



Faculty of Economic and Business

**Impact of Islamic Financial Literacy on Saving and Investment Decision:
The Individual Attitude Effect**

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Master of Science

2024

Impact of Islamic Financial Literacy on Saving and Investment Decision: The
Individual Attitude Effect

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A thesis submitted

In fulfillment of the requirements for the degree of Master of Science

Faculty of Economic and Business
UNIVERSITI MALAYSIA SARAWAK

2024

DECLARATION

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

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Date : 26/04/2022

ACKNOWLEDGEMENT

I owe my gratitude to ALLAH (SWT), the most gracious and the most merciful Whose guidance and protection sustained me throughout my entire life and makes my educational career a reality with enormous success. Special gratitude goes to my supervisor Associate Professor Dr Asri bin Marsidi for his proper supervision, fatherly advice, support and encouragement throughout the entire study period at Universiti Malaysia Sarawak. Without his guidance, the research would have been impossible. I would also like to thank my co-supervisors, Dean Professor Dr Rossazana Bt Ab Rahim for the sincere advice and guidance. I also appreciate my respected Dean Professor Dr Rossazana Bt Ab Rahim for their supports regarding measurements, publications and specially to make me sane and sorted with their affection and care like a true mother. Finally, I would like to thank the management of the Universiti Malaysia Sarawak for making it possible for me to complete my study here in Sarawak. Thank you all.

ABSTRACT

This research offers several appealing features for an analysis of Islamic financial Literacy and personal financial management. Individual attitudes intention and behavior are added as the moderating variable on that association. This study explores there relationship between individual attitude intention and behavior and personal financial management from an empirical perspective. Specifically, by conducting a survey in Sarawak, this research analyses the influence of individual attitude intention and behavior on personal financial management at the individual level focusing on the demographic profiles and financial literacy level. Individual attitudes are classified into individual behavior and intention of the respondents toward Islamic financial literacy and management of the personal financing' openness to experience, Islamic financial literacy exert relatively large influences on personal financial management in terms of the levels of Islamic financial literacy held by everyone. In contrast, openness to experience and agreeableness appear to be unimportant in influencing personal financial management. The findings also suggest that Individual attitude have different moderating effect with Islamic financial Literacy. while individual is found to have positive moderating effect with Islamic financial Literacy towards personal financial management.

Keywords: Islamic Financial Literacy, Saving and Investment Decision, Individual Attitude.

***Kesan Celik Kewangan Islam Terhadap Keputusan Simpanan dan Pelaburan:
Kesan Atitud Individu***

ABSTRAK

Penyelidikan ini menawarkan beberapa ciri menarik untuk analisis literasi kewangan Islam dan pengurusan kewangan peribadi. Sikap individu ditambahkan sebagai pemboleh ubah penyederhanaan pada pergaulan itu. Kajian ini meneroka hubungan antara sikap individu dan pengurusan kewangan peribadi dari perspektif empirikal. Secara khusus, dengan melakukan tinjauan di Sarawak, penyelidikan ini menganalisis pengaruh sikap individu terhadap pengurusan kewangan peribadi di peringkat individu dengan fokus pada profil demografi dan tahap literasi kewangan. Sikap individu diklasifikasikan ke dalam tingkah laku individu dan minat responden terhadap literasi kewangan Islam dan pengurusan keterbukaan pembiayaan peribadi untuk pengalaman, pengetahuan kewangan Islam memberikan pengaruh yang agak besar terhadap pengurusan kewangan peribadi dari segi tahap literasi kewangan Islam yang dimiliki oleh masing-masing individu. Sebaliknya, keterbukaan untuk pengalaman dan kesepakatan tampaknya tidak penting dalam mempengaruhi pengurusan kewangan peribadi. Hasil kajian juga menunjukkan bahawa sikap individu mempunyai kesan penyederhanaan yang berbeza dengan pengetahuan kewangan Islam. Sebagai contoh, hanya tingkah laku yang didapati mempunyai kesan penyederhanaan kecil dengan pengetahuan kewangan Islam terhadap pengurusan kewangan peribadi, di mana niat tidak mempunyai kesan penyederhanaan sama sekali.

Kata kunci: *Celik Kewangan Islam, Keputusan Menyimpan Pelaburan.*

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LIST OF ABBREVIATIONS

IFL	Islamic Financial Literacy
PFM	Personal Financial Management
UIFP	Understanding of Islamic Financial Products

CHAPTER 1

INTRODUCTION

1.1 Introduction

Financial literacy is a piece of knowledge about finance, skills, and attitudes. How it is usable for people to manage their resource (Rahim et al., 2016) stated that financial literacy is also considered knowledge, awareness, and skills that work for daily transactions and influences a person's attitude to making appropriate financial decisions (Antara et al., 2016). Financial literacy can also influence the individual attitude, like wise views in (Antara et al., 2016) banking products, the influence of parents, investment, views on conventional banking products, Personal financial management, knowledge of wealth planning, knowledge of wealth management and attitudes towards financial products and services (Abdullah & Adebayo, 2015).

Indeed, Islamic financial literacy is useful to protect a country's economy from a monetary crisis (Nidar & Bestari, 2012). Islamic Financial literacy is also very important for people from economic, financial, and social perspectives in making personal financial decisions (Setiawati et al., 2018) This is particularly important for Muslims. A Muslim need to expand financial literacy to an Islamic perspective. That means they must do transactions according to Sharia and expand their aspects (Abdullah et al., 2015) to attract customers with good marketing.

Over the past 30 years, financial products/services based on Islamic principles have gained robust popularity and shown rapid growth. They are widely accepted by Muslims and non-Muslims worldwide (Alharbi, 2015). The global Muslim population is currently at 24.4

percent or 1.84 billion and is expected to reach 2.2 billion in 2030, thereby boosting the demand for Islamic (*sharia*) compliant products/services in line with the tremendous international growth (Abdul Razak et al., n.d.) It should be noted that theoretically, Islamic financial products/services offer the same indispensable functions as those provided by conventional financial products/services providers; however, the difference is that the transaction follows Islam's rules and principles. Known for its emerging and vibrant market, Malaysia offers an internationally promising and perspective hub for Islamic financial services centers (Okuryazarlık et al., 2015). Islamic financial products and services in the country offer various types of facilities and services to cater to the financial needs of Muslims and non-Muslims worldwide. Given the theoretical foundation and empirical evidence on the relationship between perception and behavioral intention, it is thus necessary to investigate individual intention to employ Islamic financial products/services. In practice, such Islamic financial products are limited to Muslims; non-Muslims are also welcomed to implement them.

However, breaking through the mindsets of the public in Sarawak is one of the challenges the industry faces nowadays. This study examines the moderating effect of Islamic financial literacy on individual attitudes toward investment intention among the public in Sarawak, Malaysia. In this chapter, initially, in the background of the study, the role of individual attitude and Islamic financial literacy in personal finance decisions are described briefly. Later, from different perspectives, the inadequacies or discrepancies observed in relevant current studies focus on the statement of the problem Section, followed by the research objectives to address the previously mentioned problem areas. In addition, this chapter points to the anticipated contribution of the research outcome in theoretical and practical aspects. Finally, this chapter also defines the principal terms used throughout

the study. This chapter is developed to explain the study's necessity, consistency, reasonability, and worthiness.

1.2 Background of Study

Islam places great importance on knowledge. Indeed, the pursuit of knowledge is highly encouraged. As stated in a Hadith narrated by Imam Tirmidhi, the Prophet Muhammad (P.B.U.H.) was reported to have said, "Seeking knowledge is obligatory upon every Muslim man and woman." Thus, Muslims must be knowledgeable in matters pertaining to acts of worship and those relating to mundane affairs of life, including trade, economic, and financial dealings. It should be emphasized that Islamic financial literacy (IFL) is a religious duty for every Muslim because it further impacts realizing Al-Falah (true success) in this world and the hereafter. A Muslim must comply with the rules and regulations governing his economic and financial dealings.

The increasing attention to the significant role of financial literacy is attributed to the rising level of indebtedness among young people. According to (Idris et al., 2013) preferences for lavish lifestyles have led them to spend beyond limits to the point that they are willing to be in debt. This is contrary to the teachings of Islam, which promotes moderation in spending and limits the use of debt only for genuine needs. A Hadith narrated by Imam Ahmad, where the Prophet Muhammad (P.B.U.H) was reported to have said: "Be wary of debts; indeed it is sadness at night and a disgrace in the day," stresses that being in debt not only leads to an increase in financial burden, but it can also cause an emotional burden. This explains why the concept of moderation in spending is highly encouraged in the Quran, as stated in chapter Al-Furqan verse 67, which means: "Those who, when they spend, are not extravagant and not niggardly, but hold a just (balance) between those (extremes)."

1.3 Problem Statement

A recent (Sarpong-Kumankoma, 2023) study concluded that most individuals lack knowledge of basic finance concepts. Generally, the young, women, low-income earners, and the less educated perform worst on financial literacy measures. Also, financial literacy has a positive significant impact on the probability of saving for retirement. Another study by (Arora & Chakraborty, 2023) indicated that differences in financial literacy level can be attributed to various socioeconomic/demographic factors like age, gender, education levels, income, location of residence, sources of information, etc. Econometric analyses indicate that financial literacy influences investment decisions, mainly in businesses and traditional assets such as gold, property, etc. The effect of financial literacy on saving habits exhibits the idea that financial literacy can positively impact young people's saving practices, which is also endorsed by (Alshebami & Aldhyani, 2022) It has been observed that the contemporary young generation places less emphasis on saving habits and money management, negatively impacting their lives, making them far more reliant on their families and government financial support, and increasing their debt burden (Lusardi & de Bassa Scheresberg, 2013).

A few prior studies linked low-income populations to a low level of financial literacy and identified financial behavior as a significant predictor of financial wellbeing (Rehman et al., 2021). Studies have also highlighted the relationship of lower financial literacy with lower earnings and savings and how these relationships adversely affect the population's health, well-being, and quality of life (Nugraha et al., 2023). Financial literacy is essential to shape the rational behaviors of young Malaysian working adults in saving, spending, and investing for financial prudence to reduce household debt and bankruptcy rates in Malaysia caused by financial distress (Rabbani, 2022) As a result, young Malaysian working adults

who lack financial literacy tend to be involved in financial exclusion and cannot overcome financial problems as individuals, households, and consumers (Altaf et al., 2019). Many Malaysians still have trouble managing their finances in today's modern world, exposing them to the effects of a financial shock (Natkozi et al., 2022). The risk and accountability for one's financial decisions tend to increase as finances become more complex and diversified.

