to the inability of financial practitioners to make rational financial decisions (Rizvi & Fatima, 2015). In other words, behavioural models often assume a specific form of irrationality (Barberis & Thaler, 2003). Practically, the decisions and judgements of individuals are based on past events, personal beliefs, and preferences (Baker & Ricciardi, 2014). In addition, other factors such as demographic and socioeconomic characteristics of market participants tend to affect investment decision (Begum & Rahman, 2016).

Moreover, in most cases, the investment decision making is related to the preference of investors in a particular investment product. Investor preferences are described as how investors evaluate the risky product based on its clarification in the Prospect theory. Prospect theory was developed by Kahneman and Tversky (1979) which is considered as the foundation theory in the field of behavioural finance (Rizvi & Fatima, 2015). This theory carefully explains the investment choice of investors, whereby majority of them tend to choose product that can benefit them with the highest value return. In most cases, individuals are concerned about the gains and losses. As suggested by Barberis and Thaler (2003) the risk seeking investors is concerned about the gains, while the risk averse investors tend to focus on the losses.

Behavioural finance attempts to explore how information structure and characteristics of market participants systematically influence individuals' investment decisions over direct human psychology and emotion, which causes the investors to behave irrationally (Bennet, Selvam, Ebenezer, Karpagam, & Vanitha, 2011; Hossain & Nasrin, 2012). Apart from that, Bakar and Yi (2016) conducted a research on behavioural finance studies which revealed that human beings are always irrational when it comes to economic decision making, whereby most of them tend to be affected by their psychological feelings. Several

studies carried out by the Association of Southeast Asian Nations (ASEAN), Middle East, and Western countries have proven the relationship and impacts of psychological factors on the decision making of investors, especially in the stock markets investment (Bakar & Yi, 2016).

Nevertheless, Ton and Do (2014) state that investor behaviours refer to how the investor judge, predict, analyse, and review the procedures for decision making which involves investment psychology, information gathering and understanding, research, and analysis. Hence, it has become a great interest of the researchers to observe the way that consumers behave, act, and decide on certain matters which is believed to benefit them in producing products and services that can adhere to the need and preference of the customer (F. R. Ismail & Nasiruddin, 2014).

Therefore, it is safe to conclude that behaviour finance refers to the behaviour of investors in investment decision making. As has been mentioned earlier, most investors are not rational when it comes to investment decision making. On top of that, they are easily affected by numerous factors which include the information that they receive and process, their psychology, and their risk preferences style in investment product.

3.3 Underpinning Theory

The purpose of this section is to explain the theories that are relevant to the constructs of this study in order to develop the theoretical framework. Moreover, the present study has combined theories from various fields which include consumer behaviour, investment theory, and Islamic perspectives. In regard to this, the theoretical framework of this study is developed based on the Engel, Blackwell, and Miniard (EBM) decision making model, Modern Portfolio Theory (MPT), and Prospect Theory. For instance, Dhar and Ghosh

(2014) developed the theoretical framework for their study using the theoretical insights and methods obtained from various fields which include behavioural finance, consumer behaviour, and marketing research for the purpose of explaining and understanding the behaviour of individual investors.

Behavioural finance area describes the behaviour of investors in investment, while the Prospect theory is one of the theories that come under behavioural finance. More importantly, Prospect theory discusses the level of acceptance of risk among investors, which is further divided as risk averse or risk seeking. On the other hand, modern portfolio theory is defined as an investment theory that explains the portfolio selection which allows the investors to construct portfolios or maximize expected return according to the level of risk (e.g. market risk) on each product. On a more important note, Engel, Blackwell, and Miniard (EBM) decision making model is chosen as the main focus of this study considering its relevance to the decision making of individual consumers. The EBM decision making model is composed of individual factors, environmental influences, and psychological process which play a significant role in the decision making of investors. Hence, the details of these theories are further elaborated in section 3.3.1 to 3.3.3 of this thesis.

3.3.1 Engel, Blackwell and Miniard's (EBM) Decision-Making Model

The decision making of investors is in line with Engel, Blackwell, and Miniard (EBM) decision making model (Engel, Blackwell, & Miniard, 1990), which is closely related to the field of consumer behaviour. Consumer behaviour is the study how people make decisions about what they buy, want, need, or act in regards to a product, service, or company (Priest, Carter, & Statt, 2013). It is critical to understand consumer behaviour to know how potential customers will respond to a new product or service. It also helps

companies identify opportunities that are not currently met. Consumer behaviour is defined as follows:

"those actions directly involved in obtaining, consuming, and disposing of products and services, including the decision process that precede and follow this actions (Engel et al., 1990)."

According to Engel et al. (1990), consumer behaviour is of a particular interest to "those who, for various reasons, desire to influence or change that behaviour, including those whose principally concern is marketing, consumer education and protection and public policy". More importantly, marketing is described as the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services for the purpose of creating the value to the other with the goal of satisfying their respective needs among individual and organizational objectives.

On top of that, consumer education and protection are deemed important due to its ability to shape and influence consumer behaviour. The consumer can be educated on how to detect the presence of deception and other abuse, including being aware of existing remedies that and opportunities for redressing. Apart from that, greater insight into money-saving strategies allows individuals to be significantly benefited. More importantly, educational programs must be based on research regarding motivation and behaviour to ensure its relevancy in the real life of consumer (Engel et al., 1990).

Nevertheless, it is not recommended to solely rely on education as it does not necessarily guarantee consumer welfare. Therefore, public policy is required to ensure the right of any consumer to enable them to make an informed and unrestricted choice from an array of alternatives.

In relation to this, the decision making process of the consumers is generally influenced and shaped by many factors and determinants which are further divided into three categories, namely individual differences, environmental influences, and psychological processes as presented in Figure 3.1 (Engel et al., 1990; Blackwell et al., 2001a).



Figure 3.1: Engel, Blackwell, Miniard's (1990) Decision Making Model

3.3.1.1 Individual Differences

According to Engel et al. (1990), individual differences play a significant role in influencing the decision making process. Individual differences act as internal factor that affect and influence the behaviour of individuals. According to Blackwell et al. (2001b), there are five important methods to differentiate consumers which are described as follows: (i) consumer resources, (ii) motivation and involvement, (iii) knowledge, (iv) attitudes, and (v) personality, lifestyle and demographics.

First, consumer resources are examined based on economic resources, temporal resources, and cognitive resources. In regard to this, it should be noted that products and brands are heavily influenced by the current or future amount of economic resources. In traditional marketing situations, consumers tend to exchange money for products. Meanwhile, Engel et al. (1990) in their book known as Consumer Behaviour clearly explain that income or wealth is the first variable of economic resources that was analysed in the study of consumer behaviour in 1672. Hence, it is safe to say that consumer expectations about future income have turned into an important variable in predicting consumer behaviour.

Second, the need of individuals differs according to the factors of involvement and motivation. In other words, the motivation of human behaviour towards the products is driven by their needs of the products, which will further lead them to behave in a purposeful and consistent manner. On a similar note, individuals should be expecting two types of benefits, namely utilitarian benefits (objective, functional product attributes) and hedonic/experiential benefits (emotional responses, sensory pleasures, daydreams, and aesthetic consideration). In this case, both types of benefits are expressed as evaluation criteria that can be adopted for the process of weighting and selecting the best alternative (Engel et al., 1990).

Involvement reflects strong motivation in the form of high perceived personal relevance of a product or service in a particular context. Hence, it should be clearly understood that there will be no involvement without the activation of need and drive. In addition, involvement can increase the number of alternatives which help to differentiate the offerings. Moreover, products or brands are able to become more involved with the presence of perceived risk in purchase and use. Furthermore, Engel et al. (1990) state that there are numerous types of perceived risk that have been identified which include performance (fear that the product will not perform as expected) and financial (risk for the outcomes to lead to the loss of earnings). Hence, it can be concluded that greater perceived risk leads to greater involvement. However, there will be a motivation either to avoid purchase or minimize risk through the search and alternative in the evaluation stages when perceived risk becomes unacceptably high.

Third, individual consumers can be categorized based on the level of knowledge. Hence, this indicates that consumer knowledge is a major determinant of consumer behaviour (Card et al., 2003). Knowledge is described as the information stored within memory. Hence, the total information relevant to the consumer which is stored in the memory and has function in the marketplace is known as consumer knowledge.

Generally, Blackwell et al. (2001a) emphasize that what consumer buy and where they buy the product is dependent on the knowledge relevant to these decisions. On a more important note, consumer knowledge can be examined within three general areas, namely product knowledge, purchase knowledge, and usage knowledge.

Fourth, individual consumers can be categorized based on their attitudes towards the product. Generally, it is undeniable that attitudes play a major role in shaping behaviour. Hence, it is important to understand the attitudes of consumers as it will allow the marketers to evaluate the effectiveness of marketing strategies and marketing actions as well as useful in segmenting markets and choosing market segments. For example, marketers can evaluate the effectiveness of marketing activities such as the effect of advertising which may be able to increase the total sale.

The final factor that can help to differentiate individual consumers is related to personality, values, and lifestyle considering their close relationship with each other. Personality is defined as consistent responses to environmental stimuli, which can be used to explain intermediate stages in the decision process. According to Engel et al. (1990), risk taking is one of the variables that can help researcher to understand consumer decision making. Hence, each individual differs in regard to their acceptance level of the risk. Specifically, several types of individuals are characteristically risk takers, while others may be risk avoiders. Therefore, greater certainty for the loss makes the individual to be regarded as a risk taker.

Moreover, lifestyle goes beyond personality. Lifestyle is a concept that is more contemporary, comprehensive, and useful compared to personality. Lifestyles can be defined as the life pattern of individuals, particularly in the aspect of how they spend their time and money, which can be measured based on psychographics. Psychographics are described as "...the systematic use of relevant activity, interest and opinion constructs to quantitatively explore and explain the communicating, purchasing, and consuming behaviours of persons for brands, products and clusters of products" (Reynolds & Darden, 1972). In relation to this, demographics are also included in most psychographic studies (Engel et al., 1990).

Generally, most of past researches on investment decision making have examined the effect of demographic characteristics as clearly explained in Table 3.1 (refer to page 85). Abdul Jamal et al. (2014) and Sadiq and Ishaq (2014) posit that demographic variables play a significant role in financial decisions. Hence, demographic characteristics have influenced researchers to test a number of elements on individual differences towards

IUTID among Muslim investors in Malaysia. In this study, the effect of demographic characteristics, product knowledge, level of financial knowledge, and risk preferences among Muslim investor in investment decision making will be further investigated.

3.3.1.2 Environmental Influences

The second element of decision making processes refers to environmental influences considering that it plays a role in consumer behaviour (Engel et al., 1990). In the general sense, consumers purchase a product and continuously buying the product if the product is able to fulfil their expectation. In other words, each individual has their own understanding of a product which is usually influenced by several environmental factors such as culture, social class, family, personal influence, and situation (Engel et al., 1990).

According to Engel et al. (1990), culture has an impact on every stage of consumer decision making. Culture affects the drives that motivate people to take further action based on liberty, literacy, and lascivity. Engel et al. (1990) define culture as "a set of values, ideas, artefacts, and other meaningful symbols that help individuals communicate, interpret and evaluate as members of society". On top of that, culture provides individuals with a sense of identity as well as the understanding on the acceptable behaviour within society.

According to the ideology developed by Engel et al. (1990), human values are based on the concept of culture. The four concepts of culture on human behaviour are as follows:

(i) Culture is learned - human learns their norms by imitating or observing the process of reward and punishment in a society of members who adhere or deviate from the group's effort of the marketers.

- (ii) Culture is inculcated culture is passed from one generation to the next, primarily through the institution of family, religion, and school.
- (iii) Culture rewards socially gratifying responses culture is an entity that serves humans in their attempts to meet the basic biological and social needs of the society.
- (iv) Culture is adaptive marketers create marketing strategies based on the value of the society.

In addition, consumer buying decision was affected by social factors. Social factors include family, reference groups, opinion leaders, social class, life cycle, culture and subculture. All of these factors can influence the purchase decision of consumers to use products or brands.

In this study, the element of environmental influences is tested using information sources required by Muslims investors in their investment decision making process. Information sources is one of the important factors that can affect the decision of individuals (Abdul Jamal et al., 2014). Information sources can be divided into two main factors, namely interpersonal communication and impersonal (mass) communication, whereby the manner of information delivery affects the marketing strategy and tactics developed by the seller. For example, consumer buying decisions are often heavily influenced by individuals surrounding them, especially family members. Hence, Yamaha took an advantage by creating an advertisement that focuses on the parent's group based on the role of parents in purchasing products for their children. The details of information sources can be referred on page 93. Furthermore, investors utilise all available information to form rational expectations of the stock market (Ou & Penman, 1989; M. Lai et al., 2001; Abdul Jamal et al., 2014). This finding is consistent with the study of

Capon, Fitzsimons, and Weingarten (1994) which states that information sources affect the decision of investors in unit trust funds.

In addition, this study also investigates the influence of religious consideration towards the behaviour of Muslim in their IUT investment decision making process. According to Engel et al. (1990), religion is a very important element for individuals which acts as the major influence in marketing. Hence, it is important for the researcher to test this element as of the variables that can influence the investment decision making process among Muslim investors.

3.3.1.3 Psychological Processes

The third element in EBM models is psychological processes with the function of shaping all aspects of consumer motivation and behaviour (Engel et al., 1990). The three basic elements of psychological processes that are explained in EBM model are as follows: (i) information processing, (ii) learning, and (iii) attitude and behaviour change.

Information processing refers to the process whereby a stimulus is received, interpreted, stored in memory, and later retrieved (Engel et al., 1990). Information processing clearly clarify the methods used by individuals to receive, interpret, and utilise the information in daily life. Advertisements, products, brand names, and prices are some of the examples of stimuli in information processing. In most cases, consumers will react to the stimuli by processing it in their mind, which will shape their attitude and behaviour towards the product.

Apart from that, the psychological process is influenced by learning process. Learning can be viewed in the form of experience which leads to the changes in knowledge,

attitudes, and/or behaviour (Engel et al., 1990). This element focuses to understand the mental processes that determine how people acquire information and keep it in their long-term memory.

The last element of the psychological processes refers to the need of understanding the influence on consumer's attitudes and behaviour. However, it is one of the most fundamental and yet challenging tasks that have to be confronted in businesses. Knowing how to influence consumer's attitudes and behaviour is one of the most valuable skills that should be possessed by a marketer. According to Engel et al. (1990), advertisement is one of the strategies that can effect consumer's attitudes and behaviour. Hence, some marketers choose to frequently employ emotional advertising that is appealing in order to influence consumers' attitudes and buying behaviour. More importantly, the advertisement can illustrate the classical conditioning approach to learning.

According to Sarwar and Afaf (2016), psychological factors strongly affect investment decision making due to their ability to influence the preferences of an individual. In this case, psychological factors are defined similar to psychological processes developed by EBM model which describes "psychological factors mean thoughts, feelings and other cognitive characteristics that influence the behaviour, attitude, and functions of human mind". Psychologist describes individual investor behaviour by focusing on individuals' personality or characteristics.

In relation to this study, investment risk is adopted to measure the psychological process among Muslims investors in Islamic unit trust investment decision making. Investment risk affects the attitude of individual investors in portfolio selection (Fabozzi, Gupta, & Markowitz, 2002). Moreover, it is important for the investors to understand the possible risk for all Islamic unit trust products prior to making any investment decision.

On top of that, changes in attitude and behaviour are considered as important marketing objective which reflects the basic psychological influences and has been the subject of intensive research for decades (Blackwell et al., 2001b). According to Rizvi and Fatima (2015) and Bakar and Yi (2016), psychological factors play a significant role in the investment decision of individuals.

The rationale for using EBM decision making model as the main underpinning for this study is due to its ability to understand how consumers make decisions and to identify the specific variables that influence those decisions (Card et al., 2003). Hence, it is deemed relevant and appropriate to the framework of this study because the investment decision of the investors is related to the three factors identified in this model (Capon et al., 1994, 1996; Wan Nawang et al., 2008; Baharun et al., 2011; Jamaludin, 2013; A. Abu Bakar, 2016).

EBM model illustrates how different internal and external forces interact and affect consumers' thinking, evaluation, and act (Blackwell et al., 2001a). The framework can be adopted to explain how financial decision is made by individual which include retirement and investment despite the fact that the model was developed based on the experiences and theories of marketing (Joo & Grable, 2000).

R. Ali and Haibing (2014) employed this model in their study to investigate investors' decision making of purchasing financial assets. The results of their study are consistent with the findings produced by Subramaniam and Velnampy (2016) which describes that

investment decision making is influenced by fundamental factors, demographic factors, and psychological factors. The above statement makes it clear that this model is suitable to be applied as the roots of the theory for this study as well as for the purpose of developing the research framework.

Furthermore, the factors that motivate the investment decision making are extracted from this model which include individual differences (demographic characteristics, Islamic financial literacy, and product knowledge), environmental influences (information sources, religiosity), and psychological processes (investment risk). The relationships between these factors are clearly explained in the theoretical framework presented in page 135.

However, there is a limitation regarding the EBM decision making model. According to Engel et al. (1990), the field of consumer research to the recent time is solely oriented to the Western culture. Hence, it is obvious that some of the elements of this model are not in line with the *Shariah* concept; for example, the concepts of financial literacy. In Western culture, the knowledge on financial literacy is based on conventional perspectives, whereby the fundamental of financial literacy is totally different from the *Shariah* perspectives. Therefore, it is important for this study to adopt fundamental from Islamic perspectives to compensate this constraint.

Furthermore, Blackwell et al. (2001a) posit that culture is influenced by religion considering that religion is an abstract element that represents values, attitude, ideas, and personality types. In particular, religious influence is considerably strong on family life, moderate on work life, and minimal on political action (Tamney & Johnson, 1985). Hence, it can be said that religious institutions play an important role in shaping the values of the consumers (Engel et al., 1990). For example, Judeo-Christian religious institutions

play an important role in shaping the values of Western cultures. The retailers of IBM have reported that more inventory shrinkage may occur if religious institutions are declined considering that employees may no longer think stealing is wrong (Rodgers & Shook, 1986).

However, the understanding on religion is different from the Islamic view. According to S. S. Alam, Mohd, and Hisham (2011), religion is not considered as a culture but a way of life that can form a set of behaviour that is termed as "Islamic". The behaviour of Muslim must be in accordance to the rules set by Allah s.w.t. On top of that, their main guidance is the al-Quran which should the followed in all aspects of their life. In relation with this study, the elements of Islamic need to be added to fulfil the requirement of IFL and RE to ensure that both of the variables are in-line with Islamic perspective, thus making it appropriate to be tested among Muslims investors in this study.

3.3.2 Modern Portfolio Theory

Modern Portfolio Theory (MPT) is an investment theory which provides the idea that risk averse investors can construct portfolio to maximize the expected return based on the given level of market risk. On top of that, this theory stresses that risk is an essential part of obtaining higher reward. MPT is one of the most vital and prominent economic theories that deals with finance and investment. Modern Portfolio Theory (MPT) is defined by Fabozzi et al. (2002) as "*a normative theory where it is one that describes a standard or norm of behaviour that investors should pursue in constructing a portfolio*". MPT have been introduced by Harry Markowitz (1952) in the article of "Portfolio Selection" issued in the Journal of Finance. According to Markowitz (1952), there are two stages in the portfolio selection process, whereby the first stage begins with the observation and experience of the investor and ends with their beliefs on future performances of available securities. Meanwhile, the second stage starts with the relevant beliefs on upcoming performances and ends with the choice of portfolio.

Furthermore, MPT has proposed two components of risk for individual stock returns, namely systematic risk and unsystematic risk. Systematic risk is described as "the market risk that cannot be diversified away such as interest rates, recessions and war." On the other hand, unsystematic risk is "specific to individual stocks and can be diversified away as the investor increase the number of stock in their portfolio." According to the study conducted by Lee (2001) on the risks of investing in the real estate markets of the Asian region, it is revealed that risk can be classified into investment risk, currency risk, political risk, and market transparency.

More importantly, MPT emphasizes that investors should concentrate on the expected return and risk of their whole portfolio rather than concentrating on each asset in separation considering that individual risks can be diversified away at the portfolio level (Lee, 2001). MPT measures the concept of diversification by introducing the statistical view of a covariance or correlation. On another note, the concept of diversification is very intuitive and strong which causes it to be continuously applied to a wide range of financial areas. Other than that, various revolutions have also been implemented within financial areas which include the concept of diversification or the introduction of new methods that can improve the estimation of the variance and covariance. This revolutions allow for a

more precise measure of diversification, which consequently leads to a more precise measure of investment risk (Fabozzi et al., 2002). As a result, investors are benefited from holding diversified portfolios instead of relying on individual stocks. In addition, Markowitz (1952) shows that investment is not only about picking stocks but also the importance of choosing the right combination of stocks among one's nest egg.

Furthermore, MPT have also been applied in unit trust fund with the principle of diversification under the portfolio management (Fabozzi et al., 2002). Unit trust fund can be categorised as a safer investment product due to the implementation of the principle of diversification. Overall, this product is different from other investment products because it is composed of combination of stocks in one portfolio which is able to eliminate risk.

3.3.3 Prospect Theory

This theory is included as one of the underpinning theories due to the significant role of the investors in investment decision making. Each investor has different level of acceptance risk, which explains why they behave differently in different context. Prospect theory assumes that individuals are concerned about maximizing outcome but emphasizes their inability to achieve it using systematic and predictable methods (Gutrie, 2003).

Prospect theory was developed by Kahneman and Tversky (1979) as an alternative descriptive model of economic behaviour. According to Gutrie (2003), prospect theory is "an empirical theory that describes how people actually make decisions" with the assumption that individuals are unable to behave rationally. In most cases, they tend to react contrarily to the same situation, either if it is loss or gain. Commonly, investors are

distressed of losing and find pleasure in possible gain. Investors become risk averse when they are faced with certain loss but become a risk taker when they are certain with the gain. In the general sense, people are willing to take risks to avoid losses but are unwilling to take risks to accumulate gains (Kahneman & Tversky, 1979).

Gutrie (2003) review this theory and concluded that;

".... (i) people evaluate decision options relative to some reference point, generally the status quo. When choosing between options that appear to be gains relative to that reference point, people tend to make risk averse choices, when choosing between options that appear to be losses, people tend to make risk seeking choices; (ii) individuals' risk preferences tend to reverse when they are faced with low-probability gains and losses. Individuals tend to make risk seeking choices when selecting between options that appear to be low-probability gains and risk averse choices when selecting between options that appear to be low-probability losses; (iii) individuals tend to value losses more heavily than gains of the same magnitude and (iv) individuals tend to overvalue certainty".

The review of the theory above suggests that each individual will react differently in different situation. The fundamental basic of decision making process refers to some reference point or information. As has been mentioned, investors can be divided into two groups, namely risk averse or risk seeking. Risk averse is described as those who fear of the risky option. In most cases, risk-averse investors will accept the option that offers the low probability losses despite the low to mediate level gain that they receive. On the other hand, risk seeking investors refer to those who are willing to take risk in their option despite the low probability gains offered by the option.

Most of the established studies on investment decision making have examined risk preferences among investors (Harlow & Brown, 1990; Hsee & Weber, 1997; Powell & Ansic, 1997; Grable & Lytton, 1999; Guiso, Sapienza, & Zingales, 2013; Tseng, 2013; Mujahid, Zuberi, Rafiq, & Sameen, 2014; Ton & Do, 2014; Wen, He, & Chen, 2014). Hence, this indicates that understanding risk preferences among investors is important, especially for the investment companies as it will help them to easily set up a plan according to their focus group, create a product, and promote it to the appropriate investors.

As has been mentioned, the information regarding the behaviour of Muslim investors in Malaysia is important to the investment companies and the authority, particularly within the context of this study. More importantly, this will help them to improve their investment products that may widen the risk preferences to influence many individuals to invest. Most of the published studies show that each female and male investors have different risk preferences (Powell & Ansic, 1997; Nelson, 2015; Rizvi & Fatima, 2015; Kliber, Ł t, & Rutkowska, 2016). Their risk preferences are highly dependent on their education or their understanding and experiences in regard to investment. However, the investigation of risk preferences among Muslim is still limited and has not been treated in detail. Therefore, it is important to investigate the potential factors to have a clear understanding on the behaviour of Muslims in Malaysia regarding the risk of investment.

3.4 Investor's Decision Making

The dependent variable of this study is investors' decision making. According to Harris (2012), decision making is defined as "the process of sufficiently reducing uncertainty and doubt about alternatives to allow a reasonable choice to be made". Hence, the

definition implies that decision making is very important to the life of individuals in choosing the best fits in regard to their aims, goals, objectives, desires, and values.

Theoretically, decision making process consists of identifying and choosing alternatives based on the values and preferences of the decision maker. There are many alternatives that need to be considered but it is important for the decision maker to make a choice that will produce the maximum chance of success or effectiveness (Harris, 2012). Consumers' decision includes the product selection from a set of possibilities which can be performed by directly comparing the products or selection based on memory (Stávková, Stejskal, & Toufarová, 2008).

According to Baker and Ricciardi (2014b), the decision of the investor to invest is subjective. Moreover, it is dependent on the expected costs as well as the knowledge of the improved technique and perception that is considered as an entirely subjective factor (Virlics, 2013). The decision making process typically begins by recognising both the need and importance, followed by the information gathering process; for example, from formally published or online data, or conversation with friends or colleagues. The process is the proceeded with the evaluation of alternatives to make the actual choice. The final step is a post evaluation period in which the individual assesses his satisfaction with the outcome (Vanguard Commentary, 2016).

Moreover, according to Bettman and Park (1980), individuals make a choice because they usually have a great deal of product information available and sufficient experience with the products. Hence, it is obvious that inexperienced consumers may spend more time to evaluate the levels of attributes of the products with the attempt of improving the criteria for choice compared to consumers with more knowledge and experience. Consumer may use different types of information at different stages of choice. The choice process may reveal in different ways, depending on the knowledge adapt by the consumers. Consumers may have only the elements of heuristics in memory which are put together during the actual choice process which include the beliefs about alternatives, evaluations, simple rules of thumb, rules for integrating data, and others.

Alba (1983) in her study explains that basically the decision of the consumer is based on the information that is retrieved from the memory at the time of decision making. Choice can be determined by the quantity and quality of the retrieved information. In this case, high-knowledge consumers will be at a distinct advantage because they will be able to recall more total information, especially more sophisticated and important information (Alba, 1983).

Throughout history, human psychology has been recognised by financial analysts and researchers as a factor that can impact the financial decision making and market outcomes. The prominent economist known as John Maynard Keynes (1964) notes that people make future decisions based on whim, sentiment, or simple chance instead of only relying on mathematical expectations (Ackert, 2014). This situation has motivated a significant amount of previous researches on consumer decision making to investigate the cognitive processing of consumers which occur right before the act of purchase or selection (Hoyer, 1984).

From the above review, it can be concluded that decision making proses is an important process for the investors in making a right investment decision. This process is to enhance their understanding about the product and reduce uncertainty. The final decision making of the investors is related with their psychology which happens right before the act of

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purchase. Overall, this is about cognitive processing that can increase the confidence level of investors in their decision making, but there are several factors such as IS and PK that can affect it. In this case, different IS will enhance the understanding of investors about the product. Hence, these elements will increase the confidence level of investors in making the right decision.

3.4.1 Previous Studies on Investment Decision Making on Capital Market

Investment decision making have been widely studied by a significant number of past researchers (Joo & Grable, 2000; Lee, 2001; Bailey, Nofsinger, & O'Neill, 2003; Wan Nawang et al., 2008; Avram et al., 2009; Lee, 2009; Smith, 2009; Schmidt, 2010; Adam & Shauki, 2012; Bhandari & Hassanein, 2012; Anzilli, 2013; Virlics, 2013; Abdul Jamal et al., 2014; Shafi, 2014; Shahzad, Awan, & Qureshi, 2014; S. Mohamed & Anuar, 2014). The researchers came from a wide range of investment areas such as stock market, private retirement schemes, and unit trust.

Investment decision making is related to the behaviour of investors in financial planning. The decision to either save and invest or not to save and not to invest are closely related to the economic status of individuals (Wan Nawang et al., 2008). According to Han, Grinstein-weiss, and Sherraden (2007), savings are primarily related to income level. Individuals with higher income tend to save and accumulate more wealth. Meanwhile, another factor that influences saving behaviour is economic conditions, whereby it is expected to be pessimistic in order to increase the savings.

Early study on investment decision making has started by Westerfield (1968) on his dissertation that examines individual financial-investment decision. This study utilised the Markowitz or Sharpe linear portfolio model to describe and evaluate the salient

aspects of individual investment decision. Apart from that, it also explores the relationships between amateur investors and non-investors as well as examines individual risk preferences and their importance in determining and explaining investment management and performance. The results of this study found a significant difference between an amateur investor and a non-investor towards risk preferences. In addition, certain personality and cognitive-judgemental factors are associated with choice rationality, perceived risk and risk preferences.

From the earlier study, it is clearly understood that understanding risk preferences among investors is another important factor in investment decision making. Basically, most of the researchers in investment decision making research will automatically investigate the risk preferences among investors (Landstrom, 1995; Powell & Ansic, 1997; Shu, Sulaeman, & Yeung, 2012; S. Tseng, 2013; Mazumdar, 2014; Mujahid et al., 2014; Bradbury, Hens, & Zeisberger, 2015; Begum & Rahman, 2016). However, there is still limited number of study which investigate the risk preferences among Muslim investors. Hence, the present study will investigate the risk preferences among Muslim investors in Malaysia in IUTID.

In this study, risk preferences of the investors will be investigated to understand the type of risk attitude among Muslim investors in Malaysia. There are two types of risk preferences among investors, namely risk averse or risk seeking investors. This study investigates the risk preferences of Muslims in Malaysia based on different demographics criteria which include gender, age, education level, income level, and residential.

Moreover, majority of the researchers are interested to investigate the selection criteria of investors in investment decision making (Capon et al., 1994, 1996; Ramasamy &

Matthew C. H. Yeung, 2003; Baghdadabad, Tanha, & Halid, 2011; Bennet et al., 2011; Jidwin, Tuyon, & Ali, 2011; Hossain & Nasrin, 2012; Jamaludin et al., 2013). Most of them found that fund's performance is the most important factor in selection criteria on investment decision making (Capon et al., 1994; Ramasamy & Matthew C. H. Yeung, 2003; Jamaludin et al., 2013). However, Jamaludin et al. (2013) state that fund's performance is not the most important factor to Muslim investors and Muslim consultants because they should be more concerned with the fund's commitment to Islamic principles.

Apart from that, information source is another interesting factor that should be tested on investment decision making. This factor has been tested by many researchers in the decision making area (Capon et al., 1994, 1996; Nagy & Obenberger, 1994; Joo & Grable, 2000; Fares & Khamis, 2011). Information sources can be divided into three categories, namely impersonal sources (advertising, direct mail, and published fund performance statistics), informal interpersonal source (family and friends), and formal interpersonal sources (planners) (Capon et al., 1996).

A study by Capon et al. (1994) found that prior performance is the most important information sources in unit trust fund, followed by recommendations of business associates and advertising. Meanwhile, other factors which include recommendation by friend, family and peer, geographical location of the company, and social responsibility are given the lowest priority due to its poor influence on the stock selection decision by the retail investors (Bennet et al., 2011; Capon et al., 1994). Moreover, study by Fares and Khamis (2011) revealed that broker is a highly significant investor behaviour in investment decision making.

A few researchers have tested the level of knowledge among Malaysians towards the unit trust product. A study by Ramli (2010) focuses on the accessibility of farmer community towards investment in unit trust. This study found that they have general knowledge about unit trust but with a very limited exposure in terms of unit trust which hinders them to make investment decision. However, this result contradicts the findings of A. Abu Bakar (2016) and Wan Nawang et al. (2008).

Wan Nawang, Hashim, and Marzuki (2008) investigated the perceptions of Malaysians towards unit trust investments in Klang Valley based on EBM decision making model. Researchers acknowledge that Malaysians consumer still have limited knowledge in unit trust investment in both Islamic and conventional investment. More importantly, there are investors who have already invested in unit trust funds but possess zero knowledge of unit trust investment. Most of them are confused with the variety of unit trust products, investment in other instruments and they were not approached by any unit trust agent. This study has been analysed using chi-square and factor analysis.

Moreover, A. Abu Bakar (2016) on his study found that majority of Malaysian have limited knowledge on Islamic unit trust funds and some of them had no idea about this product. This situation shows that until now the knowledge of Malaysian related to unit trust funds is still limited despite the increasing performance of the funds every year.

Jamaludin (2013) and Shu, Sulaeman, and Yeung (2012) have investigated the role of religiosity on unit trust investment decision making. A study by Shu et al. (2012) found that religious beliefs have the potential to affect unit trust investment decision. However, this result contradicts the finding of Jamaludin (2013) which states that religiosity does not significantly influence EPF members in unit trust investment decision.

Another study by Jidwin, Tuyon, and Ali (2011) has examined whether the Employee Provident Fund members investment scheme (EPF-MIS) introduced by EPF could provide better performance compared to the EPF retirement plan itself. This study focused on survey of fund selection, performance, and perceptions on 310 respondents covering all states in Malaysia. The findings revealed that the experiences of performance of the members in unit trust were mixed. They are influenced by level of knowledge of unit trust investment, information sources, and fund selection criteria. Financial consultants also play an important part in helping EPF members towards their investment decision making.

On the other hand, Baharun et al. (2011) studied market segmentation for unit trust product using psychographic dimensions among Malaysians population. The aim of this study was to explore the financial unit trust behaviour. 1350 data were collected among unit trust investors in Malaysia which was analysed using SPSS. The finding showed that several lifestyle dimensions such as modern believers, contemporary leaders, sufficient makers, knowledge thinkers, confident conservatives, excitement seekers, and disciplined innovators tend to exist among Malaysian population which have a strong influence on their buying behaviour. This situation shows that Malaysian population with uncertain and insecure behaviour are not bothered about their investment products.

Hossain and Nasrin (2012) investigated the factors affecting selection of equity shares in Dhaka Stock Exchange, Bangladesh which found that company specific attributes or reputation, net asset value, and accounting information as the most important factors. The following factors include trading opportunity, publicity, ownership structure, influence of people, and personal financial needs. Moreover, Ismail and Nasiruddin (2014) focused on identifying the factors that influence investors in making investment purchase decision. From the review of previous study, researchers found a few factors considered by investors in making their investment decision which include investment risk, sources credibility and knowledge, perceived experience, brand cues, and marketing. The risk and return are the most common objective or motive that influences investors in making their investment decision.

Next, a study by Dhar and Ghosh (2014) investigated the underlying factors that determine the investment decisions of individual investors in India. This study investigated the relationship between demographic factors, financial awareness, trust, and optimism with investment decision. This study also determined the preference of individual investors for different investment products.

Finally, Abdul Jamal et al. (2014) studied the factors that can influence a successful decision making among retail investors in the capital market in Sabah, Malaysia. This study tested the irrational and rational behaviour towards investment decision success which found that financial analysis has a positive relationship with investment decision making success, thus indicating that investors are rational when making investment decision. However, investors who analyse their investment using environmental analyses, economic analyses or relying heavily on frame of references and emotions do not significantly lead into investment decision success.

From the previous studies on investment decision making, it can be concluded that several factors are able to influence investors in their decision making which include demographic factor, religiosity, information sources, stock fundamentals, lifestyle characteristics, psychological influences, risk and return, personal values, accounting

information, self-image/firm image, advocate recommendation, personal financial needs, knowledge, and others (Shafi, 2014). However, it shows that there is a limited study on investment decision making in Islamic unit trust funds, whereby a few of the factors such as Islamic financial literacy, Islamic religiosity, product knowledge and understanding on investment risk among investors have been less tested in the area of this study.

3.4.2 Selection Criteria in Unit Trust Funds

The decision making on this study will be measured based on the selection criteria of investors in Islamic unit trust funds which have been studied by many researchers (e.g. Capon et al., 1994, 1996; Ramasamy & Matthew C. H. Yeung, 2003; Jamaludin, 2013; Jamaludin et al., 2013). Investors make purchase decisions in unit trust fund on the basis of past performance, risk and return, amount of sales charge, management fees, fund manager reputation, fund family, clarity of the fund's accounting statement, recommendation from financial magazine or newsletter, availability of telephone switching, fund already owned in that family, and friends' recommendation (Capon et al., 1994).

Capon, Fitzsimons, and Weingarten (1994) studied the affluent investors and unit trust fund purchases and it was found that risk and return is the most important factor in choosing unit trust funds. However, other factors also influence unit trust fund investment which includes investment performance record followed by responsiveness to enquiries, reputation of fund manager, confidentiality, management fees of fund, investment management style, number of fund in the funds of family, additional features such as checking, brokerage services, and the community service orientation of fund manager. Moreover, a study by Capon, Fitzsimons, and Price (1996) found that U.S. unit trust fund investors tend to consider investment performance track record, fund manager reputation, and number of funds in fund family as the most important factors in selecting a unit trust fund. These result support their argument that attributes other than risk and return are also valued by investors.

According to Singh (2012), return potential and liquidity have been perceived to be more attractive by the investors, followed by flexibility, transparency, and affordability. Wan Nawang, Hashim, and Marzuki (2008) found that past performance is the main factor that influence those with marketing activities and fund qualities.

Jamaludin, Smith, and Gerrans (2013) investigated the factors that are considered important in selecting unit trust fund. Result from the study found that past performance and fund's commitment to Islamic principles were considered as most the important factors among non-Muslim and Muslim members and consultants, respectively.

Overall, it can be concluded that unit trusts' investor makes investment decision based on numerous factors. Hence, this study expects that Muslim investors in Malaysia are influenced by some criteria which include investment performance, experience of investment manager, management fee, size of fund, fund commitment with Islamic principles, government linked fund, private linked fund, liquidity, risk and return, and the reputation of investment manager in their Islamic unit trust investment decision making.

3.5 Determinants of Investment Decision Making

A detailed review of the previous literatures on investment decision making is required to produce a better understanding through further investigation on the factors affecting investment decision making among Muslims investors. These antecedents can be further categorised as individual factors, environmental influences, and psychological processes as proposed in the EBM model (refer Figure 3.1, page 54).

3.5.1 Demographic Characteristics

Demographics can be defined as the size, structure, and distribution of the population (Blackwell et al., 2001a). Apart from that, it is also known as social class variables (Engel et al., 1990). Most of the established studies posit that demographic variables also play a significant role in financial decisions (Abdul Jamal et al., 2014; Sadiq & Ishaq, 2014).

Investors demographic and social economic factors tend to influence individual memories, which eventually influence investment choice decision (Sasirekha & Jerinabi, 2015). According to Geetha and Ramesh (2012), demographic factors of investors such as gender, age, education, family size, annual income, and savings have a strong significance in the investment decision making process.

Most of the previous studies on investment decision making were interested to investigate the effect of gender on investment decision making (Bajtelsmit & Bernasek, 1996; J. Grable & Lytton, 1999; Barber & Odean, 2001; Agnew, 2006; Lizárraga et al., 2007; Lusardi & Mitchell, 2008; Fares & Khamis, 2011; Geetha & Ramesh, 2012; Hossain & Nasrin, 2012; Dhar & Ghosh, 2014; Haq & Malik, 2014; Sadiq & Ishaq, 2014; Rizvi & Fatima, 2015; Tanyolac & Karan, 2015; Begum & Rahman, 2016).

According to the analysis of the previous studies, it was found that gender has a positive significant on investment decision making (Barber & Odean, 2001; Rizvi & Fatima, 2015; Begum & Rahman, 2016; Subramaniam & Velnampy, 2016). Majority of the results reveal that male investors are more interested to invest compared to female investors (

Rizvi & Fatima, 2015; Begum & Rahman, 2016). This is based on the belief that men are overconfident in investment decision compared to female investors (Barber & Odean, 2001).

Moreover, a study by Bajtelsmit and Bernasek (1996) points out that there are differences in risk taking between men and women in investment decision making. Most of the established studies found that female investors are more risk averse compared to male investors (Bajtelsmit & Bernasek, 1996; Lizárraga et al., 2007; Rizvi & Fatima, 2015). Female investors invest their pensions more conservatively than male investors because they try to avoid investing in high risk product. However, this situation is different from the male investors that are more likely to participate in high risk investment such as owning a higher percentage of company stock (Agnew, 2006). This decision is generally considered as a riskier strategy due to the lack of diversification.

A survey by Lizárraga et al. (2007) found that women are more concerned with uncertainty, doubts, and dynamism that are involved in the decision. They are worried about the consequences that may derive from the decision. Conversely, men assign more importance to the analysis of the information required to carry out the decision and to the definition of the goals or purposes of the decision. They are more motivated during the process and intensely pressured from all the work-related aspects (Dhar & Ghosh, 2014; Haq & Malik, 2014; Tanyolac & Karan, 2015). Overall, it can be concluded that Spanish women are more risk averse compared to men in investment decision making.

Another factors in demographic which has been popular tested in investment decision making area is the age of the respondent (Agnew, 2006; Lizárraga et al., 2007; Fares & Khamis, 2011; Geetha & Ramesh, 2012; Hossain & Nasrin, 2012; Dhar & Ghosh, 2014;

Haq & Malik, 2014; Rizvi & Fatima, 2015; Sasirekha & Jerinabi, 2015; Tanyolac & Karan, 2015; Begum & Rahman, 2016; Subramaniam & Velnampy, 2016;). Most of the published studies found that age significantly influence investment decision making (Lizárraga et al., 2007; Fares & Khamis, 2011; Dhar & Ghosh, 2014; Haq & Malik, 2014; Tanyolac & Karan, 2015). Rizvi and Fatima (2015) and Subramaniam and Velnampy (2016) reveal that younger investors at the age between 18 to 28 years are more interested in investment decision making with the objective of capital appreciation.

Apart from that, the income of the respondents is another important factor that needs to be tested in investment decision making. Income plays an important role to influence the consumers in making investment decision. Most of the established studies found that income is positively significant with investment decision making (Agnew, 2006; Geetha & Ramesh, 2012; Sadiq & Ishaq, 2014; Rizvi & Fatima, 2015; Sasirekha & Jerinabi, 2015; Begum & Rahman, 2016; Subramaniam & Velnampy, 2016). In other words, investors with high income are interested in doing investment and most of them are frequently invested in stock market (Agnew, 2006; Rizvi & Fatima, 2015; Begum & Rahman, 2016; Subramaniam & Velnampy, 2016). Moreover, a study by Rajeswari and Moorthy (2005) found that unit trust product is suitable for the salaried people, especially for middle-income investors.

Another popular factor which have been tested among investors in investment decision making is the education level of investors. Basically, the respondents are categorised into four types of education level, namely secondary school, diploma or certificate holder, degree holder, and postgraduate holder. Most of the researches that investigated this factor on investment decision making found that education level is positively significant with investment decision making (Fares & Khamis, 2011; Hossain & Nasrin, 2012; Abdul Jamal et al., 2014; Dhar & Ghosh, 2014; Haq & Malik, 2014; Sasirekha & Jerinabi, 2015). Meanwhile, a study by Abdul Jamal et al. (2014) found that investor with bachelor degree are the active investors in unit trust investment.

Occupation is one of the factors that is always tested in investment decision making research. Most of the published studies carried out in Malaysia categorised the type of occupation into government sector, private sector, and retiree. However, only a few studies show a significant relationship in the testing of the relationship between occupation and investment decision making (Hossain & Nasrin, 2012; Abdul Jamal et al., 2014; Sasirekha & Jerinabi, 2015). A study by Abdul Jamal et al. (2014) reveal that investors working in private sector are the key player for all investment vehicles such as bonds, stocks, unit trust, and other short term instruments.

The last demographic factor which has been the least tested in investment decision making research is the type of residential. The researcher only found one study by Sasirekha and Jerinabi (2015) that tested this factor towards investment which found that the place of residential is positively significant with investment and risk.

Overall from the review, it can be concluded that most of the published studies found that male is more interested in investment, while female investors are risk averse. Moreover, the investment decision making is also influenced by age, income, education level, knowledge on financial, and family size. However, there are a few studies that show gender has no effect on investors level of risk tolerance and investment (Geetha & Ramesh, 2012; Sadiq & Ishaq, 2014; Sasirekha & Jerinabi, 2015). On the other hand, there are a number of studies that reveal no relationship between age, income, education
level, occupation, and marital status with the investment decision making (Abdul Jamal et al., 2014; Sadiq & Ishaq, 2014; Rizvi & Fatima, 2015; Begum & Rahman, 2016).

Table 3.1 shows the summary of previous studies on demographic factors (refer to page 85). From the table below, there is still limited research on the residential area among investors in their investment decision making. The significant results on the type of occupation among investors also show inconsistency. Therefore, this study is interested to investigate the effect of selected demographic factors which include gender, age, income, education level, type of occupation, and type of residential among Muslim investors in their investment decision making.

Author	Gender	Age	Income	Education	Occupation	Type of Desidential	Religious	State
	NG	NG	NG	Level	NG	Kesidentiai		T 1'
(Geetha &	NS	NS	NS	NS	NS	NR	NM	India
Ramesh, 2012)								
(Begum &	S	NS	S	NS	NS	NR	NM	Bangladesh
Rahman, 2016)								
(Subramaniam	S	S	NS	NS	NS	NR	NM	Sri Lanka
& Velnampy,								
2016)								
(Rizvi &	S	S	S	NR	NS	NR	NM	-
Fatima, 2015)								
(Abdul Jamal et	NR	NS	NR	S	S	NR	NR	Malaysia
al., 2014)				C.				
(Sadiq & Ishaq,	NS	NR	S	S	NS	NR	NR	Pakistan
2014)								
(Sasirekha &	NS	S	S	S	S	S	NR	-
Jerinabi, 2015)								
(Bajtelsmit &	LITERATURE	NR	NR	NR	NR	NR	NR	-
Bernasek, 1996)	ON GENDER							
(Barber &	S	NR	NR	NR	NR	NR	NR	-
Odean, 2001)								
(Agnew, 2006)	NR	NR	S	NR	NR	NR	NR	-
(Lizárraga et al.,	S	S	NR	NR	NR	NR	NR	-
2007)								
(Lusardi &	S	NR	NR	NR	NR	NR	NR	-
Mitchell, 2008)								
(Fares &	NR	S	NR	S	NR	NR	NR	Jordan
Khamis, 2011)								
(Hossain &	S	S	S	S	S	NR	NR	Bangladesh
Nasrin, 2012)								

Table 3.1 Summarize of Demographic Factors on Investment Decision Making.

(Sadiq & Ishaq,	NS	NR	S	S	NS	NR	NR	Pakistan
2014)								
(Haq & Malik,	NS	S	S	S	NR	NR	NR	India
2014)								
(Dhar & Ghosh,	NR	S	S	S	NR	NR	NR	India
2014)								
(Tanyolac &	NR	S	NR	S	NR	NR	NR	Turkey
Karan, 2015)								

NOTE: NR: Not Related, S: Significant, NS: Not Significant

3.5.2 Financial Literacy and Investment Decision

Financial literacy or financial knowledge is an important element that need to be possessed by investors in order to reduce the uncertainty on future decisions and increase the predictability of investment policies in financial markets (Roodposhti, Abadi, & Zareie, 2016). The basic definition of financial literacy is related to the individual that has the ability to manage money (Huang, Nam, & Sherraden, 2013; Jorgensen & Savla, 2010; Remund, 2010).

Financial literacy has been clearly understood as "the consumers' or investors' understanding of financial products and concepts. On top of that, it refers to their ability and confidence to analyse financial risk and opportunities, make informed choice, know where to go for help, and take other effective actions to improve their financial well-being" (Miller, Godfrey, Levesque, & Stark, 2009).

Financial literacy is defined by Ghongatepatil and Patare (2017) as "an ability to understand finance, which is refers to the set of skill and attitude that allows an individual to make informed and effective decision through their understanding of finances." Apart from that, Mihal ová, Csikósová, and Antošová (2014) defines financial literacy as "the capability to use knowledge, skills and experience of an individual to make effective decisions in term of uses and manage of their own finances to provide life-long financial securities for themselves and families."

Moreover, Atkinson and Messy (2012) define financial literacy as "combination of awareness, knowledge, skill, attitude and behaviour which is can influence good financial decisions and can accomplish individual financial wellbeing." A study by Remund (2010) summarizes the conceptual definitions of financial literacy into the following five categories: "(1) knowledge of financial concepts, (2) ability to communicate about financial concepts, (3) aptitude to managing personal finances, (4) skill in making appropriate financial decisions, and (5) confidence in planning effectively for future financial needs." This operational definition of financial literacy covers the aspects of budgeting, saving, borrowing, and investing.

According to Presidents Advisory Council of Financial Literacy (PACFL 2009) as stated in Hung, Parker, and Yoong (2009), financial literacy has been variably defined as follows: "(1) a specific form of knowledge, (2) the ability or skills to apply that knowledge, (3) perceived knowledge, (4) good financial behaviour, and (5) financial experiences."

The definition of financial literacy in academic literature has been operationalized in a variety meanings which are presented as follows: "(1) it has been used to refer to knowledge of financial product, (2) knowledge of financial concepts such as inflation, compounding, diversification, and credit scores, (3) having the mathematical skills or numeracy necessary for effective financial decision making, and (4) being engaged in certain activities such as financial planning" (Hastings, Madrian, & Skimmyhorn, 2012). Hence, it can be understood that financial literacy is important to help individuals to be more confident in making a financial decision and investing more profitably. This situation may provide a rationale strategy to enhance financial knowledge in the population at large (Clark, Lusardi, & Mitchell, 2014).

Numerous research studies have examined the relationship between financial literacy and investment behaviour (Guiso & Jappelli, 2008; Müller & Weber, 2010; Rooij, Lusardi, & Alessie, 2011; Mazumdar, 2014). On a similar note, Rooij, Lusardi, and Alessie (2011)

found that financial literacy affects financial decision making. Moreover, individual can diversify their portfolio when they have high financial literacy (Guiso & Jappelli, 2008). The study by Müller and Weber (2010) indicates that financial literacy is positively related to investments in low-cost funds such as unit trust funds.

The investors in Jordan have to force themselves to understand financial knowledge due to the fact that the brokers are not employed on any professional certificates. The understanding on the financial knowledge enable them to survive in the complexities of financial markets as well as the struggling market manipulations (Fares & Khamis, 2011). In short, having good financial knowledge is considered important for investors in which it could assist them in making a good stock selection. Individuals with lower financial literacy are less likely to invest in stocks (Rooij et al., 2011).

However, the study by Mazumdar (2014) found no significant relationship between financial knowledge and investment behaviour. This study was conducted among individuals in the working age group of 18 years and above and the respondents are essentially from the city of Mumbai, India.

Furthermore, Abdullah and Chong (2014) performed an exploratory review on the literature about financial literacy. Most of the established studies have been focusing on the literacy based on the conventional financial knowledge. Hence, it is suggested that more studies should be undertaken in order to determine the individual level of literacy on Islamic financial concepts and products due to the renewed interest in Islamic finance. Abdullah and Chong (2014) also suggested to look into the designing instruments to measure the level of Islamic financial literacy.

From this review, it can be concluded that there is a limitation of study on Islamic financial literacy. Hence, the present study is interested to investigate the level of Islamic financial literacy among Muslim investors in Malaysia.

3.5.3 Islamic Financial Literacy

Islamic financial literacy is relatively new in Islamic finance nowadays. Islam encourage its followers to acquire knowledge that will help them in managing all their activities according the rules of Allah s.w.t.. In Islam, it is compulsory for Muslims to understand Islamic finance because it is a religious duty. The Islamic financial system will never be developed if Muslims are not concerned about the prohibition of *riba*, *maysir*, and *gharar* and continue to consume conventional finance products. In other words, perpetuating the conventional financial system is certainty sinful for Muslims (M. Ahmad, 2010).

According to Abdul Rahim (2014), the recent literatures generally focused on the financial literacy, while the instruments used by the previous study to measure the level of financial literacy are constructed based on the conventional perspectives without specifically focusing on Islamic perspectives. Therefore, this study on IFL was constructed using the same conceptual based on financial literacy according to Islamic spirit which is stated as "the ability of a person to use financial knowledge, skill and attitude in managing financial resources according to the Islamic teachings" (Atkinson & Messy, 2012).

Later, Abdul Rahim, Abdul Rashid, and Hamed (2016) expanded their study by developing the constructs of IFL and validated all the items and tested the level of Islamic financial literacy among university students in Malaysia. All the seven (7) items of IFL are constructed based on the following three main objectives: (1) the capability to practice

the financial knowledge, (2) skill, and (3) attitude towards financial resources from Islamic perspectives. The Cronbach's Alpha score for this construct is at 0.773. Meanwhile, all the items of IFL are based on 5 items of Likert scale ranging from (1) strongly disagree to (5) strongly agree. The items can be viewed in Table 3.2 below.

 Table 3.2 Items on Islamic Financial Literacy (Abdul Rahim et al., 2016).

	Items
1.	I know that I might or might not receive any return when the contract is
	concluded.
2.	I acknowledge uncertainty on sanctity of financial contract is strictly
	prohibited in Islam.
3.	I always make sure that there is no element of interest in all financial
	transactions that I made.
4.	I understand that all Islamic financing must be backed by asset.
5.	I can only invest in permissible activities or services.
6.	I am aware on the availability of Islamic instrument in the market.
7.	In Islam, I only transact with people that I trust

Antara, Musa, and Hassan (2016) tested the attitude of *halal* business producers towards Islamic financing adoption based on the knowledge level of IFL and *halal* literacy. The researchers define IFL as "the degree which individuals have a set of knowledge, awareness, and skill to understand the fundamental of Islamic financial information and services that affect its attitude to make appropriate Islamic financing decisions." This study has constructed 17 items of Islamic financial literacy with the answer of true and false which can be observed in Table 3.3 below.

Table 3.3 Items on Islamic Financial Literacy (Antara et al., 2016).

1. Islamic method of finance is interest-free. 2. Gharar refers to uncertainty and deception and not allowable in Islamic finance. 3. Buying shares on a short-term price fluctuation is not speculation. 4. Preservation of wealth is one of the objectives of Islamic finance. 5. It is allowable to sell a commodity before it comes under our control. 6. An Islamic financial institution may invest with you according to profit sharing method (Mudarabah). 7. An Islamic financial institution lends money according to profit/loss sharing method (Musharakah). 8. Islamic financial institution provides lease financing (Ijarah). 9. Islamic financial institution provide trade financing methods called Murabahah. 10. Islamic financial institution provides industrial financing (Istisna). 11. Islamic financial institution provide benevolent loans called Quard Hassan. 12. In Mudarabah, the capital provider is the only party that born the losses. 13. In Musharakah, a partner who invest RM1000 of investment capital has right to specify from beginning that his/her profit should be RM1000 per year. 14. In Ijara, the asset usually not returned to the lessor. 15. Borrower is the person who buys the goods in an Islamic finance trade credit management (Murabahah). 16. For the Istisna to be valid, the price must be fixed from the beginning. 17. In Quard Hassan, the borrower is required only to repay the original amount of the loan.

Based on the researcher review of previous literatures on IFL, it is clear that there is a lack of study in the area of IFL. Hence, it is important for the present study to investigate the level of IFL among Muslim investors in Malaysia. This study has adopted the definition by Abdul Rahim (2014) because the present study believes that the behaviour of Muslims in their decision making is affected by the knowledge on financial product, their skill in financial decision, and their attitude in accordance to *Shariah* principles. The researcher also adopted all the items from Abdul Rahim et al. (2016) because these items are suitable to the Muslim respondents and can be easily understood by the layman.

3.5.4 Information Sources and Investment Decision

Information sources is one of the major factors that influence consumer decisions to purchase a product or service (Andereck & Caldwell, 1993). According to Moutinho

(1987), information search is "the process of consulting various sources before making a purchasing decision." Consumers need more knowledge before making any purchase decision which will eventually motivate them to search for information. The credibility of information sources can affect the consumers to gather the information in order to make a purchase decision.

IS is defined by Dalton and Charnigo (2004) as a term that refers to differently to different people. There are two types, namely primary sources and secondary sources. The primary sources (raw materials) consists of government and institutional records, newspapers and other periodicals, photographs, interview, films and unpublished manuscripts such as personal diaries and letters, while the second sources refer to the sources that have been written by scholars from other disciplines.

Moreover, Capon, Fitzsimons, and Price (1996) have differentiated IS into two types of information, namely interpersonal and impersonal (mass) communications. Interpersonal communication is received from both informal sources such as family and friends as well as and formal sources that are obtained from organisations sources. On the other hand, impersonal communications are obtained from advertising, published performance rankings, books, and direct mail.

Information plays an important role in assisting some of the investors in managing their financial decisions (Abdul Jamal et al., 2014). Investors are required to search for more information before making any purchase decision (Chao & Rajendran 1993). Information from the family members are the primary decision making unit in shaping the buying and consumption decision (Engel et al., 1990).

Previous study on the purchase decision process conducted by Capon, Fitzsimons, and Price (1996) found that most of the investors are influenced by published performance ranking in the unit trust fund purchase decision, followed by advertising and seminars. Moreover, another study on investment in unit trust fund by Alexander, Jones, and Nigro (1998) revealed that majority of the investors in their study choose unit trust fund prospectus as a source of information in making their most recent unit trust purchase. Other factors such as employer-provided printed materials, financial publications like newspapers and magazines, family and friends, meetings or presentations at work and brokers also influence the investors in purchasing unit trust fund.

In addition, the finding from Lai, Low, and Lai (2001) show that majority of the investors depend on internal and external information of the organization before making any stock selection. This result is similar with Day (1986) which revealed that it is important to measure the share performance before making any investment decision. This performance can be viewed based on the information of company management as an important external source of information and financial statements.

Apart from that, according to Mathuraswamy and Rajendran (2016), investors also consider the sources of information provided by expert recommendation and fundamental analysis while making an investment in equity shares. This analysis is important to the investors because it contain useful information that can distinguish permanent and transitory components of past earnings (Ou & Penman, 1989).

Internet has emerged as a widely used tool for information seeking and decision making regarding consumer goods, health, news and politics, and others (Wilson, 2000; Roscoe, Grebitus, O'Brian, Johnson, & Kula, 2016). Internet is a popular online search tool

because it allows an easy, quick, and efficient access to information (Peterson & Merino, 2003). Internet also provide minimal time availability, minimal effort and cost, information that facilitates better decision making and cause the decision making process to be more efficient (Peterson & Merino, 2003). Internet allows consumers to obtain information through internet-forum information and marketer-generated online information. A study by Fares and Khamis (2011) shows that the use of internet is positively significant with individual investor's in stock market behaviour.

According to Bickart and Schindler (2001), internet forum information have a greater influence on consumer behaviour compared to the marketer-generated internet information. Online forum is more effective in generating product interest to the consumers compared to corporate website. The reason is that consumers can gain more product knowledge from the discussion through online forum.

Apart from that, broker plays a significant role in individual investors decision making. According to Fares and Khamis (2011), brokers have a high negative significant with individual investors' in Amman stock market. This result shows the need for professionally trained and experienced analysts to win the trust of the clients. The interaction with brokers and dealers also plays an important role in influencing investor's decision making success (Hossain & Nasrin, 2012).

A study by Capon, Fitzsimons, and Weingarten (1994) among affluent investors in unit trust funds purchase decision show that personal information sources are rated low, while impersonal, less subjective sources are valued highly. Prior performance is the most important information sources followed by the recommendations from business associates, advertisement on local newspaper, magazines, and national papers.

Joo and Grable (2000) examined the influence of family environment and work environment in retirement investment decision and saving programs. This study reveals that the information from the employer or company is important which can increase the decision of the workers on retirement investment.

Finally, Muhammad and Abdullah (2009) investigated the investment decision making style among individual investors who traded their shares in stock broking companies in Klang Valey, Malaysia. The results found that economy analysis and frame of reference (television, fund advertisement, magazines, stock brokers' analysis and top ten stock) significantly influence investment decision making style. This indicates that emotions do not affect their decision making. However, they need to analyse the economic information and at the same time follow the expert opinion before making any decision.

According to the review of previous studies on IS, it can be concluded that each investor is influenced by different factors in investment decision making. Hence, this situation has motivated the present study to investigate which IS will influence Muslim investors in Malaysia in their IUTID. In this study, the elements inside IS are further categorised as recommendations by friends or/and family, recommendations by work colleagues, unit trust consultants, internet resources, advertising, television, seminars, books, poster, catalogues, master prospectus, and published performance ratings.

3.5.5 Religiosity and investment decision

Religion is an essential element of the human condition. Most western scholars in religion area agree that religion is interrelated with culture (Simmel, 1950; Durkheim, 1976; Clark

& Hoover, 1997; Shu et al., 2012). Delener (1990) describes religiosity as "one of the most important cultural forces and a key influence in buyer behaviour." Moreover, Hall (1989) defines culture as "a series of situational models for behaviour and thought," (p.13). Geertz (1973) building on the work of Kluckhohn (1949) defines culture in terms of 11 different aspects presented as follows:

"... (1) the total way of life of a people; (2) the social legacy the individuals acquires for his group; (3) a way of thinking, feeling and believing; (4) an abstraction from behaviour; (5) a theory on the part of the anthologist about the way in which a group of people in fact behave; (6) a storehouse of pooled learning, (7) a set of standardized orientations to recurrent problems; (8) learned behaviour; (9) a mechanism for the normative regulation of behaviour; (10) a set of techniques for adjusting both the external environment and to other men; (11) a precipitate of history (p.5)."

The relationship between religion and culture can be viewed based on the definition of religion and religiosity by the previous researchers. The complexity of religion can be determined based on previous pioneer researchers such as Karl Marx, Max Weber, Emile Durkheim, and Georg Simmel. Marx and Engels (1975) view religion as descriptive and evaluation. First, from a descriptive point of view, Marx believes that social and economic situations shape how individuals form and regard religions and what is religious. According to Marx understanding, the fact that people turn to religion more when they are faced with economic hardships or that the same religious denomination is practiced differently in different communities would seem perfectly logical. Second, Marx sees religion as a form of alienation. The alienation from the self is a consequence of being mechanical part of a social class, the condition of which estranges a person from their humanity. Meanwhile, Nietzsche (1996) views organised religion as society and culture controlling man.

Emile Durkheim (1976) focuses more on how religion performs a necessary function, which brings people and society together. Durkheim defines religion as;

"a unified system of beliefs and practices relative to sacred things, that is to say, things Which are set apart of forbidden-beliefs and practices which unite into one single moral community called a Church, all those adhere to them." (p.47).

From this perspective, religion and culture are inseparable, as beliefs and practices are uniquely cultural.

Georg Simmel (1950) focuses more on the fluidity and permanence of religion and religious life. Simmel believes that religious and cultural beliefs develop one another. Moreover, he asserted that religiosity is an essential element to be understood when examining religious institutions and religion. Moreover, individuals may claim to be part of religious group, thus Simmel asserted that it is important to consider just how religious the individuals are.

Combining Simmel's 1950 notion of religion with Geertz's 1973 concept of religion and a more basic definition (belief in or worship of a god or gods through rituals), it is clear that the relationship between religion and culture is integral and symbolic. As Clark and Hoover (1997) noted, "culture and religion are inseparable" and "religion is an important consideration in theories of culture and society" (p.17).

Koenig et al. (2000) define religion based on the following description:

"Religion is an organized system of beliefs, practices, rituals and symbols, which allows one to be closer to the sacred or the transcendent (God, a supreme power, ultimate reality or truth), and to understand one's own responsibility and relation to others in the life of a community..."

As a dimension of culture, religion has a considerable influence on individuals' systems of values, habits, and attitudes. On top of that, it also impacts their lifestyle, which in a way dictates their purchase decisions and consumption behaviour (Dekhil et al., 2017).

Religion is a system of belief and practices that can influence individual reaction (Johnstone, 1975). Religion can influence individuals' goals, decisions, motivations, purpose, and satisfaction. Fam, Waller, and Erdogan (2004) discuss the role of religious on the behaviour of individual as follows:

"Religious plays a dominant role in shaping individual's attitude and behaviour towards material, goods and services. It is reasonable that the more an individual incorporates religion into his or her identity, the greater the impact it would have on his or her values and behaviour."

From the statement above, it is clear that religious can affect the attitude and behaviour of the individual. The more the individual unites religious towards their identity, the more it will affect their values and behaviour. Moreover, according to Johan, Putit, and Syed Alwi (2014), religion also has an impact on the choice and decision made by the individual.

Religiosity is a tool to measure religion. Religiosity is a complex concept and difficult to define (Holdcroft, 2006). Delener (1990) defines religiosity as "the degree to which beliefs in specific religious values and ideals are held and practiced by an individual." Meanwhile, Stolz (2008) describes religiosity as individual preferences, emotions, beliefs, and actions. Glock (1962) explains that religiosity consists of five dimensions, namely the experiential, ritualistic, ideological, intellectual, and consequences.

Petersen and Roy (1985) state that religiosity does not only influence attitude and behaviour of individual, but also affect the individual's psychological well-being such as life satisfaction, personal morale, or anxiety.

Shu et al. (2012) examined the impact of local religious beliefs which is a vital characteristic of local culture on unit trust fund risk-taking behaviours. Local culture can be defined as "the value in sharing an identity and having sense of being in a particular group has substantial influence on people's behaviour." In other words, different groups have different cultures which further explains their different ways of thinking, acting, and relating to one another (Hogg, Abrams, Otten, & Hinkle, 2004).

Shu et al. (2012) expected that unit trust fund risk taking behaviours to be different from local religious beliefs and that Protestant (Catholic) beliefs are negatively (positively) associated with fund return volatilities and the intensities of specific risk-taking behaviours. This study used a sample of 1621 unique growth and aggressive equity unit trust funds over a period of 21 years from 1988 to 2008. The result found that unit trust return volatilities are negatively associated with Protestant ratio, but positively associated with Catholic ratio.

The effect of religious belief on fund returns volatilities are economically significant. Hence, two important outcomes can be concluded from the research as follows: (i) individuals' risk attitudes are related to their religion belief, and (ii) individuals' religious beliefs are consistent with local culture. This study proved that local culture has a significant impact on unit trust fund behaviour. In conclusion, the above review clearly explains that western researchers agree that religion and culture are interrelated with each other. On top of that, the behaviour and attitude of human are also influenced by their religion and culture. The review of previous studies also supported the statement by Croucher et. al.,(2017) which states that religious beliefs mole an individual's sociology and psychology.

3.5.5.1 Religiosity based on Islamic Perspective

However, Islamic scholar does not accept Islamic religiosity as a culture (S. S. Alam et al., 2011; Ewing K.P., 2015) because Islam is described as a way of life that could form a set of behaviour. Islam is defined as submission of one-self to Allah s.w.t. and Muslim must accordingly submits to the will of Allah s.w.t. (Serajzadeh, 2001). Al-Quran reveals the will of Allah s.w.t to the Muslim through the Prophet Muhammad p.b.u.h. Prophet Muhammad p.b.u.h is the last messenger of Allah s.w.t. and all his words, deeds and agreeing reflect the message from Allah s.w.t. to the human beings. Overall, everything that comes from Allah s.w.t. is the fundamental elements of Islamic belief.

Moreover, Islam is a religion that guides Muslims in every aspect of life, not just in specific aspect of worship. Islam has provided some guidance to its believers which include everyday trade, human relationship, and what can be consumed. All of this guidance has been revealed by Allah s.w.t. inside the al-Quran. Al-Quran provides guidance on all aspects of human activity; hence, it can be concluded that religion influence the direction of Muslims in their daily life (Eid, 2015). For example, in al-Quran, Surah Al-Isra': 26-27, Allah s.w.t commands Muslims not to spend wastefully as the wasteful is related to Satan. Muslims need to spend in the way of Allah. Islam also has given guidance towards the eating and drinking rules in of the daily life of a Muslim.

However, these norms tend to vary between different religious faiths and degree of observation (S. S. Alam et al., 2011).

Hence, it can be understood from the above explanation that Islamic religiosity can be measured based on the belief and practice dimensions among Muslims (Khraim, 2010). According to Khraim (2010), all of this dimension is difficult to measure in a Muslim society because it should apply to every Muslim considering that every Muslim is supposed to possess the basic beliefs before he or she can be considered a Muslim.

In Islam, belief can be divided into two categories which are described as follows:

- Basic Elements of Belief belief in God, in Angels, in Heavenly Books, in Prophets, in Fate and Devine Decree, and in the Hereafter, which define whether a person is a believer or not.
- (2) Complimentary Elements of Belief belief in Heaven and Hell, in the day of Judgement, in Resurrection, in enjoining the love of Prophet Muhammad p.b.u.h., and in the Creation of the Universe.

According to this situation, it is important for the present study to investigate the behaviour of Muslim from an Islamic perspective in particular as well as the level of Islamic religiosity among Muslim investors in Malaysia. According to Rehman and Shabbir (2010), religiosity affects the adoption of new products by Muslim consumers through the influence of their beliefs about the products they should adopt.

3.5.5.2 Religiosity on Decision Making

Religiosity influences human behaviour and attitudes (Weaver & Agle, 2002). Religiosity is significantly related with ethical behaviour, whereby it is the dependency of direction

of an absolute power, which refers to God who teaches right and wrong. Religiosity has an effect on the moral performance of people. Religious individuals tend to have more moral supervisory compared to less religious person (Weaver & Agle, 2002; T. Bashir, Rasheed, Raftar, Fatima, & Maqsood, 2013). According to S. S. Alam et al. (2012), religiosity is important because it is capable to influence an individual cognitively and behaviourally. Moreover, values of religious persons tend to differ from those who are less religious and the non-religious. Individuals who are more religious are more ethical in terms of their beliefs (Giorgi & Marsh, 1990). According to Kamaruddin (2007), the purchase decision by the customers are based on how much consumers obey their particular faith. From this situation the seller might consider using consumer's religiosity as an appropriate segmentation variable to market their products and services.

Previous studies by Bialkowski, Etebari, and Wisniewski (2012), Hilary and Hui (2009), Renneboog and Spaenjers (2009), and Shu et al. (2012) have examined the relationship of religion and financial decision making and found a positive relationship between religiosity and risk attitude of the investors. Mostly, the religious group person are more risk averse in their decision making (Shu et al., 2012) because their religious belief will affect the risk taking behaviour and cause them to make investment decisions based on the advice from professional fund managers.

Moreover, investors who have high religious believe are more likely to save, low investment in risky assets, and low risk experience in investment (Hilary & Hui, 2009; Renneboog & Spaenjers, 2009). A study by Bialkowski, Etebari, and Wisniewski (2012) reveal that religion affects investors' mood, happiness, and risk taking attitude to obtain

fast profits, where they will buy shares prior to the beginning of Ramadhan and sell them at the end of Ramadhan month or after Eid-al-Fitr.

Another study by Brimble and Tahir (2011) examined the extent to which Muslim investors comply with the requirements laid out in Islamic investment principles. In addition, they sought to identify the factors that influence the asset allocation decision in an investment experiment. The researchers support the influence of Islam on investment decision making among the Muslim. However, the extent to which the Muslim adheres to the Islamic investment principles is dependent on their level of religiosity. In terms of asset allocation, the evidence of wealth-maximising element to Islamic investment decisions are also indicated.