The Malaysian government is creating a National Strategy for Financial Literacy 2019–2023 in response to this issue. In addition, financial education that substantially influences financial literacy was recommended as the primary procedure to assist and lead to the development of financial well-being in improving Malaysian financial literacy (Abdullah et al., 2022a). Next, although there has been a substantial amount of earlier research on financial literacy, there is still little research focusing on Islamic finance (M. A. Abdullah et al., 2017) As a country known as the Islamic Financial Hub (Md Nawawi et al., 2022) It's disappointing that Malaysia is still trapped in creating structures and programs for Islamic financial literacy education, leaving relatively few people with a solid grasp of Islamic finance (Suhartini et al., 2023).

Although a considerable amount of investigation on personal financial management and Islamic literacy gets priority in various literature in various countries with significant Muslim populations, including Malaysia, within limited capacity, the researcher fails to find comprehensive works featuring descriptive evidence on personal financial management among Muslims of Sarawak Malaysia on the context of Islamic sharia. Therefore, addressing the lack of substantial evidence to connect Islamic literacy and individual attitudes and

investment intentions in Sarawak has drawn the researcher's interest in examining the effect of Islamic literacy in this context.

The financial crisis has also caused the world's new focus on Islamic finance. Thus, the Islamic financial industry has spread with various financial instruments and asset choices for Muslims and non-Muslim investors. Furthermore, in his article, Abdullah et al. (2015) states that the research focuses on the level of Islamic financial literacy among Muslims. They also noted the essential to propagating Islamic finance through education. It is not only encouraged by the internal factor of the Muslim community but also by the obligation to obey the rules of Islam. It also involves other factors, such as primary financial instruments that raise awareness among Muslims and other communities.

Financial attitudes encompass a person's values and opinions about various personal financial topics, such as whether they think saving money is essential (Hammond et al., 2019) A survey revealed a constant favorable association between financial attitude and financial planning (Astiti et al., 2019). People who practice good money management will have better financial circumstances, including higher savings and increased financial security for themselves and their families (Stepanova 2022). Financial attitude is a vital formation that can enhance the savings intention of an individual as well as sustainable financial planning (Fang, 2014). The current literature (Dinc et al., 2021) does indicate the direct individual effects of financial literacy and financial attitude on financial management; still, there is a void existing in the extant literature about the moderating role of attitude in the relationship of Islamic financial literacy and financial management. In other words, the attitude interacts with financial literacy; would it significantly affect financial management? Understandably, a person's positive financial attitude when interacting with financial

literacy may result in improved financial management. Therefore, the issues of Islamic financial literacy and personal financial management are analyzed using the behavioral approach to give an insightful perspective on individual attitudes and personal financial management in the context of Sarawak, Malaysia.

1.4 Research Objectives

Cases in Sarawak of individuals involved in personal loans are rising. That is why many people go bankrupt in Sarawak due to hiring purchase loans for vehicles and taking personal loans without proper management. Kassim et al. (2019) stated that people should live within their means and avoid debt. The habit of saving is essential for emergencies and survival in life. That is, Sarawak people need to know more literacy about Islamic finance.

Adults must take on precautionary savings as part of their financial management. It is empirically found that bad financial management may cause poverty and low happiness, disrupting the financial system or even criminality (Shawtari et al., 2015). Previous research addresses financial literacy as the solution to tackle this bad personal financial management. Nevertheless, personal financial management is still at its infant stage in Sarawak. Muslims generally do not take ownership of their financial affairs (Asandimitra & Kautsar, 2017). Though they know the importance of personal financial management, many lack a thorough understanding of the significance of personal financial management and the numerous benefits of such planning.

Viewing practically, Islamic financial literacy is a main rule which influence the personal financial management. Therefore, it needs to be investigated in detail what factors trigger Islamic financial literacy how people of Sarawak can avoid these incidents to happen. recent research studies explain that Islamic financial literacy effect personal financial

management have a link with individual attitude. The higher the Islamic financial literacy value goes, the higher gets personal financial management and individual attitude behavior activities.

According to the financial socialization theory (Gudmunson & Danes, 2011) view, explicitly presenting family financial socialization as a theory, has improved family financial socialization research and united it as a cohesive field (Eddleston & Kidwell, 2012; Gudmunson & Danes, 2011) paper, explicitly presenting family financial socialization as a theory, has improved family financial socialization research and united it as a cohesive field. The primary tenet of (Gudmunson & Danes, 2011) theory is that what children learn (and do not learn) about money from their parents will be associated with their financial well-being concurrently and throughout the life course. Although financial socialization continues to occur after the age of 18 (Danes & Yang, 2014; Gudmunson & Danes, 2011) family financial socialization that takes place during childhood and adolescence (birth to age 17) is crucial in laying a foundation for, and being directly associated with, financial outcomes (Gudmunson & Danes 2011; Serido et al., 2016) and will be the primary focus of this review.

1.4.1 Specific Objectives

To achieve the study's primary objective, the following objectives are constructed for the public individuals in Sarawak, Malaysia, to check the level of Islamic financial literacy on the personal financial management of the public.

- i. To investigate the effect of Islamic financial literacy on personal financial management.
- ii. To examine the impact of understanding Islamic financial products on personal financial management.

- iii. To investigate the moderating effect of attitude in the relationship between Islamic financial literacy and personal financial management
- iv. To determine the moderating effect of attitude between understanding Islamic financial products and personal financial management.

1.5 Research Questions

Viewing the suggestions of the theory of financial socialization, Islamic financial literacy and understanding of Islamic financial products and personal financial management using individual attitude as a moderate to find the relationship and discussed gaps in the research problems, this study has following research questions:

- i. How Islamic financial literacy effect personal financial management?
- ii. How understanding Islamic financial products effect personal financial management?
- iii. How the moderating effect of individual attitude in the relationship between Islamic financial literacy and personal financial management?
- iv. How the moderating effect of attitude between understanding Islamic financial products and personal financial management.?

1.6 Significance of Study

The significance of the study is explained as “the extent of the contribution made by the study to improve our understanding, to change a concept or to promote a new hypothesis in a particular field of research (Lusardi & Mitchell, 2008) study enables contribution in understanding and opportunities of actions in four domains: theoretical, policy formulation, the concern of practices, and social aspects that affect daily life. This study on individual

attitude, Islamic literacy, and investment intention for the public in Sarawak, Malaysia. The study will contribute to knowledge development, policy formulation, and personal investment planning.

1.7 Scope of the Research

The scope of this study includes four constructs: Islamic financial literacy, understanding of Islamic financial products, individual attitude, and personal financial management. The inclusion of four variables in the study makes the study more parsimonious. It indicates only the inclusion of essential factors that contribute toward the personal financial management of a Sarawakian Muslim. Further survey scope includes only Sarawakian university students aware of Islamic financing modes.

1.8 Body of Knowledge

As this study is conducted in the context of Sarawak, this study is expected to contribute to the body of knowledge by enhancing the present understanding of attitude, literacy, and personal investment intention dynamics. Furthermore, testing the relationship among these elements of attitude, Islamic financial literacy, and investment intentions possibly contributes to understanding underlying causes and effects within variables under observation for the context and population and, eventually, is likely to be helpful to the concept's investment optimization.

1.9 Policy Makers

The evidence from this study is expected to provide further clarity and support to policymakers to recognize the significance of Islamic financial literacy on the regional and national economies of Sarawak Malaysia. (Baihaqqy et al., 2020) As the study focuses on the causal relationship among the elements of individual attitude, investment intention, and

Islamic financial literacy, the outcome of the study can be communicated into decision-making processes; thus, policymakers might translate it into reasonable and appropriate policy to nurture Islamic financial knowledge regarding personal financial decisions.

Individuals with favorable attitudes are likely to focus on the object's positive attributes, whereas those with unfavorable are likely to focus on the object's negative qualities. Object perceptions and relevant contextual elements, such as social norms, influence the person's definition of the event, (M. F. Abdullah et al., 2022b; Ribaj & Mexhuani, 2021) possibly directing attention to positive or negative consequences of practicing the behavior in line with the positive or negative evaluation of the object. The policymakers might find the result helpful in understanding current challenges as well as determining the necessity to identify conflicts in policy or to justify the priorities of enforcement of policies.

1.10 Practitioners

The study seeks a better understanding of the specific group of demography-oriented behavioral patterns and the factors associated with investment in Sarawak. Therefore, the findings on the effect of the components of attitude, Islamic financial literacy, and investment intention are expected to present a more comprehensive view of the value of the components for the practitioners. Again, Islamic financial practitioners are expected to attain enhanced guidelines to develop and sustain personal investment for the Sarawak and, eventually, would be able to manipulate the correlations to achieve better Islamic financial performance.

1.11 Chapter Summary

This study is a significant form of research emphasizing Islamic financial literacy's impact on personal financial management practices in Sarawak. In summary, a study on the mentioned elements is significant in obtaining a clearer view of the present investment practices within the state. In addition, it is likely to support revealing the issues hindering individual investment's effectiveness and locating the necessity of additional legislative enhancement. It provides information on how Islamic financial literacy can impact personal financial management practices. This chapter includes the problem statement, research objectives, research questions, and significance of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This study's central focus is to examine the effects of financial attitude and Islamic financial literacy on personal management practice. For an individual following Islam, the Sharia is the full-fledged direction covering every aspect of human life. Recent literature also highly acknowledges Sharia as an integrated part of decision-making throughout life. This chapter discusses the present literature on financial literacy, Islamic financial literacy, financial attitudes, and their effect on personal financial management practices. This chapter also focuses on the adequacy and unclarity of the related area, which directs the objective regarding the study's hypotheses in the context of Sarawak, Malaysia. This chapter also included relevant theoretical and literature evidence supporting this study's knowledge development.

2.2 Personal Financial Management

Personal financial management can be viewed as the process of controlling income and organizing expenses through a detailed financial plan, and it provides a systematic way of utilizing income. It involves learning to keep track of cash inflows and tailoring the inflows to fit expenses (Eno et al., 2018) Financial planning is essential in the 21st century since many employees must rely on their savings, unlike past generations of workers who relied solely on pensions. Therefore, one can resolve their money problems through planning. According to Sutherland, financial planning is taking the money you have earned from your work and ensuring you put it to good use in a way that reflects your aspirations and values (Kassim et al., 2019). Financial planning enables people to examine their financial objectives and take the

required actions to update or achieve them (Liu-Lastres et al., 2023).