According to Renneboog and Spaenjers (2012), religion has a significant impact on individuals' economic attitudes. In this case, it was found that the economic attitudes of religious households differ from those of non-religious ones, whereby Catholic and Protestant individuals are more likely to consider themselves as trusting, have stronger bequest motive which refers to their high concern about the inheritance of their children, and longer planning horizons. Catholics focus on the importance to thrift and are less willing to take on risks, while Protestants have a weaker internal locus of control but have higher awareness of individual financial responsibility.

Jamaludin (2013) investigated the role of religion among 440 Muslims and non-Muslims in Malaysia in unit trust investment choice decisions. Religiosity was measured using Religious Commitment Inventory (RCI-10) developed by Worthington. et al. (2003), while Muslim Religiosity was measured based on Wan Ahmad et. al. (2008). The data was analysed using chi-square test and the results found that religiosity has no significant influence on individuals in unit trust investment choice decision.

From the review of previous studies, it can be concluded that religiosity can influence the behavioural and attitudes of investors which will affect the decision making of the investors. Reviews on research regarding religiosity towards investment decision also show the limited number of studies on Islamic perspective and inconsistent results in this research area. There, this limitation has motivated the present study to investigate the relationship between religiosity and investment decision making among Muslims in Malaysia.

3.5.5.3 Measurement Scale of Religiosity or Religious Commitment

Everett L. Worthington (1988) defines religious commitment as "the degree which a person adheres to his or her religious values, beliefs and practices and uses them in daily living." Religious commitment is found to be associated with decision making outcomes (Muhamad & Mizerski, 2010). Highly religious individuals will evaluate the world through religious schemas, thus integrating their religion into most of the aspects of their life (Worthington et al., 2003).

Petersen and Roy (1985) has developed religiosity variables in their study which consists of religious salience, religious comfort beliefs, other-worldly/ this-worldly orientation, church attendance, and orthodoxy. Religious salience, religious comfort beliefs consists of three items, while the Orthodoxy consists of four items with the scale ranging from (1), strongly disagree to (4) strongly agree. Other-worldly/ this-worldly orientation and church attendance was measured based on single item. The Cronbach's Alpha for all the elements is between 0.70 to 0.87.

Worthington et al. (2003) constructed Religious Commitment Inventory -10 (RCI-10) which consists of Intrapersonal Religious Commitment and Interpersonal Religious Commitment. This inventory is composed of 10 items where items 1, 3, 4, 5, 7, and 8 make up the Intrapersonal Religious Commitment subscale, while items 2, 6, 9 and 10 make up the Interpersonal Religious Commitment subscale (Worthington et al., 2012) as shown in Appendix C. Researchers already tested these instruments on various religions such as Christian, Buddha, Islam, and Hindu.

Huber and Huber (2012) constructed the Centrality of Religiosity Scale (CRS) which consists of five dimensions, namely public practice, private practice, religious experience, ideology, and the intellectual dimensions. This scale measures the centrality, importance or salience of religious meanings in personality and it is suitable for interreligious studies such as Buddha, Hindu, and Islam. CRS have been applied in more than 100 studies in the field of sociology of religion, psychology of religion, and religious studies in 25 countries with the total of more than 100 000 participants. The basic CRS versions consists of 15 items, while the interreligious CRSi versions consists of 20 items as presented in Appendix D.

3.5.5.4 Muslim Religiosity Measurement

Jana-Masri and Priester (2007) has developed an instrument of Religiosity of Islam Scale (RoIS) based on the Quranic perspective. RoIS consists of 9 items of Islamic beliefs and 10 items of Islamic behavioural practices with the Cronbach alpha of 0.66 and 0.81, respectively. Items in this instrument are measure using two types of scales. The first measurement is performed on always (1) to never (5), while the second measurement uses

the 7 items of Likert scale. All the items in these instruments can be referred in Appendix E.

Apart from that, Wan Ahmad et al. (2008) has constructed the measurement of Islamic religiosity based on three dimensions, namely *Shariah* (Islamic laws), *akhlaq*, and *faith*. This measurement consists of 22 items based on the Likert scales of 1 to 5, which is the most frequent to never for the items of Islamic laws and *akhlaq*, while most agree to most disagree are used for the items of faith. The respondents will be split into three groups of religiosities based on the total mean score. Those who scored above 0.5 s.d. of the mean score will be considered as devout⁷, below 0.5 s.d. from the mean score are considered casually religious. while moderately religious refers to those who scored in between. The items of Muslim religiosity can be referred in Appendix F.

According to Manap et al. (2013), Muslim religiosity and personality can be measured based on the following seven (7) principles: (1) judgement or evaluation is limited to outward/external/ behavioural aspects only, (2) the perfect measurement is only from Allah, (3) the basic of measurement is the manifestation of three religious pillars, which is Iman (Islamic belief), Islam (Islamic Shariah) and Ihsan (Islamic ethics of conducts), (4) Iman must be measured by deeds, (5) the perfect internalisation of Islamic Shariah bears good ethics and conducts, (6) symbols related to religiosity may not reflect Muslim religiosity and personality, and (7) the standard of Muslim religiosity and personality measurement are the al-Quran and al-Hadith. These principles were developed from the interview session conducted with six (6) well-known Muslim scholars in Malaysia.

⁷ Having or showing deep religious feeling or commitment.

The first principle is about judgement of evaluation that is limited to outward/external/behavioural aspects only. In this principle, individual is considered as a good Muslim if they perform their obligations and obey the *Shariah* rules although it is not from his heart to get Allah's blessing. Individual cannot be categorised as *munafik* or *fasiq* or *kafir*, unless they show the bad manners such as drinking alcohol, gambling (Surah Al-Maidah:41), taking *riba* (Surah Al-Baqarah: 271), stealing (Al-Maidah: 38), and committing adultery (Surah An-Nisa: 15).

The second principle describes that "the perfect measurement is only from Allah". In this principle, religiosity and personality in Islamic perspectives for the individual can only be measured based on observation. In reality, there are people who pretend to have faith. Allah already explain this situation in Surah Al-Taubah: 56. Only Allah can know precisely about feeling, thinking, and behaviour of individual.

The third principle describes "the basic of measurement is the manifestation of three religious pillars, which is Iman (Islamic belief), Islam (Islamic *Shariah*) and Ihsan (Islamic ethics of conducts)". These three religious pillars are taken from the al-Hadith below:

Narrated by Abu Huraira r.a.:

One day while the Prophet was sitting in the company of some people, (The angel) Gabriel came and asked, "What is faith?" Allah's Apostle replied, 'Faith is to believe in Allah, His angels, (the) meeting with Him, His Apostle and to believe in Resurrection." Then further asked, "What is Islam?" Allah's Apostle replied, "To worship Allah Alone and none else, to offer prayers perfectly to pay the compulsory charity (Zakat) and to observe fasts during the month of Ramadhan." Then he further asked, "What is Ihsan (perfection)?" Allah's Apostle replied, "To worship Allah as if you see Him, and if you cannot achieve this state of devotion then you must consider that He is looking at you."

The fourth principle describes that "*Iman* must be measured by deeds". The faith refers to need to believe in Allah, prophets, angels, holy books, and the meeting with Him can be prove with doing what Allah asks and leave all the prohibitions in Islam. Faith towards believing in the Resurrection can be shown by being patient and *redha* with all the test that come from Allah s.w.t. Hence, the perfect *Iman* can be proven with the good ethics and conducts based on Islamic *Shariah* and *Ihsan*.

The fifth principle describes that "the perfect internalisation of Islamic *Shariah* bears good ethics and conducts." which means that the result from the surveys need to show that *aqidah* is equal to *akhlaq*.

The sixth principle describes that "symbols related to religiosity may not reflect Muslim religiosity and personality". Hence, this implies that symbols are related to religiosity such as the dress code which can be asked in the survey but another component related to *Shariah* based need to be included.

The last principle describes "the standard of Muslim religiosity and personality measurement are the al-Quran and al-Hadith". Al-Quran and al-Hadith are the main sources in Islam. Each element to measure religiosity and personality in Islamic perspective is required to follow the rules provided in Al-Quran and al-Hadith.

According to Manap et al. (2013), there are a few measurement tools that can measure Islamic religiosity, namely Muslim Religiosity and Personality Inventory (MRPI) by Krauss et al. (2005), the Short Muslims Practice and Belief Scale (Short MPBS) by AlMarri, Oei, and Al-Adawi (2009), and Multidimensional Religiosity Scale by Qasmi and Farhana, (2011). However, they are very complex and more likely resembles the conventional measurement tools.

According to the review of all measurement of Islamic religiosity, the present study has agreed to adopt the measurement tool developed by Wan Ahmad et al. (2008). The main reason is that this measurement has been used to test the level of religiosity among banking customers and investors in Malaysia. Hence, the present study aims to use the same measurement with the intention of comparing the results with the findings of previous studies. All the items in this measurement tool are simple and can be easily understood by the respondents. Nevertheless, it is important to note that from the review of researcher regarding all the measurement tools, the elements and items presented in the Islamic religiosity measurement are considerably similar due to the fact that the fundamental of Islamic religiosity originates from one similar root which is under *Al-Maqasid al-Shariah*.

3.6 Investment Risk

In the economics and psychology disciplines, the concept of risk is related to choice situations which involve both potentially positive and negative outcomes. Lee (2001) defines investment risk as the degree of risk which affects investor's decision making. Farley Financial Dictionary (2009) defines investment risk as "the risk that an investment will result in a loss. Nearly all investments have some investment risk: a stock may decline, a bond may default, and the underlying asset of a derivative may not behave in a certain way". Hence, the definition clearly explains that all investments carry some degree of risk. Stocks, bonds, unit trust fund, and exchange traded funds can lose value, even all their value if the market conditions turn sour (Financial Industry Regulatory Authority, 2016; Investment Industry Regulatory Organization of Canada, 2015).

Moreover, Olsen (1997) explains that investment risk appears to be a function of four attributes, namely the potential for a large loss, the potential for a below-target return, the feeling of control, and the perceived level of knowledge. The principal risk attributes appear to be the potential for the level of knowledge about an investment (Olsen, 1997). Moreover, different perceptions and response towards investment risk increase the possibility of miscommunication and misunderstanding between advisors and client in investment decision (Olsen & Cox, 2001).

There are different types of risk in investment. Lee (2001) in his study categorised risk under four headings, namely investment risk, currency risk, political risk, and institutional risk. Another study by Grewal, Gotlieb, and Marmorstein (1994) identified several types of risks which are described as follows:

- (1) Performance risk is the risk associated with uncertainties regarding the product that failed to perform according to expected levels.
- (2) Financial risk is associated with the costs and expenses involved with the product, including the uncertainties whether the product is worth the amount of money.

In addition, many investment industries in the world has divided the types of risk into more specific risk which can provide a clear explanation to the investors. For example, Investment Industry Regulatory Organization of Canada (2015) in their 'Investor Bulletin' has clearly differentiated the types of risk in investment which include market risk, liquidity risk, inflation risk, product risk, business risk, and foreign exchange risk. In Malaysia, all the companies that offer investment products need to set up a prospectus for each of their investment product according to the prospectus guidelines developed by Securities Commission Malaysia (2017) under section 377 of the Capital Markets and Services Act 2007 (CMSA). The first prospectus guidelines were introduced by SC in year 2012, which was then revised on 30th November 2017. It is clearly stated inside the prospectus guidelines that "information to investors must be presented in a manner that can easily understood to enable them to assess and make an informed investment decision". The type of risk involved in each investment product is a compulsory element that needs to be disclosed by the investment companies. This situation shows that it is important for the investors to understand each type of risk involved in investment.

Previous study by Goter and Bikker (2013) investigated the investment risk taking by institutional investors by comparing the investment risk taking between pension funds and insurance firms. It was also assumed that institutional investors with more capital take more investment risk, while larger institutional investors take more investment risk. They found that investors with larger capital buffers take more equity risk. In addition, the second result between portfolio size and risk taking was deemed weaker but are considered positively significant.

According to Hayes (1998) Islamic business sector is in no way immune to the economic forces, while Islamic investors and capital users tend to be more concerned with illiquidity risk, credit risk, capital structure risk, currency risk, and overall economic risk. Illiquidity is at or near the top list of concerns for most individual Islamic investors because 80 to 90% of Islamic funds are employed in short-term *murabaha* transactions, which makes it is more liquid. Many individual investors are naturally averse to risk which causes them to prefer greater liquidity to higher returns.

Overall, it can be concluded that understanding investment risk can influence consumer to understand about financial product and help them to make investment decision. Any investment tends to carry the element of risks. Therefore, investors should consider the following risk factors prior to making any investment decision as clearly explained by The Federation of Investment Managers Malaysia (2014b) in Appendix G. In regard to this study, these factors have motivated the researcher to investigate the level of understanding on investment risk among individual investors and which risks that are considered when making a decision to invest in IUT.

3.7 Risk Preferences

Risk preferences is "a concept that describes what one does when faced with a risky option and a safer alternative, it is an important predictor of one's behaviour under risk" (Hsee & Weber, 1997). Investors' decision making is not always based on rational factors, but also influenced by the psychological factor. Risk preference can be defined as a continuum from risk avoiding to risk seeking (Weber & Milliman, 1997). In some situation, scholars also call these risk preferences as risk tolerance.

According to Peirson, Brown, Easton, and Howard (2014), the preference for investing is dependent on the attitude of the investors towards risk and return which is explained as follows:

"Risk aversion does not mean that an investor will refuse to bear any risk at all. Rather it means that an investor regards risk as something undesirable, but which may be worth tolerating if the expected return is sufficient to compensate for the risk." Hsee and Weber (1997) consider risk preference as a continuum and use the term more risk seeking to subsume both "more risk-seeking" and "less risk averse" in their strict sense. Risk aversion typically reflects negative emotions engendered by risk such as dread or of the fear of losing control (Slovic, 1987). Moreover, risk adverse investors tend to shy away from investing in the market due to the fear of losses if the market conditions are volatile (Public Mutual Berhad, n.d.).

Grable (2000) defines financial risk tolerance as "the maximum amount of uncertainty that someone is willing to accept when making a financial decision, reaches into almost every part of economic and social life." According to Jacobs-Lawson and Hershey (2005), most of the work in the area of financial risk tolerance focuses on individuals' general financial investment decisions. On top of that, it was also found that risk-tolerance individuals prefer to invest in high risk options such as equities, whereas those who are risk averse prefer investing in bonds and certificate deposit.

Weber and Milliman (1997) describe the conceptualization and role of risk preference under two prominent frameworks for decision making under risk. In the expected utility (EU) framework, risk preference is operationalized as "risk attitudes that are descriptive labels for the shape of the utility function presumed to underlie a person's choices." The person is classified as averse person when they make a choice of a sure amount of money over lottery with equal expected value. However, the quantification of risk and risk attitudes play the least role in the EU framework.

In contrast, risk and risk preference are central to other major theoretical frameworks for decision making under risk, particularly the risk-return framework which is prevalently encountered in the theory of finance. In the risk-return framework, (1) expected return is

usually assumed to be measure of value, (2) riskiness is measured differently by different models, (3) greater value and lower risk are assumed to be more desirable, and (4) an investor's preference for risk is assumed to determine one's risk-value trade-off. Both EU and risk-return models provide rational conceptualizations of decision making under risk which ought to be compatible with each other.

A considerable amount of studies in economics and finance have concluded that women are more risk averse than men which are generalized based on the findings of investment behaviour studies (Powell & Ansic, 1997; Nelson, 2015; Kliber et al., 2016). In other words, male investors are likely to invest in risky product (Kliber et al., 2016). This is in agreement with Rizvi and Fatima (2015) which states that there are more male investors who invest in the stock market compared to female investors who are more risk averse.

Guiso, Sapienza, and Zingales (2013) concentrated in their analysis on risk aversion measured by a qualitative and quantitative approach. A substantial increase of risk aversion was reported in the financial crisis compared to the pre-crisis level. Ownership of risky assets is negatively related to risk aversion. Guiso, Sapienza, and Zingales (2013) suggest that psychological factors act as drivers of risk aversion due to their ability to rule out alternative explanations such as wealth or background risk.

In addition, according to Samanez-Larkin and Knutson (2015), financial theories expect that younger adults generally prefer to avoid financial risk, while older adults tend to avoid physical risk. Hence, older adults are assumed to show greater financial risk aversion compared to younger adults. However, these suspected differences do not consistently emerge in well-controlled behavioural tasks. In fact, a recent meta-analysis showed no evidence of systematic age-related differences in risk taking. In tasks that points out about risk taking increases earnings, older adults were found to avoid more risk but in tasks in which risk-taking decreases earnings, older adults tend to seek more risk. Nevertheless, older and younger adults do not differ in their tendency to take risks when choices were framed as gains versus losses.

Finally, a study by Kliber, Ł t, and Rutkowska (2016) found that less educated investors are also eager to take higher risk, while the less experienced investors are more risk averse. However, the more experienced market participants tend to estimate the risk of their portfolio through standard deviation or expected shortfall and frequently use technical analysis.

From the review of the literature on risk preferences, it can be concluded that most women are risk averse individuals which causes them to avoid investment product with high risk. Hence, this is different with the attitude of male investors who are more risk seeker investor and interested to invest in risky investment product. However, the previous literature shows that there are limited number of study that investigate the risk preferences among investors in Malaysia, especially Muslim investors. Therefore, this limitation has encouraged the researcher to investigate the attitude of Muslim's investors towards investing in Islamic unit trust funds.

3.8 Product Knowledge

Product knowledge is defined as the information stored in the memory which covers several aspects described as follows: (1) the availability and characteristics of product and services, (2) where and when to buy, and (3) how to use products (Blackwell et al., 2001b). Consumer knowledge can be defined as the subset of the total amount of information stored in the memory that is relevant to product purchase and consumption (Blackwell et al., 2001a). The information that are known and unknown to the consumers strongly influence their decision-making processes. Consumer knowledge may also determine the final decision beyond affecting how a decision is made. Knowledgeable consumers are more capable of evaluating product's true merits, which gives them a greater chance of choosing a better product.

The effect of consumer knowledge on consumer decision making has been studied in several ways (Brucks, 1985; Alba & Hutchinson, 1987; Lin & Chen, 2006). Product knowledge has been recognised as a characteristic in consumer research that influences all phases of the decision making process (Bettman & Park, 1980). Product knowledge plays an important role in the research of consumer behaviour (Selnes & Howell, 1999; Lin & Chen, 2006), which is also recognised as an important factor in the research on consumer decision making (Raju, Lonial, & Mangold, 1995). As a result, it is considered as a crucial element in purchasing (Lin & Chen, 2006).

In the business strategy, the marketers will advertise their product to the public because the main goal of advertising is to provide relevant knowledge and information to the consumers regarding their product. This information is believed to assist them as the solution to the problem regarding purchasing decision making (Blackwell et al., 2001b). Blackwell, Miniard, and Engel (2001a) describe five different types of consumer knowledge as follows: (1) knowledge of product's existence, (2) knowledge of product's attributes and associations, (3) purchase knowledge, (4) consumption and usage knowledge, and (5) persuasion knowledge. Knowledge of the product's existence is one of the most fundamental aspects of consumer knowledge which determines whether consumers are aware of the existence of a product. Gaining awareness among the consumers is essential, especially for the new products. Advertisement is one of the methods to create awareness about the new product. Each product within the awareness set is likely to have a set of associations between itself and other information stored in memory or also known as product image.

Image analysis involves examining what consumers know about the attributes and associations of a product. Purchase knowledge encompasses various pieces of information possessed by consumers about purchasing a product which include what consumers know about the product's price, whether it can be bought more cheaply at certain times, and where the product can be purchased. Moreover, consumption and usage knowledge encompass the information in memory about how a product can be consumed and the necessary requirement to actually use the product.

Finally, persuasion knowledge represents what consumers know about the goals and tactics of those trying to persuade them. Persuasion knowledge is important because it influences how consumers respond to persuasion attempts. Knowledge about a particular persuasion tactic may not only eliminate its effectiveness, but also reduce persuasion such as when consumers resent from being subjected to tactics perceived by them as manipulative.

Brucks (1985) describes that product knowledge is based on memories or known knowledge of the consumers which is further explained as follows:

"The measures of consumer product class knowledge used in previous studies fall into three categories. The first measures an individual's perception of how much she or he knows... The second category measures the amount, type, or organization of what an individual actually has stored in memory...The third category measures the amount of purchasing or usage experience with the product." The above review provides a definition of product knowledge as divide by Brucks (1985) into three major categories shown as follows: (1) subject knowledge or perceived knowledge, (2) objective knowledge, and (3) experience-based knowledge.

Alba and Hutchinson (1987) proposed that consumer knowledge on product consists of two major components, namely familiarity and expertise. Familiarity is defined as the number of product-related experiences that have been accumulated by the consumer, while expertise is defined as the ability to perform product-related tasks successfully.

Moreover, Marks and Jerry C. Olson (1981) define product knowledge as "product related information stored in memory, such as information about brands, products, evaluation, decision heuristics and usage situations". They proposed that consumers with higher levels of product knowledge have better developed and more complex schemata, with well-formulated decision criteria.

On a similar note, Selnes and Kjell Gr'nhaug (1986) define the conceptual of product knowledge as "first, knowledgeable consumers are expected to possess superior ability in approaching new information; second, product knowledge is assumed to impact the decision-heuristics applied in handling buying decisions".

Apart from that, consumers develop product knowledge through the search and use of information as well as experience (Howard & Sheth, 1969). The content of knowledge domain may be described in terms of objects or brands known by the consumers, their knowledge about product attributes and usage situations, the ability to discriminate between product alternatives, and product evaluations (Johan et al., 2014). The consumer information processing and decision making literature has long recognised the importance
of product knowledge in decision making (Brucks, 1985; Kolyesnikova, Laverie, Wilcox, & Dodd, 2010).

According to Philippe and Ngobo (1999), consumer knowledge consists of two element, namely familiarity and product knowledge. Product knowledge is composed of two components which include product class information and expertise. Product class information is described as knowledge in terms of quantity of information stored in memory regardless of its truth. Moreover, it can be analysed in terms of objective product class information (e.g. the actual number of brands and attributes listed) and subjective product class information (e.g. consumer perception of his/her product class information).

Other than that, expertise consists of different rules in regard to the use of declarative knowledge or "production rules" referring to real objects or concepts. Hence, expertise is a function of declarative knowledge (product class information) but not similar to it. Two people may have the same quantity of information and exhibit different performance on product judgment and choice (Green & Gilhooly, 1992). Moreover, expertise can be further categorised into objective and subjective expertise. Objective expertise corresponds to the actual problem-solving capacity of a consumer, while subjective expertise corresponds to the perception of one's ability to perform.

Cant and Scheers (2012) define consumer knowledge as a consumers' confidence or experience in buying provided that they are well informed on the prices of products, the types of stores, product assortment. The knowledge on the product will influence consumers to feel comfortable in sharing their knowledge with others. If a consumer is enlightened through various media channels and word of mouth, they begin to store this information in their memory and feel confident in their knowledge. Therefore, they will be willing to share it with the thought of it being a good source of information whenever the information is asked of them.

Mishra and Kumar (2012) demonstrate the impact of subjective knowledge (i.e. perceived knowledge as opposed to actual objective knowledge) on information searching and involvement in the purchase decision process of unit trust funds. The findings of their study revealed that investors who perceive themselves as highly knowledgeable will also perceive the purchase of unit trust funds to be less risky, thus they will be motivated to actively engage in investment decisions. On the other hand, investors who perceive themselves as less knowledgably will perceive the purchase of unit trust funds to be riskier and are motivated to remain passive during investment decisions. High perceived knowledge will encourage overconfidence which can lead to self-regulation failure and greater risk-taking as shown in past researches (Shu et al., 2012).

Therefore, from the review of previous studies on product knowledge, it can be concluded that consumer with higher levels of product knowledge have better developed and more complex plans, with well formulated decision criteria (Marks & Jerry C. Olson, 1981). Moreover, consumers with higher level of product knowledge are more diagnostic and better informed compared to those with lower level of product knowledge (Kempf & Smith, 1998). Therefore, the higher the level of product knowledge a consumer possesses, the less chance there is for evaluation bias to be generated.

3.8.1 Measurement of Product Knowledge

Selnes and Kjell Gr'nhaug (1986) constructed the product knowledge based on objects or brands known by the consumers, their knowledge about product attributes and usage situation, and the ability to discriminate between product alternatives and product evaluations. The product knowledge has been measured based on subjective and objective knowledge. Subjective knowledge can be measured based on consumer's interpretation of what one's knows, while objective knowledge can be assessed based on another person's evaluation of this knowledge. Subjective knowledge can be measured based on the following four criteria: (1) level of subjective knowledge, (2) confidence, (3) advice giving, (4) self-evaluation of brand knowledge. On the other hand, objective knowledge can be measured based on the level of differentiation, discrimination, and integration. Knowledgeable consumers are more able to choose an alternative close to the ideal of preferred.

Knowledge of unit trust investment has been studied by Wan Nawang et al. (2008). This study developed 23 items that are divided into several categories which include knowledge (5 items) and perceptions (18 items) towards unit trust investment. All the items are constructed according to the 5 item of Likert scale ranging from (1) strongly disagree to (5) strongly agree. The items can be referred in Appendix H.

This study has adopted most of the items in this construct to develop the item on product knowledge of Islamic unit trust in Malaysia. However, this study decided to combine both aspects of knowledge and perceptions towards unit trust investment to be turned into one construct of product knowledge. The purpose of the combination because according to the discussion by Selnes and Kjell Gr'nhaug (1986), the element of product knowledge should be constructed according to the objects or brands known by the consumers, their knowledge about product attributes and usage situation, and the ability to discriminate between product alternatives and product evaluations.

3.9 Mediation Effect of Product Knowledge

There is limited study that have investigated the mediation effect of product knowledge. Previous study by Liang (2012) only investigated the relationship between consumer product involvement, product knowledge, and impulsive buying behaviour. The results show that product knowledge is positively correlated with consumer product involvement and impulse purchasing behaviour. However, product knowledge does not mediate the relationship between information sources and consumer's confidence in choice (Coulter et al., 2005). This situation shows that the result on mediation effect of product knowledge is not sufficient. Hence, more research is need to test the mediation effect of product knowledge in other area of study.

3.9.1 Financial Literacy and Product Knowledge

Moreover, financial literacy is related to a set of skills that allow individuals to manage their money wisely (K. Hall, 2008). These skills consist of some understanding on the essential financial concepts, risk and return, and basic numeracy calculation. Broader concepts of financial literacy also assume that individuals will make better judgements about their financial affairs if they understand the relationship between their own finances and the wider economy.

In relation to this, Miller et al. (2009) state that,

"Financial literacy is the combination of consumers' or investors' understanding of financial products and concepts and their ability and confidence to appreciate financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being."

Moreover, educational efforts are still necessary even when consumers possess usage knowledge. For example, the lack information about how to use it requires the marketing efforts to be designed for the purpose of educating the consumer about how to consume the product.

Therefore, financial literacy among individuals will increase their knowledge on financial products in the current market situation.

3.9.2 Information Sources and Product Knowledge

A study by Alba (1983) shows that information sources and product knowledge are positively related. Coulter et al. (2005) also reveal that personal search and product experience are positively related with product knowledge. However, interpersonal sources such as friends and salesperson are negatively related. They explain that advertising serves as a significant source of product knowledge in consumer decision making in mature market economies.

"Television, radio, magazines. All the major newspapers and magazines are advertising. It is, of course, a big help for the merchants. Customers see it often and then they hear about it-see it on billboards and so on. They come in, they buy it...a professional cosmetician comes here...this is very popular...people are often, thanks to the advertising and TV, trying many things. (1998 industry informant; on-site translation)".

3.10 Moderation Effect of Product Knowledge

Product knowledge have been tested as moderating variable a considerable amount of established studies. Product knowledge or experience can influence consumers' ability to look for and understand information (Bei & Widdows, 1999).

Decisions to purchase are made repeatedly or frequently over time which indicates that consumers may rely not only on the previously acquired product information stored in memory, but also on the judgements of brand satisfaction or dissatisfaction that occur during the post-purchase evaluation or usage. In addition, consumers may engage in other types of processing outside the immediate choice context. For example, consumers may decide to choose a product based on knowledge from an advertisement or due to the coupon acquisition. (Hoyer, 1984).

Bei and Widdows (1999) tested the effects of information on purchase decision with the moderation by product knowledge. This research found that highly knowledgeable consumer and the novice will interpret information in different ways. The novices' consumer might not understand the complex information provided or realise that simple information are not sufficient to make the best purchase decision. On the other hand, knowledgeable consumers could easily distinguish between simple and complex information. Moreover, experts might ignore the information when simple information is provided to them and only rely on their own product knowledge to make purchase decision.

Chiou (1998) tested the moderation of product knowledge on consumer' purchase intention. The results found that subjective knowledge is a moderating variable for the relationship between perceived behavioural control and purchase intention. Moreover, Chen (2015) investigated the relationship of product knowledge as a moderator variable with restaurant stimuli and diners' emotion. The result found that product knowledge can moderate the relationship between restaurant stimuli and emotions.

Cowley and Mitchell (2003) examined how the differences in the organization of brand information in memory between higher and lower knowledge consumers affect which brands are retrieved when consumers are provided with usage situation. Previous research in consumer behaviour revealed that goals and usage situations influence the type of

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attribute information that is examined during stimulus-based and mixed choice as well as what information is recalled after the choice (Johnson & Russo, 1984; Brucks, 1985; Huffman, Cynthia, & Houston, 1993; Ratneshwar, Srinivasan, Pechmann, & Shocker, 1996).

Huffman et al. (1993) found that a greater proportion of the information searched and recalled as goal related. Previous research also found that higher knowledge consumers are more selective in the information that have to be examined prior to making a choice (Brucks, 1985). Therefore, higher knowledge consumer will have better understanding regarding the attributes that should be examined to make the best choice (Alba & Hutchinson, 1987). This result indicates that higher knowledge consumer should examine alternative brands with a specific usage situation in mind as well as focus their attention on learning about the brands that are suitable to the usage situation.

Therefore, this study is interested to investigate the moderation effect of product knowledge between information sources and Islamic unit trust investment decision making among Muslim investors in Malaysia. In addition, this study also investigates the moderation effect of product knowledge between religiosity and Islamic unit trust investment decision making. From researcher understanding, religiosity will affect Muslim's decision making (S. S. Alam et al., 2011). Those who have high religious consideration will be more aware to choose a product or services (Johan et al., 2014). However, without sufficient knowledge about the product, it cannot influence them to choose a right product whenever have high level of religiosity. From the view of researcher, there is no previous study which tested this relationship.

3.11 Summary of Chapter

This chapter has presented the literature review on investment decision making, theories related to the study, and all the necessary variable such as Islamic unit trust investment decision, Islamic financial literacy, information sources, religiosity, investment risk, and product knowledge. This chapter was also divided into subsections that provide a detailed explanation on the testing of the moderating and mediating effect of product knowledge. Apart from that, the measurement instrument conducted from the previous study for each of the variables are discussed in this chapter.

The next chapter of this study will descibe the development of the theoritical framework, research hypothesis, and instrument for questionnaire using the information derived from the literature that have been discussed in this chapter.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

The purpose of this chapter is to describe the research methodology and procedures adopted to fulfil the objectives of the present study. This chapter is divided into the following sections which are devoted to describing the conceptual model and hypothesis development, research design, data collection, measurements, questionnaires design, and data analysis technique.

4.2 Research Paradigm

Research paradigm is related to the development of knowledge and the nature of that knowledge in a particular field (B. Johnson & Christensen, 2010). Research paradigm includes the research methods and research philosophies. The research philosophy adopted by the present study contains important assumptions regarding the worldview of the researcher. In regard to this, these assumptions will underpin the research strategy developed for this study as well as the methods as part of the strategy. On top of that, research philosophy can be viewed in terms of ontology, epistemology, and axiology (Saunders, Lewis, & Thornhill, 2009).

Ontology is concerned with the nature of reality (Saunders et al., 2009), whereby there are two aspects of ontology philosophy, namely objectivism and subjectivism. Objectivism portrays the position of social entities existence, which is external to the concern of social actors' existence. On the other hand, subjectivism holds that social phenomena are created from the perceptions and consequences related to the actions of social actors in regard to their existence.

The concern of epistemology revolves around what constitutes an acceptable knowledge in a field of study (Saunders et al., 2009). In relation to this, the researcher on this philosophy has agreed on the method of collection and analysis of facts considering that they are likely to be similar as natural scientist. The philosophy of epistemology can be reviewed in depth using three other philosophies, namely positivism, realism, and interpretivism. The philosophy of positivism is associated with an observable social reality and end with the production of credible data. Meanwhile, the philosophy of realism refers to a reality that is considerably independent of the mind by assuming that the theory is related to the presence of the mind and its content. Finally, the philosophy of interpretivism advocates that it is necessary for the researcher to understand differences between humans, particularly in their role as social actors. On top of that, the philosophy of interpretivism comes from two intellectual traditions known as phenomenology and symbolic interactionism. Nevertheless, the interpretivist philosophy requires the adoption of empathetic stance (Saunders et al., 2009).

In addition, axiology is a branch of philosophy that studies judgements about values (Saunders et al., 2009). The data collection technique for this philosophical approach is obtained from the researcher values. For example, the technique of data collection for this approach requires a study to be conducted on interview respondents. This research philosophy suggests that the personal values of the researcher towards the respondents are higher than the respondents' views that are anonymously expressed on the questionnaire.

However, the present study has chosen to adopt the philosophy of positivism. Therefore, all research process, procedures, and activities derived from this paradigm will consider reality as the actual and present phenomena that are waiting to be discovered. On top of that, the present study stood on the objectivist's viewpoint based on the belief that the knowledge already exists. Moreover, this particular aspect has been widely accepted by business and management researchers due to its ability to produce valid knowledge (Saunders et al., 2009). The current research started with the observable social reality by conducting an observation with the help of credible data. Next, hypothesis is developed based on existing theory in order to generate a research strategy for the purpose of data collection. In response to this, these hypotheses will be tested and conformed, in whole part, or refuted, which leads to development of other theory that can be employed by future research.

More importantly, the results could be used to compare whether there are similarities, differences, strengths, and limitations with past researches given the fact that the present study focuses on examining the established theories. Hence, this study seeks to expand and re-evaluate the existing theoretical framework based on the decision-making process of Muslim investors in Islamic unit trust fund. In regard to this, hypotheses were developed, explored, and tested. This positivism style will focus on causality and law like generations with the aim of reducing the phenomena to the simplest elements (Saunders et al., 2009). On a more important note, this study regards that this phenomenon is standalone, factual, and free from prejudices considering that objectivists profess knowledge as objective (M. A. Smith, 1998).

Moreover, the data collection techniques that are frequently used under the positivism approach involve high structure, large samples, measurement, and quantitative (Saunders et al., 2009). The framework of this study is developed based on the combination of the theories with the sample size of 1000 respondents, whereby all the data will be analysed

using measurement scale such as Kruskal-Wallis H Test, Mann Whitney U Test, Chi Square Test, and PLS-SEM.

Generally, there are two types of research approach when conducting a research, namely deductive approach and inductive approach. The deductive approach is based on theory testing which consists of five sequential stages described as follows (Robson, 2002):

- 1. deducing a hypothesis from the theory;
- expressing the hypothesis in operational term, which proposes a relationship between two specific concepts or variables;
- 3. testing the operational hypothesis;
- 4. examining the specific outcome of the inquiry;
- 5. if necessary, modifying the theory in the light of the findings.

On the other hand, the induction approach is a research based on building theory, where the researcher collects the data and develop a theory based on the data analysis. Moreover, research that adopts the inductive approach is likely to be particularly concerned with the context of the event. Hence, small sample of subjects might be more appropriate compared to a larger sample required in the deductive approach (Saunders et al., 2009).

In the context of this study, the deductive approach has been chosen to be adopted which allows the researcher to combine the theories that are related to the objective of this study and develop a list of hypotheses. Therefore, all the hypotheses (presented in sub 4.8 page 141) need to be tested to identify the relationship between the variables.

4.3 Research Design

Research design is a blueprint for the collection, measurement, and analysis of data that are developed based on the research questions of the study (Sekaran & Bougie, 2013). This study follows a quantitative methodology approach which refers to the measurement where numbers are used to represent the phenomenon being studied. On top of that, this study adopts a survey research design, particularly because this study aims to assess the thoughts, feelings, and opinions about a given situation by collecting primary data from the respondents (Fisher, 2010). Moreover, the survey method allows quantitative data to be gathered and analysed using descriptive and inferential statistics. Next, the possible reasons for particular relationships between variables can be suggested, while the models of these relationships can be produced (Saunders et al., 2009).

More importantly, survey research provides a fast, cheap, efficient, and accurate assessment and information about a given population (Zikmund, Babin, Carr, & Griffin, 2013). Additionally, survey research utilises questionnaires instead of observations while secondary data and interview are considered inexpensive and easy, especially when collecting data from a large sample.

4.4 **Research Purpose**

There are three common research purposes in the literature, namely exploratory, descriptive, and causal. Hence, the nature of the study is dependent on the advanced stage of the knowledge in regard to the research topic (Sekaran & Bougie, 2013).

The purpose of the research begins with the exploratory stage with the obvious purpose of exploring new areas of research. More specifically, an exploratory study will be conducted when little is known about the situation at hand, or limited information regarding how similar problems or research issues were solved in the past. On a similar note, exploratory study is deemed necessary when some facts are known, but more information is required to build a viable theoretical framework (Sekaran & Bougie, 2013).

Next, the research stage will proceed to the descriptive stage for the purpose of describing certain characteristics of the phenomena. Descriptive studies are often designed to collect data that describe the characteristics of persons, events, or situations. Descriptive research can be in the form of quantitative or qualitative, whereby it may involve quantitative data such as demographic data, satisfaction ratings, or production figures (Sekaran & Bougie, 2013). Moreover, the descriptive study also conducts the process of data collection using the qualitative method.

Finally, causal studies are described as hypotheses testing, which is the heart of scientific approach to research. In causal study, the researcher will test one or more factors that tend to generate the problems (Sekaran & Bougie, 2013).

Overall, it can be concluded that the present study is at the exploratory stage considering that one of the tested variables which refers to Islamic financial literacy is still new in the research area. Moreover, it should be noted that there is still limited information on Islamic unit trust investment decision making. The previous research on mediating and moderating effect of product knowledge also limited. Hence, more information is needed to construct the theoretical framework of this study.

4.5 Research Framework

The model presented in this study involves direct relationships between Islamic unit trust investment decision making (IUTID) with demographic factors, Islamic financial literacy

(IFL), information sources (IS), religiosity (RE), and investment risk (IR) as depicted in Figure 4.1. The combination of these factors is based on the decision making model developed by Engel et al. (1990) which is widely known as Engel, Blackwell and Miniard Decision Making Model (EBM Model). The present study has decided to integrate three (3) theories which include EBM Model, Modern Portfolio Theory, and Prospect Theory.

EBM Model is concerned with the individual factors that can affect the decision-making process which consists of three aspects, namely individual, environmental, and psychological factors that play a significant role in individual decision making. Prospect theory is one of the theories under behavioural finance that describes the acceptance of investors towards investment risks. Meanwhile, behavioural finance focuses on the investment behaviour of investors which is closely related to the factors of psychological (Baker & Ricciardi, 2014). Nevertheless, the present study has decided to implement the EBM Model as the main theory in the framework considering that it provides a detailed explanation on the factors that can affect the decision-making process.

Furthermore, Modern Portfolio Theory is more focused on the portfolio investment and investment risk. Hence, it can be concluded that it is very important for organizations to continuously observe the behaviour of investors in regard to their investment decision making.

As presented in Figure 4.1, it is possible that a more complex combination of factors may influence investment decision making. However, the initial research step of testing the individual factors has not been taken in Malaysia; hence, it is deemed appropriate for the exploratory stage of Islamic unit trust investment decision making research. The model employed in this study is the expanded model utilized by Capon et al. (1994), Joo and Grable (2000), Wan Nawang et al. (2008), Nathie (2009), Jamaludin (2013), and Yusuff and Mansor (2016).

The model of this study is composed of the direct relationship between IV (IFL, IS, RE, and IR) with DV (IUTID). On top of that, this model includes the mediation and moderation effect of product knowledge (PK) on Islamic unit trust investment decision making as employed by a number of previous studies (e.g. Bian and Moutinho, 2011; Frewen, Schmittmann, Bringmann, & Borsboom, 2013; Andrade, Browne, & Tannock, 2014; Baloyi, Van Waveren, & Chan, 2014; Ruiz & Odriozola-González, 2016). It is important to note that all the studies tested the mediation and moderation effect using one variable in different research area.



Figure 4.1: Theoretical Framework of Islamic Unit Trust Investment Decision.

The test model,

Y = f(x), where Y= Islamic unit trust investment decision., x = Demographic factors (DE), Islamic Financial Literacy (IFL), Information Sources (IS), Religiosity (RE), Investment Risk (IR).

$$Y = a + b + b + b + b + e$$

Mediation by product knowledge (M);

$$Y = a + b + c_{1} + d_{1} + e;$$

Y= IUTID, X=IFL, IS, M =PK

Moderation by product knowledge (M2)

$$Y = \alpha + \beta_1 X + e$$

$$Y = \alpha + \beta_1 X + \beta_2 M_2 + e$$

$$Y = \alpha + \beta_1 X + \beta_2 M_2 + \beta_3 X_2 + e;$$

$$Y = IUTID, X = IS, RE, M = PK$$

4.6 Decision Making in Islamic Unit Trust Funds

As shown in Figure 4.1, the Islamic unit trust investment decision making represents the dependent construct of the conceptual model. Moreover, IUT is a form of investment scheme that provides a platform for individuals that share similar financial objectives to pool and invest their money, particularly in a diversified *Shariah*-compliant portfolio of stocks, *sukuk*, and other Islamic securities (Mohd Lutfi, n.d.).

In Islam, wealth does not only revolve around its ownership and distribution which is based on the principle that some people own more while others own less due to the fact that Islam is more concerned about the management and attitude towards one's wealth. Hence, one's honour before Allah in regard to the wealth is determined based on his good management and right attitude towards the amount or size of ownership. More importantly, it should be noted that bad management and wrong attitude towards wealth will eventually throw people into destruction; for example, the case of Qorun as narrated in the al-Quran (28:79-82) (Budiman, Mohd. Amin, & A. Yusoff, 2015). Ton and Do (2014) point out that the procedures for decision making involve consumer's judgement, prediction, analysis, and review of the products or services. Investment psychology as well as information gathering and understanding about the products are considered as the factors that can influence the decision making of consumers. Overall, the behaviour, action, and decision of consumers on certain matters need to be taken into consideration to enable the production of products and service that fit the customers' needs and preferences (F. R. Ismail & Nasiruddin, 2014).

4.7 **Operationalization of Variables**

Saunders, Lewis, and Thornhill (2008) describe operationalization of constructs as the translation of concepts into tangible indicators of their existence. On top of that, operationalization of constructs involves defining the measures of the variables that can be used to represent and measure the constructs (Hair, Jr. et al., 2010). Hence, this section aims to provide the definition of the constructs as well as the selection of the items for each construct.

4.7.1 Operationalization of Islamic Unit Trust Investment Decision Making

The literature of this study suggests that decision making refers to the process of identifying and choosing the available alternatives according to the values and preferences of the decision maker (Harris, 2012). Similarly, the present study operationally defines Islamic unit trust investment decision making as the ability of the investors to choose investment products according to their objective and goals.

The decision in choosing IUT is based on a number of selection criteria of a particular product which include investment performance, experience of investment manager, management fee, size of fund, fund commitment with Islamic principles, government linked fund, private linked fund, liquidity, risk and return as well as the reputation of investment manager (Capon et al., 1996, 1994; Ramasamy & Yeung, 2003; Wan Nawang et al., 2008; Jamaludin et al., 2013). Therefore, the current research aims to measure IUTID based on the ten items of investment decision criteria.

4.7.2 Operationalization of Islamic Financial Literacy

IFL is a new element of Islamic knowledge on financial literacy. As has been mentioned, financial literacy is related to the person that possess the ability to manage money (Huang et al., 2013; Jorgensen & Savla, 2010; Remund, 2010). Therefore, the present study defines IFL as the ability of an individual to analyse their own financial knowledge, skill, and attitude in regard to money management based on Islamic perspective. In the case of this study, IFL is measured using 7 items of questions developed by Abdul Rahim, Abdul Rashid, and Hamed (2016).

4.7.3 Operationalization of Information Sources

IS refers to one of the elements in decision making which requires the individual to look for more information before making any purchases (Chao & Rajendran, 1993). In the purchase decision process, consumers may receive two types of information, namely interpersonal and impersonal (Capon et al., 1996). Therefore, the present study will evaluate the IS of investors based on both type of information, which will be measured using 11 items adapted from Capon, Fitzsimons, and Price (1996).

4.7.4 Operationalization of Religiosity

RE can be defined as the behaviour and attitudes of individual based on their religious belief (Delener, 1990; Stolz, 2008). RE is important in decision making because it is capable of influencing one's cognitive and behaviour (S. S. Alam et al., 2012). According

to Wan Ahmad et al. (2008), in Islam, religiosity is related to *Shariah*, *akhlaq*, and faith. Therefore, this study operationally defines RE as the element that can influence the behaviour of investors in IUTID. Consistent with the study of Wan Ahmad et al. (2008), RE will be measured using eight items based on three dimensions, namely *Shariah*, *akhlaq*, and faith.

4.7.5 Operationalization of Investment Risk

IR can be defined as the degree of risk that can influence the decision making of investors (Lee, 2001). According to Olsen (1997), investment risk appears to be a function of four attributes, namely the potential for a large loss, the potential for a below-target return, the feeling of control, and the perceived level of knowledge. In relation to this, the principal risk attributes appear to be the potential for the level of knowledge regarding investment. Hence, this study defines IR as the factor that can influence investor's behaviour in their investment decision making based on their level of knowledge, particularly on the type of risk of an investment product. The present study have adapted the type of IR based on the elements of risk proposed by CIMB-Principal Asset Management Berhad (2016) and Lee (2001), which consists of 8-item construct.

4.7.6 Operationalization of Product Knowledge

PK is described as the knowledge of consumers about a product (Brucks, 1985) which is considered as an important element in purchasing (Lin & Chen, 2006). PK can be divided into three major categories, namely subjective knowledge, objective knowledge, and experience based knowledge (Brucks, 1985). According to Selnes and Kjell Gr'nhaug (1986), the measurement of PK can be performed based on subjective knowledge or objective knowledge.

PK is also related to the experience of consumers in using the product which enable them to explain the products based on their pros and cons (Cant & Scheers, 2012). In response to this, the present study operationally defines PK as the understanding on IUT products that can influence Muslim investors in their investment decision making. Therefore, PK measurement of this study consists of 7 items that was adapted from Wan Nawang, Hashim, and Marzuki (2008).

4.7.7 Summary Operational Definition of Research Variables

Overall, the operational definitions of each variable in this study are described in the

table below:

Variables	Definition	Sources
Islamic unit	The ability of the investors to choose investment	Harris (2012)
trust	products based on their objective and goals.	
investment		
decision		
Islamic	An ability of a person to analyse financial	Abdul Rahim
Financial	knowledge, skill and attitude of individual related to	et al. (2016)
Literacy	money management based on Islamic perspective.	
Information	An element in decision making where individual will	Chao and
Sources	search for more information before making any	Rajendran
	purchase.	(1993) and

Table 4.1 Operational Definition of Research Variables

		Capon et. al., (1996)
Religiosity	The elements which can influence behaviour of	Wan Ahmad et
	Muslims investor.	al. (2008)
Investment	Factors which can affects investor's behaviour in	CIMB-
Risk	their investment decision making according to their	Principal Asset
	level of knowledge on type of risk in investment	Management
	product.	Berhad (2016)
		and S. L. Lee
		(2001)
Product	An understanding on products which can affect	Brucks (1985)
Knowledge	Muslim investors in their investment decision	
	making.	

4.8 Hypotheses Development

The determinants of IUTID of this research model was developed according to three main items discussed by Engel, Blackwell and Miniard's (1990) Decision Making Model which include demographic factors, IFL, IS, RE, IR, and PK as illustrated in Figure 4.1 which can be referred on page 135.

The variables of IFL and RE are further described to enhance it based on Islamic perspective while the variable of investment risk will be improvised using the Modern Portfolio Theory. Meanwhile, the type of risk preferences among investors is developed using Prospect Theory. This research expands the model developed by Capon et al. (1996), Joo and Grable (2000), and Jamaludin (2013) by adding new variables that have not been tested. This IUTID model also tests the effect of PK as the mediating and moderating variable. The following subsection shows the hypotheses development for each variable used in this study.

4.8.1 Selected Demographic Factors

Demographic characteristics are composed of age, gender, ethnicity, income, education, family size, nationality, life stage, marital status, occupation, religion, and living arrangements. The education, age, and gender of the investors act as the important factors which can affect their decision making (Mujahid et al., 2014). In this study context, gender, age, income, education, occupation, type of residential, risk preferences, and familiarity have been chosen as the demographic characteristics.

According to Sasirekha and Jerinabi (2015), investors demographic and social economic factors tend to influence individuals' investment choice decision. Demographic factors such as gender, age, education, family size, annual income, and savings have an important significance in the investment decision making process (Agnew, 2006; Bajtelsmit & Bernasek, 1996; Barber & Odean, 2001; Geetha & Ramesh, 2012; J. Grable & Lytton, 1999; Haq & Malik, 2014; Hossain & Nasrin, 2012; Lizárraga et al., 2007; Lusardi & Mitchell, 2008; Rizvi & Fatima, 2015; Sadiq & Ishaq, 2014; Tanyolac & Karan, 2015). Hence, the alternate hypotheses are described as follows:

H1: There is significant relationship between (a) gender, (b) age, (c) income,(d) education level, (e) type of occupation, (f) type of residential and Islamic unit trust investment decision making.

4.8.2 Risk Preferences

Risk preferences is a concept that describes what one does when faced with a risky option and a safer alternative, which acts as an important predictor of one's behaviour under risk (Hsee & Weber, 1997). Investors' decision making is not always based on rational factors, but also psychologically influenced. Risk preference can be defined as a continuum from risk avoiding to risk seeking (Weber & Milliman, 1997).

Hsee and Weber (1997) consider risk preference as a continuum and use the term more risk seeking to subsume both "more risk-seeking" and "less risk averse" in their strict sense. Risk aversion typically reflects negative emotions engendered by risk such as dread or fear of losing control (Slovic, 1987). If market conditions are volatile, risk adverse investors tend to shy away from investing in the market due to the fear of losses (Public Mutual Berhad, n.d.). Hence, the alternate hypothesis is as follows:

H2: There is significant relationship between risk preferences and Islamic unit trust investment decision making.

4.8.3 Familiarity

Individual's investment decision is affected by the familiarity of the product (Agnew, 2006). Consumers make a decision because they are familiar with certain product. Familiarity is related with "how much a person knows about the product" (C. W. Park & Lessig, 1981). Product familiarity may be examined with respect to knowledge structure of an individual's long-term memory. They feel confidence in choosing the product because they have an experience using the product. Hence, the alternate hypothesis is as follows:

H3: There is significant relationship between familiarity and Islamic unit trust investment decision making.

4.8.4 Islamic Financial Literacy

Financial literacy is one of the important elements that can affect financial decision making (Rooij et al., 2011). The worlds have revealed the importance of financial literacy following the financial crisis that occurred in 2007 which states that it is not only for ordinary man but also the sophisticated investor in particular (M. A. Abdullah & Chong, 2014).

The crisis has exposed the severity of the consequences that people have made due to their lack of knowledge, especially when it comes to making investment decision in the financial market. The global financial crisis also provides an opportunity to the researchers and financial analysts to differentiate the strengths of conventional and Islamic product in the financial market based on the economic conditions. This situation has created an awareness of the authority to improve financial literacy among the population with the aim of helping them to choose product that can offer suitable returns with low risk in both conditions.

Considerable amounts of research have been done on financial literacy. Müller and Weber (2010) have analysed the relation between financial literacy and unit trust fund investment behaviour and found a positive influence of financial literacy on the likelihood of investing in low-costs fund alternatives. Moreover, study by Rooij et al. (2011) reported that there is a positive correlation between financial knowledge and stock market participation.

Similarly, Clark et al. (2014) investigated the financial knowledge on retirement plan investment performance and revealed a positive correlation between financial knowledge and investment performance. They found that high knowledgeable employees are more likely to hold stock in 401(k) plan. Those who have better understanding on economic and financial conditions have the tendency to gain more return and higher wealth.

In the present study, it is expected that IFL will influence Muslim investors to choose Islamic unit trust fund as their *Shariah* investment instruments. Hence, the alternate hypothesis is as follows:

H4: There is a positive relationship between Islamic financial literacy and Islamic unit trust investment decision making.

4.8.5 Information Sources

The consumer's search for information related to choice is a major component of most consumer behaviour decision models (Beatty & Smith, 1987). Customers search for more information when making decisions before making their purchase (Chao and Rajendran 1993). Similarly, they will seek for more information in order to make the appropriate choice when they feel that a product is closely related to their self-concept (Beatty & Smith, 1987).

In the purchase decision process, consumers may receive two types of information, namely interpersonal and impersonal (mass) communications (Capon, Fitzsimons, & Price 1996). Interpersonal communication is received from both informal information such as family and friends, while formal information or known as impersonal communication comes from organisations sources. Formal information sources as also include newspaper, television, and radio advertisement (Klippel & Sweeney, 1974). The study by Capon et al. (1996) on unit trust fund purchase decision states that impersonal sources include advertising, direct mail, and published fund performance statistics act as the main important information sources to the investors.

Internet also has emerged as a widely used tool for information seeking and decision making in regard to consumer goods, health, news and politics, and others (Roscoe et al., 2016). Internet is a popular online search tool because it provides easy, quick, and efficient access to information (Peterson & Merino, 2003). Internet also provides minimal time availability, minimal effort and cost, information that facilitates better decision making which makes the decision making process more efficient (Peterson & Merino, 2003).

A study by Capon, Fitzsimons, and Weingarten (1994) among affluent investors in unit trust funds purchase decision show that personal information sources are rated low while impersonal, less subjective sources are valued highly. Prior performance is the most important information sources, followed by recommendations from business associates, advertisement by local newspaper, magazines and national papers. Hence, this situation shows that information sources directly influence decision making. Therefore, the alternate hypothesis is as follows:

H5: There is a positive relationship between information sources and Islamic unit trust investment decision making.

4.8.6 Religiosity

Religion has been concluded as a possible determinants of investment behaviour (Keister, 2003) because it can influence individuals' value, habits and attitude, and lifestyle which in turns affects consumers' decision behaviour (Delener, 1994). Schiffman and Kanuk (1997) state that followers of different religious groups buying decisions are influenced by their religious identity.

In the present study, religious has been operationalised using religiosity where it has received increasing attention among behavioural researchers (Delener,1994; Worthington, Everett L. et al., 2003; Wan Ahmad et al., 2008; Muhamad & Mizerski, 2010; Shu et al., 2012; Jamaludin, 2013; Shukor & Jamal, 2013). Marhaini Wan Ahmad et al. (2008) examined the role of religiosity in shaping consumer's choice of banking either Islamic banking or conventional banking. The results revealed that moderate and devout religious consumers tend to choose Islamic banking for either deposit or financing

compared to conventional banking. They also concluded that religious education and age are positively correlated to the index of religiosity.

Renneboog and Spaenjers (2009) examined the relationship of religion and financial decision making and found that those who have religious belief is more likely to save and have low investment in risky assets.

According to Johan, Putit, and Syed Alwi (2014), religion is a factor in deciding the choice of halal and non-halal services and products by an individual. Idris et al. (2011) supported that religiosity is the most significant factor in choosing Islamic products. It is because Islamic products are *Shariah* compliant which could spiritually convince customers that the transactions of Islamic products are non-ambiguous and free of *riba*, which is in accordance to the principles of allowed contribution, honesty, and justice as prescribed by the al-Quran and al-Hadith (Idris et al., 2011).

Religious commitment plays an important role in individuals' live by shaping their beliefs, knowledge, and attitude (Rehman & Shabbir, 2010). The practice of Islam comprised of behaviour of a Muslim. A Muslim with full knowledge of Islam with high sense of understanding is assumed as a practicing Muslim, which drives him towards strong affirmation of truth with tongue, witnessed by his heart, and reflected in his actions, (Baig & Baig, 2013).

Consumer may vary in the criteria they use to evaluate products and services based on their religious values (Delener, 1990). Islam prescribes *riba*, profit without liability/risk, confiscation of others' wealth by prohibited ways and proffers the concept of *halal* which is elucidated as *Shariah* compliant that involves prohibition of *haram* ingredients,

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mistreatment of labour, or environment and harm consumption of any product (Baig & Baig, 2013). The main elements of prohibition in Islamic financial services is taking and charging interest which is not permitted by Allah s.w.t. and strongly prohibited as mentioned in the al-Quran.

The second main prohibition in Islamic financial services is the element of uncertainty (*gharar*). The rationale behind the prohibition of uncertainty sale is to guarantee the satisfaction and full consent of the parties in a contract by providing full knowledge, full disclosure, and transparency to avoid future disputes (Johan & Putit, 2016). Every transaction in Islamic financial services is transparent and prioritise fairness and honesty in order to avoid any misunderstanding and dishonesty among the parties involved (Laldin, 2008b).

The third main prohibition is the element of gambling (*maysir*). *Maysir* refers to "easily available wealth or acquisition of wealth by chance, whether or not it deprives others' right. Islamic financial services are prohibited to deal with any kind of gambling as its prohibitions are clearly stated a few times in the al-Quran.

Hence, it is clear that the main principles of Islamic financial services are the avoidance of the elements of interest, uncertainty, and gambling to ensure that they are halal from the *Shariah* perspective. These prohibitions are the means to protect the interest and benefits of mankind in protecting their wealth and properties under the realization of the objectives of *Shariah* (Johan & Putit, 2016).

In conclusion, the previous discussions about the relationship between religiosity and decision making are summarized in the following alternate hypothesis:

H6: There is a positive relationship between Muslim's religiosity and Islamic unit trust investment decision making.

4.8.7 Investment Risk

Risk that affects investors' investments come in many forms such as liquidity risk, credit risk, market risk, management risk, inflation rate risk, and interest rate risk (CIMB-Principal Asset Management Berhad, 2016). Actively managed unit trust funds and investment accounts attempt to minimize these risks. Hence, it is essential for investors to know and understand the risks involved in order to make appropriate investment decisions.

Different perceptions and response to investment risk increase the possibility of miscommunication and misunderstanding between advisors and client in investment decision (Olsen & Cox, 2001). According to Bradbury, Hens, and Zeisberger (2015), simulated experience considerably improves participants' understanding of the underlying risk-return profile and prompts them to reconsider their investment decisions while also choosing riskier financial products without regretting their higher risk taking behaviour afterwards. Hence, the alternate hypothesis is as follows:

H7: There is a positive relationship between investment risk and Islamic unit trust investment decision making.

4.8.8 Relationship between Product Knowledge and Islamic Unit Trust Decision Making.

A consumer's knowledge about a product would determine consumers' purchase decisions (Lin & Chen, 2006). In this case, the amount of knowledge in consumer memory about the product would affect their decision-making process. The consumer will choose a product which can fulfil their goal and expectation based on the knowledge of product obtained from familiarity, experience, or information search (Alba & Hutchinson, 1987; Brucks, 1985; Johan et al., 2014). Low understanding about the product knowledge will affect the consumers to avoid choosing it as their best decision despite the fact that the product is actually the best product solution for the customers. Hence, the alternate hypothesis is as follows:

H8: There is a positive relationship between Product Knowledge with Decision Making in Islamic Unit Trust Funds in Malaysia.

4.8.9 Mediation Effect of Product Knowledge on Islamic Financial Literacy and Islamic Unit Trust Investment Decision

Literally, financial literacy can be defined as the consumers' understanding on financial products, element in finance which can help them to manage their wealth. The understanding on Islamic financial literacy influences consumer to increase their knowledge in each of the financial product (M. A. Abdullah, Hamzah, Azman, & Khalil, 2015). Understanding the financial product can help them to make the right decision by choosing the product which is related to their goal. Study by Guiso and Jappelli (2005) proves that the awareness on unit trust funds and investment accounts is positively correlated with education. Those who have low financial literacy will have less awareness about financial products. Hence, the alternate hypotheses are as follows:

H9a: There is a positive relationship between Islamic financial literacy and product knowledge.

H9b: Product knowledge mediates the positive relationship between Islamic financial literacy and decision making in Islamic Unit Trust Funds in Malaysia.

4.8.10 Mediation Effect of Product Knowledge on Information Sources and Islamic Unit Trust Investment Decision

Some decisions are based primarily on the information retrieved from the memory at the time of the decision (Alba, 1983). It seems quite apparent that high-knowledge consumers will be at a distinct advantage in situations in which choice is determined by the quantity and quality of retrieved information. High-knowledge individuals will recall more total information, especially more sophisticated and important information (Alba, 1983).

Decisions to purchase are made repeatedly or frequently over time which shows that consumers may rely not only on previously acquired product information stored in memory but also on judgements of brand satisfaction or dissatisfaction which occur in the post-purchase evaluation or usage. In addition, consumers may engage in other types of processing outside the immediate choice context. For example, consumers may decide to choose a product based on knowledge from an advertisement or due to coupon acquisition (Hoyer, 1984). Hence, the alternate hypotheses are as follows:

H10a: There is a positive relationship between Information sources and Product Knowledge.

H10b: Product Knowledge mediates the positive relationship between Information Sources and Decision Making in Islamic Unit Trust Funds in Malaysia.

4.8.11 Moderation Effect of Product Knowledge on Information Sources and Islamic Unit Trust Investment Decision

Theoretically, information sources are known as factor that can influence the decision making process (Blackwell et al., 2001b). However, sometimes information sources do not influence consumer decision making if they already have high product knowledge. According to Bei and Widdows (1999), consumer who have high product knowledge might ignore the information and rely on their own product knowledge to make purchase decision. This reason is in agreement with Anderson, Engledow, and Becker (1979), Fodness and Murray (1997), and Swan (1969) which states that experienced consumer will minimally search for information due to two reasons. The first reason is prior knowledge suffices the need to know about the attributes of various alternative and consequently limits the additional information search from external sources, while the second reason refers to the knowledgeable consumers which can perform more efficient information search because they know what information is important and useful. Hence, the alternate hypothesis is as follows:

H11: Product Knowledge moderates the relationship between Information sources and Decision Making in Islamic Unit Trust Funds in Malaysia.

4.8.12 Moderation Effect of Product Knowledge on Religiosity and Islamic Unit Trust Investment Decision

Islamic unit trust fund is halal products which is an adoption of conventional products of unit trust funds. Basically, the decision making by the Muslims population is influenced by religiosity (S. S. Alam et al., 2011). High religious person will be more aware to choose the product and services that are in line with *Shariah* rules (Johan et al., 2014). This situation shows that if the investors do not have sufficient knowledge on financial product, thus it cannot influence them to choose the product despite their high level of religiosity. This is supported by A. W. Lai (1991) which states that being knowledgeable about the new product influence consumers' decision to accept or reject such a product; however, consumers with less knowledge tend to avoid purchasing. On another note, religiosity impacts consumers' likes and dislikes (Rehman & Shabbir, 2010), whereby it is required of Muslims to clearly inspect products whether they are halal and avoid products that are dubious (Baig & Baig, 2013). Thus, the alternate hypothesis is as below;

H12: Religiosity will influence Islamic Unit Trust Investment Decision if investors have high Product Knowledge.

Overall, it can be concluded that this study will test the 19 hypotheses related to IUTID. All the hypotheses are presented in Table 4.2.

 Table 4.2 Summary of Hypotheses

Factors	Hypothesis

Demographic Characteristics and IUTID	H1: There is significant relationship between (a) gender, (b) age, (c) income, (d) education level, (e) type of occupation, (f) type of residential and Islamic unit trust investment decision making.
Risk preferences and IUTID	H2: There is significant relationship between risk preferences and Islamic unit trust investment decision.
Familiarity and IUTID	H3: There is significant relationship between familiarity and Islamic unit trust investment decision.
IFL and IUTID	H4: There is a positive relationship between Islamic financial literacy and Islamic unit trust investment decision.
IS and IUTID	H5: There is a positive relationship between information sources and Islamic unit trust investment decision.
RE and IUTID	H6: There is a positive relationship between Muslim's religiosity and Islamic unit trust investment decision.
IR and IUTID	H7: There is a positive relationship between investment risk and Islamic unit trust investment decision.
PK and IUTID	H8: There is a positive relationship between Product Knowledge with Decision Making in Islamic Unit Trust Funds in Malaysia.
IFL and PK	H9a: There is a positive relationship between Islamic financial literacy and product knowledge.
PK mediates the relationship between IFL and IUTID	H9b: Product knowledge mediates the positive relationship between Islamic financial literacy and decision making in Islamic Unit Trust Funds in Malaysia.
IS and PK	H10a: There is a positive relationship between Information sources and Product Knowledge.
PK mediates the relationship between IS and IUTID	H10b: Product Knowledge mediates the positive relationship between Information Sources and Decision Making in Islamic Unit Trust Funds in Malaysia.
PK moderates the relationship between IS and IUTID	H11: Product Knowledge moderates the relationship between Information sources and Decision Making in Islamic Unit Trust Funds in Malaysia.
PK moderates the relationship between RE and IUTID	H12: Religiosity will influence Islamic Unit Trust Investment Decision if investors have high Product Knowledge.

4.9 Sampling Procedure

4.9.1 **Population Identification**

The respondents chosen for the purpose of this study are Muslim investors who live in

Malaysia from both the rural and urban area. This study only limit to the Muslim investors
because the main objective of this study is to investigate the behaviour of Muslim investors in investment decision making. The criteria of selections are based on those who have an experience investing in IUT such as ASN, ASB, or private company (28 management companies) and at the age of 18 and above. Experienced investors refer to those who have already invested or have a current account in the investment company. Moreover, there are 2, 815, 648 account holders in Islamic unit trust investment up to 30th November 2016 (Securities Commission of Malaysia, 2016). According to Department of Statistics Malaysia (2011), Muslims made of 61.3 percent of Malaysians out of 28.3 million of the total population of Malaysia. Hence, the sample size of this study is determined based on the population of account holder in Islamic unit trust funds as well as the population of Muslim in Malaysia.

The next step is to determine the sample size of the study based on three criteria proposed by Israel (1992) which consists of the level of precision (sampling error), level of confidence or risk, and degree of variability. The first criteria represent the level of precision that is often expressed in percentage points of 0.05. Meanwhile, the confidence level is tested at 95 percent of confidence level, whereas the last criteria which refers to the degree of variability is tested at 50 percent as it indicates the maximum variability of a population. The population size of investors in IUT are more than 1 million and the sample size for this study are calculated based on formula developed by Cochran (1963) as mentioned in Israel (1992). Cochran (1963) developed Equation 1 to yield a representative sample for proportions for a large population.

$$n_0 = \frac{Z^2 p}{e^2}$$

Where \mathbf{n}_0 is the sample size, \mathbb{Z}^2 is the abscissa of the normal curve that cuts off an area at the tails (1- equals the desired confidence level), \mathbf{z} is the desired level of precision, p is the estimated proportion of an attribute that is present in the population, and q is 1-p. Therefore, it is assumed that the precision level is at 5 percent, with 95 percent confidence level and \pm 5 percent of precision will result in the total of 385 sample size. However, Blaikie (2003) suggests that 1000 sample size is satisfactory if the study involves a large population.

In addition, the respondent was selected based on the method known as purposive sampling. Purposive sampling is described as "a nonprobability sampling design in which the required information is gathered from special or specific targets or groups of people on some rational basis" (Sekaran & Bougie, 2013). Moreover, the respondents for this study is selected by targeting the place where the investors conduct their transaction due to the difficulty to obtain the actual data from the unit trust management companies as they are known to be private and confidential. The respondents are chosen accordance to three criteria which have been set up at the beginning of the study; (i) Muslim investor, (ii) have experienced invested in IUT and (iii) age of 18 and above. They come from 14 states of Malaysia which include Putrajaya; Kedah, Penang, Perlis, Perak, Selangor, Kuala Lumpur, Terengganu, Kelantan, Pahang, Negeri Sembilan, Melaka, Johor, Sabah, and Sarawak.

4.9.2 Data Collection Procedures

The data of this study is obtained from the primary source by distributing a selfadministered survey to the investors of IUT who attend to the services at banks and post offices. This study utilises the traditional mail questionnaire. Moreover, a survey method conducted using questionnaire as the data collection instrument is deemed appropriate for this study. Apart from that, this study utilises investors as the respondents, thus some element may be sensitive to be asked in an interview. Therefore, the present study has decided that a questionnaire is the most appropriate choice because the respondent is only required to tick the suitable answer based on their condition without having to discuss about it with the researcher.

4.10 Research Instruments

This subsection will focus on the research instruments by discussing the content of questionnaire as well as the measurement instruments.

4.10.1 Measurements of Instrument

The instruments were adapted and adopt from various literatures and modified to enable it to be adapted to the context of Muslims consumer. The dependent variable and independent variables were measured using a five-point Likert scale anchored by "strongly disagree" which is represented by (1) to "strongly agree" that is represented by (5). At the beginning of the questionnaire, a brief explanation will be provided to the respondents prior to answering the questionnaire. The questionnaire was properly designed to ensure that it is understandable and sufficiently attractive to the respondents. The questionnaire was written in dual languages which are English and Malay.

4.10.2 Questionnaires Development

The present study adopted a survey – based approach. The questionnaire was specifically designed in a specific manner, particularly based on the goals and objectives of the study. This questionnaire consists of two parts, namely Part A and Part B. Part A is composed of eight questions on the demographic and socio-economic background. Item A1 to A7 shows the present the socio-economic of the respondents, while item A8 focuses on the respondents' reasons for investing in IUT. The questions used in this survey was adapted

from Nathie (2009) as the questions were also related to the investment objective of the respondents.

Part B1 concerns the understanding on religiosity which was adapted from Wan Ahmad et al. (2008) and Newaz (2014). This part consists of eight items on religiosity that were developed based on three factors, namely *Shariah*, *akhlaq*, and faith. Part B2 describes the perceptions of respondents towards investment, while part B3 is concerned about the level of familiarity of respondents towards Islamic unit trust. Moreover, item B4 is related with the information sources that influence the familiarity of respondents on Islamic unit trust which are represented by eleven items adapted from Capon, Fitzsimons, and Price (1996). Part B5 focuses on product knowledge with a total of seven items adopted from Wan Nawang, Hashim, and Marzuki (2008). Item B6 is developed with ten items on selection criteria of Islamic unit trust fund that were adopted from Capon et al. (1996), Jamaludin et al. (2013), Nathie (2009), Ramasamy and Yeung (2003), Singh (2012), and Wan Nawang et al. (2008).