Effective personal financial management throughout one's working years lays the groundwork for a comfortable and secure retirement. Planning early, seeking professional advice when needed, and staying informed about financial options contribute to achieving retirement goals and enjoying the fruits of one's labor in later years.

Regularly reviewing retirement plans and adjusting strategies as needed based on changing financial markets, personal circumstances, and retirement goals ensures continued financial security and peace of mind.

Effective personal financial management is not only about maximizing income or minimizing expenses but also about cultivating healthy financial habits and making choices that align with one's values and long-term aspirations. It requires discipline, planning, and sometimes seeking professional advice to navigate complex financial situations or goals effectively.

Practicing personal financial management in accordance with Islamic Sharia principles involves integrating these ethical and moral guidelines into everyday financial decisions. It requires knowledge of Islamic finance principles, mindfulness in financial transactions, and a commitment to ethical standards in wealth accumulation and distribution. Islamic financial institutions offer products and services that comply with Sharia principles, providing options for individuals to manage their finances in accordance with their religious beliefs.

individuals are urged to seek assistance from financial professionals who advise them on the essential things they should do before they retire (Ilyana 2022) People with low savings or assets will experience difficulties when faced with unforeseen expenses after retirement. Fourthly, people who want to retire with less debt should be able to make plans. Financial retirement planning is more necessary for people with lower salaries than those with higher incomes (Dhlembeu et al., 2022).

Islam has regulated all activities carried out by humans, as well as in financial planning. (Ahmad 2020) explained four reasons why financial planning is important for a Muslim. First, life must be planned. Secondly, family/everyone has their dreams and ideals. Third, the epidemic of the modern world makes someone very vulnerable to being trapped in debt, so they must try to avoid debt bondage. Fourth, financial planning is part of the application of maqasid- e- sharia. The study by (Rahmanita et al., 2020) indicated that only Indonesian people have carried out financial planning. This shows that many Indonesian people still have not done financial planning.

For individuals, it is essential to manage their finances for many reasons like retirement, investment, escape from debt, etc. Thus, having financial planning is very important as it has an important role, especially in dealing with uncertain economic and market conditions.

For Islamic financial management (IFM), the processes carried out in achieving the financial goals must not conflict with Shariah principles, and these goals are not only oriented to the world and the hereafter (Widiyastuti & Widijantoro, 2019) Islamic financial management makes the welfare and safety of the world and the hereafter the goal. In other words, IFM is an entire process that aims to achieve an individual's personal goals through acquiring, maintaining, and distributing wealth in adherence to Islamic principles and values (Hassan, 2013). For a single person and family, financial management starts with managing cash flow,

making future financial goals, setting priorities in life, and then implementing them the Islamic way (Umar, 2020) Due to societal and economic change, there will be more senior people than children in the future and more elderly workers. When people worry about insufficient retirement resources to support rising living expenses and expensive healthcare services in old age, incorrect retirement planning. is frequently brought to light in Malaysia (Bernd W. Wirtz, 2020) A person with a sound financial plan may manage their money sensibly (Boon et al., 2011) However, it was shown that younger working generations feel burdened by retirement planning because they must make long-term financial plans (Moorthy et al., 2019) In 2019, out of 14.8 million employed persons, 25.08% (3.71 million) were self-employed workers in Malaysia, according to the World Bank's collection of development indicators. According to the Employees Provident Fund (EPF), 62% of Malaysia's 22 million working-age citizens work for themselves and are not officially covered by social safety. More than 70% of Malaysians, according to EPF, do not have a rainy-day fund for unexpected needs.

2.2.1 Savings

Saving money is not a skill everyone possesses; not everyone can save money over an extended period. One factor that affects the ability to save money is that it is not an easy task to engage in saving and investment while at the same time balancing the need to address expenditures related to daily living. Regarding savings decisions, the extant literature shows that education, income, net worth, owning a home, having health insurance, and expecting higher future income are positively related to saving (Lee & Hanna, 2020) Another study found that people with a more present mindset have higher levels of non-mortgage debt, credit card debt, and lesser levels of savings (Sheray et al., 2023) Savings strategies reflect not merely the preferences of the individual but also their foresight on their bargaining position in terms of economic resources. People who can save more have less financial stress and enjoy a good

quality of life. Malaysia's rising inflation rate and volatile economy encourage Malaysians to save money (Kassim et al., 2019). A country with a high saving rate usually has a strong saving culture. Germany, for example, is known as a nation with a strong saving culture, with a saving rate of 26.2 percent of GDP in 2020, according to the World Bank. Germans have a habit of saving more money. Ten percent of their disposable income is typically set aside. They are also averse to debt, (Ribaj & Mexhuani, 2021) preferring cash over credit cards (Brounen et al., 2016). Countries with higher savings rates have had faster economic growth and capital accumulation than countries with lower rates.

Capital accumulation provides a country with more opportunities for production and productivity by giving an additional revenue source (Obalola et al., 2018; Rozikin & Sholekhah, 2020) and also promotes savings to mobilize cash in the most productive practice. The advantages of saving at the household level include having a backup plan in an emergency, asset building, cash available for household investment and retirement planning. Savings can assist in purchasing dwellings and housing, debt settlement, attaining dream goals, long-term security, disaster protection, and procuring social services (Hidajat & Hamdani, 2017). According to (Kamel & Sahid, 2021) saving means different things to different people. To some, it means putting money in the bank. To others, it means buying stocks or contributing to a pension plan. But to economists, saving means only one thing: consuming less of a given number of current resources to consume more in the future.

Therefore, saving is the decision to defer consumption and store this deferred consumption in some form of asset. In the Holy Quranic verse 12:47-49, the God Almighty (Allah) says in this regard where Yusuf said: "For seven consecutive years, you shall sow as usual and that (the harvest) which you reap you shall leave in ears, (all) except a little of it which you may eat. Then will come after that, seven hard years, which will devour what you

have laid by in advance for them, all except a little of that which you have guarded stored. Then there will come after that a year in which people shall have rain and in which they shall press grapes”. From the verse, Muslims are encouraged to work hard, save wisely, and consume efficiently without being lavish.

2.2.2 Investment

Investment is the placement of several funds to obtain future benefits. Investment activities need to be increased so economic development can run smoothly and realize welfare for the wider community. Islam teaches its people to strive for a better life in this world and the Hereafter. As Muslims, investment in economic activities must follow Islamic corridors or sharia investment (Krische, 2019).

Islamic finance with various financial products is not limited to Muslims but is available to everyone (Al-Gamal, 2011) (Rahman et al., 2018). What makes Islamic finance attractive to Western countries is that this financial system operates ethically and is very close to socially responsible investments (Biancone & Radwan, 2016) Islamic finance is considered one of the fastest-growing areas of the global financial industry. Its diffusion in the Sarawak market illustrates how it is attracting the attention of investors, financial institutions, and regulators as a valid alternative to conventional ones (Ashraf, 2019).

Investment in Islam is an active form of the Shari'ah economy. A simple pattern in investing illustrates that investment activities are quite effective in developing capital to create a business and its level of security. In the Islamic concept, investment is not solely concentrated on how much material profit can be generated through economic activities alone. However, more than that, investment activities in the Islamic concept are also driven by certain factors that dominate (Abdullah & Ahmad, 2013). In conventional investment, obtaining the maximum

profit by minimizing sacrifice is a dream goal or is the main goal in investing because traditional investment is made to get maximum benefits for personal or group interests regardless of the fate of others. Sharia investment highly upholds the moral values of the Quran and Sunnah, including getting the pleasure of Allah, obtaining halal benefits, and helping (Jennifer et al., 2022).

Sharia-based finance is now widely accepted as a good alternative market. Malaysia is one of the world's Islamic financial centers, working hard to enhance Shariah governance in the Islamic financial sectors. According to (Septian et al., 2022) investment decision-making is challenging for any investor. (Lestari, 2020) study confirmed that religiosity significantly impacted Sharia investing decisions. (Niveditasri & Sanmitha, 2020) tested spiritual and religious beliefs and suggested there is an increasing tendency in people to make their financial decisions based on the two predictors. Jamaludin (2013) studied religion and spirituality in his research and found they determine the investment choices of Muslims and non-Muslims in Malaysia.

2.3 Financial Literacy

Financial literacy is an essential factor that significantly affects an individual's investment behavior or decision (Yew et al., 2017), and it refers to the tendency of one to make investment decisions based on knowledge of financial sciences. The higher the literacy level of financial management and instruments of an individual, the more likely that one would participate and invest in stocks, bonds, or saving plans, and vice versa (Mouna & Anis, 2017) Since the 1950s, financial literacy has been recognized in many countries worldwide. Financial experts and researchers have broadly acclaimed the definition of financial literacy as it is available in several literatures, yet none of which presents similar definitions. In general, the frequently used definition of financial literacy, as proposed by (Lorenz et al., 2021), is about

knowledge and skills in financial management, while others emphasize aspects of financial concepts, information assessment, and decision-making (Antara et al., 2016b) to evaluate and make financial instrument informatively interpreted, as debt literacy.

As stated by Huston (2010) financial literacy combines financial knowledge, attitude, and behavior. Financial knowledge is understanding financial terms and concepts necessary for everyday use in social life. Financial literacy is understanding financial concepts and products and skills, motivation, and confidence to apply such knowledge and experience to make effective decisions. Financially literate people would know better than to spend more than their monthly income, leaving them with ample savings when their income declines (Rabbani, 2022) (Othman et al., 2019) elaborated on the mechanisms to manage financial activities properly and spend money for a valid reason. Besides, good financial literacy teaches how to manage money and where it should be spent. (Shen et al., 2018) noted that financial literacy significantly improves financial management. Financial literacy has a critical role in determining an individual's financial behavior. Good financial education and sound financial comprehension of individuals will dictate their good financial decisions. Financial literacy plays a significant role in influencing one's financial behavior, which helps people make better financial decisions in general and during financial crises (Brounen et al., 2016; Alshebami & Aldhyani, 2022).

2.4 Islamic Financial Literacy

In the financial literacy study, some researchers have examined Islamic financial literacy (IFL), which focuses on the financial literacy of Muslim communities (Nahar, 2022; Biancone & Radwan, 2016) Currently, there is no commonly accepted definition of Islamic Financial Literacy. However, Rahim et al. (2016) proposed a conceptual definition of Islamic Financial Literacy by keeping a close relationship with the general definition of financial

literacy. They defined it as “the ability of a person to use financial knowledge, skill, and attitude in managing financial resources according to the Islamic teachings.”