Next, part B7 is concerned with Islamic financial literacy which consists of seven items construct that were adopted from Abdul Rahim, Abdul Rashid, and Hamed (2016). Meanwhile, item B8 is related to risk preferences of the investor taken from Nathie (2009). Item B9 focuses on the understanding of risk sharing between management companies and the investors. Item B10 is related to investment risk of the respondents which involves eight types of investment risk that were adapted from CIMB-Principal Asset Management Berhad (2016) and Lee (2001). The final question which is B11 focuses on future investment decision, which is to remain in Islamic unit trust funds or not. The constructs of the questionnaire can be referred in Appendix I, while the full

sample of questionnaire can be referred in Appendix J. The Cronbach's alpha for each constructs of previous studies are presented in Table 4.3.

Constructs	Authors	Cronbach's Alpha
Islamic unit trust investment decision	Capon et al., (1996)	0.91
Islamic financial literacy	Abdul Rahim et al., (2016)	0.773
Information Sources	Capon et al., (1996)	0.66
Investment Risk	CIMB-Principal Asset Management	Not declared
	Berhad, (2016) and S. L. Lee, (2001)	
Religiosity	Wan Ahmad et al., (2008)	Not declared
Product Knowledge	Wan Nawang et al., (2008)	Not declared

Table 4.3 Cronbach's Alpha from the Previous Studies

4.10.3 Questionnaire Structure and Wording

4.10.3.1 Islamic Unit Trust Investment Decision Making

IUTID was measured using a ten-item scale, on a five-point of Likert scale that ranges from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree. All the items were adapted from a number of previous studies (e.g. Capon et al., 1996; Jamaludin et al., 2013; Nathie, 2009; Ramasamy & Yeung, 2003; Wan Nawang et al., 2008). Table 4.4 shows the number of items and sources related to the selection criteria on Islamic unit trust investment decision making.

Table 4.4 The Items Related Islamic Unit Trust Investment Decision				
Investment performance	Capon et al. (1996), Jamaludin et al.			
	(2013) & Wan Nawang et al. (2008)			
Experience of fund manager	Ramasamy & Matthew C. H. Yeung			
Government linked fund	(2003)			
Financial Institution linked fund				
Management fees	Capon et al. (1996)			
Fund manager reputations	(Capon et al., 1996)			
Size of fund	(Nathie, 2009; Ramasamy & Matthew			
	C. H. Yeung, 2003)			
The fund's commitment to Islamic principles	(Jamaludin et al., 2013)			
Liquidity	(Singh, 2012)			
Risk and return	(Nathie, 2009)			

4.10.3.2 Islamic Financial Literacy

Islamic financial literacy was determined using seven-item adopted from Abdul Rahim

et al. (2016). All of these items were measured using five point of Likert scale that ranges

from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree.

Table 4.5 Items used in Islamic Financial Literacy				
I know that I might or might not receive any return when				
contract is concluded				
I acknowledge uncertainty on purity of financial contract is				
strictly prohibited in Islam				
I always make sure that there is no element of interest in all	Abdul Rahim et			
financial transactions that I made	al. (2016)			
I understand that all Islamic financing must be backed by asset				
I can only invest in permissible activities or services				
I am aware on the availability of Islamic instrument in the				
market				
In Islam, I only transact with people that I trust				

4.10.3.3 Information Sources

The variable of information was determined based on eleven items adopted from Capon

et al. (1996). This construct was measured using a five point of Likert scale that ranges

from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree.

Table 4.0 Refins used in mormation Source	3
Recommendations of Friends / Family	
Recommendations of work colleagues	
Unit trusts consultants (agent)	
Internet/ online resources	Capon,
Advertising in the press	Fitzsimons, and
TV	Price (1996)
Seminars	
Books	
Poster/billboard	
Published performance ratings	
Catalogues/ brochures/master prospectus	

Table 4.6	Items	used	in	Inform	ation	Sources

4.10.3.4 Religiosity

The measurement of religiosity variable was conducted on eight items adapted from Newaz (2014) and Wan Ahmad et al. (2008). All the items were measured using a fivepoint of Likert scale that ranges from 5 = strongly agree, 4 = agree, 3 = neutral, 2 =disagree, and 1 = strongly disagree.

Table 4.7 Items used in Religiosity				
Obligations	Newaz (2014) &			
I always keep myself away from earning through haram	Wan Ahmad et al.			
(prohibited) means.	(2008)			
I pay zakat fitrah every year.				
Prohibitions				
I have taken or given bribes.				
I have taken interest (riba).				
I thank Allah for the income that I receive.	Wan Ahmad et al.			
I fulfil all that I promise.	(2008)			
I am honest at all times.				
Quranic teachings are suitable and practicable in today's life.				

Table 4.7 Itoms used in Poligiosity

4.10.3.5 **Investment Risk**

The measurement of investment risk variable was performed on eight items adapted from CIMB-Principal Asset Management Berhad (2016) and Lee (2001). All the items were measured using a five-point of Likert scale that ranges from 5 = strongly agree, 4 = agree, 3 =neutral, 2 =disagree, and 1 =strongly disagree.

Table 4.6 ftems used in investment Kisk	
Management technique of investment manager	
Up and downturn economic condition	
Fluctuation in interest rate	
Ease to sold	CIMB-Principal
Credit risk	Asset
Fluctuation in inflation rate	Management
Changing in stock prices	Berhad (2016)
	and Lee (2001)
Shariah of compliance stock status	CIMB-Principal
	Asset
	Management
	Berhad (2016)

4.10.3.6 Product Knowledge

The measurement of product knowledge variable were tested on seven items adopted from Wan Nawang et al. (2008). All the items were measured using a five-point of Likert scale that ranges from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree.

Table 4.9 Items used in Product Knowledge	e
IUTs gives better return compared to regular savings	
Ups and downs of stock market will not affect the returns on	
IUTs investments	
IUTs is risky	
IUTs is an alternative of savings for retirement	Wan Nawang et
IUTs is one of the best alternatives of saving for children	al. (2008)
education	
IUTs issuers should be more aggressive in promoting unit trust	
investment	
The government and the SC should help in increasing public's	
awareness on IUTs investments	

4.11 Steps on Pretesting the Instrument

Validity of the measuring instrument is one step in questionnaire distribution (Sekaran & Bougie, 2013). Validity can be defined as a test of how well an instrument that is developed measures the particular concept it is intended to measure (Sekaran and Bougie 2013, pg. 225). According to Sekaran and Bougie (2013), there are three types of validity test in the testing goodness measures of questionnaire as content validity, criterion-related validity and construct validity.

4.11.1 Content validity

Content validity ensures that the measure includes adequate and representative set of items that tap the concepts. The more the scale items represent the domain or universe of the concept being measured, the greater is the content validity. Content validity is described as a function of how well the dimensions and elements of a concept have been delineated (Sekaran & Bougie, 2013). Face validity has been partly considered as a basic

and minimum index of content validity. Face validity indicates that the items that are intended to measure a concept, do, on the face of it, look like they measure the concept (Sekaran & Bougie, 2013).

The content and the measurement of questionnaire have been validated by seven (7) experts of academicians and practitioners in this area. The measurement scale was analysed by Associate Professor Dr Abu Bakar bin Hamid⁸, while the contents of the questionnaire were analysed by academician which include Associate Professor Dr Azizi bin Abu Bakar⁹ (Islamic unit trust fund), Dr Hydzulkifli Hj Hashim¹⁰ (religiosity), and Dr Sharmilawati binti Shubki¹¹ (investment risk) as well as several unit trust consultants; Mohammad Rashdan bin Che Ya¹², Hasnan bin Ismail¹³, and Suhairani binti Yusof¹⁴.

For the measurement scale, the expert criticized the five points of Likert scale and suggested that the items "I don't know" needs to be deleted and replaced with five points Likert scale of 1-Strongly Disagree, 2-Disagree, 3-Neither Agree nor Disagree, 4-Agree, 5- Strongly Agree. Meanwhile, the experts suggested to rephrase the negative sentence to the positive ones in regard to the content of the study. On top of that, it was also suggested that the items with negative sentence should be recoded using SPSS when adding the data and running the analysis. The term that are used in the questionnaire also should be easily understood by the respondents because they will not be familiar with the term that are used in the books or journal. That term should be rephrased with words that can be easily understood by the layman.

⁸ Associate Professor. He is experts in methodology and has teaching for methodology classes for the senior lecturer, junior lecturer, and post graduate students.

⁹ Associate Professor. He is the experts in Islamic capital markets and Islamic investment.

¹⁰ Senior Lecturer. He is the experts in Islamic finance, fiqh waqaf and waqaf development.

¹¹ Senior Lecturer. She has teaching for finance and investment for 10 years.

¹² Consultants of unit trust and takaful, hold Certifies of Islamic Financial Planner.

¹³ Consultants of unit trust.

¹⁴ Consultants of unit trust.

4.11.2 Criterion-related Validity

Criterion-related validity is established when the measure differentiates individuals on a criterion it is expected to predict which can be done by establishing concurrent validity or predictive validity. Concurrent validity is established when the scale discriminates individuals who are known to be different; that is, they should score differently on the instrument. Predictive validity indicates the ability of the measuring instrument to differentiate the individuals with reference to a future criterion (Sekaran & Bougie, 2013).

Pretesting the questionnaire is a step to determine the effectiveness of questionnaire which was prepared prior to the distribution to the potential respondents (Colorado State University, n.d.). Pretesting questionnaire were conducted by participating ten (10) lecturers, fifteen (15) PhD students, and four (4) classes of final master's degree students of Islamic Investment course in Universiti Utara Malaysia. The pretesting involved two-way communication between participants and researcher to determine their reactions to question form, wording, and timing and overall respondent well-being. This kind of pretest will determine whether the questionnaire is understandable.

4.11.3 Construct Validity

Construct Validity testifies how well the results obtained from the use of the measure fit the theories around which the test is designed. This can be assessed through convergent and discriminant validity. Convergent validity is established when the scores obtained with two different instruments measuring the same concept are highly correlated. According to the theory, discriminant validity is established when two variables are predicted to be uncorrelated and the scores obtained by measuring them are indeed empirically found to be so. Hence, validity can be established in different ways. Published measures for various concepts usually report the kind of validity that have been established for the instrument to allow the user or reader to judge the "goodness" of the measure (Sekaran & Bougie, 2013). The details of the construct validity can be referred to sub 4.12 and 4.13 below.

4.12 Pilot Study

The term 'pilot studies' refers to mini versions of a full-scale study as well as the specific pre-testing of a particular research instrument such as questionnaire or interview schedule. Pilot studies are a crucial element of a good study design. However, conducting a pilot study does not guarantee success in the main study, but it does increase the likelihood of the success (Van Teijlingen E & V, 2002).

A pilot study is conducted to identify the consistency of the questions and understanding of the respondents to the questionnaire. The pilot study for this research was tested among Islamic unit trust investors in Universiti Utara Malaysia, Sintok, Kedah started from 9 to 12 May 2016. 200 questionnaires were distributed, but only 173 questionnaires managed to be successfully collected. However, only 145 questionnaires can be analysed using the Exploratory Factor Analysis (EFA) after deleting the questionnaire which consists of 50 percent missing value and outliers. Following the EFA, one item in religiosity variable needs to be deleted as it provides negative loading value.

4.12.1 Exploratory Factor Analysis

Exploratory factor analysis (EFA) examines the inter-correlations that exist between a large number of item (questionnaire responses) and reduces the data into a smaller number of dimensions (factors) (Hooper, 2012). Factor analysis refers to a typically large sample

size technique, with less reliable correlations when small samples are used. Gie Yong and Pearce (2013) recommend the sample size of this techniques to be 300 cases; however, about 150 cases should be sufficient in reality (Tabachnick & Fidell, 2007). The items must be interval in nature such as the Likert scale.

According to Hooper (2012), the requirement of this analysis techniques are as follows:

(1) The correlation coefficients must be greater than 0.3 in magnitude. If the correlations are less than 0.3, it might indicate inappropriate factor analysis.

(2) The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) should be either 0.6 and above.

(3) The Bartlett's Test of Sphericity should be significant (less than 0.05).

(4) The Cumulative Variance Criterion should be greater than 60 percent of the total cumulative variance of social sciences studies as suggested by Hair et al. (2006). However, according to Beavers et al. (2013), variance extracted as little as 50 percent is acceptable.

(5) The cross-loading of an item with coefficients greater than 0.4 on more than one dimension.

4.12.1.1 Measurement of Dependent Variable Instruments - Islamic unit trust Investment Decision (IUTID)

Ten items were subjected to principle axis factoring to access the dimensionality of the data. The study used principle axis factoring because it requires no distribution assumptions and may be used if data are not normally distributed (Beavers et al., 2013). The Kaier-Meyer-Olkin was 0. 889 which is well above the recommended threshold of 0.6 (Kaiser, 1974), while the Bartlett's Test of Sphericity managed to achieve the

statistical significance of p=0.000 which indicates that the correlations are sufficiently large for exploratory factor analysis.

The determinants of its correlation matrix value are 0.003, which is greater than the necessary value of 0.00001. Therefore, multicollinearity is not a problem for this data. Anti-image correlation is between 0.848 and 0.932. One factor was extracted explaining 56.24 percent of the variance. This was decided based on eigenvalues, cumulative variance, and inspection of the scree plot. Factors were oblique rotation using Promax rotation, while the items were load in both factors as shown in Table 4.10.

Tabl	4.10 Table of Extraction Method for Islamic Unit	Trust	Inve	stment	Decision
т.			T	11	T 7 1

Items	Loading	Value
IUTID9 - Risk and Return	.793	
IUTID10 - Fund manager's Reputation	.784	
IUTID2 - Experience of fund manager	.770	
IUTID7 - Financial Institutions linked fund	.737	
IUTID5 - The Fund's commitment to Islamic Principles	.716	
IUTID4 - Size of funds	.710	
IUTID1 - Investment Performance	.698	
IUTID6 - Government linked fund	.662	
IUTID3 - Management Fees	.647	
IUTID8 – Liquidity	.638	
Eigenvalue		5.624
Percentage of Variance		56.24%
Cronbach's Alpha		.911

4.12.1.2 Determinants of Independent Variables Instruments

A total of 52 items from five constructs were subjected to principle axis factoring to access the dimensionality of the data. The Kaier-Meyer-Olkin was found to be 0. 772 which is well above the recommended threshold of 0.6 (Kaiser 1974), while the Bartlett's Test of Sphericity reached statistical significance of p=0.000 which indicates the correlations to be sufficiently large for exploratory factor analysis.

The anti-image correlation is between 0.508 and 0.868. Five factors were extracted explaining 50.72 percent of the variance which was decided based on eigenvalues, cumulative variance, and inspection of the scree plot. According to Beavers et al. (2013), variance extracted of 50 percent is acceptable. Factors were oblique rotation using Promax rotation and the items were load in both factors as presented in Table 4.12. Specifically, information sources exhibit the highest variance of 18.824 percent, followed by investment risk (12.62%), Islamic financial literacy (7.53%), religiosity (6.73%), and product knowledge (5.021%). From the analysis, one item in religiosity construct had to be deleted as it shows the lowest value of -0.321 as can be observed in Table 4.11.

Itoma	Constructs					
nems	IS	IR	IFL	RE	PK	
Information Sources	(Cronbac	h's Alpha	a: 0.863)		1	
IS6 – Television	.751					
IS7 – Seminars	.743					
IS5 - Advertising in press (newspaper/ magazine)	.723					
IS10 - Catalogues/ Brochures/ Master Prospectus	.664					
IS8 – Books	.645					
IS4 - Internet/ Online Sources	.610					
IS9 - Poster/ Billboard	.576					
IS2 - Work colleagues	.559					
IS11 - Published Performance Ratings	.558					
IS1 - Friends/ Family	.515					
IS3 – Agent	.388					
Investment Risk (C	ronbach'	s Alpha:	0.880)		•	
IR7 - Fluctuation in Interest Rate		.849				
IR8 - Fluctuation in Inflation Rate		.805				
IR5 - Changing in Stock Price		.796				
IR3 - Credit Risk		.646				
IR6 - Managing Technique of investment manager		.625				
IR1 - Economic condition		.528				
IR2 – Liquidity		.516				
IR4 - Shariah of compliance stock status		.474				
Islamic Financial Litera	cy (Cron	bach's Al	pha: 0.826)			
IFL2 - I acknowledge uncertainty on sanctity of financial contract is strictly prohibited in Islam			.729			

 Table 4.11 Pattern Matrix of the Independent Variables

	IFL7 – In Islam, I only transact with							
	people that I trust			.665				
	IFL4 - I understand that all Islamic			<i>c</i> 14				
	financing must be backed by asset			.614				
	IFL5 - I can only invest in permissible							
	activities or services			.557				
	IFL1 – I know that I might or might not							
	receive any return when contract is			.555				
	concluded							
	IFL6 - I am aware on the availability of			500				
	Islamic instrument in the market			.539				
	IFL3 – I always make sure that there is no							
	element of interest in all financial			.521				
	transactions that I made							
	Religiosity (Cronbach's Alpha · 0.824)							
	RE6 - I fulfill all that I promise		r ·····		824			
	RE5 - I thank Allah for the income that I							
	receive				.763			
	RE7 - Lam honest at all times				748			
	RE8 - Ouranic teachings are suitable and				., 10			
	practicable in today's life				.729			
	RF4 - I have taken interest (<i>riba</i>)				500			
·	RE3 - I have taken or given bribes				.500 A77			
	RE2 - I have taken of given offices				.+//			
	RE1 - I always keep myself away from				.+12			
	earning through haram (prohibited)				408			
	means				.+00			
	RE9 - I always give charity for the poor							
	and needy				321			
	Product Knowledge (Cronhacl	n's Alnha	· 0 797)				
	Product Knowledge (Cronbach's Alpha: 0.797)							
	aggreggive in promoting unit trust					702		
	investments					.195		
	PK5 ILITS is one of the alternatives of							
	saving for children education					.759		
	PK7 The government and the SC should							
	help in increasing public's awareness on					741		
	IUTs investments					./ +1		
	PK4 - IIITs is an alternative savings for							
	retirement					.672		
	PK1 - IUTs gives better return compared							
	to regular savings					.534		
	PK3 - IUTs is risky					458		
	PK2 - Uns and Downs of stock market					.150		
	will not affect the returns on IUT_s					3/10		
	investment					.547		
	Figenvalue	7 7 1 9	5 172	3 086	2 758	2 058		
	Dereentage of Variance	10 001	3.1/3 10 417	7.500	2.130	2.030		
	Cumulating Degradates	10.024	12.01/	1.328	0.720	5.021		
	Cumulative Percentage	18.824	31.44 2	38.97	43.696	50./16		

4.13 Reliability Analysis

Reliability refers to how consistent a measuring device is. According to R. Ahmad et al. (2014), a measurement is said to be reliable or consistent if the measurement can produce similar results when used in similar circumstances. However, this is not in agreement with Saunders, Lewis, and Thornhill (2008) which states that the reliability of the questionnaire will produce consistent findings at different times and different conditions such as with different samples.

The internal reliability of measures in this study was assessed using Cronbach's alpha coefficient (Goodman, Meltzer, & Bailey, 1998; Saunders et al., 2009). Generally, the lower acceptance limit of Cronbach's alpha is 0.60 to 0.70 (Vaus, 2002). According to Sekaran and Bougie (2013), reliability less than 0.60 are considered to be poor, those in the 0.70 range is acceptable, and those over 0.80 is considered good. As for this research, the reliability of the conducts ranges from 0.797 to 0.911 as shown in Table 4.12, whereby all of them are within the acceptable range as described in the literature.

Variables	No of Items	Cronbach's Alpha
Islamic Unit Trust Investment Decision Making	10	0.911
Religiosity	8	0.824
Islamic Financial Literacy	7	0.826
Information Sources	11	0.863
Investment Risk	8	0.880
Product Knowledge	7	0.797

Table 4.12 Reliability Analysis

4.14 Techniques of Data Analysis

Techniques of data analysis is the procedure and statistical tools by which researcher analyses data, tests research hypotheses, and subsequently refines theories. In this study, descriptive and inferential statistics were employed to analyse the data. This study consists of six objectives, two of them will be analysed using descriptive analysis, Mann-Whitney U Test, Kruskal-Wallis H Test, while another four objectives will be analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM).

4.14.1 Descriptive analysis, Mann-Whitney U Test, Kruskal-Wallis H Test

Descriptive analysis, Mann-Whitney U Test, and Kruskal-Wallis H Test are used in this study to answer objective 1, 2, and 3. These objectives of study were divided into three research questions. Objective 1 consists of two research questions, while objective 2 and 3 consist of one research question which can be analysed using the analysis tools.

The raw data was collected from the field prior to the analysis, whereby the entire usable questionnaires were coded and keyed –in to the Statistical Package for the Social Science (SPSS version 22). Then the following method of data analysis was adopted to analyse the data. First, the data underwent screening to find data entry errors, while frequency test was run for each variable to identify and correct possible missing values using the respective mean values. Next, descriptive statistics was used to describe and compare the demographics factors which include gender, age, income, education level, type of occupation, type of residential, and the state and reason for investing among the respondents of this study.

Next, the objective 1: research question 1 was analysed using Mann Whitney U test and Kruskal-Wallis H test. The difference between gender and type of residence with Islamic unit trust investment decision was analysed using Mann Whitney U test. The Mann-Whitney U test was utilised to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed (Leard Statistics, 2016). The significant values of this analysis are 0.05.

The differentiation between age, income, education level, and occupation with Islamic unit trust investment decision was analysed using Kruskal-Wallis H Test. The Kruskal-Wallis H Test or one-way ANOVA on ranks is a rank-based nonparametric test that can be used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable (Laerd Statistics, 2016). The significant values of this analysis are 0.05.

Next, the objective 1: research question 2 measured the relationship between risk preferences and familiarity of the Muslim investors with Islamic unit trust investment decision. This relationship was measured using Kruskal-Wallis H Test because it consists of three groups in each variable.

Then, the objective 2: research question 3 that explores the choicest criteria factors in choosing Islamic unit trust funds was measured using descriptive analysis. This objective obtains the results based on the mean of the analysis. The highest the mean of each factor, the more important is the factor to the investors in their investment decision making.

Finally, descriptive analysis was used to analyse objective 3: research question 4 of the study which is to measure the level of IFL, IS, RE, IR, and PK on IUT among Muslim investors. This objective was measured based on the mean of each variable. The mean results represent the level of understanding of each variable among Muslim investors in Malaysia.

4.14.2 Structural Equation Modelling

Structural equation modelling (SEM) includes a diverse set of mathematical models, computer algorithms, and statistical methods that fit the networks of constructs to data. SEM includes confirmatory factor analysis, path analysis, partial least squares path modelling, LISREL, and latent growth modelling.

Hair, Hult, Ringle, and Sarstedt (2014) who are the pioneer of PLS-SEM has discussed the rules of thumb in choosing between PLS-SEM and CB-SEM. PLS-SEM can be used when:

- (i) Theory is less developed.
- (ii) The goal is predicting key target constructs or identifying key "driver" constructs.
- (iii) Formative measurement constructs are part of the structural model.
- (iv) The structural model is complex.
- (v) The sample size is small.
- (vi) The data are non-normally distributed.
- (vii) The plan is to use latent variables scores in subsequent analysis.

while, CB-SEM can be used when:

 The goal is theory testing, theory confirmation, or the comparison of alternatives theory.

- (ii) Error terms require additional specification, such as the covariance.
- (iii) The structural model has non-recursive relationships.
- (iv) The research requires a global goodness-of-fit criterion.

From the above rules of thumb, this study had chosen to use PLS-SEM because it is based on theory of development research which allows the combination of the theory of EBM Model, Modern Portfolio Theory, and Prospect Theory. The goal of this study was to determine the key driver construct which can influence Muslim investors in Malaysia in choosing Islamic unit trust fund.

The data of this study was collected based on non-normally distributed using purposive sampling. The respondents were randomly chosen based on the big sample of Islamic unit trust respondents in Malaysia. According to Hair et al. (2014), PLS-SEM can handle extremely non-normally data such as high levels of skewness.

PLS-SEM is suitable for small sample size and larger data size (Hair, Hult, Ringle, & Sarstedt, 2017). The larger data set (n=250+) will increase the precision (consistency) of PLS-SEM estimations. PLS-SEM and CB-SEM results are very similar when appropriate number of indicator variables which is more than 4 are used to measure each of the constructs (Hair et al., 2014).

4.14.3 Partial Least Square Structural Equation Modelling (PLS-SEM)

PLS-SEM which is the second-generation SEM was adopted as an analysis tool for this study. Objective 3, 4,5 and 6 was analysed using PLS-SEM. Partial Least Squares Structural Equation Modelling (PLS-SEM) is second generation techniques in multivariate methods. PLS-SEM is primarily used to developed theories in exploratory research. This analysis focuses on explaining the variance in the dependent variables

when examining the model (Joseph F. Hair et al., 2014). The estimation procedure for PLS-SEM is an ordinary least square (OLS) regression-based method. In other words, PLS-SEM estimates coefficients (i.e., path model relationship) that maximize the R² value of the (target) endogenous constructs (Hair et al., 2014).

Hair et al. (2014) explain four key characteristics of the applications of PLS-SEM which are described as follows: (1) data, (2) model properties, (3) the PLS-SEM algorithm, and (4) model evaluation issues.

(1) The data - PLS-SEM work efficiently with small sample sizes and complex models and makes practically no assumptions about the underlying data. Generally, this tool achieves high levels of statistical power with small sample sizes. For the distribution, PLS-SEM is a nonparametric method with no distributional assumptions. For the missing values in data, this statistical tool is highly robust as long as missing values are below a reasonable level. The scale measurement that are suitable for the data include metric data, ordinal scale data, and binary coded variables.

(2) Model characteristics - The model in PLS-SEM handles constructs measured with single and multi-item measure. PLS-SEM can easily handle both formative and reflective measurement model. PLS-SEM can also deal with complex models that have many structural model relations. The larger numbers of indicators are helpful in reducing the PLS-SEM bias. PLS-SEM algorithm requires all models to be recursive.

(3) PLS-SEM Algorithm Properties - The objective of PLS-SEM Algorithm is to minimize the amount of unexplained variance; for example, maximizing the R²

values. The efficiency of this PLS-SEM Algorithm refers to its ability to converge after a few iterations to the optimum solution and efficient algorithm. The construct scores are estimated as linear combinations of their indicators. This construct scores are used for predictive purposes as well as input for subsequent analyses. This construct scores are not affected by data inadequacies.

The parameter estimates inside the PLS-SEM Algorithm are the structural model relationships age generally underestimated (PLS-SEM bias), the measurement model relationships are generally overestimated (PLS-SEM bias), consistency at large and high levels of statistical power.

(4) Model Evaluation Issues - No global goodness-fit criterion needed in the evaluation of the overall model. The evaluation of the measurement models is based on reliability and validity assessments performed based on multiple criteria for reflective measurement models. The evaluation needed for formative measurement models are validity assessment, significance and relevance of indicator weights, and indicator collinearity.

The evaluation of the structural model requires five steps of analysis as collinearity which include the sets of constructs, significance of path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2 and q^2 effect size).

4.15 Aspect Ethical Issues

Ethical Issues are important to be considered from the part of researcher. According to Sekaran and Bougie (2013), ethics in business research refers to "a code of conduct or expected societal norms of behaviour while conducting research". Each step in the research needs to follow the ethical conducts. All participants inside the research are required to follow the ethical conducts.

To relate with this study, the researcher has try to avoid plagiarism in the research contents. The researcher also was conducted a research with a transparent manner without changing the data and results. In addition, all the details related to respondents are confidential. Overall, it is important for the researcher to practice an ethical behaviour in each step of the research progress.

4.16 Summary of Chapter

This chapter describes the methodology employed in this study with the purpose of achieving the objectives stated in Chapter 1. The theoretical framework and the hypotheses development were constructed in this chapter. The validity and reliability of the questionnaire were also discussesed. Next, the brief outline of techniques used for data analysis were also presented. Finally, this chapter has provided the discussion on the ethical issues for the researcher in conducting the research.

The next chapter will discuss the analysis of the demographic characteristics of Muslim respondents in IUTID. The purpose of the analysis is to answer research questions 1, 2, 3, and 4 of the study.

CHAPTER FIVE: RESULTS OF DEMOGRAPHICS ANALYSIS AND DISCUSSION

5.1 Introduction

The primary objective of this chapter is to provide the results of demographics analysis which will be analysed using descriptive analysis, Mann-Whitney U Test, and Kruskal-Wallis H Test. In addition, this chapter presents the research findings of the study based on the data collected from Muslim investors in Malaysia. Moreover, this chapter presents the discussion of the results from the view of the researcher. Overall, all the analysis tested in this study is to answer the research objectives 1, 2, and 3 of this study in response to several research questions which are 1, 2, 3, and 4.

5.2 Data Preparation and Screening

5.2.1 Missing Values

Analysis performed using SEM requires all the indicators to contain every single piece of data. Nonetheless, it cannot be ensured that the self-distributed data collection will be free from missing data. Therefore, it cannot be denied that all data collected from the survey will encounter missing data problems (Mohd Dali, 2014).

Missing data is a common problem for researches in the field of social and behavioral sciences (Schafer & Olsen, 1998). Missing data can be regarded as a problem because all statistical methods require complete information for analysis purposes. A relatively few absent observations on some variables can dramatically shrink the sample size (Soleybori, 2013). Hence, the failure of fixing the problem of missing data will cause serious problems (Dong & Peng, 2013). First, missing data can introduce potential bias in parameter estimation and weaken the generalizability of the results (J.L. Schafer, 1997).

Second, cases with missing data that are ignored will lead to the loss of information, which in turn decreases the statistical power and increases standard errors (Peng et al., 2006). Finally, most statistical procedures are designed for complete data (Schafer & Graham, 2002); hence, failure to edit the data properly will make the data to be unsuitable for statistical procedure and analysis.

Cheema (2014) proposes some guidelines in choosing missing data handling methods provided that the data are missing completely at random (MCAR). Hence, if the resulting sample after listwise deletion can provide adequate power to test the hypotheses, thus it is appropriate to adopt the listwise deletion. If the missing data are missing at random (MAR), then the listwise deletion should only be used if the sample after listwise deletion is still representative of the population and there is adequate power for tests of hypotheses. However, if the missing data is not missing at random (NMAR), then the missing data mechanism must be modelled as part of the estimation process. NMAR can be used for all sorts of non-random missing data mechanisms.

This study utilised Expectation-Maximization (EM) Algorithm as a tool for editing missing data. The missing data on this study starts by computing the MCAR test in order to identify whether the data was completely missing at random. According to IBM Corporation (2013), the null hypothesis for this test is that the data are missing completely at random and the P value is significant at the 0.05. If the value is less than 0.05, the data is not considered as MCAR. Little MCAR test for this study at Chi Square=911.494, Df=701 Sig=0.000, which shows that the data are not MCAR. Hence, the EM method can be employed to replace the missing data.

5.2.2 Outliers

Outliers can be defined as a unique grouping of features that can be identified as distinctly different from other observations (Hair, Black, Babin, & Anderson, 2009). The unique grouping of features can be judged as unusually high or low value on a variable or a unique mixture of values across several variables that can make the observation stand out from the others.

Outliers occur based on the four classes and refer to their uniqueness as a procedural error (data entry error), an extraordinary event, extraordinary observations, or observations that fall within the ordinary range of values on each of the variables (Hair et al., 2009). There are several ways to identify outliers which include univariate, bivariate, or multivariate. Univariate identifies the outliers by examining the distribution of observations for each variable in the analysis and selecting them as outliers if the cases fall at the outer range of the distribution. Meanwhile, bivariate detection of outliers is performed by observing the pairs of variable together through a scatterplot. Finally, the multivariate detection of outliers involves more than two variables.

This study adopted the Mahalanobis Distance (Mahalanobis D^2) to delete the outliers. Mahalanobis D^2 is a multivariate assessment of each observation across one set of variables. This method measures the distance of each observation in multidimensional space from the mean centre of all observations by providing a single value for each observation no matter how many variables are considered. Higher D^2 values represent observations that were removed far from the general distribution of observations in this multidimensional space (Hair et al., 2009). In the case of this study, 18 respondents need to be deleted for this test.

5.3 Response Rate

A total of 1000 questionnaire were personally distributed among Muslim investors in Islamic unit trust funds in Malaysia in order to fulfil the data collection requirement. However, only 836 questionnaires were returned, and unfortunately, 31 questionnaires cannot be analysed because the respondents did not answer almost 50 percent of the questionnaire; hence, they were eliminated as outliers. Hence, the overall total of usable questionnaire in this study is 787, which yields an overall response rate of 83.6 percent. Table 5.1 and 5.2 below show the response rate of respondents and the sample size of respondents in this research.

Response	Frequency
No. of Distributed Questionnaires	1000
Returned Questionnaire	836
Unusable Questionnaire	31
Outliers	18
Usable Questionnaire	787
Response Rate	83.60%

Table 5.1 Response Rate of Questionnaire

Region	State	Frequency	Total based on Region
Northern	Kedah	98	
	Penang	32	
	Perlis	31	
	Perak	35	196
Southern	Johor	65	
	Melaka	74	
	Negeri Sembilan	86	225
East Coast	Terengganu	40	
	Kelantan	83	
	Pahang	96	219
Central	Selangor	65	
	Kuala Lumpur	33	
	Putrajaya	31	129
East of Malaysia	Sabah	35	
	Sarawak	32	67
	Total	836	836

Table 5.2 Sample Size of Respondents in Malaysia

5.4 Descriptive Analysis on Demographic Factors

5.4.1 Gender

According to the descriptive analysis of 787 respondents, 48 percent or a total of 375 of the respondents are male, while and the remaining 52 percent (412 respondents) consists of female as presented in Figure 5.1.



Figure 5.1The Percentage of Gender

5.4.2 Age

Figure 5.2 presents the bar chart on the age of the respondents involved in this study. Majority of the respondents which is represented by 43.3 percent are those of the age less than 30 years old. Meanwhile, 40.7 percent of the respondents are from 31 to 40 years old, whereas 10.5 percent are at the age of 41 to 50 years old. Finally, only 4.5 percent of the respondents are above 50 years old.



Figure 5.2 The Percentage of Age of the Respondents

5.4.3 Education level

Figure 5.3 below shows the education level of the respondents. Majority of the respondent are first degree holders which are represented by 31.8 percent. Meanwhile, the secondary school and diploma holder are represented by 30.1 percent and 29.2 percent, respectively. Moreover, 7.8 percent of the respondents own a master's degree and the remaining 1.1 percent are PhD holder.



Figure 5.3 The Percentage of Education Level of the Respondents

5.4.4 Occupation

Figure 5.4 below presents a bar chart that shows the type of occupation of the respondents of this study. Majority of the respondents represented by 333 respondents (42.3%) work as government servants. Meanwhile, 23.3 percent are self-employed, followed by those working at private represented by 19.2 percent. On a similar note, 13.2 percent of the respondents are students, and the remaining 1.9 percent of the respondents are retiree.



Figure 5.4 The Percentage of Type of Occupation of the Respondents

5.4.5 Income

Figure 5.5 presents the bar chart that explains the income level of the respondents. The descriptive analysis shows that majority of the respondents (41%) earn a monthly income from RM1001 to RM3000. Meanwhile, 27 percent of the respondents receive a monthly income from RM3001 to RM6000, followed by 24 percent of the respondents with a monthly income of RM1000 and below. Next, 6 percent of the respondents have an income of RM6001 to RM9000, and the remaining 1.5 percent of the respondents earn an income of more than RM9001.



Figure 5.5 The Percentage of Income Level of the Respondents

5.4.6 Type of Residential

The pie chart below shows the types of residents for the respondents of this study. The analysis shows that 46.6 percent or 367 of the respondents come from the rural area, while 53.4 percent or 420 of the respondents come from the urban area.



Figure 5.6 The Percentage of the Type of Residential of the Respondents

5.4.7 State

The bar chart below presents the category of the state of the respondents from the 14 states in Malaysia. The percentage of the respondents from each state of Malaysia are as follows: Kedah (12.2%), Pahang (12.1%), Negeri Sembilan (10.4%), Kelantan (10.3%), Melaka (9.1%), Selangor (8.3%), Johor (7.8%), Terengganu (5.1%), Perak (4.3%), Kuala Lumpur (4.2%), Penang (4.1%), Putrajaya (3.9%), Perlis (3.9%), Sabah (2.5%), and Sarawak (2.0%).



Figure 5.7 The Percentage of the State of the Respondents

5.4.8 The Reason Respondents Invest in Islamic Unit Trust

The pie chart below describes the reason why Muslim investors invest in IUT. Majority of the respondents (41.2%) choose long term saving as the reason for investing in IUT, followed by 35.3 percent of investors investing for the purpose of child education. Approximately 27 percent of the investors invest in IUT for medium term saving. Overall, other reasons selected by the Muslim investors include short term saving (26.7%) and security (26.2%). Finally, retirement is the less reason selected by Muslim investors in Malaysia which is represented by 25.2 percent.



Figure 5.8 The Percentage of the Investor's Reason Investing in Islamic Unit Trust

5.5 **Respondents' Familiarity towards Islamic Unit Trust Funds**

The familiarity of the respondents towards IUT has been investigated in this study. Table 5.3 shows that 16 percent of the respondents are very familiar with IUT, whereby 9 percent of them are female investors and 7 percent are male investors. On top of that, 50 percent of the respondents are somewhat familiar with the product, while 33 percent of the respondents only heard about this product. Hence, it can be concluded that the familiarity on IUT among Muslim investors in Malaysia is still low. On a more important note, female investors are shown to be more familiar with this product compared to the male investors.

Table 5.3 Respondents' Familiarity towards Islamic Unit Trust Fund					
Gender Heard about		Somewhat	Very Familiar	Total	
	it	familiar but	· ·		
		not vary			
Male	127 (16%)	190 (24%)	58 (7%)	375 (48%)	
Female	133 (17%)	207 (26%)	72 (9%)	412 (52%)	
Total	260 (33%)	397 (50%)	130 (16%)	787 (100%)	

5.6 Levels of Respondents' Understanding towards Islamic Unit Trust Products, Islamic Financial Literacy, Information Sources, Religiosity, and Investment Risk.

This section presents the level of each element of knowledge towards IUT product, Islamic financial literacy, information sources, religiosity, and investment risk. The mean score for each variable will be verified in order to describe the level of knowledge among respondents. This analysis is to answers objective 3 for the purpose of answering the fourth research question of this study.

5.6.1 Respondents' Understanding of Islamic Unit Trust Product

Table 5.4 shows that the mean for each item of understanding on IUT product are above 4.0. This clearly indicates that the respondents have a clear understanding on each element of IUT. Most of the respondents agree that the government and the SC should contribute help to increase public's awareness on IUTs investments. This item contributes the highest mean of 4.44.

The second largest mean is 4.42 that describes of three items described as follows: "IUT can provide better return compared to the regular savings, ups and downs of stock market will not affect the returns of IUT investment, and IUT issuers should be more progressive in promoting unit trust investments". On the other hand, the lowest mean in product knowledge variable is related to the item that states "IUT is risky" with the mean of 4.33.

Overall, the result revealed that most of the Muslim investors have high knowledge of IUT. Most of them understand that IUT provides better return compared to the regular savings. Moreover, the investors are very aware that the ups and downs of the stock market will not affect the returns of IUT investments. Majority of them agree that IUT is a product with less risk. They are also aware that IUT fund acts as an alternative savings

for children education and retirement. On the other hand, majority of them also agree that the government and the SC should provide more help to increase public's awareness on IUT's investment. Finally, they also agree that IUT issuers should be more aggressive in promoting unit trust investments.

Item No	Items	Mean	SD
PK1	IUTs gives better return compared to regular savings	4.42	0.59
PK2	Ups and Downs of stock market will not affect the returns on IUTs investment	4.42	0.62
PK3	IUTs is risky	4.33	0.66
PK4	IUTs is an alternative savings for retirement	4.35	0.63
PK5	IUTs is one of the alternatives of saving for children education	4.36	0.66
PK6	IUTs issuers should be more aggressive in promoting unit trust investments	4.42	0.62
PK7	The government and the SC should help in increasing public's awareness on IUTs investments	4.44	0.6

Table 5.4 Results of Mean Score for Understanding of Islamic Unit Trust Product

5.6.2 Respondents' Understanding on Islamic Financial Literacy

Table 5.5 shows the results of the mean score regarding respondents' understanding on IFL. The mean for each item in IFL is above 4.0 which show that Muslims respondents have a high understanding on each element of IFL. The mean of this variable is at the average between 4.44 to 4.58.

The highest mean is related to two items that share the same mean of 4.58 which refers to the item "I know that I might or might not receive any return when the contract is concluded" and the item of "I can only invest in permissible activities or services". This results clearly show that majority of the respondents have a good understanding there is no confirmed return in any transaction as taught by Islam. Most of them are also aware on the halal and haram in regard to their daily activities. The second largest mean is 4.51 which are related to the following three items, "I understand that all Islamic financing must be backed by asset, I am aware on the availability of Islamic instrument in the market and in Islam, I only transact with people that I trust". The lowest mean is at 4.44 which describe the item "I always make sure that there is no element of interest in all financial transactions that I made".

In conclusion, the results show that Muslim investors in IUT have high level of IFL. Majority of them understand that they are only allowed to invest in the permissible activities. On top of that, they are also clear that they might or might not receive any return in the Islamic finance contract. Most of them are exposed to the availability of the Islamic instruments in the market and understand that all Islamic financing must be backed by asset.

 Table 5.5 Results of Mean Score for Respondents' Understanding on Islamic Financial

 Literacy

CODE	Item	Mean	SD
IFL 1	I know that I might or might not receive any return when the contract is concluded	4.58	0.56
IFL 2	I acknowledge uncertainty on sanctity of financial contract is strictly prohibited in Islam	4.50	0.56
IFL 3	I always make sure that there is no element of interest in all financial transactions that I made	4.44	0.6
IFL 4	I understand that all Islamic financing must be backed by asset	4.51	0.58
IFL 5	I can only invest in permissible activities or services	4.58	0.55
IFL 6	I am aware on the availability of Islamic instrument in the market	4.51	0.66
IFL 7	In Islam, I only transact with people that I trust	4.51	0.61

5.6.3 Respondents' Understanding on Information Sources

Table 5.6 shows the mean for each item in IS which is presented by the average between 4.32 and 4.51. Most of the respondent select friends/family and advertising in press which are found to be sharing the same mean of 4.51. Next, it is followed by work colleagues
and online sources (4.47), television (4.43), books (4.42), published performance rating (4.40), agent (4.38), seminars (4.35), catalogues/ brochures/master prospectus (4.34), and finally, poster/billboard (4.32).

Overall, it can be concluded from the analysis that majority of the respondents are influenced by friends/family and advertising in press in regard to the IUTID. Meanwhile, work colleagues and internet or online sources are found to be among the important sources for Muslim investors. Other than that, television also plays an important role as one of the information sources in investment decision making, while some of the Muslim investors choose to refer to published performance ratings and books before making any decision. On the other hand, agent, brochures/master prospectus, and seminars are found to be the less effective information sources to Muslim investors.

Code	Item	Mean	SD
IS1	Friends/ Family	4.51	0.61
IS2	Work colleagues	4.47	0.6
IS3	Agent	4.38	0.66
IS4	Internet/ Online Sources	4.47	0.64
IS5	Advertising in press (newspaper/magazine)	4.51	0.64
IS6	Television	4.43	0.71
IS7	Seminars	4.35	0.76
IS8	Books	4.42	0.66
IS9	Poster/ Billboard	4.32	0.74
IS10	Catalogues/ Brochures/ Master Prospectus	4.34	0.69
IS11	Published Performance Ratings	4.4	0.68

Table 5.6 Results of Mean Scores for Information Sources

5.6.4 Respondents' Level of Religiosity

Table 5.7 shows the descriptive analysis for religiosity. The results of the analysis show that the mean for all items in religiosity exceed 4.0, thus indicating high level of understanding in the aspect of religiosity among Muslim investors. According to Wan Ahmad et al. (2008), those who exceed the number of 0.5 s.d. of the mean (refer Table

5.6 below) can be considered as devout religious (having deep religious feeling or commitment).

The highest mean is 4.42 for item "I have taken or given bribes", and this item is reverse coding which shows that most of the respondents are against this statement. The second highest mean is 4.39 for the item "Quranic teachings are suitable and practicable in today's life", which are agreed by most of the respondents.

The analysis concludes that most of the Muslim investors have high level of religiosity which also shows that majority of them try to fulfil the obligation according to the *Shariah* rules. From the descriptive analysis, it is revealed that more than half of the respondents have never taken bribes in their life. On top of that, they also pay zakat every year, did not forget to thank Allah for the income that have receive, and try to keep away from earning haram elements. Majority of the respondents also agree that Quranic teachings are suitable and practicable in today's life. Moreover, more than half of them avoid associating with *riba*, being honest at all times, and try to fulfil all the promise.

Code	Item	Mean	SD
RE1	I always keep myself away from earning through haram (prohibited) means.	4.33	0.77
RE2	I pay zakat fitrah every year	4.38	0.78
RE3	I have taken or given bribes (reverse coding)	4.42	0.76
RE4	I have taken interest (riba) (reverse coding)	4.32	0.79
RE5	I thank Allah for the income that I receive	4.37	0.84
RE6	I fulfill all that I promise	4.28	0.78

Table 5.7 Results of Mean Score for Religiosity

RE7	I am honest at all times	4.23	0.77
RE8	Quranic teachings are suitable and practicable in today's life	4.39	0.75

5.6.5 Respondents' Understanding on Investment Risk

Table 5.8 below shows the descriptive analysis on the understanding of IR in IUTID. The analysis clearly shows that "*Shariah* of compliance stock status and managing technique of investment manager" receive the highest mean of 4.41. This situation shows that Muslims investors in Malaysia are aware of the *Shariah* status for their investment product.

The second highest mean is 4.38 which refer to the changes in stock price. The respondents show that they are concerned about the ups and downs of the stock price. The following highest mean is 4.33 for the investment risk of economic condition and fluctuation in inflation rate.

Hence, it is clear that majority of Muslim investors consider the importance of *Shariah* of compliance stock status and managing technique by the investment manager as the most important factors that are taken into account when deciding to make an investment. This situation shows that Muslim investors clearly understand the need to invest in the *Shariah* based product for the purpose of fulfilling their obligation as Muslim. Moreover, the technique used by the manager also plays an important role in influencing investors to invest in the investment product. According to Haslem (2017), higher skilled portfolio managers will manage larger funds and gain higher rewards through the flow-performance relation. Apart from that, investors are able to identify skilled portfolio managers and determine their compensation through the flow-performing relation. Next, changing in stock price, economic condition, fluctuation in interest rate, and inflation rate

become the important factors in the respondent's investment style. Liquidity and credit risk are the last factors which influence the investment style of Muslim investors in IUTID.

Code	Item	Mean	SD
IR1	Economic condition	4.33	0.76
IR2	Liquidity	4.28	0.73
IR3	Credit Risk	4.30	0.73
IR4	Shariah of compliance stock status	4.41	0.70
IR5	Changing in Stock Price	4.38	0.68
IR6	Managing Technique of investment manager	4.41	0.64
IR7	Fluctuation in Interest Rate	4.32	0.73
IR8	Fluctuation in Inflation Rate	4.33	0.75

Table 5.8 Results of Mean Score for Investment Risk

5.7 Respondents' Risk Preferences

Table 5.9 presents the results of descriptive analysis on respondents' risk preferences level according to different demographic characteristics (gender, age, education level, occupation, income, and residence) in IUTID. In the case of this study, risk preferences level is segregated into three sections which are: no risk at all, medium risk but stable returns, and higher risk with higher returns. Subsequently, investors will be considered as risk seeker investor if they prefer to invest in higher risk and higher returns product. On the other hand, they will be regarded as risk averse investor if they prefer to invest in medium risk but stable returns and no risk at all.

In *Panel A* (gender), the results show that 43.8 percent of female investors are risk averse compared to 37.3 percent of male investors. The result also revealed that male investors are more risk taker (10.4%) compared to female investor (8.5%). Hence, it can be concluded that female investors are more risk averse, while male investors are risk taker. This finding is consistent with Powell and Ansic (1997), Nelson (2015), Rizvi and Fatima (2015), and Kliber et al. (2016).

In Panel B (age), the results indicated that 67.1 percent of risk averse investors in this study are among the age of 40 years old and below. Meanwhile, 35.5 percent of them are from the age group below 30 years old which prefer product with medium risk but stable returns and no risky product. According to Henry (2017), younger persons nowadays are more cautious with their assets which causes them to engage in higher rate of precautionary saving. Other than that, it is believed that many young adults are burdened with student loans that take many years to settle. Hence, this situation has increased the desire among them for precautionary saving.

Panel C (education level), the results informed that majority of highly education investors are risk averse because they prefer to choose the product with no risk to medium risk but in stable returns. This results is in agreement with Taqadus Bashir et al. (2013) which states that highly educated person tend to be fear of losses. On the other hand, less educated individuals will be more willing to accept more risk (Graham, Stendardi, Myers, & Graham, 2002). Hence, this reflects the result of this study which shows that the most risk seeker investors are those with secondary school and diploma or certificate at 6.0 percent and 6.2 percent, respectively.

According to *Panel D* (occupation), all five occupations groups are not high-risk seekers. They prefer to invest in medium risk but stable returns and no risky product. However, the descriptive analysis shows that 8.3 percent of the government servants are risk seeking investors compared to other types of occupation.

In addition, from the income perspective in *Panel E*, the results show that 8.0 percent of Muslim investors who earn a monthly income from RM1001 to RM3000 are risk seeker investors. This group of income prefer to invest in higher risk product with higher returns,

which contradicts with the result of Taqadus Bashir et al. (2013) where higher salary people are more willing to invest in the high risky product.

Meanwhile, the descriptive analysis in Panel F shows that 9.7 percent of Muslim investors from urban area are more risk seeker compared to those who stay in rural area. This result can be considered new in this area as no study have investigated the relationship between residential and risk preference among Muslim investors in IUT in Malaysia. A. Abu Bakar (2016) has pointed out the needs of research on IUT which covers the rural and urban area.

From all of analysis above, it can be concluded that Muslim investors in IUT are risk averse investors. All the results show that Muslim investors prefer to select product with medium risk but stable returns and no risk at all although the test was performed on the risk preferences according to different types of demographics characteristics.

Table 5.9 Respondents' Risk Preferences					
Demographic C	Demographic Characteristics		Medium	Higher	Total
		at all	risk but	risk with	
			Stable	Higher	
			returns	Returns	
Panel A:	Male	106	187	82	375
Gender		(13.5%)	(23.8%)	(10.4%)	(47.6%)
	Female	122	223	67	412
		(15.5%)	(28.3%)	(8.5%)	(52.4%)
Panel B:	Less than 30 years old	92	187	62	341
Age		(11.7%)	(23.8%)	(7.9%)	(43.3%)
	31-40 years old	98	150	72	320
		(12.5%)	(19.1%)	(9.1%)	(40.7%)
	41-50 years old	28	44	11	83
		(3.6%)	(5.6%)	(1.4%)	(10.5%)

	More than 50 years	10	29	4	43
	old	(1.3%)	(3.7%)	(0.5%)	(5.5%)
Panel C:	Secondary School	72	118	47	237
Education Level		(9.1%)	(15.0%)	(6.0%)	(30.1%)
	Diploma/Certificate	80	101	49	230
	I - m	(10.2%)	(12.8%)	(6.2%)	(29.2%)
	First Degree	61	149	40	250
	C	(7.8%)	(18.9%)	(5.1%)	(31.8%)
	Master Degree	14	36	11	61
	e	(1.8%)	(4.6%)	(1.4%)	(7.8%)
	PhD	1	6	2	9
		(0.1%)	(0.8%)	(0.3%)	(1.1%)
Panel D:	Government	77	191	65	333
Occupation		(9.8%)	(24.3%)	(8.3%)	(42.3%)
_	Private	54	71	26	151
		(6.9%)	(9.0%)	(3.3%)	(19.2%)
	Self-Employed	54	93	37	184
		(6.9%)	(11.8%)	(4.7%)	(23.4%)
	Retired	7	6	2	15
		(0.9%)	(0.8%)	(0.3%)	(1.9%)
	Student	36	49	19	104
		(4.6%)	(6.2%)	(2.4%)	(13.2%)
Panel E:	RM1000 and below	62	90	37	189
Income		(7.9%)	(11.4%)	(4.7%)	(24.0%)
	RM1001 to RM3000	86	173	63	322
		(10.9%)	(22.0%)	(8.0%)	(40.9%)
	RM3001 to RM6000	68	106	42	216
		(8.6%)	(13.5%)	(5.3%)	(27.4%)
	RM6001 to RM9000	9	33	6	48
		(1.1%)	(4.2%)	(0.8%)	(6.1%)
	RM9001 and above	3	8	1	12
		(0.4%)	(1.0%)	(0.1%)	(1.5%)
Panel F:	Rural	118	176	73	367
Residence		(15.0%)	(22.4%)	(9.3%)	(46.6%)
	Urban	110	234	76	420
		(14.0%)	(29.7%)	(9.7%)	(53.4%)

5.8 **Respondents' Intention to Invest in the Future in Islamic Unit Trust Funds**

Table 5.10 presents the descriptive analysis of intention of the investors in maintaining to invest in IUT in the future. The result shows that 93 percent of male and female investors agree to invest in this product in the future. However, 6 percent or 52 of the Muslim respondents refuse to invest in this product in the future.

Table 5.10 Respondents' Intention to Continue Investment in the Future

Factor		Intention to inv	est in the future	Total	
		Yes	No		
Gender	Male	350 (44.0%)	25 (3.0%)	375 (48.0%)	

5.9 Relationship between Demographic Factors with Islamic Unit Trust Investment Decision Making

The relationship between demographic factors and IUTID was analysed using Mann-Whitney U Test and Kruskal-Wallis H Test. On a similar note, the variable of gender and type of residential were assessed using Mann-Whitney U Test, while the other factors were analysed using Kruskal-Wallis H Test.

The results presented in Table 5.11 shows that only age and income have a significant relationship with IUTID with the P value of 0.011 and 0.018, respectively. Hence, the hypotheses H1b and H1c are supported. However, other demographic factors (gender, education level, type of occupation, and type of residential) have no significant relationship with IUTID. Therefore, the hypotheses H1a, H1d, H1e, and H1f are rejected.

The purpose of this analysis is to answer the first objective of this study. The first demographic factor refers to the relationship between gender and IUTID. The result proves no significant relationship between gender and IUTID, which indicates that IUTID is not influenced by gender. This result is in line with the previous study by Bennet et al. (2011) and Geetha and Ramesh (2012). However, it contradicts the study by Begum and Rahman (2016) which states that gender significantly influences unit trust investment.

The second factor in demographic factors is age where it is found to be significantly related to IUTID. Most of the investors in IUT come from those with the age below 30 years old. This indicates that that teenager nowadays is more aware on the importance of savings for the future through investment in IUT. However, this result contradicts the

findings of Bennet et al. (2011) and Geetha and Ramesh (2012) which states that there is no correlation between age and investment decision making.

The third demographic factor refers to the income. In the case of this study, the analysis shows that income is significantly related to IUTID. On top of that, majority of the respondents are shown to have low to moderate income. This situation proves that IUT is a suitable product for the middle-income group. More importantly, this result is in agreement with the study by Begum and Rahman (2016) which states that income significantly influence unit trust investment. However, a study by Geetha and Ramesh (2012) found that income is not significant with investment decision.

The fourth factor is the education level which revealed no correlation with IUTID. This situation reflects that education level does not affect the decision of investors to invest in IUT. Moreover, higher or lower education level of individual does not influence them to invest in IUT. This result is in line with Bennet et al. (2011) and Geetha and Ramesh (2012). However, this result contradicts the findings produced by Fares and Khamis (2011) that found the significant level of education with decision making.

The fifth factor revealed that the type of occupation is not significant with IUTID, which is in agreement with the result produced by Bennet et al. (2011) and Geetha and Ramesh (2012) which states that occupation is not significant with investment decision.

The last factor refers to the relationship between type of residential and IUTID. According to Azizi Abu Bakar (2016), no past research has tested the relationship between type of residential with investment decision. The result shows that the type of residential has no significant relationship with IUTID. In other words, investors who invest in IUT are not limited to those who live in urban area but also include those who reside in the rural area.

Hypotheses	Relationship	Method of Analysis	P value	Result
H1a	Gender and IUTID	Mann-Whitney U Test	0.967	Not Significant
H1b	Age and IUTID	Kruskal-Wallis H Test	0.011	Significant
H1c	Income and IUTID	Kruskal-Wallis H Test	0.018	Significant
H1d	Education Level and IUTID	Kruskal-Wallis H Test	0.708	Not Significant
H1e	TypeofOccupationandIUTID	Kruskal-Wallis H Test	0.191	Not Significant
H1f	TypeofResidentialandIUTIDIUTID	Mann-Whitney U Test	0.454	Not Significant

Table 5.11 The Results on The Relationship between Demographic Factors and Islamic Unit Trust Investment Decision

Note: P value< 0.05, Significant; P value > 0.05, Not Significant

5.10 Relationship between Risk Preferences and Familiarity with Islamic Unit Trust Investment Decision.

Table 5.12 shows the relationship between risk preferences and familiarity with IUTID. These relationships were analysed using Kruskal-Wallis H Test. The result revealed that risk preferences and familiarity significantly influence IUTID at p<0.05. Hence, H2 and H3 are supported.

According to the analysis performed using Kruskal-Wallis H Test, the result shows that risk preferences and familiarity have a significant relationship with IUTID. Majority of the Muslim respondents are risk averse investors that prefer to invest in medium risk but stable returns of the investment products. Apart from that, the results also revealed that female investors are risk averse compared to the male investors. This results are similar to the findings by Kliber et al. (2016), Nelson (2015), Powell and Ansic (1997), and Rizvi and Fatima (2015) which found that female investors are risk averse investor. Most of them prefer to choose investment product with low risk. On the other hand, male investors are considered as risk seeking type of investor because most of them are interested to invest in high risk investment product.

In terms of familiarity, the results revealed that female investors are more familiar with IUT compared to male investors. This indicates that female investors have more knowledge or understanding on Islamic unit trust investment compared to male investors. Hence, it is believed that female investors are more aware of investment decision compared to male investors due to their high knowledge of IUT. However, female investors still need advice from the professional although they are familiar with the product (Marinelli, Mazzoli, & Palmucci, 2017). Contrastingly, male investors are not really familiar with IUT but they are the risk seeking type of investor which make them to have more self-confident and optimistic (Marinelli et al., 2017).

Other finding shows that investors in urban area are more familiar with IUT compared to those living in rural area. The reason of this situation is believed to be resulted by the fact that most of the information related to unit trust is printed on poster or billboard placed in the town area. Moreover, the unit trust companies and their agents only hope for the companies in urban area to set up the seminars on unit trust products. Fewer activities on awareness about unit trust have been conducted in rural areas. Basically, Permodalan Nasional Berhad (PNB) is the only active organisation that has been very committed in distributing knowledge to both the rural and urban area on unit trust investment and financial planning towards Malaysian since 2008. Hence, this will help to create awareness on the saving in the unit trust as well as for future financial planning (Zainon, 2015).

investment Decision				
Variable	P value	Result		
Risk Preferences	0.000	Significant		
Familiarity	0.010	Significant		
	Variable Risk Preferences Familiarity	VariableP valueRisk Preferences0.000Familiarity0.010		

Table 5.12 Results of Risk Preferences and Familiarity with Islamic Unit Trust Investment Decision

5.11 The Choice Criteria in Islamic Unit Trust Investment Decision

Table 5.13 presents the ten elements in Islamic unit trust investment choice criteria that have been investigated using descriptive analysis among Muslim investors in Malaysia. The results of analysis show that funds commitment to Islamic principle become the most important criteria among Muslim investors in choosing IUT with the mean of 4.54. Meanwhile, investment performance and experience of fund managers obtain the mean of 4.52 and 4.49, respectively. Other important criteria in choosing IUT include risk and returns, fund managers' reputation, liquidity, management fees, size of funds, financial institutions linked fund, and government linked fund. This analysis answers the second objective of this study.

ITEM	Mean	SD	Ranking
The Fund's commitment to Islamic Principles	4.54	0.57	1
Investment Performance	4.52	0.58	2
Experience of fund manager	4.49	0.59	3
Risk and Return	4.48	0.62	4
Fund manager's Reputation	4.47	0.62	5
Liquidity	4.46	0.64	6
Management Fees	4.39	0.70	7
Size of funds	4.36	0.66	8
Financial Institutions linked fund	4.32	0.68	9
Government linked fund	4.25	0.71	10

Table 5.13 Results of Selection Criteria in Islamic Unit Trust Fund

5.12 Summary of Chapter

Table 5.14 illustrates the overall hypothesis for demographic analysis. Age, income, risk preferences, and familiarity show a significant relationship with IUTID. However, other factors which include gender, education level, type of occupation, and type of residential does not show any significant relationship with Islamic unit trust investment decision.

Hypothesis	Variable	Result
H1a	Gender and IUTID	There is no significant relationship
		between gender and IUTID.
H1b	Age and IUTID	There is significant relationship between
		age and IUTID.
H1c	Income and IUTID	There is significant relationship between
		income and IUTID.
H1d	Education Level and IUTID	There is no significant relationship
		between education level and IUTID.
H1e	Type of Occupation and	There is no significant relationship
	IUTID	between type of occupation and IUTID.
H1f	Type of Residence and	There is no significant relationship
	IUTID	between type of residence and IUTID.
H2	Risk Preferences and IUTID	There is significant relationship between
		risk preferences and IUTID.
H3	Familiarity and IUTID	There is significant relationship between
		familiarity and IUTID.

Table 5.14 Overall Hypothesis Results for Demographic Factors

In addition, this chapter explained the selection criteria of Muslim investors in choosing IUT. Fund's commitment to Islamic principle was found to be the most important criteria selected by Muslim investors when deciding to invest in IUT. This situation reflects high awareness of Muslims in Malaysia in choosing halal investment product.

The next chapter will discuss the two main elements which include (i) the testing model of IUTID and (ii) the analysis of the relationship between IFL, IS, RE, IR, PK, and IUTID carried out using PLS-SEM.

CHAPTER SIX: RESULTS OF PLS-SEM ANALYSES AND DISCUSSIONS

6.1 Introduction

This chapter discusses two main elements of analysis that utilise PLS-SEM. The first analysis refers to the testing model of IUTID which tests all the relationship (IFL, IS, RE, IR) according to the direct relationship as well as the moderation and mediation effect of PK. The objective of testing the model of IUTID is to confirm that all the relationship in the theoretical framework is valid. Meanwhile, the second analysis is to identify the relationship of variables on the IUTID using the actual data collection obtained from this study. Finally, an in-depth discussion will be provided in this chapter which will answer objective 3, 4, 5, and 6.

6.2 Testing Model

This section describes the development of the model adopted in this study. The relationship of this model is developed based on the combination of the theories of EBM model, Modern Portfolio Theory, and Prospect Theory. The purpose of testing this model is to confirm that the relationship created for the theoretical framework in Chapter 4 is valid. On top of that, this testing model will answer the sixth objective of this study.

There are three types of analysis testing that were carried out in the testing of this model: (1) relationship between IVs and DV, (2) relationship between IVs and DV with the mediating of product knowledge, and (3) relationship between IVs and DV with the moderating of product knowledge. Moreover, each steps of the relationship have been tested using Partial Least Square Structural Equation Modelling (PLS-SEM).

Furthermore, the present study had to test each step of the relationship considering that previous studies on product knowledge only tested it based on mediation effect (Dröge,

Claycomb, & Germain, 2003; Locke, 2000) and moderation effect (Oliver, 1975; Berger, Ratchford, & Haines, 1994; Chiou, 1998; Roehm & Sternthal, 2001; Fenglin & Shasha, 2013; Wahyuni, 2012). Therefore, the final results will combine all the relationships into one complete model with the purpose of testing the decision making of Muslims investor in IUT.

6.2.1 Assessment of Measurement Model

The first step is to test the direct relationship between IVs (IFL, IS, RE and IR) and IUTID. There are some criteria that need to be fulfilled when using PLS-SEM as the method of analysis prior to the analysis of the model.

The first requirement is to test the assessment of the measurement model which involves two validities requirement for the model, namely convergent validity and discriminant validity. Convergent validity can be validated based on outer loadings, average variance extracted (AVE), and composite reliability (CR) as shown in Table 6.1. According to Hair et al. (2014), the outer loading must be 0.708 and above, while AVE should be greater than 0.5. However, it is still acceptable if the outer loading is lower than 0.708 but the AVE exceeds 0.5. Table 6.1 illustrates the established requirements for convergent validity.

Table 6.1 Outer Loadings, AVE and CR

	14010 011			
Constructs	Indicators	Outer Loadings	AVE	CR
	IUTID1	0.686	0 501	0.880
	IUTID10	0.757	0.301	0.009

1		0.700		
	IUTID2	0.708		
T 1 1 1 1	IUTID3	0.679		
Islamic unit trust	IUTID4	0.711		
Investment	IUTID/	0.645		
Decision (IUTID)	IUTID8	0.727		
	IUTID9	0.744		
	IFL1	0.629		
	IFL4	0.72		
	IFL5	0.74	0.531	0.849
Islamic financial	IFL6	0.78		
literacy (IFL)	IFL7	0.766		
	IS10	0.709		
	IS11	0.702		
	IS4	0.676		
	IS5	0.74	0.522	0.907
	IS6	0.747	0.522	0.897
	IS7	0.772		
Information	IS8	0.753		
sources (IS)	IS9	0.675		
	RE1	0.67		
	RE2	0.743		
	RE3	0.781		
	RE4	0.762		0.000
	RE5	0.802	0.554	0.908
	RE6	0.767		
	RE7	0.704		
Religiosity (RE)	RE8	0.714		
	IR1	0.709		
	IR2	0.698		
	IR3	0.722		
	IR4	0 74		
	IR5	0.638	0.521	0.897
	IR6	0.723		
Investment Risk	IR7	0.765		
(IR)	IR8	0.773		
	DK1	0.674		
		0.644		
	IKZ	0.044		
		0.00	0.518	0.882
	Г IX4 DV 5	0.739	0.310	0.002
Droduct		0.791		
PTOQUCE		0.747		
knowledge (PK)	PK/	0.75		

The second requirement is to achieve discriminant validity which can be tested using three types of assessments, namely cross-loading assessment, Fornell and Larcker criterion, and HTMT criterion. The level of acceptance for cross loadings scores differ by 0.1. On a similar note, the requirement for the Fornell and Larcker criterion is $AVE > r^2$, while the HTMT criterion must be lower than 0.85. In the case of this study, the HTMT criterion is 0.671 which indicate that the discriminant validity managed to be established as presented in Table 6.2, 6.3, and 6.4.

Table 6.2 Cross-Loadings							
	IFL	IR	IS	IUTID	РК	RE	
IFL1	0.629	0.178	0.224	0.406	0.258	-0.066	
IFL4	0.72	0.106	0.256	0.437	0.286	0.083	
IFL5	0.74	0.131	0.194	0.324	0.282	0.012	
IFL6	0.78	0.224	0.313	0.425	0.37	-0.024	
IFL7	0.766	0.284	0.333	0.391	0.361	0.062	
IR1	0.18	0.709	0.024	0.109	0.022	-0.131	
IR2	0.164	0.698	-0.004	0.097	0.024	-0.11	
IR3	0.181	0.722	0.041	0.141	0.022	-0.089	
IR4	0.192	0.74	0.054	0.124	-0.013	-0.065	
IR5	0.118	0.638	0.055	0.092	0.065	0.012	
IR6	0.208	0.723	0.101	0.184	0.101	0.031	
IR7	0.178	0.765	0.115	0.144	0.074	-0.034	
IR8	0.232	0.773	0.123	0.166	0.081	-0.003	
IS10	0.208	0.09	0.709	0.357	0.314	0.118	
IS11	0.264	0.058	0.702	0.43	0.333	0.191	
IS4	0.362	0.05	0.676	0.414	0.403	0.204	
IS5	0.328	0.112	0.74	0.474	0.344	0.196	
IS6	0.33	0.058	0.747	0.454	0.325	0.144	
IS7	0.212	0.081	0.772	0.419	0.349	0.156	
IS8	0.164	0.074	0.753	0.442	0.35	0.134	
IS9	0.242	0.041	0.675	0.347	0.321	0.248	
IUTID1	0.394	0.148	0.408	0.686	0.473	0.043	
IUTID10	0.442	0.127	0.424	0.757	0.431	0.125	
IUTID2	0.395	0.159	0.416	0.708	0.347	0.12	
IUTID3	0.344	0.065	0.429	0.679	0.36	0.147	
IUTID4	0.352	0.11	0.424	0.711	0.355	0.175	
IUTID7	0.327	0.133	0.438	0.645	0.33	0.123	
IUTID8	0.405	0.141	0.376	0.727	0.416	0.101	
IUTID9	0.433	0.194	0.383	0.744	0.434	0.097	
PK1	0.356	0.044	0.428	0.458	0.674	0.195	
PK2	0.187	0.025	0.351	0.359	0.644	0.126	
PK3	0.182	-0.025	0.392	0.336	0.68	0.08	
PK4	0.274	0.064	0.318	0.376	0.739	0.034	
PK5	0.348	0.041	0.321	0.415	0.791	-0.028	
PK6	0.343	0.087	0.271	0.385	0.747	0.031	
PK7	0.427	0.109	0.303	0.449	0.75	0.056	
RE1	-0.002	-0.029	0.096	0.094	0.074	0.67	
RE2	-0.015	-0.061	0.145	0.093	0.051	0.743	
RE3	0.027	0.003	0.138	0.114	0.075	0.781	
RE4	0.053	-0.057	0.23	0.16	0.077	0.762	

RE5	0.01	-0.053	0.131	0.104	0.047	0.802
RE6	0.028	-0.038	0.264	0.141	0.114	0.767
RE7	-0.05	-0.045	0.234	0.116	0.054	0.704
RE8	0.041	-0.057	0.129	0.117	0.092	0.714

Table 6.3 Fornell and Larcker Criterion						
	IS	IR	IFL	IUTID	PK	RE
IS	0.723					
IR	0.098	0.722				
IFL	0.368	0.258	0.729			
IUTID	0.581	0.191	0.548	0.708		
PK	0.475	0.072	0.431	0.558	0.72	
RE	0.24	-0.057	0.02	0.163	0.101	0.744

		Tał	ole 6.4 HTM	T Criterion		
	IS	IR	IFL	IUTID	РК	RE
IS						
IR	0.111					
IFL	0.438	0.3				
IUTID	0.671	0.21	0.666			
РК	0.552	0.105	0.515	0.647		
RE	0.264	0.104	0.104	0.188	0.131	

6.2.2 Analysis of Direct Relationship between IVs and DV

The second step in the analysis of the model refers to the assessment of the structural model. The direct relationship consists of five criteria described as follows: (1) assessment of collinearity (VIF), (2) assessment of path coefficient, (3) coefficient of determination (\mathbb{R}^2), (4) effect size (f^2), and (5) predictive relevance (\mathbb{Q}^2).