The Indonesian Financial Services Authority (OJK) has developed an Islamic financial literacy strategy focusing on target groups such as students, college students, communities, and business actors (OECD INFE, 2011). The goal of enhancing financial literacy is to understand Islamic finance and, of course, to handle finances. Someone well-versed in financial literacy is more likely to manage their funds successfully (Fitriyani Pakpahan et al., 2020) and make sensible financial judgments. Low IFL may affect financial behavior, such as savings, credit management, investments, and insurance (Nawi et al., 2022).

2.5 Role of Sharia in Financial Decision

Sharia principle fulfills Sharia values in every Sharia financial institution, which refers to the Al-Qur'an and Hadith as primary sources. Several things are prohibited in Sharia investment that investors must understand so as not to fall into the types of transactions that are prohibited in Sharia investment, such as selling goods whose substances are forbidden and goods that are haram because apart from the substance such as *tadlis*, *taghrir*, *ikhtikar* and *bai ' najasy*, *riba*, *gharar*, and so on (Ismatulloh, 2015) In the holy Al-Qur'an, Allah commands every Muslim to prepare for tomorrow better, which means that this investment concept has indeed been recommended in Islamic law, as stated in Al-Hashr verse 18.

“O you who have believed, fear Allah. And let every soul look to what it has put forth for tomorrow - and fear Allah. Indeed, Allah is Aware of what you do.” (Q.S. Al-Hashr/59:18)

From the verse above, it can be understood that this verse means moral advice to invest as a provision for life in this world and the hereafter because in Islam, all types of behavior and activities, if intended with worship, will be worth the afterlife, including this investment activity.

Although religion plays a vital role in certain aspects of life, its effect on individual's savings behavior has not been explored. Whenever people acquire *Islamic piety*, they will be more ethical in whatever they are doing. Depending on how a person believes in his religion, it will affect investment behavior. Therefore, Islamic piety can significantly affect the investment decision from a Muslim's perspective. This argument can be supported by the later study that defines *Islamic piety* as a concept where humanity feels union with God, people, and nature as a sign of the ultimate divine achievement (Abdurahim et al., 2016).

2.6 Islamic Financial Literacy on Financial Management

In previous research, Hassan Al-Tamimi and Anood Bin Kalli, (2009) found a significant impact between financial literacy and investment decisions. Besides, (Okuryazarlık et al., 2016) also found that low financial literacy couldn't make students able to make investment decisions based on their finances. (Fazli Sabri & Farhana Zakaria, 2015) also found that financial literacy positively affects saving behavior. This means that financial literacy has a significant effect on financial services. (Saifurrahman & Kassim, 2021) stated that Islamic financial literacy is a person's skills, actions, capabilities, and competencies in managing financial resources under Islamic Sharia principles. Although the extant literature provides evidence for the effect of financial literacy on financial decisions, it does not provide explicit evidence of the impact of Islamic financial literacy on the financial management of a Muslim. Based on the above understanding, it can be said that Islamic financial literacy is a fundamental

part of the life of the Muslim community. It is intended that financial management can be implemented based on sharia principles. Hence, it is hypothesized:

H1: There is a significant relationship between Islamic financial literacy and personal financial management.

2.7 Understanding Islamic Financial Products on Personal Financial Management

Islamic deposit and credit products offered by Islamic banks are very similar to those offered by conventional banks, except that Islamic financing principles apply to the underlying bank assets and liabilities. For Islamic deposit and credit products, no transaction that involves interest in any form can be undertaken, such as simple or compound, low or high, institutional, or individual. Customers are generally aware of various common Islamic deposit and credit products offered by banks, and there is a strong demand and preference for interest-free banking services from a segment of people who strongly desire to abide by the rules and principles set by Shariah law (Md M Hossain, 2020).

Based on a person is well-literate if he/she knows financial institutions, products, and services, as well as the features, benefits, risks, rights, and obligations of the financial products (Fitriyani Pakpahan et al., 2020). A highly literate person may not make any financial decisions without adequate information. Muslim consumers value the products not contradictory to their religious faith; they have a positive influence of the Halal brand logo on their purchase intention (Md Nawati et al., 2022). According to (Soesilowati, 2010) Muslims' religiosity determines their intention to consume Sharia-compliant products. Sharia-compliant products. According to (Nurjaya et al., 2020) religious reasons are the principal motivations for Muslims to choose products that adhere to Islamic objectives and values. Although literature offers evidence on the knowledge of Islamic banking financial products of a Muslim consumer, it is scant on to

what extent the knowledge of Islamic financial products affects financial management decisions, including savings and investments. Therefore, the following hypothesis is set:

H2: There is a significant relationship between Islamic financial products and personal financial management.

2.8 Individual Attitude

Investor attitudes and intentions are the characteristics of Muslim investors, which is a predisposing factor within a person who has learned to respond consistently, whether he likes or dislikes evaluating particular objects (Septyanto & Nugraha, 2021). A positive attitude towards a behavior occurs when individuals perceive that the consequences of the behavior are positive. Conversely, if the consequences of the behavior are perceived to be negative, a negative attitude will be attached to the individual. The intention is a sense of pleasure towards an object that makes a person try to obtain it through sacrifice, both in money and the other (Banytè et al., 2007). Intention can change someone's behavior to reach what he wants. Therefore, someone intending to invest is likely to decide to invest because making efforts can make him successful, such as attending various educational, training, webinar, and seminar programs about investment. Then, the intention to invest can trigger investors/potential investors to invest.

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investors, intentions, risk factors, investment patterns, and awareness levels also affect investors' savings and investment patterns. Thus, the use intention of online financial products from the utility perspective is more consistent with the adoption behavior of financial products (Xiao, 2008).

2.9 The Moderating Effect of Individual Attitude

Studies have found that investment in Islamic products and services depends on many factors, including brand familiarity, trust, and attitude; (Ilyana et al., 2022; Kumar & Hati, 2021) Research on investment behavior is somewhat limited, primarily discussing institutional rather than individual investor behavior. For example, Asker et al. (2014) compared private and public firms' investment behavior and reactions to short-term pressures, and de Haan & Kakes (2011) analyzed the investment strategies of Dutch institutional investors. In contrast, Korkeamäki and Kumpulainen (2019) investigated foreign institutional investors' behavior in the Chinese stock market.

According to Masini and Menichetti (2013) several non-financial factors inform investment opportunities rationally. These non-financial factors may include the extent to which investors are influenced by the current social, economic, and political environment, the extent of investors' readiness to invest, as well as investors' knowledge of investment (Chel-Guerrero et al., 2018; Marchant, 2006; Arifin & Soleha, 2019). In addition, prior investment experience also plays a substantial role in influencing investment decisions (Ibrahim et al., 2021) However, the most important factor is investors' favorable opinion over time (Masini & Menichetti, 2012, 2013). Thus, investors' attitude is considered the most crucial factor in decisions on stock investment. Much of the previous literature has measured the influence of attitude on investment decision-making (Elliott & Speck, 2005; Kebede & Kuar, 2015; Masini & Menichetti, 2012, 2013). For example, Elliott and Speck (2005) measured investors'

attitudes toward energy-efficient investment decisions and found a significant relationship.(Kebede & Kuar, 2015), who researched India, also found a direct and significant relationship between attitude and investment decisions. The extant literature provides evidence for the effect of attitude on investment decisions, but the literature is scant on the interaction effect of attitude and financial literacy on financial management. Hence, the following hypothesis needs to be tested:

H3: Attitude positively moderates the relationship between Islamic financial literacy and Personal Financial Management

H4: Attitude positively moderates the relationship between understanding Islamic financial products and personal financial management.

2.10 Financial Socialization Theory

Although financial socialization continues to occur after the age of 18 (Danes & Yang, 2014; Gudmunson & Danes, 2011) family financial socialization that takes place during childhood and adolescence (birth to age 17) is crucial in laying a foundation for, and being directly associated with, financial outcomes (Gudmunson & Danes 2011; Serido et al., 2016) and will be the primary focus of this review. According to the conceptual model by Gudmunson and Danes (Figure 2.1), family socialization processes (i.e., personal and family characteristics, family interaction and relationships, and purposive financial socialization) are associated with financial socialization outcomes (i.e., financial attitudes, knowledge, and capabilities; financial behavior; and financial wellbeing). It should be noted that although family financial socialization has most often been examined regarding the parent-child relationship, other family members socialize with each other (Gudmunson & Danes 2011), including romantic partners (Moss et al., 2014).

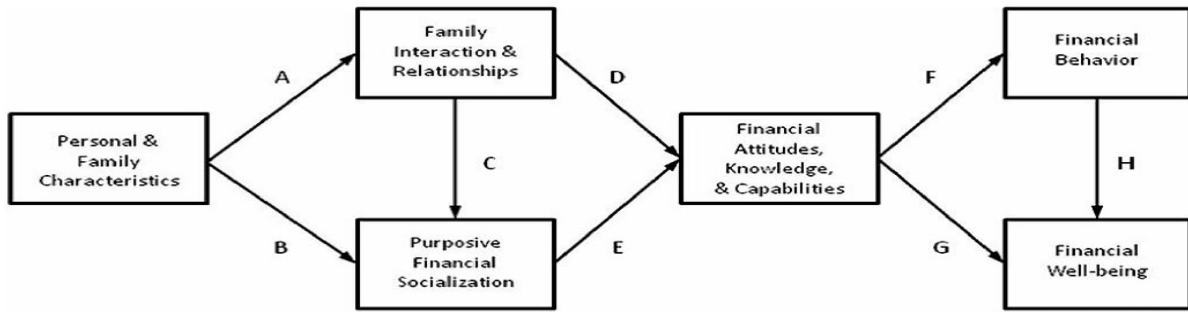


Figure 2.1: Family Socialization Process (Gudmunson & Danes, 2011)

How individuals in Islamic societies learn and use Islamic financial concepts as part of their financial socialization processes is central to the relationship between financial socialization theory and Muslim consumers' financial management behavior. People in Islamic societies may be socialized to see and handle money in a way consistent with Sharia law because of the prevalence of Islamic values and teachings. Islamic families may converse with their children about the importance of ethical financial behavior, such as refraining from interest-based transactions. They may have seen adults in their family use Islamic funding mechanisms like Musharakah or Ijara. In the future, kids may be more inclined to use Islamic financial products and services because of the impressions they formed as a child. In conclusion, the Financial Socialization Theory can shed light on how people in Islamic communities form their own personal financial beliefs and practices following Islamic teachings. This study demonstrates how cultural and religious factors significantly impact people's ability to make sound financial choices in underserved regions.