The relationship between each exogenous variable with endogenous variable can be interpreted following the process of PLS Algorithm as shown in Figure 6.1. The result shows that all the exogenous have positive relationship with endogenous variable. Moreover, the results of VIF, R², and f² can be assessed. The VIF of this direct relationship is shown to exceed the 5.0 and below requirement set by Hair et al. (2014) as presented in Table 6.5. Figure 6.1 presents that the R² of this direct relationship is 0.477, which shows a moderate acceptance level. The f² and blindfolding, Q² are shown in Table 6.7.

Table 6.5 Variance Inflator Factor (VIF)				
Construct	IUTID			
IS	1.232			
IR	1.075			
IFL	1.227			
RE	1.072			

The bootstrapping analysis performed with 5000 samples shows that all the relationship

between IFL, IS, RE, and IR with IUTID are positively significant as shown in Table 6.6.

Table 6.6 Result for Direct Effect						
	Direct	Standard	T Statistics	P Values	Result	
	Effect	Error				
	(B)					
IS -> IUTID	0.424	0.032	13.365***	0.000	S	
IR -> IUTID	0.056	0.024	2.277**	0.011	S	
IFL -> IUTID	0.38	0.03	12.533***	0.000	S	
RE -> IUTID	0.058	0.031	1.876**	0.03	S	
Note: Significant Loval: *n<0.1. **n<0.05. ***n<0.1. Not Significant - NS						

Note: Significant Level: *p<0.1, **p<0.05, ***p<0.1. Not Significant = NS, Significant = S

Table 0.7 T square, K square and Q square						
Construct	f square	R square	Q square			
IFL	0.134					
IS	0.157					
IR	0.009					
RE	0.006					
IUTID		0.477	0.222			

Table 6.7 f square, R square and Q square



Figure 6.1 PLS Algorithm Direct Relationship (Testing Model)



Figure 6.2 Bootstrapping of Direct Effect (Testing Model)

6.2.3 Analysis the Relationship between IVs and DV with the Mediating of

Product Knowledge

The second model is to test the relationship between IVs and DV with the mediating effect of PK. The results of the PLS Algorithm test shows that IFL, IS, and RE positively influence PK, whereas IR has negative relationship with PK. On top of that, PK also shows positive relationship with IUTID (Please refer to Figure 6.3). The R² for PK is 0.301, while the R² of IUTID after the addition of PK construct is 0.521.

As can be observed in Figure 6.4, the results for the bootstrapping analysis for indirect effect shows that only two exogenous variables (IFL and IS) have significant relationship with PK. On the other hand, RE and IR have no significant relationship with PK, thus prevent the testing of the mediation effect of PK between both exogenous variables with IUTID. According to Baron and Kenny (1986), the testing of mediation effect cannot be established if one relationship is not significant. Table 6.8 below shows the results of the indirect effect of mediation.

 Table 6.8 Results of Indirect Effect (Mediation)

	Direct	Standard	T Statistics	P Values	Results
	Effect (ß)	Error			
IS -> IUTID	0.327	0.036	9.144**	0.000	S
IS -> PK	0.365	0.035	10.566**	0.000	S
IR -> IUTID	0.066	0.024	2.794**	0.005	S
IR -> PK	-0.04	0.034	1.177	0.239	NS
IFL -> IUTID	0.296	0.03	9.976**	0.000	S
IFL -> PK	0.307	0.034	9.008**	0.000	S
PK -> IUTID	0.265	0.036	7.25**	0.000	S
RE-> IUTID	0.054	0.029	1.862***	0.063	S
RE -> PK	0.007	0.031	0.21	0.833	NS

Note: Significant Level: *p<0.1, **p<0.05, ***p<0.01. Not Significant = NS, Significant = S

Mediation effect can be further divided into three types of effect, namely full mediation effect, partial mediation effect, and no mediation effect. In determining the magnitude of this indirect effect, Iacobucci and Duhachek (2003) proposed the VAF (Variance Accounted For) which are able to indicate the size of the indirect effect in relation to the total effect (direct effect + indirect effect): VAF = (a1b1)/(a1b1+c). The previous analysis presented in Table 6.8 shows that only IFL and IS are significant with PK, which allows the mediation effect on IUTID to be tested. The calculation of VAF are as follows:

VAFIFL= (0.307*0.265) / (0.307*0.265+0.296) = 0.2156 @ 21.56%.

VAFIS= (0.365*0.265) / (0.365*0.265+0.327) = 0.2283 @ 22.83%.

The above results of VAF show that there is partial mediation effect between exogenous variable (IFL and IS) and endogenous variable (IUTID).



Figure 6.3 PLS Algorithm Indirect Effect (Testing Model)



6.2.4 Analysis the Relationship between IVs and DV with the Moderating of

Product Knowledge

The last testing of the model is to determine the moderation effect of PK between IVs and DV. The R² is 0.477 before the moderation of PK. However, the R² increases to 0.537 after PK is added as exogenous variable in the model. The PLS Algorithm indirect effect is shown in Figure 6.5. Moreover, all the exogenous variables show a positive relationship with endogenous variable. The results show that only two endogenous variables (IS and RE) are significant with IUTID after the bootstrapping with the moderation effect is performed (Figure 6.6). The results of the indirect effect of moderation can be observed in Table 6.9.

1001	Direct				Result
	Effect	Standard		Р	
	(B)	Error	T Statistics	Values	
IFL*PK ->					NS
IUTID	0.038	0.085	0.449	0.327	
IS -> IUTID	0.301	0.034	8.752	0.000	S
IR -> IUTID	0.073	0.023	3.137	0.001	S
IR*PK -> IUTID	0.046	0.153	0.298	0.383	NS
IS*PK -> IUTID	-0.187	0.073	2.541***	0.006	S
IFL -> IUTID	0.287	0.032	8.965	0.000	S
PK -> IUTID	0.249	0.032	7.866	0.000	S
RE*PK -> IUTID	0.158	0.087	1.822**	0.034	S
RE-> IUTID	0.075	0.029	2.578	0.005	S

 Table 6.9 The Results of Indirect Effect (Moderation)

Note: Significant Level: *p<0.1, **p<0.05, ***p<0.01. Not Significant = NS, Significant = S



Figure 6.5 PLS Algorithm Indirect effect (Moderation) (Testing Model)



Figure 6.6 Bootstrapping Indirect Effect (Moderation) (Testing Model)

6.2.5 Summary of Testing Model

The analyses conducted by previous studies on the direct relationship between IFL, IS, RE, IR, and IUTID as well as the mediation effect and moderation effect of PK between IFL, IS, RE, IR with IUTID show that a significant relationship which is similar to the relationship developed in the theoretical framework. On top of that, these results successfully supported the sixth objective of this study which enables the theoretical framework of this study to be applied as a model in investment decision making which is shown in Figure 6.7.



Figure 6.7 Investment Decision Making Model

6.3 Results of Actual Data Analysis

Partial Least Square Structural Equation Modelling (PLS-SEM) is a nonparametric statistical method (Hair et al., 2014), which does not require the data to be normally distributed. In PLS-SEM, all the tested hypotheses and variable relationships are shown in path models (Hair et al., 2014) which is composed of the inner model (structural model) and the outer model (measurement model). The inner model specifies the relationships between the constructs, whereas the outer model specifies the relationships between constructs and indicator variables (Henseler, Ringle, & Sinkovics, 2004; Hair et al., 2017). According to Joseph F. Hair et al (2017), path models are developed based on theory.

Hence, PLS-SEM was adopted in the present study to evaluate the inner model (structural model) and the outer model (measurement model). In other words, PLS-SEM was used to analyse the direct as well as the mediating and moderating results of this study. Smart PLS 3.0 developed by Ringle, Wende, and Becker (2015) was utilised to determine the causal links among the constructs in the theoretical models.

6.4 Measurement Model Analysis

First, it is important to configure the model to enable it to be clearly understood prior to conducting the PLS-SEM analysis. In this case, the indicators should be clarified to establish which indicators are formative and reflective. It is essential to note the importance of model configuration because testing reflective measurement model is considerably different from the approach used in testing the formative measurement model (Hair et al., 2014). In this study, all the indicators of latent variables are found to be reflective.

The analysis begins with the evaluation of the measurement model (outer model which measures the relationships between the indicators (items) and the constructs. The objective of evaluating the measurement model is to evaluate the reliability and validity of the constructs (Hair et al., 2014) which can be performed by following the guidelines of reflective measurement models. The suitability of the outer model can be assessed by determining the following criteria: (1) internal consistency (composite reliability), (2) Indicator Reliability, (3) Convergent Validity (average variance extracted / AVE), and (4) Discriminant validity (Hair et al., 2014).

6.4.1 Assessment of Construct Reliability

The first criteria to be evaluated is internal consistency reliability which commonly measures the consistency of result between items of the same test. The traditional criterion for internal consistency is Cronbach's alpha which assumes that all the indicators are equally reliable. However, PLS-SEM ranks the indicators according to their individual reliability (Hair et al., 2014). Therefore, the internal consistency reliability in this study was assessed by examining the composite reliability (CR).

According to Hair et al. (2014), CR varies between 0 and 1 with the higher value indicating higher level of reliability. In exploratory research, CR values of 0.6 to 0.7 are acceptable. Meanwhile, values between 0.7 and 0.9 can be regarded as satisfactory in the advance stage of research (Nunally & Bernstein, 1994). On the other hand, CR values below 0.60 indicates a lack of internal consistency reliability.

Therefore, CR values for all constructs were examined in this study, and the results presented in Table 6.10 show that all CR values exceed the recommendation threshold value of 0.70 (Hair et al., 2014; Nunally & Bernstein, 1994). The CR values of this study

is in the range of 0.849 and 0.908, where 0.849 (IFL), 0.889 (IUTID), 0.897 (IS), 0.882 (PK), 0.896 (IR), and 0.908 for RE. These results indicate that these constructs possess internal consistency.

Table 0.10 Results of Clonbach's Alpha and Composite Renability					
	Cronbach's	Composite			
	Alpha	Reliability			
Information Sources (IS)	0.869	0.897			
Investment Risk (IR)	0.87	0.896			
Islamic Financial Literacy (IFL)	0.778	0.849			
Islamic Unit Trust Investment Decision (IUTID)	0.857	0.889			
Product Knowledge (PK)	0.844	0.882			
Religiosity (RE)	0.885	0.908			
Note: Cronbach's Alpha > 0.5 Composite Reliability	>0.6				

Table 6.10 Results of Cronbach's Alpha and Composite Reliability

Note: Cronbach's Alpha > 0.5, Composite Reliability >

6.4.2 Assessment of Convergent Validity

The second step of the analysis refers to convergent validity which can be defined as the extent to which a measure is positively correlated with the alternative measures of the same construct. The average variance extracted (AVE) was used with the threshold value of 0.50 and above with regards to identifying an element of convergence in the measurements of the construct (Joseph F. Hair et al., 2014).

In this study, convergent validity was assessed by examining AVE values. As can be observed in Table 6.11, the AVE value of all constructs exceeds the threshold value of 0.50. The results reveals that the AVE values are in the range of 0.501 to 0.554, which indicates that the items loaded to the respective constructs explain more than 50% of the constructs' variances (Hair et al., 2014). Therefore, can be concluded that convergent validity is established.

	Indicators	Loadings	Indicator	AVE
Construct	malcators	Loudings	Reliability	TIVL
Islamic Unit Trust		0.686	0.471	0.501
Investment Decision		0.708	0.501	0.501
Investment Decision		0.708	0.301	
		0.079	0.401	
		0.711	0.300	
		0.645	0.416	
		0.727	0.529	
	IUTID9	0.744	0.554	
T 1 · D· · 1		0.757	0.573	0.521
Islamic Financial	IFLI	0.629	0.396	0.531
Literacy	IFL4	0.72	0.518	
	IFL5	0.74	0.548	
	IFL6	0.78	0.608	
	IFL7	0.766	0.587	
Information Sources	IS4	0.676	0.457	0.522
	IS5	0.74	0.548	
	IS6	0.747	0.558	
	IS7	0.772	0.596	
	IS8	0.753	0.567	
	IS9	0.675	0.456	
	IS10	0.709	0.503	
	IS11	0.702	0.493	
Investment Risk	IR1	0.709	0.503	0.521
	IR2	0.698	0.487	
	IR3	0.722	0.521	
•	IR4	0.74	0.548	
	IR5	0.638	0.407	
C	IR6	0.723	0.523	
	IR7	0.765	0.585	
	IR8	0.773	0.600	
Religiosity	RE1	0.67	0.449	0.554
	RE2	0.743	0.552	
	RE3	0.781	0.610	
	RE4	0.762	0.581	
	RE5	0.802	0.643	
	RE6	0.767	0.588	
	RE7	0.704	0.496	
	RE8	0.714	0.510	
Product Knowledge	PK1	0.674	0.454	0.518
	PK2	0.644	0.415	
	PK3	0.68	0.462	
	PK4	0.739	0.546	
	PK5	0.791	0.626	
	PK6	0.747	0.558	
	PK7	0.75	0.563	

Table 6.11 Results of Loadings, Indicator Reliability and AVE

Note: Convergent Validity established at AVE >0.5.

6.4.3 Assessment of Discriminant Validity

In this section, the discriminant validity is considered by focusing on the extent to which a construct differs from another construct (Hair et al., 2014). Discriminant validity can be measured based on three methods, namely cross loadings of the indicators, Fornell-Larcker criterion (1981), and HTMT criterion (2015). Hair et al. (2014) points out that the second method is more conservative approach to assess discriminant validity.

Discriminant validity is established when the value of the square root of AVE of each construct is higher than the highest correlation of the construct in comparison to any other latent construct (Hair et al., 2014). Therefore, the discriminant validity in this study was assessed by comparing the square root of the AVE for each construct with the correlations presented in the correlation matrix. Table 6.12 shows the results of Fornell-Larcker (1981) Criterion assessment with the square root of the construct. The square root of AVE presented in bold is greater than the highest construct correlations in comparison to other constructs. Hence, it can be concluded that discriminant validity on the construct have managed to be established.

Table 0.12 Fomen-Larcker Chienon										
CONSTRUCT	IS	IR	IFL	IUTID	РК	RE				
IS	0.723									
IR	0.098	0.722								
IFL	0.368	0.258	0.729							
IUTID	0.581	0.191	0.548	0.708						
РК	0.475	0.072	0.431	0.558	0.72					
RE	0.24	-0.057	0.02	0.163	0.101	0.744				

Table 6.12 Fornell-Larcker Criterion

Note: Discriminant validity is established when square root AVE (bold) higher than any constructs.

Up to the recent time, discriminant validity is also assessed using Henseler's heteroitraitmonotrait (HTMT) (2015) criterion (Jörg Henseler, Ringle, & Sarstedt, 2015; Ting, Chuah, Cheah, Memon, & Yacob, 2015). Henseler's HTMT criterion imposes more stringent assessment compared to other earlier criterion, which further suggests that all constructs are distinctively different at HTMT0.90 threshold (Jörg Henseler et al., 2015). The maximum value in the HTMT criterion is 0.67 which is below the 0.85 standard (refer to Table 6.13), thus indicating that the discriminant validity has been established.

Table 6.13 HTMT Criterion										
	IS	IR	IFL	IUTID	РК	RE				
IS										
IR	0.111									
IFL	0.438	0.3								
IUTID	0.671	0.21	0.666							
РК	0.552	0.105	0.515	0.647						
RE	0.264	0.104	0.104	0.188	0.131					

Criteria: Discriminant validity is established at HTMT0.90

Finally, the outer factor loading of this study is considered as an important criterion in assessing the contribution of the indicator to the assigned construct. Outer loadings are examined based on threshold value of 0.50 and above. However, outer loading that is greater than 0.40 and less than 0.70 should be carefully analysed and deleted provided that if it increases the value of CR and AVE (Hair et al., 2014).

In this study, seven items (13.7%) were deleted out of 51 items from the questionnaires based on the recommendations regarding item deletion. According to Hair et al. (2014), the deleted items must be less than 20 percent from the total questionnaires.

Table 6.14 indicates that all the bold values of the loading exceed the suggested threshold of 0.50 and above, thus showing a satisfactory contribution of the indicators to the assigned constructs. Additionally, Hair et al. (2014) argue that discriminant validity can be assessed by examining the indicator's outer loadings. Hence, there is a discriminant validity problem if the cross loadings exceed the indicators' outer loadings. Table 6.14 indicates the absence of discriminant validity problem due to the loadings being greater than 0.5, whereby no any other indicator contains loading more than the intended measure.

 Table 6.14 Cross Loadings

 IFL
 IR
 IS
 IUTID
 PK
 RE

 IFL1
 0.629
 0.178
 0.224
 0.406
 0.258
 -0.066
IFL4	0.72	0.106	0.256	0.437	0.286	0.083
IFL5	0.74	0.131	0.194	0.324	0.282	0.012
IFL6	0.78	0.224	0.313	0.425	0.37	-0.024
IFL7	0.766	0.284	0.333	0.391	0.361	0.062
IR1	0.18	0.709	0.024	0.109	0.022	-0.131
IR2	0.164	0.698	-0.004	0.097	0.024	-0.11
IR3	0.181	0.722	0.041	0.141	0.022	-0.089
IR4	0.192	0.74	0.054	0.124	-0.013	-0.065
IR5	0.118	0.638	0.055	0.092	0.065	0.012
IR6	0.208	0.723	0.101	0.184	0.101	0.031
IR7	0.178	0.765	0.115	0.144	0.074	-0.034
IR8	0.232	0.773	0.123	0.166	0.081	-0.003
IS4	0.208	0.09	0.709	0.357	0.314	0.118
IS5	0.264	0.058	0.702	0.43	0.333	0.191
IS6	0.362	0.05	0.676	0.414	0.403	0.204
IS7	0.328	0.112	0.74	0.474	0.344	0.196
IS8	0.33	0.058	0.747	0.454	0.325	0.144
IS9	0.212	0.081	0.772	0.419	0.349	0.156
IS10	0.164	0.074	0.753	0.442	0.35	0.134
IS11	0.242	0.041	0.675	0.347	0.321	0.248
IUTID1	0.394	0.148	0.408	0.686	0.473	0.043
IUTID2	0.442	0.127	0.424	0.757	0.431	0.125
IUTID3	0.395	0.159	0.416	0.708	0.347	0.12
IUTID4	0.344	0.065	0.429	0.679	0.36	0.147
IUTID7	0.352	0.11	0.424	0.711	0.355	0.175
IUTID8	0.327	0.133	0.438	0.645	0.33	0.123
IUTID9	0.405	0.141	0.376	0.727	0.416	0.101
IUTID10	0.433	0.194	0.383	0.744	0.434	0.097
PK1	0.356	0.044	0.428	0.458	0.674	0.195
PK2	0.187	0.025	0.351	0.359	0.644	0.126
PK3	0.182	-0.025	0.392	0.336	0.68	0.08
PK4	0.274	0.064	0.318	0.376	0.739	0.034
PK5	0.348	0.041	0.321	0.415	0.791	-0.028
PK6	0.343	0.087	0.271	0.385	0.747	0.031
PK7	0.427	0.109	0.303	0.449	0.75	0.056
RE1	-0.002	-0.029	0.096	0.094	0.074	0.67
RE2	-0.015	-0.061	0.145	0.093	0.051	0.743
RE3	0.027	0.003	0.138	0.114	0.075	0.781
RE4	0.053	-0.057	0.23	0.16	0.077	0.762
RE5	0.01	-0.053	0.131	0.104	0.047	0.802
RE6	0.028	-0.038	0.264	0.141	0.114	0.767
RE7	-0.05	-0.045	0.234	0.116	0.054	0.704
RE8	0.041	-0.057	0.129	0.117	0.092	0.714
RE2 RE3 RE4 RE5 RE6 RE7 RE8	-0.015 0.027 0.053 0.01 0.028 -0.05 0.041	-0.061 0.003 -0.057 -0.053 -0.038 -0.045 -0.057	0.145 0.138 0.23 0.131 0.264 0.234 0.129	0.093 0.114 0.16 0.104 0.141 0.116 0.117	0.051 0.075 0.077 0.047 0.114 0.054 0.092	0.7 0.7 0.7 0.8 0.7 0.7 0.7

Note: Discriminant validity is established when indicator's outer loadings (bold) is higher than cross loadings at 0.05.

6.4.4 The Overall Measurement Model Evaluation

CONSTRUCTS	OUTER	INDICATOR	CRON-	CR	AVE	DISCRIMI-NANT
	LOADINGS	RELIABILITY	BACH'S			VALIDITY
			ALPHA			
IFL1	0.629	0.396				
IFL4	0.72	0.518				
IFL5	0.74	0.548	0.778	0.849	0.531	YES
IFL6	0.78	0.608				
IFL7	0.766	0.587				
IR1	0.709	0.503				
IR2	0.698	0.487				
IR3	0.722	0.521				
IR4	0.74	0.548	0.87	0 897	0.521	VES
IR5	0.638	0.407	0.07	0.077	0.321	125
IR6	0.723	0.523				
IR7	0.765	0.585				
IR8	0.773	0.598				
IS4	0.676	0.457				
IS5	0.74	0.548				
IS6	0.747	0.558				
IS7	0.772	0.596	0.869	0 897	0 522	VES
IS8	0.753	0.567	0.007	0.077	0.322	I LO
IS9	0.675	0.456				
IS10	0.709	0.503				
IS11	0.702	0.493				
IUTID1	0.686	0.471				
IUTID2	0.708	0.501				
IUTID3	0.679	0.461	0.857	0.889	0.501	YES
IUTID4	0.711	0.506				
IUTID7	0.645	0.416				

Table 6.15 Results on Overall Measurement Model Evaluation

IUTID8	0.727	0.529					
IUTID9	0.744	0.554					
IUTID10	0.757	0.573					
PK1	0.674	0.454					
PK2	0.644	0.415					
PK3	0.68	0.462					
PK4	0.739	0.546	0.844	0.882	0.518	YES	
PK5	0.791	0.626					
PK6	0.747	0.558					
PK7	0.75	0.563					
RE1	0.67	0.449					
RE2	0.743	0.552					
RE3	0.781	0.610					
RE4	0.762	0.581	0.885	0.008	0.554	VES	
RE5	0.802	0.643	0.885	0.908	0.554	1123	
RE6	0.767	0.588					
RE7	0.704	0.496					
RE8	0.714	0.510					

Note: Outer Loadings > 0.6; Cronbach's Alpha > 0.5, Composite Reliability > 0.6; AVE > 0.5.

6.5 Assessment of Structural Model

As mentioned earlier, the next step is to evaluate the outer model (structural model) results once the measurement model (outer model) is examined and the reliability and validity of the model are established. In this case, the outer model's predictive abilities and the relationships between the constructs are assessed. In relation to this, there are five steps involved in the assessment procedure of the structural model (Hair et al., 2014, 2017).

The first step is to assess the structural model to detect any collinearity issues because it is deemed important to ensure that there is no collinearity issue in the inner model of the study. Moreover, it was confirmed there is no multicollinearity problem among the exogenous variables following the examination of multicollinearity in the proceeding section. However, this study reassessed the collinearity based on the suggestion of Hair et al. (2014) which states that the VIF value for each construct must be below 5. The result presented in Table 6.16 shows that the values of VIF are clearly below the threshold of 5. Therefore, it can be concluded that there is no collinearity problem among the predictor constructs in the structural model, thus allowing further analysis to be carried out.

	······································	
	IUTID	PK
IS	1.426	1.156
IR	1.079	
IFL	1.367	1.156
РК	1.436	
RE	1.072	

Table 6.16 Collinearity Assessment

Note: No multicollinearity issue when VIF < 5.0

The next step is to evaluate the significance and relevance of the structural model relationships after checking and reconfirming the absence of the collinearity problem. In

this study, a systematic model analysis of the structural model was carried out to provide a detailed illustration of the results in order to comprehensively test hypothesis 4 to 12. The evaluation of the inner model began with an examination of the direct relationships between exogenous variables (independent variables) and the endogenous variable (dependent variable). The size of the path coefficients was examined using PLS-SEM algorithm. The path coefficients have a standardized value between -1 and +1, whereby strong positive relationship is represented by the estimated path coefficients close to +1(vice versa for negative relationship) (Hair et al., 2014, 2017). Moreover, strong relationships between both variables are always shown to be statistically significant (Hair et al., 2014). The significance of the relationships was examined through PLS-SEM bootstrapping procedure using the SmartPLS 3.0. The original cases was used as the number of cases, and 5000 cases was used as the bootstrapping samples as suggested by Hair et al. (2014).

The first model focuses on the analysis of the direct relationship between the exogenous variables (IFL, IS, RE, IR) and the endogenous variable (IUTID) as presented in Figures 6.8 and 6.9, respectively. The first model was developed to answer the third objective of the present study which consists of hypotheses H4, H5, H6, and H7.

In the second model, a mediator was introduced, and the analysis of the relationship between the exogenous variable (IFL) and the mediator(PK) was carried out. The purpose of this relationship is to answer H9a and H9b. Then, the relationship between mediator (PK) and endogenous variable (IUTID) will provide the for H8 of this study. Next, the test on the mediating effects of PK between the exogenous (IS) and endogenous constructs (IUTID) will produce the answers for H10a and H10b. Meanwhile, the analysis of the second model is to answer the fourth objective of this study. The relationships between all variables in mediation effects model can be referred in Figure 6.10 and 6.11.

The third model is to test the moderation effects of product knowledge between IS and RE with endogenous variable (IUTID) for the purpose of answering H11 and H12. Overall, this analysis answers the fifth objective of this study. All the relationships on moderation effects of this study can be observed in Figure 6.12 and 6.13.

Figure 6.8 shows the path coefficient of IFL, IS, RE, and IR with IUTID based on the PLS-SEM algorithm and bootstrapping procedure. The result revealed that all the exogenous variables (IFL, IS, RE, IR) have a positive coefficient with the endogenous variable (IUTID). The bootstrapping result in Figure 6.9 shows the relationship between two exogenous variables (IFL, IS) are significant at p<.01, while the other two exogenous variables (RE, IR) and endogenous variable are significant at p<0.05.



Figure 6.8 PLS Algorithm Direct Relationship



Bootstrapping one-tailed using 5000 samples have been performed for this analysis to test the significant relationship between exogenous variable and endogenous variable. According to Hair et al. (2014), the level of significant is dependent on the field of study and the research objective. Nevertheless, a significant level of 10 percent is always assumed when a study is exploratory in nature. In this case, the commonly used critical value for two-tailed test are 1.65 (p<0.1), 1.96 (p<0.05), and 2.57 (p<0.01) (Hair et al., 2014, 2017).

Table 6.17 presents the path coefficients, t-value, and the significance level of the relationships. The result suggests that there is a positive impact of IFL on IUTID in regard to H4 (= 0.38; t=12.533; p<0.01) which leads to the conclusion that it is supported. The result for IS also shows positive relationship on IUTID (= 0.424; t=13.365; p<.01), thus indicating that H5 is supported. Similarly, the result shows evidence of positive influence of RE on IUTID (= 0.058; t=1.876; p<.05) which supports H6. Meanwhile, H7 is also supported due to significant positive influence of IR shown in IUTID (= 0.056; t=2.277; p<.05). The above results lead to the conclusion that IFL and IS have strong significant relationship with IUTID at 1% level compared to the relationship between RE and IR with IUTID at 5% level.

	I able 0	.171 aui CO-L	Antelent Asses	Sincin	
Hypothesis &	Direct	Standard	T -statistic	P value	Result
Path	Effect ()	Error			
H4: IFL-IUTID	0.38	0.03	12.533***	0.000	S
H5: IS-IUTID	0.424	0.032	13.365***	0.000	S
H6: RE-IUTID	0.058	0.031	1.876**	0.03	S
H7: IR-IUTID	0.056	0.024	2.277**	0.011	S

Table 6.17 Path Co-Efficient Assessment

Note: Significant Level: *p<.10. **p<.05. ***p<.01. Not Significant = NS, Significant = S

The purpose of the next analysis is to obtain the results of Q^2 , t^2 , and R^2 following the results of bootstrapping for the direct relationships. Blindfolding was performed with omission distance of 7 to obtain the Q^2 , and the result from the blindfolding shows 0.222 for IUTID. Q square is larger than 0, which indicates that exogenous constructs have predictive relevance over endogenous construct. In the case of interpretation of effect size (t^2), Hair et al. (2014) suggest that the value of 0.02 is small effect size, followed by 0.15 for medium effect size, and 0.35 as the large effect size. Hence, it can be concluded that the constructs of IFL and IS have medium effect size on IUTID, while RE and IR constructs have small effect size on IUTID. The coefficient of determination (R^2) of the direct model is 0.477 which implies the moderate relationship between exogenous and endogenous variables. Table 6.18 presents the assessment of co-efficient of determination (R^2), the effect size (t^2), and the predictive relevance (Q^2) of exogenous and endogenous variables in this study.

	Construct	f square	R square	Q square
IFL		0.134	1	
IS		0.157		
RE		0.006		
IR		0.009		
IUT	ID		0.477	0.222

Table 6.18 Assessment of co-efficient of determination (\mathbb{R}^2), the effect size (f^2) and the predictive relevance (Ω^2)

First, IFL is characterized as individual differences in EBM model based on element of knowledge. IFL can be defined as the ability of a person to utilise financial knowledge, skill, and attitude in managing financial resources based on the Islamic perspectives which can affect financial decision making. H4 hypothesizes that IFL is positively related to IUTID and, the relationship was found to be positively significant as postulated. Hence, the finding managed to validate the hypothesis and provided an answer to the respective research question. This result can be considered as an addition to the literature in the area of IFL considering that this study is the pioneer study that tested IFL on investment

decision making. In general, this result supported the relationship of knowledge on decision making in EBM model, where IFL is found to positively affect Muslim investors in IUTID. Analysis on this study also showed that investors who live in urban area tend have high IFL compared to those who reside in rural area. Most of them understand the criteria in IFL and agree to follow the IFL guidelines before making any decisions. Hence, this situation shows that people who live in urban possess more knowledge on Islamic finance compared to those who live in the rural area.

As mentioned in the literature review, IFL is comprised of interrelated components of financial knowledge, skill, and attitude on financial from the Islamic perspectives (Abdul Rahim et al., 2016; M. A. Abdullah et al., 2015). These elements allow Muslim investors to make the right financial decision according to the *Shariah* rules. Moreover, it is important to understand the features and differences between Islamic financial instruments and conventional financial instruments for the Muslims to assist them in managing their portfolio (M. A. Abdullah et al., 2015; M. Ahmad, 2010) Therefore, this study highlights the importance for Muslim investors to understand IFL which can influence them to choose IUT as one of their saving instruments. In summary, this result tends to suggest that the authorities as BNM, FIMM, and Islamic unit trust company in Malaysia should consider IFL to be adopted among Malaysians with the aim of increasing their financial knowledge based on Islamic perspective and managing their finance in Islamic ways.

Second, H5 hypothesized that IS positively related with IUTID. Hence, it is important to remember that IS can be defined as sources of information which can provide clear information about the IUT product to the investors. Moreover, investors who acquire more information will be able to increase their confidence level, thus further influencing

them to make investment decision. This situation supported the significant relationship between IS and decision making in EBM model. The results of the analysis is in line with Abdul Jamal et al. (2014) which describes that Malaysian investors significantly utilise financial information prior to making any stock selection. The results of this study also supported the outcomes produced by Hossain and Nasrin (2012) and Ou and Penman (1989) which emphasizes the importance of utilising information to produce the right investment decision using financial statements and conducting fundamental analysis from the useful information in order to distinguish permanent and transitory components of past earnings. Nagy and Obenberger (1994) agree that recommendations from friend and co-workers will affect investor's ultimate actions.

Third, H6 is supported which states RE to have a positive significant relationship with IUTID. RE in this study is defined as the element which can influence the behaviour of investor in their decision making. Religiosity is not a culture but is described as a way of life that can form a set of behaviour that is term as Islamic (S. S. Alam et al., 2011). Religiosity has been tested based on the criteria of *Shariah, akhlaq*, and faith. This result is also in-line with Schiffman and Kanuk (1997) which states that buying decisions is influenced by religious identity.

The descriptive analysis suggests that Muslim investor in Malaysia have high level of religiosity which can influence Muslims' cognitive and behaviour, which will subsequently influence their buying decision making. Most of the Muslim investors are not allowed to take *riba* or be associated with bribes. This situation also shows that religiosity can influence moral behaviour. This result is similar to Delener, (1990), Hilary and Hui (2009), Renneboog and Spaenjers (2009), Brimble and Tahir (2011) and Johan et al. (2014) which states that religiosity positively influence decision making. Moreover,

it was further emphasized that religiosity can influence the cognitive, behaviour, and attitude of individuals.

According to Islam, those who do not abide to the teaching of Islam is considered sinful, while those who act upon them are considered a good worshipper. Islam clearly prohibits all the activities that involve the elements of *riba*, profit without liability or risk, and everything which are not *Shariah* compliant. Hence, it is compulsory for Muslims to clearly inspect products to determine whether they are halal and avoid products that are dubious before making any purchase decision (Baig & Baig, 2013).

Fourth, H7 of this study is supported based on the result that shows IR is significantly influenced by IUTID. The analysis showed that each type of investment risk has influenced investors in their investment decision making. Moreover, it is important for the investors to understand each type of investment risk. In relation to this, investors should consider all the risk before making any investment decision to allow them to make a right investment decision based on the actual economic condition which is in-line with their investment aim and objectives. This situation is also supported by Lee (2001) which states that the lack of understanding about risk and economic condition will cause some investors to lose the opportunity to invest in the best product. Moreover, some of the investors may suffer losses due to their limited understanding on the risks of the product at that time of investment (Smith, 2009).

The result of this study also supported the Modern portfolio theory (MPT) which states that investors should focus on the expected return and risk in their portfolio as a whole (Lee, 2001). As has been mentioned, the acceptance of the risk tends to differ for each individual. The type of risk taken by the individuals is influenced by the characteristics

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of situation, the decision maker, and the interaction between situation and decision maker (Riaz & Hunjra, 2015). Hence, it is crucial for the investors to be aware of the potential risks in order to help them to choose the right product. More importantly, they should know the risks that they are willing to take as well as understand how to build and balance the portfolio to offset the potential problems (FINRA Foundation, 2011).

6.6 Assessment of Mediating Effect

The mediator variables were introduced in the second model, including the assessment on the relationship between exogenous variables (IFL and IS) and the mediator variable (PK) as well as mediator and endogenous variable (IUTID). Figure 6.10 shows that the path coefficients for the relationship between IFL and IS are positive with PK as well as the positive path coefficient between PK and IUTID.

The bootstrapping 2-tailed were performed on 5000 samples to test the assessment of indirect effect of mediation. The result shows that IFL and IS are significant with PK as shown in Figure 6.11. H9a is supported as IFL positively influence PK among Muslim investors (= 0.297; t=9.036; p<.01). Meanwhile, the results of H10a is supported based on the significant positive relationship between IS and PK (= 0.366; t=10.844; p<.01). In addition, H8 is supported due to the positive significant relationship of PK with IUTID (= 0.265; t=7.177; p<.01). Table 6.19 shows the path coefficients, t-value, and p-value of the relationships.