2.11 Conceptual Framework

A conceptual framework introduces research variables as well as explain connections among these variables. The conceptual framework is also associated with the problem statement, preparing the platform of the research questions that lead the investigations. Antara et al. (2016b) founded on existing theories that the conceptual framework predicts sets of responses tested for sufficiency as a resource for explaining the research outcome. In other words, before data collection or analysis, the conceptual framework details the anticipated outcomes (Abdullah & Chong, 2014). Some theoretical or conceptual frameworks must be introduced to understand the proposal's and the study's feasibility. In financial literacy and investment intentions studies, associations are made between financial attitude, religious literacy, and financial attitude. Financial attitude has been a strong predictor of investment decisions; on the other hand, financial literacy is vital to rational investment decisions and long-term financial stability. Lack of financial literacy causes individuals to avoid investment (Anindya & Hakim, 2021). Adequate financial literacy is necessary to make decisions (Alharbi, 2015). Financial literacy is directly associate with financial decisions (Alamad, 2019).

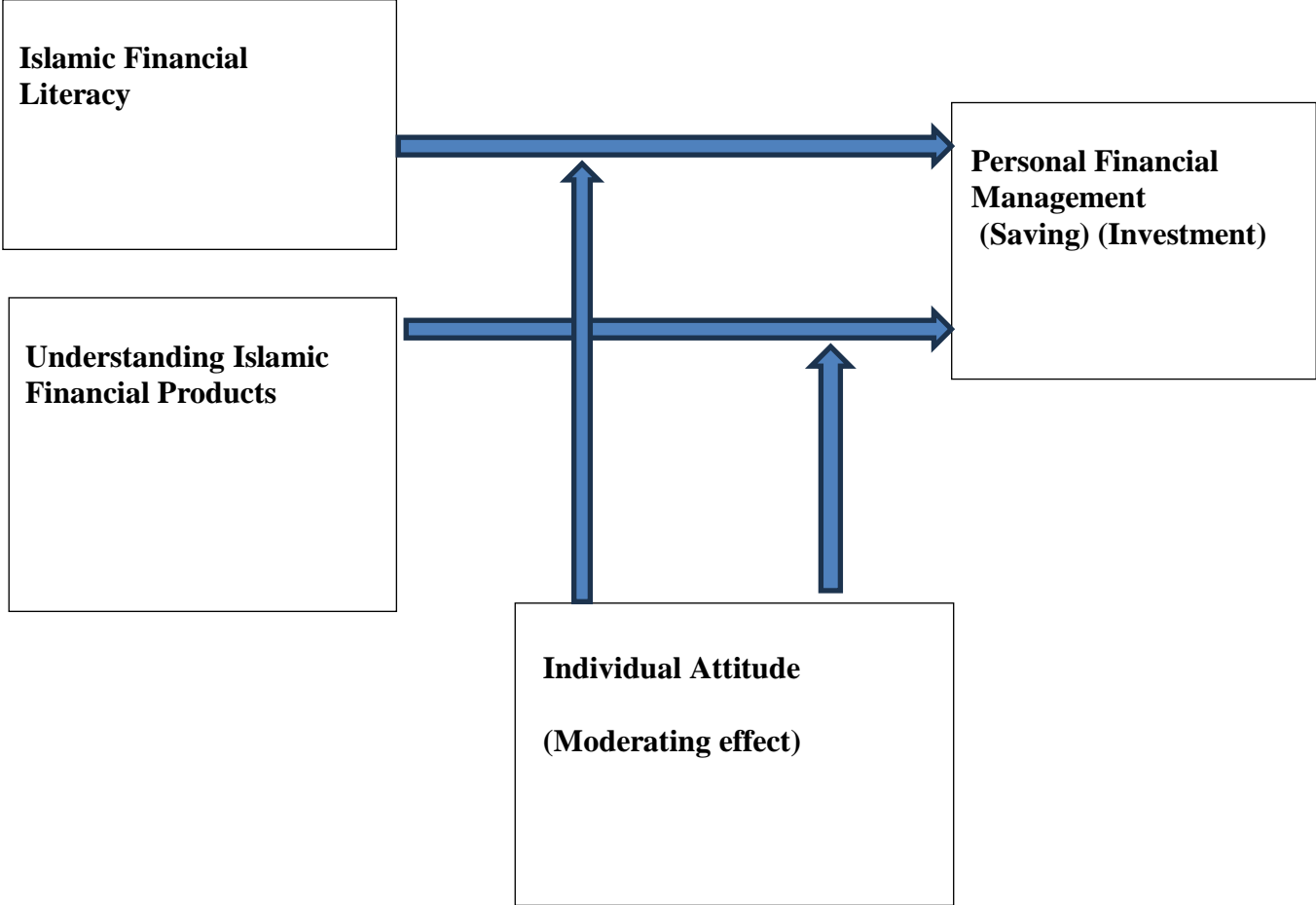


Figure 2.1: Conceptual Framework

2.12 Formation of Hypothesis

Referring to the specific objectives mentioned in previous Section 1.3.2. The following hypotheses are among the public in Sarawak. The theoretical and empirical discussions that derive the development of specific research hypothesis are discussed in detail in Chapter 2. Besides, to support these objectives, the following research questions are outlined for the public population in Sarawak, Malaysia

Hypothesis Summary	
H ₁	To investigate the significant effect of Islamic financial literacy on personal financial management
H ₂	A significant relationship exists between understanding Islamic financial products and personal financial management.
H ₃	The relationship between Islamic financial literacy and personal financial management is positively moderated by attitude.
H ₄	The relationship between understanding Islamic financial products and personal financial management is positively moderated by attitude.

The formation of hypothesis is developed through the research question compared to the previous study.

In hypothesis one the investigation of Islamic financial literacy finding a significant to personal financial management. While the second hypothesis the finding significant relationship between understanding Islamic financial Products and personal financial management. The third hypothesis finding positive the moderating of Individual attitude relationship Islamic financial literacy on personal financial management.

The fourth hypothesis finding the positive moderating effect of the individual attitude and relationship between understanding Islamic financial products and personal financial management.

In summary, this hypothesis proposes that enhancing Islamic financial literacy can lead to improved personal financial management practices in accordance with Islamic principles, thereby contributing to financial stability and ethical financial behavior among individuals following Islamic finance guidelines.

In conclusion, this hypothesis proposes that individual attitudes towards Islamic finance moderate how well understanding of Islamic financial products translates into actual personal financial management practices. It emphasizes the role of attitudes in shaping financial behaviors aligned with Islamic principles, highlighting avenues for further research and practical applications in Islamic finance education and service provision.

The hypothesis suggests that both Islamic financial literacy and individual attitude collectively influence personal financial management practices among individuals practicing Islamic finance. It posits that individuals with higher levels of Islamic financial literacy and more favorable attitudes towards Islamic finance principles are more likely to demonstrate better personal financial management practices.

2.13 Chapter Summary

Muslims require Islamic financial literacy to make sound financial decisions. However, it is not easy for a common Muslim to know all the aspects of Islamic finance. Many vital aspects are emphasized in Islamic finance, such as debt management, balanced spending, saving, Sharia compliant investment, and wealth purification. Muslims are encouraged to acquire knowledge and literacy related to these significant aspects of Islamic finance to improve their financial behavior.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Introduction This section reflects one of the most significant aspects of the research by describing the methodology and the techniques adopted to examine this research further. This chapter aims to illustrate and comprehend the highlighting features and practicality of the existing model to perform and evaluate the next section of this investigation. This chapter discusses the quantitative research approach's philosophy and succeeds by explaining the study's data collection method. Furthermore, this segment mentions the significant criteria for selecting the research design. For instance, sample size, target population, sample techniques, and survey location have been addressed. The previous chapter emphasized the hypothesis; the rational approach adopted a link with the suggested conceptual framework for this study.

As described previously, the chapter aims to explore the study methods and explain the strategies applied in this study. The emphasis is on developing and using a valid and reliable data collection instrument to ensure this study's integrity.

3.2 Research Philosophy

Post-positivism philosophy is increasingly noted as underpinning contemporary empirical research activity (Dzurec, 1993; Ford-Gilboe, 1995). Quantitative researchers are, by and large, guided by positivism, using quantitative tools to get objective findings in their study. Historically, the primary research method was guided by quantitative research design or the positivistic approach. Conversely, post-positivism is a milder form of positivism that follows the same principles but allows more interaction between the researcher and participants

(Taylor & Tibshirani, 2015). While positivism focuses on the objectivity of the research process, positivism also has room for subjectivity. Post-positivism still advocates that there is an objective reality, but it suggests that reality can only be measured imperfectly due to the limitations of the scientific approach.

This study follows a post-positivist paradigm because of the provision of subjectivity and imperfection, which could be witnessed at different stages of research. The researcher did his best to search the available databases and see the available prominent literature. Yet, the researcher could not read all the literature on Islamic finance and personal financial management. On the same note, it was impossible to see all the available scales on constructs under study at the time of questionnaire development. Therefore, the researcher resorted to scales often used in extant literature.

Regarding data collection, the researcher could not reach all the respondents who could represent the population. Hence, the researcher opted to resort to the set of respondents accessible by the researcher. To sum up, post-positivist philosophy best suits the study objectives.

3.2.1 Research Approach

Trochim (2006) distinguished between both inductive and deductive research approaches. Induction shifts from observation to theory, whereas deduction starts with theory and ends with verification or modification. Claims formed on expertise or understanding are better inductive approach articulated, whereas arguments established on standards or generally found concepts are deductive approaches. Hence, the two critical forms of analytical approach commonly applied in science are statistical (deductive) and descriptive (inductive). This study's

approach is deductive as the study's basis is a theory, and collected data helps accept or reject the hypotheses built up during the literature review process in Chapter 2.

3.2.2 Research Design

Research design is a structure for information acquisition and analysis methods (Reich, 1994). The research design for this study is causal and explanatory. Causal research is an examination where researchers investigate how far the independent variables influence the dependent variables and their consequences. The design covers two or more kinds with independent characteristics concerning the reliant parameter (Vogt & Cottrell, 1999). Using statistical analysis, a summary of a vast amount of information is made in a statistical and tabular form through known indicators (Burns & Scapens, 2000). Suppose the causal research design is primarily data-based. In that case, the research seems somewhat of a questionnaire method that can provide unique or common features for the people selected for examination (Paper et al., 2002). It specifies the intensity or the interaction or connection of study variables. It also reduces partiality and significantly increases the information's trustworthiness if they plan for specific information.

Quantitative methodology is chosen explicitly for this study because of its alignment with the methodology characteristics, priorities, and goals of this project, hypothesis validation, and second-order assessment scales. Researchers in performance monitoring publications (Dzurec & Cox, 1993) have previously adopted and suggested a quantifiable research method. Therefore, the empirical analysis methodology suits this report's goals and follows the rules and reviews of the earlier investigations.

3.3 Model specification

$$\text{PFM} = \alpha + \beta_1 (\text{IFL})_i + \beta_2(\text{UIFPA})_i + \beta_2(\text{IA})_i + \beta_3(\text{IA})_i * (\text{IFK}) + \varepsilon \quad \text{Equation 3.1}$$

Where?

α = intercept

β = coefficients

PFM = Personal financial management

UIFP = Understanding Islamic Financial Products

IFL = Islamic financial Literacy IA=Individual attitude

3.3.1 Measure

The conceptual definition of the concepts used in the Islamic financial literacy model are already described in the first chapter while in this section the researcher has the intention of operationalizing the definitions in accordance with the present study. This section describes the internal consistency reliability of each construct's scale used to collect data for this study. Table 3.1 summarizes the measures of the study, that is, constructs names, number of items, and relevant citations.

Table 3.1: Questionnaire Instruments

Constructs	Items	Citation
Islamic financial Literacy	I understand the Concept of Islamic Finance	Albaity & Rahman (2019)
	I know that Islamic finance involves Profit and Loss sharing principle (<i>Musyarakah</i>)	
	Profit maximization is the main goal of Islamic finance.	
	Islamic finance Providing opportunity to earn income as per Islamic values	
	Good source to promote Islamic values	
Understanding finance products	How familiar are you with the following Islamic financing Products & Practices	Zaman et al (2017)
	How Familiar are you with Musharaka (Profit and loss Sharing)	
	How Familiar are you with Murabaha (sale contract)	
	How Familiar are you with Ijara (Leasing)	
	How Familiar are you with How Familiar are you with Mudarabah (Sharing the profit and loss with venture capital)	
	How Familiar are you with Takaful (Insurance)	
	How Familiar are you with Qard Hasanah (interest-free loan)	
Individual Attitude	Before I buy anything, I must carefully consider whether I can afford it	Zaman et al (2017)
	I pay my debts regularly and on time	
	I set long-term goals and strive to achieve it	
	I spend my money now rather than save it for the future	
	I rarely run short of money	
	My friends would think that I should choose Islamic finance	
	I look at my Islamic financial affairs regularly	
	Islamic finance is the standard of living and welfare of community	
	Reason behind using Islamic finance is Religious.	
Personal financial management	I distribute my wealth while I am alive and not leave it for after death	Rahim et al. (2016).
	I am responsible and must have a household budget	
	It is important to have Short-term financial Plan	
	The practices of transparency by Islamic finance are more visible than that of conventional	
	I take advantage of profit sharing to start saving for my retirement	
	I rarely give beggars money when they ask for it	

3.4 Data Collection: Procedure and Sample

The questionnaire is mainly adapted from the recent literature, which is divided into sections: individual attitude, Islamic financial literacy, understating of Islamic financial products and personal financial management.

In addition, a section is allotted to obtain contextual information about the participants. It is related to general background information such as the job title of the participants and their status such as age and gender, marital status, race, educational level, income, and occupation. This general information section related to demography is integrated with the pilot and full-scale study instruments.

The questionnaire comprises a five-point Likert ordinal scale designed to be identified by the respondents by their choice of indicating agreement. The areas are elaborated as the level of agreement with the questionnaire items based on their experience at the workplace (strongly disagree 1, disagree 2, neither disagree nor agree 3, agree 4, and strongly agree 5). (Albaity & Rahman, 2019) The demographic information is designed following a nominal scale. Considering proper understanding and appropriate responses, the questionnaire is delivered in English. At the same time, demographic inquiries featuring gender, educational qualifications, age, race, income, and occupation are presented at the end of the questionnaire. This research employed a quantitative approach to assess the hypotheses and achieve the research objectives.

Due to the constraints imposed by Islamic Financial Literacy, data collection was conducted using a self-administered questionnaire approach and distributed physically among the people of Sarawak Muslims. The questionnaires were administered by the

researchers who either travelled to the respondents' locations or sent the questionnaires via email. The data were collected from November 2021 to July 2022.

The researcher took measures to ensure that respondents' responses would be kept confidential and anonymous. By providing this assurance, it aimed to create an environment in which respondents felt that their responses were private and not linked to their identities.

This approach is crucial because when respondents believe that their responses are kept confidential and anonymous, they are more likely to provide honest and candid answers, rather than feeling pressured to conform to perceived expectations or provide socially desirable responses. This, in turn, enhances the quality and accuracy of the collected data. This led to a sample size of 250 for the Islamic financial Literacy and 300 for Personal financial management.

In total, the researchers distributed 550 questionnaires to potential respondents. However, only 228 surveys were completed, resulting in a response rate of 60.2%. This response rate indicates the proportion of participants who provided usable responses out of the total number of questionnaires distributed. Albaity and Rahman (2019) describe the survey questionnaire as a carefully designed instrument tailored to gather the necessary information to address the research inquiries and fulfil the principal objectives of the study. The data collection for this study involved the use of adapted questionnaire items drawn from prior research, with the aim of assessing the impact of meaningful work on the Islamic financial Literacy and Personal Financial Management, through individual attitude Moderating effect of the independent variable with dependent variable. Items measuring meaningful for to know about the People of Sarawak Muslims have good Islamic financial literacy or not, including aspects such as positive meaning in about personal financial

management, and greater good motivations toward Islamic finance, were adapted from Antara et al. (2016).

To assess Personal Financial Management questionnaire items were adapted from Zaman et al. (2017). For the evaluation of coping strategies, specifically problem- focused coping and emotion-focused coping, items were adapted from Albaity & Rahman (2019).

This careful adaptation of items from established studies ensured that the questionnaire was not only comprehensive but also built upon established measurement approaches in the relevant research areas.

3.4.1 Location , population, and sampling

3.4.1.1 Location

Sarawak is the largest among the states and territories in Borneo Malaysia, apart from the peninsular Malaysia by China Sea. Sarawak is located between latitude 0° 50' and 5°N and longitude 109° 36' and 115° 40' and has a land area of 124,449.5 square kilometers with an estimated population of 2.5 million people (Jenatabadi et al., 2011).

The state of Sarawak is selected as a location of interest for carrying out the understanding of Islamic financial knowledge is still poor and low among Sarawakians, thereby hampering the full growth potential of the industry. Besides, the financial products and services are often misconstrued in the context of Sarawak (Sulaiman et al., 2021).

3.4.1.2 Population

The population of a study can be defined as a specific group to whom the study result is generalized (Mitchell & Jolley, 2010). For this study, the population is university students

in Sarawak. The total Sarawak population is 2907500. The university student population is 39000 (The Borneo Post, 2021).

3.4.1.3 Sampling

Sampling technique for this study: In examining the impact of Islamic financial knowledge and individual attitude on the personal financial management of the public in Sarawak, this study adopts purposive sampling. Due to the absence of a sample frame, non-probability sampling is used for an entire listing of all university students in Sarawak, from which the sample is selected, as suggested by (Albaity & Rahman, 2019). Moreover, as noted by Abdullah and Adebayo, (2015), purposive sampling is very effective for developing anything that is less familiar; besides, this study chooses purposive sampling because it enables to reach the individuals who can provide the most appropriate information to attain the study objective is to be observed and selected based on researcher judgment based on prior information rather than availability. Thus, for this study, in determining purposive sampling, the researcher considers that the sample represents the Kuching Sarawak population. In contrast, the researcher approaches those deemed to have and intend to share the information needed.

Hence, any conclusion drawn referring to the population from merely observing a sample is never adequate; it is difficult to “constitute an adequate, or sufficient, size for a sample” straightforwardly. Again, Hair et al. (2013) explain alternatively, when the maximum number of independent variables in the measurement and structural models three, it needs 230 observations to achieve a statistical power of 80% for detecting R square values of at least 0.1 (with a 1% probability of error).

3.4.2 Data Collection Strategy

The data was collected via Google Forms, which were distributed among students of different universities in Sarawak, Malaysia. Three rounds of emails were shot with two reminders to those who did not fill in the form. Since purposive sampling is used as a sampling technique, care is taken to take on board only those respondents who were required for the research.

3.5 Pilot Study

In the pilot study, a test is conducted on a smaller proportion of participants before the comprehensive study to determine the extent to which the score would differ (Kebede & Kuar, 2015); a pilot study determines the feasibility of the study and is regarded as a feasibility study and a full study follows based on the valuation made during this pilot study (Kumar, 2005). Eventually, a full study follows based on the valuation made during this pilot study (Kumar & Hati, 2021). While Measures that are proven to be reliable in one study might not ensure enough reliability if administered in other studies, the measures are to be modified to prevent the effect of the treatment or assortment of treatments being undervalued or over rated or affected by random errors (Setiawati et al., 2018).

This study includes a pilot study before the main study, as suggested by Rahim et al. (2016), to establish and verify the completeness of research instruments for achieving the usefulness and practicality of the actual study. Moreover, as the pilot study participants suggested, they are considered like the full study and are excluded from full-scale study. Besides, in piloting for this study, as Zaman et al. (2017) suggested, the pilot sample is targeted as 30 observations to be ideal. For this study, 40 questionnaires were distributed at the pilot stage.

3.6 Validity and Reliability

The evaluation of the reliability of an instrument determines the stability of measures, internal consistency of the instrument reasonably, and inter-ratter reliability scores availed by the instrument. At the same time, validity is the level the test finding deserves (Heale & Twycross, 2015). By nature, validity guarantees reliability, whereas reliable measures might not be valid (Moss, 1994). Validity tests are classified into three general groups: content validity, criterion-related validity, and construct validity (Merriam, 1995). The extent of assessment that covers the area of interest is mentioned as content validity.

In contrast, construct validity exists in situations where any evaluation dependably weighs and straightforwardly constructs a unique concept (Zikmund-Fisher et al., 2009). Lastly, construct validity covers the extent of measurement recognizing variation in individual responses to certain events. In other words, reliability discusses the extent of offering repeatability and precision of the research tool administered (Kumar, 2005). Mainly, the reliability of a measure specifies the stability and the internal consistency of the measurement tool (Heale & Twycross, 2015).

3.6.1 Descriptive Analysis Test

The conversion of raw data into a form that will make it easy to understand and interpret, i.e., rearranging, ordering, and manipulating data to provide insightful information about the provided data. Descriptive analysis analyzes Islamic financial knowledge impact on personal financial management and finds its moderating effect on individual attitude and behavior and intention of the respondent in the Sarawak context that helps describe, show, or constructively summarize data points such that patterns might emerge that fulfill every condition of the data.