	Direct	Standard	T- statistic	P Values	Result
	Effect ()	Error		_	
H10b:IS IUTID	0.327	0.036	9.126***	0.000	S
H10a:IS PK	0.366	0.034	10.844***	0.000	S
H7:IR IUTID	0.068	0.023	2.903***	0.004	S
H9b:IFL IUTID	0.295	0.03	9.969***	0.000	S
H9a:IFL PK	0.297	0.033	9.036***	0.000	S
H8:PK IUTID	0.265	0.037	7.177***	0.000	S
H6:RE IUTID	0.055	0.028	1.959**	0.05	S

Note: Significant Level: *p<.10. **p<.05. ***p<.01. Not Significant = NS, Significant = S

The mediating effect did not completely suppress the direct effect because the direct relationship between IFL and IUTID is at = 0.295; t= 9.969; p <0.001 and IS and IUTID is at = 0.327; t= 9.126 p<0.001, which produces non-total mediation (Baron & Kenny, 1986). Iacobucci and Duhachek (2003) proposed the VAF (Variance Accounted For) to determine the magnitude of this indirect effect which indicates the size of the indirect effect in relation to the total effect (direct effect + indirect effect): VAF = (a1b1)/(a1b1+c), obtaining a value of VAFIFL = 0.2106 (21.06%) and VAFIS = 0.2293 (22.93%) which is supposed to be greater than 20% and less than 80%. This results confirmed the existence of partial mediation (Hair et al., 2014).

The value co-efficient of determination (R²) for IUTID is 0.521. Blindfolding was performed with omission distance of 7 to obtain the Q². Results from the blindfolding are 0.243 and 0.142 for IUTID and PK, respectively. Q square that is larger than 0 indicates that exogenous constructs have predictive relevance over endogenous construct. The effect size show that IS possesses the medium effect size, IFL and PK with small to medium effect size, and IR and RE are made of a small effect size on IUTID. The mediation effect show that IS have medium to large effect size and IFL have small to medium effect size. Table 6.20 presents the assessment of co-efficient of determination (\mathbb{R}^2), the effect size (\mathbb{f}^2), and the predictive relevance (\mathbb{Q}^2) of exogenous and endogenous variable in this study.

	f square		R square	Q square
Construct	IUTID	РК		
IFL	0.133	0.109		
IS	0.156	0.166		
IR	0.009			
RE	0.006			
РК	0.102		0.304	0.142
IUTID			0.521	0.243

Table 6.20 Determination of Co-efficient (\mathbb{R}^2), Effect Size (\mathbb{f}^2) and Predictive Relevance (\mathbb{Q}^2)



Figure 6.10 PLS Algorithm Indirect Effect (Mediation)



Figure 6.11 Assessment of Indirect Effect (Mediation)

Initially, PK is an important element in purchasing which can be defined as the familiarity and information about the products that include the information about brands, products, evaluations, and usage situation. The results of the analysis showed that PK is positively significant with IUTID (H8).

Most of the Muslim investors in IUT have a high understanding on IUT products which strengthen their desire to choose IUT as one of their saving instruments. More importantly, investors' decision making does not only rely on the previously acquired product information stored in memory, but also on the judgement of brand satisfaction or dissatisfaction that occur during the application stage of decision process. This further indicates that PK is an important factor in decision making as agreed by Marks and Olson (1981), Brucks (1985), Raju et al. (1995), and Kempf and Smith (1998) who found that those who have greater subjective knowledge and familiarity about a product are more likely to be less confused and more certain about the quality of their choice. In relation to this, subjective knowledge is related with the feeling of knowing about the product which plays an important role for the memory as well as the process of problem solving (Brucks, 1985). Overall, this analysis also shows that Muslim investors who live in urban area tend to possess higher knowledge on IUT compared to those who live in rural area.

PK also has a positive relationship with IFL which supported H9a. However, this is the first time that the relationship between IFL and PK have been reported, thus no previous empirical literature can support the results of this research. The data revealed that IFL positively influences Muslim's investor to gain more knowledge in IUT. In other words, low level of IFL represents limited knowledge on IUT. Therefore, the positive significant result of IFL on PK provides new directions in Islamic banking areas, especially in financial decision making.

Other than that, PK also showed a positive relationship with IS which supports H8a of this study. PK has been recognized as a key concept in information processing and decision making research (Bettman & Park, 1980; Brucks, 1985; Raju et al., 1995). More information acquired by the investors from the environment situation will increase their level of knowledge on IUT product. This study shows that friends, advertising, internet, and television are the most important sources that can increase PK of Muslim investors in choosing IUT, which is in line with the result of Alba (1983) and Coulter et al. (2005) that states IS to be positively related with PK. Moreover, IS such as advertising, television, radio, and magazines significantly influence PK, particularly in terms of consumer decision making. Meanwhile, personal search and product experience are positively related to PK.

The fourth objective of this study is to examine the mediating effects of PK on IFL and IS with IUTID. This objective can be achieved by following the rules of Baron and Kenny (1986) in order to test the mediation effects. In this case, all the relationship of independent variables and the dependent variables must be significant. The independent variables must be significant with mediator variable, while the mediator variable must be significant with dependent variable, then only the test on mediation relationship can be performed.

The results of the analysis showed that IFL is positively significant with PK (H9a) and PK is positively significant with IUTID (H8). Both relationships showed that product knowledge mediates the positive relationship between IFL and IUTID, thus supporting the H9b of the study.

The mediation effects show that it is important to recognize the important of IFL and PK to influence Muslim investors to invest in IUT. On top of that, it is important for the Muslims to understand IFL for the purpose of helping them to manage their wealth and increase their knowledge in Islamic finance. Apart from that, it can also help them to differentiate between Islamic and conventional products (M. A. Abdullah et al., 2015). Higher product knowledge can also increase their confidence in decision making and help them to make a right decision which suits their capital and goals (Raju et al., 1995).

The next hypothesis is to determine the mediation effect of PK between IS and IUTID. The relationship between IS and PK showed positive significant relationship (H10a), while the relationship between PK is significant with IUTID. Hence, the mediating effects of PK managed to be established between IS and IUTID due to the significant relationship showed by H10b. This outcome shows that understanding IS can be a very important factor in decision making process. Furthermore, high amount of information can increase knowledge among Muslim investors and enhance their confidence level in investment decision making process. This statement is agreed by Raju et al. (1995) who state that knowledge and information search is correlated. Both elements are important in decision making process as it can create higher confidence level to the decision maker before making any decision.

6.7 Assessment of Moderating Effect

The third model requires the assessment of moderating effect (PK) between IS and RE with IUTID. The first step is to add the moderating variable as an exogenous in the model to analyse the moderation effect using PLS-SEM. The results of PLS Algorithm shows a positive relationship between RE*PK with IUTID, whereas the relationship between

IS*PK with IUTID is shown to be negative as presented in Figure 6.12. In addition, the R^2 was found to increase to 0.534.

Bootstrapping analysis were performed using 5000 samples and the result showed that all the relationships are significant. This result supports the H11 by indicating that PK moderates the relationship between IS and IUTID at β = -0.169, T- value = 2.623, p<0.01, while H12 is also supported due to the fact that PK moderates the relationship between RE and IUTID at β = 0.151, T-value = 1.718, p< 0.1 of the study. The complete results can be viewed in Table 6.21.

		· ·		/	
	Direct	Standard	T-	P Values	Result
	Effect ()	Error	Statistic		
IS -> IUTID	0.301	0.034	8.844	0.000	S
IS -> PK	0.366	0.035	10.512	0.000	S
IR -> IUTID	0.077	0.024	3.271	0.001	S
H11:IS*PK -> IUTID	-0.169	0.064	2.623***	0.009	S
IFL -> IUTID	0.281	0.031	9.001	0.000	S
IFL -> PK	0.297	0.034	8.743	0.000	S
PK -> IUTID	0.25	0.032	7.81	0.000	S
H12: RE*PK -> IUTID	0.151	0.088	1.718*	0.086	S
RE -> IUTID	0.074	0.028	2.638	0.008	S

Table 6.21 Path Coefficient (Inclusive of Moderation)

Note: Significant Level: *p<0.1, **p<0.05, ***p<0.01; Not Significant = NS, Significant = S



Figure 6.12 PLS Algorithm Indirect Effect (Moderation)



Figure 6.13 Bootstrapping Indirect Effect (Moderation)

The moderation effect on the relationship between IS with IUTID and RE with IUTID can be confirmed through the moderation effect graph as illustrated in Figure 6.14 and Figure 6.15. The graph shows that the flattest slope (the weakest association) occurs for investor with high level of PK. Hence, the weakest association between IS and IUTID tend to occur when investors possess high level of PK. More importantly, IS strongly associated with IUTID when investor have low PK which supports H11.

The level of consumers' PK may affect their information and decision making behaviour (Brucks, 1985). Theoretically, IS will influence IUTID when the investor has low PK. Moreover, investors with low PK will try to search for the information from the various sources in order to increase their confidence level before making any investment decision. Hence, the result on this study showed that PK moderates the relationship between IS and IUTID. Therefore, the EBM model is supported by stating the importance of IS to those with low PK. Raju et al. (1995) in their study explain that consumer will search for information to gain more knowledge and increase their confidence level in decision making process.

On another note, investors with high level of PK will not search for information but make a decision based on the knowledge that are already stored in their memory. This result is supported by Bei and Widdows (1999), Anderson, Engledow, and Becker (1979), Fodness and Murray (1997), and Swan (1969) which states that consumers with high PK might ignore the information and rely on their own PK to make purchase decision.



Figure 6.14 Moderation Effect between IS and PK

The same situation happened with the relationship of moderation effect on RE with IUTID (Figure 6.15). The flattest slope (the weakest association) is detected for investors with low level of PK. Hence, this shows that the weakest association between RE and IUTID occur when investors have low level of PK which supports H12. Meanwhile, RE is strongly associated with IUTID when investors have high level of PK.

Basically, the decision making of Muslims is influenced by RE (S. S. Alam et al., 2011). However, the results of the analysis show that RE will influence IUTID of those investors with high level of PK. On the other hand, those with low level PK or no PK will not invest in IUT despite their high level of RE. This finding is supported by Lai (1991) which states that being knowledgeable about a product can influence consumers' decision to accept or reject the product. However, consumers with less knowledge tend to avoid purchasing. This is the first time that the relationship between RE and IUTID with the moderating effect of PK have been reported, thus no previous empirical literature can support the results of this research.



Figure 6.15 Moderation Effect between RE and PK

Table 6.22 below shows the assessment of co-efficient of determination (R^2) and the effect size (f^2) of this study. The results show that the effect size of the relationship between IS, RE, and IUTID with the moderation of PK is small at 0.02 and 0.01.

0	f square		R square
Construct	IUTID	РК	
IS	0.131	0.166	
IR	0.012		
IS*PK	0.017		
IFL	0.123	0.109	
РК	0.092		
RE*PK	0.01		
RE	0.011		0.534

Table 6.22 Determination of co-efficient (R²) and Effect Size (f²).

6.8 Summary of Results

The results of analyses revealed that ten hypotheses have positive significant relationships with the construct, while one of the hypotheses has negative significant relationship with the construct as presented in Table 6.23. All the variables tested showed significant relationships with IUTID in different significant level.

The first model showed the direct relationship between IVs and DV with the purpose of answering H4 until H7. The result revealed that all the constructs are positively significant with IUTID. The second model tested the effect of PK as mediating and moderating variable. The relationship between IFL, IS, and IUTID were tested with the mediation effect of PK. The results supported H8, H9a, H9b, H10a, and H10b which show that all the relationships are positively significant. Finally, the third model tested the moderation effects of PK in the relationships between IS, RE, and IUTID which supports H11 and H12.

Hypotheses	Relationship	Result
H4	IFL-IUTID	IFL positively significant with IUTID
H5	IS-IUTID	IS positively significant with IUTID
H6	RE-IUTID	RE positively significant with IUTID
H7	IR-IUTID	IR positively significant with IUTID
H8	PK-IUTID	PK positively significant with IUTID
H9a	IFL-PK	IFL positively significant with PK
H9b	IFL-PK-IUTID	PK mediate the positive relationship between
		IFL and IUTID
H10a	IS-PK	IS positively significant with PK
H10b	IS-PK-IUTID	PK mediate the positive relationship between IS
		and IUTID
H11	PK moderate IS-	IS strongly associated with IUTID when investor
	IUTID	has low PK
H12	PK moderate RE-	RE strongly associated with IUTID when
	IUTID	investor has high PK

Table 6.23 Summary of Results

6.9 Summary of Chapter

This chapter presented the discussion on the analysis of the testing model of IUTID as well as the theoretical framework developed for this study. The analyses were performed on the relationship between exogenous (IFL, IS, RE, IR) and endogenous (IUTID) variables with the mediating and moderating of PK using PLS-SEM. All the variables in this study were selected based on the reflective measurement model.

There are three main models that were analysed in this study described as follows: (1) model for direct relationships, (2) model for mediation effects, and (3) model for moderation effects. The first analysis was concerned about testing the model of IUTID and the outcome of the testing model proved that the relationships constructed by the researcher in the theoretical framework are acceptable. The second analysis utilised the model according to the theoretical framework developed in this study.

The next chapter of this thesis will discuss the key findings, limitation of this study and finally, the recommendation for future research, particularly in the area of decision making.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1 Introduction

This chapter is divided into six sections. The first section provides the overview of the study, followed by the second section that presents the summary of the main findings. The third section focuses on the contributions of the study, while the fourth section discusses the implications of the findings from the study. Next, the limitations of the study are presented in the following section, while the final section offers recommendations for future research.

7.2 Overview of the Study

The current study developed a framework that presents the antecedents and consequences of decision making process among investors. The mediating and moderating role of PK was also introduced in the framework. The mediation effects of PK were explored on several factors which include IFL, IS, and IUTID, while the moderation effects of PK were investigated on IS, RE, and IUTID.

The framework was assessed in the context of individual investors of IUT in Malaysia. The investment decision making process among investors was influenced by three main factors, namely individual differences, environmental influences, and psychological processes as proposed in EBM decision making model developed by Engel et al. (1990). The EBM model was combined with other investment theories (Prospect theory and Modern portfolio theory) to ensure that the framework of IUTID is suitable to be used in this study. The IUTID framework consists of several dimensions such which include demographic characteristics, IFL, IS, RE, IR, and PK. This study employed the theoretical framework adopted in the studies conducted by Capon et al. (1994), Joo and Grable (2000), Wan Nawang et al. (2008), Nathie (2009), Jamaludin (2013), and Yusuff and Mansor (2016).

The aim of this study was to clearly understand the factors that can influence Muslim investors in their investment decision making process. More importantly, it is crucial to understand the individual decision making process in Islamic banking, management and marketing area. However, this study only focused on the decision-making process in IUT. The unit trust industry in Malaysia (conventional unit trust and IUT) had shown a great development since the last decade based on the total NAV of unit trust that was found to increase every year. In 2007, the NAV of unit trust was RM168.029 billion which was then increased to RM421.565 billion in Nov 2017. The NAV of IUT experienced more robust growth due to the increase from RM16.785 billion in 2007 to RM75.835 in Nov 2017 (Securities Commission Malaysia, 2017d).

The Capital Market Masterplan 2 (CMP2) which was released by the SC in April 2011 stated that the NAV of the entire unit trust industry is projected to reach RM827.9 billion in 2020. Meanwhile, the estimation for IUT is RM158 billion in 2020. In conjunction with the given target, the CMP2 has aspired to promote the IUT as the key pillar to support the growth of the overall unit trust industry. However, until Nov 2017 (after almost 7 years duration from CMP2), the NAV for IUT was recorded to be RM 75.835 billion which represents a total of 48.0% of the total target (RM158 billion) by 2020.

The low penetration rate motivated the researcher to study the factors that influence the decision making of invest IUT, particularly among Muslim investors. Muslim investors were chosen as the subjects of the present study as they constitute the major population of the country apart from having access to IUT fund such as ASN and ASB. In specific,

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this study examined how demographic characteristics, IFL, IS, RE, and IR influence the Muslim investors in Malaysia in their investment decision making, especially in IUT product. In addition, this study also included PK as a moderator and mediator variable in the existing model. The examination of the moderating and mediating effects of product knowledge are considered as a new contribution to the body of knowledge. A limited number of published studies were found to simultaneously test the interaction and intervening effects of PK which further indicates the uniqueness of this study.

Subsequently, a total of 19 hypotheses were developed to answer the six objectives of this study. The study was conducted based on quantitative method. Data of 787 respondents were collected through purposive sampling using questionnaire as the data collection instrument. The respondents are the groups of Muslim investors who have an experience investing in IUT. The respondents were gathered from each state of Malaysia based on their residential area, including both rural and urban area.

The demographic characteristics investigated include gender, age, type of occupation, and income. Other than that, the education level and residential area of the Muslim investors were also examined. Among the variables used in this study were IFL, IS, RE, IR and PK. IUTID was determined using the selection criteria of Muslim investors in IUT.

Descriptive and inferential data analyses were applied on the data collected. Descriptive analysis was used to analyse the demographic characteristics, while different methods of analysis were used in the hypotheses testing. Mann Whitney U test and Kruskal-Wallis H Test were used to test the hypotheses on demographic characteristics, risk preferences, and familiarity towards IUTID. On the other hand, PLS-SEM statistical technique were used to examine the relationship between IFL, IS, RE and IR with IUTID. In addition, PLS-SEM statistical technique was also applied to test the effects of PK as a moderator and mediator in the study model.

This study also identified the type of risk preferences among Muslim investors based on different demographics characteristics. The respondents were required to choose the level of risk considered by them when making investment decision. Moreover, different level of risk can automatically differentiate the behaviour of investors towards the risk by determining whether they are risk averse or risk seeker investor.

Overall, the analyses helped to find support for the hypotheses and objectives developed in this study. The analyses also confirmed that the model developed in the study is valid. The assumptions of measurement model and structural model were examined and presented.

7.3 Summary of Main Findings

First, the study examined the demographic characteristics with IUTID. The result found that age and income significantly influence IUTID. As has been mentioned, unit trust product is created for individual investors with middle income level. The results in section 5.7 (Chapter 5) showed that 40.91percent of Muslim investors in IUT have an average income of RM1000 to RM3000. Most of them work as government servants (49.38%). This situation proved that IUT is suitable for the middle income investors as aligned by Rajeswari and Moorthy (2005) that unit trust product is created for small investors.

The descriptive analysis showed that most Muslim investors in IUT are those with the age of 30 years and below (43.33%). This situation shows that young adults in Malaysia are more aware about investment in IUT compared to older people. Majority of them

holds first degree and work as government servants and university students (Refer Appendix L). Basically, those who work in this area are aware of the unit trust investment because some portion of their money on Employee Provident Fund Scheme (EPF) are used to invest in unit trust fund.

In addition, most young adults obtain information on IUT through the advertisement available in the press and online medium (Refer Appendix L). Nowadays, internet becomes the necessity for all people in the world, especially young adults which allows them to easily get online using their mobile phone in order to obtain information. In relation to investment in IUT, the information about the investment can be easily found via internet. And most of the new information are easily spread online. The performance of investment products is available in the internet. Hence, this allows the investors to compare each of investment performance before making any decision to invest.

Second, the study examined the relationship between risk preferences and familiarity with IUTID. The study provides the empirical evidence of the significant relationship between risk preferences and familiarity with IUTID at P value 0.000 and 0.010, respectively (Refer section 5.10, Chapter 5). Majority of the Muslim investors in this study can be considered as risk averse investors as they are more interested to invest in the product with medium risk and stable return and no risk at all. However, when the behaviour between women and male investors is separated, the results showed that female investors are more risk averse compared to male investors. This is because most female investors the behaviour of male investors considering that they prefer to invest in medium to high risk investment product.

Moreover, familiarity with Islamic unit trust products is one of the factors that can influence investors to choose IUT. Familiarity in this study represents how much the investor knows about IUT. According to Park and Lessig (1981), familiarity comes from the knowledge structure in the individual mind of long term memory. This study revealed that investors in urban area are more familiar with IUT fund compared to those in rural area because most of the information related to unit trust is printed on the poster or billboard placed in the town area.

Third, this study examined the choice criteria of the Muslim investor in investing in IUT. The study revealed that fund's commitment to Islamic principle become the most important criteria among Muslim investors in choosing IUT with the mean of 4.54, followed by investment performance (4.52) (Refer section 5.11, Chapter 5). Other important criteria in IUTID include the experience of fund manager, risk and returns, fund managers' reputation, liquidity, management fees, size of funds, financial institutions linked fund, and government linked fund. This situation shows that majority Muslim investors are aware of the obligations of Muslims to follow the religious rules. This result is in line with Jamaludin et al. (2013) which states that Muslim EPF members choose this criteria as the most important criteria in unit trust fund investment decision.

Fourth, this study examined the level of IFL, IS, IR, and RE among Muslim investors in Malaysia. The results from the analysis showed that Muslim investors in Malaysia have high level of understanding on IFL, IS, IR, and Islamic unit trust product. They also have high level of RE. The study also examined four constructs, namely IFL, IS, RE, and IR with IUTID among Muslim investors. The present study provides the empirical evidence that these four constructs are positively significant with IUTID but with different

significant level. The most significant variables on IUTID model are IFL and IS with the significant level of 1 percent (Refer section 6.5, Chapter 6).

In this study, IFL comprises of interrelated components of financial knowledge, skill, and attitude, whereby these elements allow Muslim investors to make the right financial decision according to *Shariah* perspectives. However, according to Abdullah and Chong (2014) IFL is still new and it is important for Malaysian authorities such as BNM and FIMM to increase the knowledge on IFL among Muslims. Understanding IFL will help them to manage their finance in Islamic ways. Results on Appendix M revealed that investors who live in urban area have high Islamic financial literacy compared to investors who stay in rural area. Most of them understand the criteria in IFL and agree to follow the IFL guidelines before making any financial decisions. This situation also shows that people who live in urban tend to gain more knowledge on Islamic finance compared to those who live in rural area. The result also shows that Muslim investors was influence by IFL in their investment decision making.

Information sources is another important factor which influence Muslim investors in Malaysia to choose IUT. This study divided the information sources into two categories namely; interpersonal communication (non-formal information) and impersonal information (formal information) as suggested by Capon et al. (1996). The results in section 5.6.5 (Chapter 5) showed that Muslim investors in Malaysia are influenced by both categories of information sources when investing in IUT. In the interpersonal information category, friends and family members (4.51) and work colleagues (4.47) are the sources that are mostly sought which can affect the decision making of Muslim investors. Meanwhile, in the impersonal information, advertising in press (4.51), internet (4.47), television (4.43), and books (4.42) become the main sources which can affect the
decision making of Muslim investors when investing in IUT. Investors who gain more information from many sources will increase their confidence level, thus influencing them to make investment decision. Hence, this result is in line with the philosophy of EBM model which states that information sources is one of the elements that can affect consumers' decision making (Engel et al., 1990).

Fifth, the study examined the mediation effects of PK with the relationship between IFL and IS with IUTID. The results showed that IFL and IS significantly influence IUTID with the mediation of PK. Meanwhile, PK becomes the partial mediation on IUTID model. The results provided in section 6.6 (Chapter 6) proved that PK partially mediates the relationship between IFL, IS, and IUTID. The direct relationship between IFL and PK and the analysis of mediation effect on both variables can be considered as new findings in investment decision making model because no previous empirical evidence has been found on this relationship. The results of the mediation analysis of this study revealed that IFL positively influence Muslim investors to gain more knowledge on Islamic finance, especially in IUT. Moreover, understanding Islamic financial literacy will encourage Muslim individuals to know or to look for Islamic products that are available in the market to fulfil their needs based on the *Shariah* rules. In relation to this, low knowledge level of IFL represents limited knowledge on IUT. Hence, from this situation, it can be concluded that IFL will increase Muslim investors' knowledge and influence them in making investment decision. On top of that, understanding the Islamic financial literacy is obligatory for the Muslims to help them in managing their wealth and increase their knowledge in Islamic finance (Abdul Rahim et al., 2016). Other than that, it can also help them to differentiate between Islamic and conventional products (M. A. Abdullah et al., 2015). More importantly, high product knowledge can increase their confidence in decision making and help them to make a right decision that suits their capital and goals. In the second situation of mediation effect, there is a relationship between IS, PK, and IUTID. The results of this relationship showed increased amount of information will also increase the level of knowledge of investors on IUT. Previous studies by Alba (1983) and Coulter et al. (2005) agree that information sources is positively related with product knowledge. In other words, a high product knowledge increases the confidence of Muslim investors in their investment decision making. This situation shows that product knowledge mediates the relationship between IS and IUTID which supports the EBM model that information sources are needed for those with low product knowledge (Engel et al., 1990).

Sixth, the study analysed the moderation effect of PK on the relationship between IS and RE with IUTID. Results presented in section 6.7 (Chapter 6) showed that (i) PK has moderates the positive significant relationship between IS and IUTID, and (ii) PK moderates the negative significant relationship between RE and IUTID. The first analysis is the moderation effect of PK between IS and IUTID. The analysis revealed that Muslim investors who have a high level of PK will not search for information. In other words, they will make a decision according to the knowledge that are already stored in their long-term memory. This situation is consistent with the finding of previous study which states that consumer who have high product knowledge might ignore the information or minimally search for information by relying on their own PK to make purchase decision (Anderson et al., 1979; Bei & Widdows, 1999; Fodness & Murray, 1997; Swan, 1969). Investors which can increase their confidence level before making an investment decision. Hence, this situation shows that PK moderates the relationship between IS and IUTID.

Moreover, in the second analysis of moderating effect between RE and IUTID, the result revealed that RE influence IUTID if Muslim investors have high level of PK. On the other hand, those with low level of PK or no PK will not invest in IUT even though they have high level of RE. There is no evidence to support this relationship due to the absence of evidence from the previous study. However, according to Lai (1991), being knowledgeable about the product will influence consumers' decision whether to accept or reject the product. Meanwhile, consumers with less knowledge will avoid purchasing. Hence, this reason can be implemented with the result of this study.

The last analysis refers to the testing of the model of IUTID. This analysis was performed to confirm that all the relationship structured in the theoretical framework is valid. For the testing model, the researcher tested the relationships of the constructs (IFL, IS, RE, IR) in three styles described as follow: (i) direct relationship with IUTID, (ii) mediation effect of PK between IFL, IS, RE, IR, and IUTID, and (iii) moderation effect of PK between IFL, IS, RE, IR, and IUTID. The mediation and moderation effect of PK were tested because previous studies on PK only tested both effects but in different field of study. The mediation and moderation effect of PK have not been tested in the IUTID area. Hence, this situation motivated the researcher to test which variable is mediated or moderated with PK.

From the analysis of testing model as shown in section 6.2 (Chapter 6), the results showed the direct relationship between IFL, IS, RE, and IR are significant with IUTID. However, the results on the testing of mediation effect of PK between IFL, IS, RE, IR, and IUTID showed that only IFL and IS are significant with IUTID. Finally, the researcher tested the moderation effect of PK between IFL, IS, RE, IR, with IUTID, and results revealed that only variable IS and RE are moderate with PK. All the significant relationship based on the three different models have proven the establishment of theoretical framework constructed based on previous literature. Hence, it can be concluded that IUTID model is suitable to measure the determinants of Muslim investors in their investment decision making.

Overall, the results of 15 from a total of 19 hypotheses tested in this study were proven to be significant with IUTID in different significant level. All the summary of objectives, research questions, hypotheses, and results from this study can be referred in Appendix K.

7.4 Contribution of the Study

The present study contributes new and fresh findings to the body of knowledge in terms of theoretical, literature, and methodological aspects.

7.4.1 Theoretical Contributions

The theoretical contributions of this study are drawn from the reviews of the literature and the findings of the analyses. The existing literatures that addressed the issues of investor decision making in investment commonly adopted the single theory of consumer behaviour (Capon et al., 1996; Joo & Grable, 2000; Wan Nawang et al., 2008) as the underpinning theory for research framework. This study employed the EBM Decision Making Model by Engel et al. (1990) as the main theory for this study. On top of that, this study included another two theories, namely Modern Portfolio Theory, and Prospect Theory. Hence, the three theories combined in this study had strengthen the study framework as they are cross-disciplined. These theories were derived from different areas as follows: EBM Decision Making Model is from consumer behaviour, Modern Portfolio Theory is an investment theory, and Prospect Theory is from behavioural finance area.

EBM Decision Making Model focuses on the purchase decision making process by the consumer which is influenced by three main determinants, namely individual differences, environmental influences, and psychological processes (Engel et al., 1990). According to Engel et al. (1990), consumer decision making is mainly influenced by demographic characteristics, knowledge, emotion, and environment condition. In this study, the elements inside EBM Decision Making Model were combined with suitable condition to investment decision making research. Hence, the variables of demographic characteristics, knowledge to finance (financial literacy), knowledge towards product, information sources, risk preferences, and religiosity were utilised to test the decision making among Muslim investors.

The model is deemed more suitable for Muslim investors based on the inclusion of the variable of Islamic financial literacy and Islamic religiosity. This study also included the Modern Portfolio Theory to explain the importance for the investors to construct portfolio in maximizing the expected returns according to the expected risk available in the investment (Lee, 2001). In addition, Prospect Theory is used to explain the type of risk accepted by investors in their investment decision making (Gutrie, 2003).

Islamic unit trust investment decision making model managed to be established from the combinations of four theories. This study provides empirical evidence for the theoretical relationships hypothesized in the research framework. Specifically, it highlighted the mediating and moderating role of PK on the relationship between IFL, IS, RE, and IR.

This study consisted of 19 hypotheses, whereby only 15 of them are supported, whereas the other four hypotheses were not supported.

7.4.2 Literature Contributions

For the literature contributions, this study contributes to the literature of investment decision making, especially from the Islamic perspective. This study has proven that most of the variables tested in the model are significant, which indicates it as an important variable that can influence Muslim investors in their investment decision making.

In addition, this study expand the literature on IFL to compensate the limited research on this variable (Abdul Rahim et al., 2016; M. Ahmad, 2010). There three literature contributions for the IFL determinants described as follows: (i) the relationship between IFL and IUTID, (ii) the relationship between IFL with PK, and (iii) the relationship of IFL with IUTID on the mediating effect of PK.

Other literature contributions include: (i) the relationship of the moderation and mediation effect of PK on the relationship between IS and IUTID, (ii) the relationship between RE and IUTID with the moderating effect of PK, (iii) the relationship of RE with IUTID, and (iv) the risk preferences of Muslim investors in Malaysia.

7.4.3 Methodological Contributions

The present study also provides some contribution on the methodological aspect apart from the literature contributions. First, previous studies on investment decision making mainly utilised SPSS and AMOS, but to the best knowledge of the researcher, only a limited number of studies adopted Smart PLS-SEM to produce the results. Additionally, all the items in the constructs are suitable to be used for other researches to measure the decision making. Moreover, all the items were validated by the experts and the testing of the validity was performed using Exploratory Factor Analysis (EFA), including the measurement on the reliability of each of the constructs. The research model were also tested for the composite reliability, convergent validity, and discriminant validity and they were found to be satisfactory as they are above the required threshold.

7.5 Research Implications

The findings of this study revealed that the decision making of Muslim investors in IUT was influenced by four main determinants, namely IFL, IS, RE, and IR. Moreover, a detailed understanding on IUT also influenced Muslim investors in their investment decision making. IUT is an investment product that is suitable for all Malaysians despite their age level. This product provides more benefit to the Malaysians as it is managed by the asset management company, produce better return at acceptable level of risk, and suitable for long term saving such as for child education purposes, retirement savings, and security. However, Malaysians still have a lack of knowledge on unit trust investment which cause them to lose an opportunity to start saving in unit trust product that will allow them to gain more dividend instead of only putting their money in the saving account in banking institutions (A. Abu Bakar, 2016). Hence, the financial authority of Malaysia should consider spreading the knowledge and information about IUT to Malaysians in order to overcome this problem.

First, the government such as Bank Negara Malaysia or related agencies on unit trust fund which include FIMM and SC should provide more road shows, resources centre, and information throughout the country, particularly in the rural area. The purpose of this is to serve as a platform in providing more reliable and accurate information to investors considering that financial information is part of the factors that influence the success of investor's decision making as well as their decision-making behaviour. Furthermore, it is also recommended for the government to formulate strategies to control and monitor economic and financial condition of the country, while also recruit more professional advisors to advice small or retail investors in making their investment decision.

Investors also need to be equipped with proper financial education especially in IFL which is believed to guide them in making good decision and achieve their investment objectives. This can be achieved with the help of related financial institutions and universities that are suggested to organise seminars in order to enhance their literacy and knowledge about the financial analysis and capital market investments. Apart from that, more courses related to this subject must be initiated by the universities.

In addition, Islamic financial planner and Islamic unit trust agent should take part in increasing their client knowledge towards Islamic finance in order to help them with their future financial planning instead of only focusing on the current financial planning. Islamic financial planners and Islamic unit trust agent should understand what elements that affect investors' perceptions in their investment decisions to enable them to make appropriate decisions by controlling these factors.

Overall, it can be concluded that the findings of this study are able to provide new insights to Muslim consumers, investors, IUT agent, Islamic financial planners, regulators, asset management companies, and government in making appropriate and effective decisions to increase the knowledge of Malaysians towards IUT. Moreover, it is hoped to influence them to invest in IUT with the aim of increasing the economy of Malaysian people and the country.

7.6 Limitation

However, there are several limitations that have been identified despite the significant contributions highlighted in this study regarding Islamic unit trust investment decision. First, this study limited its focus only on Muslim investors in IUT in Malaysia. Therefore, it is deemed important to test the characteristics of non-Muslim in choosing Islamic unit trust funds which is in-line with Rahim (2010) who found that majority of the investors in Islamic unit trust fund come from non-Muslims group.

Second, the study was only limited to 1000 respondents for the whole Muslim investors in Malaysia, which covers both the rural and urban area of the 14 states in Malaysia. However, the data were not collected from each district in each state. The researcher only managed to collect he data in the capital city of each state and the district that are nearest to the capital city.

Finally, the current study adopted quantitative method and relied only on the single method of data collection. In other words, questionnaire was the only instrument used in gathering the data of this study. It is assumed that some of the respondents may not be willing to answer the questions correctly. Hence, the responses may not consistently and accurately measure the variables. Therefore, it will be the interest off future studies to combine both quantitative and qualitative methods in order to carry out an in-depth investigation on investment decision making in IUT.

7.7 Recommendation for Future Research

Future studies on the current topic are therefore recommended based on the findings of the present study. The followings are the suggestions of several inputs that should be embarked by future research:

First, the study on the model of investment decision making in Islamic perspective is still limited and can be considered new in the behaviour finance and consumer behaviour area. The results from the previous studies are not adequate to understand the exact behaviour of Muslim investors in Malaysia. Hence, it is suggested that more researches should be conducted, particularly in identifying the determinants of Muslim investors in Malaysia.

Second, IUT is a product which is suitable for both Muslim and non-Muslim investors. In other words, there is no restriction for non-Muslims to invest in this product. Nevertheless, it is important to test the determinants of non-Muslim in choosing IUT as suggested by Rahim (2010) which states that majority of IUT investors come from the non-Muslims group. Therefore, the factors that can influence investors to invest in IUT can be clearly understood by investigating both types of investors in IUT. Moreover, it is recommended for future studies to compare the behaviour between both investors. In addition, it will help unit trust companies to set up a promotion plan according to their determinants by understanding the behaviour of both investors.

Third, it is deemed good for researches to collect the largest sample size of 2000 for the biggest population of the research area as suggested by Blaikie (2003). In relation to this, it is better for the researcher to evaluate the determinants of the investors based on each area in a state and make a comparison between the residential area. This type of data

collection will provide more accurate results on each of the variables. Moreover, this allows the behaviour of investors in IUT to be learned in more depth.

Fourth, future research may adopt qualitative or mixed method approach instead of just relying on the quantitative approach. This is believed to extend the finding of this research area. Apart from that, it might provide some insights into the reasons of investors' behaviour in IUT.

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