Data aggregation and data mining are two techniques used in descriptive analysis to churn out historical data. In Data aggregation, data is first collected and then sorted to make the datasets more manageable. Measures like segregation, discrimination, and inequality are studied using specialized descriptive techniques. Discrimination to measured Islamic financial knowledge and personal financial management with the help of financial studies or decomposition methods. More segregation based on type or inequality of outcomes need not be wholly good or bad, but it is too often considered a marker of unjust social processes; accurate measurement of the different steps across space and time is a prerequisite to understanding these processes.

But this also enters the province of measuring impacts, which requires different techniques. Often, random variation causes differences in means, and statistical inference is needed to determine whether observed differences could happen merely due to chance.

3.6.2 PLS-SEM Analysis

Structural equation modeling (SEM) has become an indispensable statistical means in social and behavioral sciences research. It can model nomological networks by expressing theoretical concepts through constructs and connecting them via a structural model to study their relationships (Bollen & Jackman, 1989) Since its inception, Structural equation modeling (SEM) has had two main variants, namely covariance-based SEM (Jöreskog, 1969) and composite-based SEM (Zhang et al., 2021; Tenenhaus et al., 2005) .Composite-based structural equation modeling has gained increasing dissemination in marketing (Hair et al., 2013). More lately, the PLS-SEM application has stretched in marketing research with the acknowledgment that PLS-SEM's distinguishing methodological characteristics make it

a likely alternate co-variance-based SEM (Sarstedt et al., 2011) This study used PLS-SEM for the following two main reasons:

Non-normal distribution of the data set leads to the use of non-parametric testing. The algorithm of PLS-SEM is based on non-parametric testing (Awang et al., 2015). The results of Mardia's test of multivariate normality for this study indicate that the data is non-normally distributed, that is, skewed and kurtotik. Data analysis of a non-normally distributed data set requires non-parametric testing. PLS-SEM is recognized as a non-parametric technique, whereas CB-SEM is recognized as a parametric testing technique. Hence, PLS-SEM is given preference over CB-SEM for data analysis.

Since the hypothesized model in this study involves formative constructs and modeling of formative constructs is only possible in PLS-SEM (Hair et al., 2017), in this study, PLS-SEM is preferred over CB-SEM.

The examination of the measurement model is the first step toward PLS-SEM CB-SEM analysis. (Hair Jr. et al., 2017) suggested that the structural model analysis stage's advancement is only possible after the measurement model results prove plausible.

3.6.2.1 Construct Reliability and Validity (Measurement Model)

Checking constructs' reliability and validity is part of measurement model evaluation. Reliability is checked via composite reliability for all reflective models in the study. However, in PLS-SEM, there are three methods for checking reliability: Cronbach Alpha, Composite Reliability, Most PLS-SEM researchers resort to composite reliability for reporting construct reliability. (Jöreskog, 1969) composite reliability (CR) is the yardstick commonly referred to by PLS-SEM researchers. Higher values of CR represent higher levels of reliability. Values between 0.70 and 0.90 are from satisfactory to good. According to

(Diamantopoulos et al., 2012) values above 0.95 reflect redundancy and affect the construct validity. However, values of CR above 0.95 also show undesirable response patterns and reflect upon inflated correlations among error terms of indicators. Cronbach's alpha is another measure of internal consistency reliability with the same threshold value, but Cronbach's alpha is a less precise measure because of unweighted items. McNeish (2017) in his trend-setting article titled "Thanks Coefficient Alpha, We'll take it from Here," asserted that Cronbach's alpha is with glitches based on impractical assumptions. On the other hand, items are weighted in composite reliability, resulting in higher reliability values.

Building validity is separated into two parts: convergent and discriminant. The average extracted variance (AVE) is the statistic used to assess the converging validity of a structure, and AVE is the average squared load value for each building. The acceptable AVE level is 0.50 or above. Hair et al. (2019) observed that if the AVE is 50%, the building explains a 50% difference in the items.

One of the most fundamental validity assessment concerns establishes discriminant validity, which confirms that each construct is empirically exclusive and addresses a phenomenon not characterized by other constructs in the conceptual model. (Sarstedt et al., 2011) presented a convenient test for discriminant validity: Heterotrait-Monotrait (HTMT) ratio. The HTMT ratio estimates disattenuated (entirely reliable) construct correlations. The HTMT ratio contrasts the indicator correlations between constructs with the correlations within indicators of the same constructs. An HTMT ratio close to 1 indicates the absence of discriminant validity. A maximum threshold HTMT value of 0.90 is appropriate if the constructs are conceptually similar. However, a more stringent threshold of 0.85 seems desirable (Voorhees, 2016).

The researcher employed three procedures to evaluate the second and third-order formative constructs measurement models described by Hair et al. (2019). After evaluating convergent validity by a redundancy analysis, the steps involved are VIF collinearity diagnostics and external weight relevance. The term redundancy analysis is based on the redundant data in the model since this is incorporated in the formative and reflective construction. The strength of the route coefficient linking these two constructs indicates the validity of tapping the construct of interest of the defined formative indicators. Ideally, a magnitude of 0.80, but at least 0.70, is advised to determine convergent validity (Hair Jr. et al., 2017). The reflecting latent variable was specified and included in the data collection to conduct redundancy analysis in the research design phases. The global item summarizes the essence of the structure (Sarstedt et al., 2013). High collinearity levels between formative indicators are essential because they influence weight estimates and statistical significance. In practice, excessive degrees of collinearity often alter the outcomes of analyses in two regards. First, collinearity increases defects. Second, it reduces the ability to show that the weights predicted differ significantly from zero. Variance inflation factor (VIF) is the chosen metric for evaluating the collinearity of the formative indicators.

3.6.2.2 Assessment of Path Co-efficient (Structural Model)

The PLS-SEM algorithm was used to get estimated route coefficients for the structural model relationships. The path coefficient values range from -1 to +1. When the value of a route coefficient is near +1, the association is strongly positive, and the value near -1 reveals a more vital negative link. However, near-zero values indicate weaker associations. Very low values near 0 usually don't deviate significantly from zero. The value of a route coefficient depends on the default, and bootstrapping has contributed to standard

errors. The bootstrapping process helped obtain the structural model's t-values and p-values for path coefficients.

3.6.2.3 Correlation test

Correlation is a statistical measure that expresses the extent to which two variables are linearly related (meaning they change together at a constant rate). It's a common tool for describing simple relationships without stating cause and effect. The sample correlation coefficient, r , quantifies the strength of the relationship. Correlations are also assessed for statistical significance. Correlation cannot examine the presence or effect of other variables outside the two being explored. Importantly, correlation does not tell us about cause and effect.

Correlation also cannot accurately describe curvilinear relationships. It describes correlations with a unit-free measure called the correlation coefficient, which ranges from -1 to +1 and is denoted by r . Statistical significance is indicated with a p-value. Therefore, correlations are typically written with a key number: r . The closer r is to zero, the weaker the linear relationship. Positive r values indicate a positive correlation, where the values of both variables tend to increase together. Negative r values indicate a negative correlation, where the values of one variable tend to increase when the values of the other variable decrease. Once we have obtained a significant correlation, we can also look at its strength. A perfect positive correlation has a value of 1, and a perfect negative correlation has a value of -1. But in the real world, we would never expect to see a perfect correlation unless one variable is a proxy measure for the other. Seeing a perfect correlation number can reflect an error in the data.

3.6.2.4 Moderating Effect

Individual attitude as the moderator variable is the one that affects the relationship between the independent and dependent variables. A quantitative variable that affects the direction and/or strength of a relation between a basic moderator effect can be presented as an interaction between a focal independent variable and a factor (the moderator) that specifies the appropriate conditions for its operation. Moderator variables are typically introduced when there is an unexpectedly weak or inconsistent relation between a predictor and a criterion variable. In moderation analysis, the R square change becomes an important issue as the change needs to be monitored from the main effect model.

In contrast, a moderator acts upon the relationship between two variables and changes its direction or strength. For example, mental health status may moderate the relationship between sleep quality and academic achievement: the relationship might be stronger for people without diagnosed mental health conditions than those with them.

3.7 Pilot Study

1. For the pilot study, data from 49 respondents were contacted via email from Sarawak, Malaysia, to make it a representative sample.
2. Statistical inference for the pilot study focused on the reliability and validity analysis of reflective and formative constructs in the conceptual model. Structural model analysis with a sample of 42 respondents is not feasible because of high standard errors and less stable results.
3. The results of the measurement model resulted in the following:
 - I. Twelve indicators were deleted from different constructs to achieve AVE>

0.5

- II. The composite reliability of all the constructs crossed the threshold value of 0.7 (Hair et al., 2018), establishing all first-order constructs' reliability.
- III. The use of the HTMT ratio is for establishing discriminant validity. Almost all constructs were found well discriminated from others except a few, which were higher than the maximum threshold of 0.85.
- IV. The convergent validity via Average Variance extracted is for all first-order reflective constructs as all AVE values were higher than the threshold of 0.5 (Hair et al., 2017).

3.8 Summary

This section presented the entire study procedures conducted with the perspective of this topic. The segment addressed strategies such as research ideology, study frameworks, and quantifiable or subjective techniques in greater depth. After that, a further, thorough, and adequate exploration of studies and survey layout exists. Information processing techniques and information analysis tools employed are both mentioned in this portion. The positivism paradigm best suits and corresponds to this research. The quantifiable process technique is preferred for a questionnaire related to the study goals suggested throughout this study. The sample design used for this thesis was non-probability sampling. Also, the sampling technique applied to the data collection process was purposive and snowball sampling. There needs to be a minimum of 228 respondents from Sarawak, Malaysia.

Moreover, the respondents have no sampling frame, as the authors do not have a target population profile. The sample unit discussed the criteria that make the people qualified for the survey. The minimum age of respondents should be 21, with three years of experience or more in the construction industry. The statistical techniques employed here are the partial least square, structural equation modeling (PLS-SEM) software, and SPSS for analyzing the information for the conclusion.

CHAPTER 4

RESULTS AND DISSCUSION

4.1 Introduction

This chapter is principally divided into two segments. The first segment consists of data analysis, and the second relates to the discussion part. There are four stages in the data analysis: response rate, data screening, demographic variables tables, measurement model, and structural model.

4.2 Response Rate

There is hardly any consensus among researchers regarding acceptable response rate. Baruch and Holtom, (2008) claimed that the response rate is between 50% and 80%. According to She et al. (2023) and Clark (2010), a response rate below 60% reduces the generalizability of results. For this study, 500 questionnaires were sent among people of Sarawak, Malaysia. With a response rate of almost 74.4%, 372 responses were achieved. Out of 372 cases, 290 were valid. Eighty-two cases were deleted from the data set, and they could not qualify as suitable candidates for the survey. Sixty-two cases were deleted due to straight-lining or inconsistent responses on the same construct. Finally, the process ended in a data set of 228 valid cases for data analysis.

4.3 Data Screening

In survey research, errors occur despite cautious study design, conduct, and execution of error-prevention tactics. Data screening aims to spot errors or curtail the impact of errors on the results (Van Rooij et al., 2009). Data screening steps are checking for descriptive statistics, multivariate normality, missing values, and common method variance.

4.3.1 Descriptive Statistic

In Table 4.1 reports the results of descriptive statistics. There is total 228 observations from the survey. This research follows and modifies Lusardi and Mitchell (2008) and Albaity (2019) in determining Islamic financial literacy and illiteracy level among respondents.

Table 4.1: Descriptive Statistics

	Minimum Statistic	Maximum Statistic	Mean Statistic	Standard Deviation Statistic
Islamic Financial knowledge	1	5	3.750	0.6454
Understanding of Islamic financial products	1	5	2.938	0.9876
Individual attitude	1	5	3.670	0.4908
Personal financial management	1	5	3.663	0.5490
Islamic financial knowledge Understanding of Islamic financial products Mean	1.4	4.9	3.344	0.6974

If the respondent scores higher than 60%, it indicates the respondent is financially literate. This is to avoid variance issue and dummy trap (Jones et al., 2015). The score of financial literates is given 1, otherwise the score for financial illiterate is 2. For Islamic financial knowledge, the minimum value is 1.00 and the maximum value is 5.00. The mean value is 3.75 and it reports that Islamic financial knowledge among Sarawak above moderate. For Understanding Islamic financial products, the minimum value is 1.00 and maximum value is 5.00, the mean value is 2.938 and it means only some of the respondents possess understand Islamic financial products. On the other hand, individual attitude minimum values are 1.00 and maximum values are 5.00 and the mean values are all above 3.670, and this indicated that some of the respondents also possess. While personal financial

management mean value 3.663 some of the respondents possess to the financial management.

4.3.2 Multivariate Normality

The researcher used Mardia’s test (Mardia, 1970) to check the data’s multivariate normality in this study. Mardia’s multivariate skewness and kurtosis are based on the third and fourth moments (Kankainen, 2003) The web application, URL <http://psychstat.org/kurtosis>, helped the researcher to calculate multivariate normality. Table 4.2 shows the results of multivariate skewness and kurtosis through Mardia’s test. The total sample size was 228 and skewness B value 1125.115 Z value 42754.36516 and the P value is 0, which show a positive multivariate of the respondents. While kurtosis B value 3492.170 Z value 22.87216 and p value is 0. Kurtosis of the respondents also have positive values.

Table 4.2: Multivariate Normality via Mardia’s Test (Output of Skewness and Kurtosis)

Sample Size:228			
Mardia`s multivariate skeweness and kurtosis			
	B	Z	p-value
Skewness	1125.115	42754.36516	0
Kurtosis	3492.170	22.87216	0

Note: The data set is non-normal, as the p-values are close to zero.

The violation of the normality assumption in the data set enabled the researcher to use the bootstrapping procedure to generate 10,000 subsamples as part of the re-sampling

procedure. The bootstrapping process undertakes that the sample distribution is a rational demonstration of the intended population distribution. The bootstrapped samples facilitate the significance testing of the assessed beta coefficients in PLS-SEM (Henseler et al., 2009). The bootstrapping procedure creates a large, pre-specified number of bootstrapped samples by indiscriminately drawing cases with replacements from the original sample.

4.3.3 Missing Values

First all the responses are collected online via Google Forms to avoid missing values. Due to slow response rate the questionnaire was distributed physically to get immediate responses. The survey was designed so that no respondent could proceed to the next section unless they completed the previous section. Such a procedure ensured the non-existence of missing values in the data set.

4.3.4 Collinearity Assessment

Collinearity refers to the high correlations among latent constructs of a model (Hair, Hult, Ringle & Sarstedt, 2014). It is extremely important to examine the issues of collinearity before moving towards the assessment of path coefficients and predictive capabilities of the model. The reason for this is explained by Hair et al. (2014) that “the estimation of path coefficients in the structural models is based on PLS regressions of each independent variable and dependent variable on its corresponding predecessor constructs. Just as in a regular multiple regression, the path coefficients might be biased if the estimation involves significant levels of collinearity among the predictor constructs”

The procedure for collinearity assessment is same for both formative and reflective measurement models. Variance inflation factor (VIF) is a measure used to assess collinearity issues. VIF is defined as “the reciprocal of tolerance (amount of variance of one indicator

not explained by the other indicators in the same block)” (Hair et al., 2014). In PLS-SEM if the tolerance value is 0.20 or below, then it indicates a problem of potential collinearity (Hair, Ringle, & Sarstedt, 2011). Since VIF is equal to tolerance reciprocal ($VIF = 1/TOL$), it can be inferred that tolerance value of 0.20 is equal to a VIF value of 5 (i.e. $1/0.20 = 5$). Therefore, a VIF value of 5 and above indicates an issue of collinearity (Hair, Ringle, & Sarstedt, 2011). It is suggested that if the collinearity is above the critical threshold level (i.e. > 5) then the related indicator should be removed. Table 4.3 shows the VIF values of all the constructs’ indicators used in this study.

Table 4.3: Full collinearity Diagnostic Test

	RANDOM
Individual Attitude	1.023
Islamic Financial Literacy	1.131
Personal Financial Management	1.051
Understanding Islamic Financial Products	1.117

All the VIF values displayed in Table 4.3 show the lowest VIF value belongs to the rumor’s indicator i.e. Islamic financial literacy and personal financial management has the highest VIF value. By looking at the values of VIF we can safely say that there is no issue of collinearity in the present study as all the indicators’ VIF values are below 5.

4.4 Demographics Analysis

The next stage in this chapter relates to the data description via the overall demographic profile of respondents and the cross-tabulation of demographic variables. Such

tabulation reflects the data collection according to the sampling plan and the demographic dynamics. Moreover, this cross-tabulation may help reviewers of this thesis gauge the data's genuineness. Table 4.4 shows the demographic profile of the respondents in the data set (N=228).

Respondents' profiles are analyzed from demographic aspects such as gender, age, education level, income level and occupation. The results are based on total 228 sets of questionnaires that are completed and returned. (Evans & Mathur, 2018) State that there is no best survey type in research, meaning online method is not prevailed over offline method. Furthermore, those research papers state that online and offline method do not complement with each other. The offline method has 50.83% returning rate (350 was sent).

There are 55.5 percent of total respondents are male and 44.1 percent are female. There are 38.4 percent of total respondents are 20-29, 24.0 percent in the age of 30 to 39, 20.1 percent in the age of 40-49, 16.6 percent, in the age of 50-59, 0.4 percent are those respondents who's aged above 60-year-old. For the education level, there are 8.7 percent who in secondary, 27.1 percent possess higher secondary, respondents that possess undergraduate are 41% and those with postgraduate are 19.2%, others diploma holders are 3.5%.

For income level, 35.4 percent of the respondents declare their monthly earning less than RM1, 500. 34.5 percent of respondents are earning between RM2, 500 to RM5, 000 monthly. Next, 14.4 percent of the respondents are earning between RM5, 000 to RM75 000 monthly. Besides that, 7.9 percent of the respondents are earning RM7500 to RM10000 and 7.4% are respondents earning above RM 10000.

Table 4.4: Respondents' Demographic Profile

Terms	N	Percentage
Gender:		
Male	127	55.7%
Female	101	44.3%
Marital Status:		
Single	124	54.4%
Married	104	45.6%
Age:		
20-29	148	64.91%
30-39	52	23.7%
40-49	20	8.77%
50-59	06	2.63%
Above 60 age	02	0.88%
Race:		
Malay	93	40.7%
Bumiputra	53	23.2%
Chinese	69	30.26%
Indian	07	3.0%
Others	06	2.6%
Education level:		
Undergraduate	128	56.14%
Postgraduate	48	21.05%
Others	52	22.8%
Gross Monthly:		
Below RM1,500	81	35.5%
RM2,500-5,000	79	34.6%
RM5,000-RM7,500	33	14.47%
RM7,500-RM10,000	18	7.9%
Above RM10,000	17	7.4%

4.5 Correlations

In this study, personal financial management is the dependent variable. The correlation coefficient of the variable in Table 4.5 indicates a positive relationship between personal financial management with Islamic financial literacy, understanding basic Islamic financial products, and individual attitude variables.

According to Spearman (1906), if the correlation coefficient's value is less than 0.35, it is considered a weak correlation. However, if the values fall between 0.36 and 0.67, it is deliberated as a moderate correlation. Furthermore, strong, and high correlations are those values between 0.68 and 1. Thus, the results from Table 4.5 reported that Islamic financial literacy strongly correlates with personal financial management as the values of Islamic Financial literacy mean fall to 1.00.

Table 4.5: Correlation Analysis

	Islamic Financial Literacy	Understanding Islamic financial products	Individual attitude	Personal Financial management
Islamic financial Literacy	1	.434**	.315**	.258**
Understanding Islamic financial products	.434**	1	.124	.179**
Individual attitude	.315**	.124	1	.484**
Personal financial management	.258**	.179**	.484**	1

Besides, although Understanding Islamic Financial Product's value falls at 0.434, a positive correlation, the value for individual attitude as a moderate variable value of 0.315 shows a positive correlation. Apart from Personal Financial Management, the mean value

is 0.258. Although the path coefficients of the variables will be assessed in the later section through SmartPLS but for the basic analysis the following section presents the correlation among the variables in Table 4.5 by using SPSS. The correlation coefficients presented here depict that there is a significant correlation among variables as hypothesized.

4.6.1 Evaluation of Reflective Measurement Model

The systematic evaluation of reflective measurement model involves internal consistency, indicators reliability, convergent validity and discriminant validity

4 Measurement Model for First-order Reflective Constructs

The specified model in PLS is shown in Figure 4.1. As evident from the figure, the constructs are reflective; constructs are the cause, and indicators are the effect. The direction of arrows manifests the reflective measurement of constructs, from constructs to indicators.

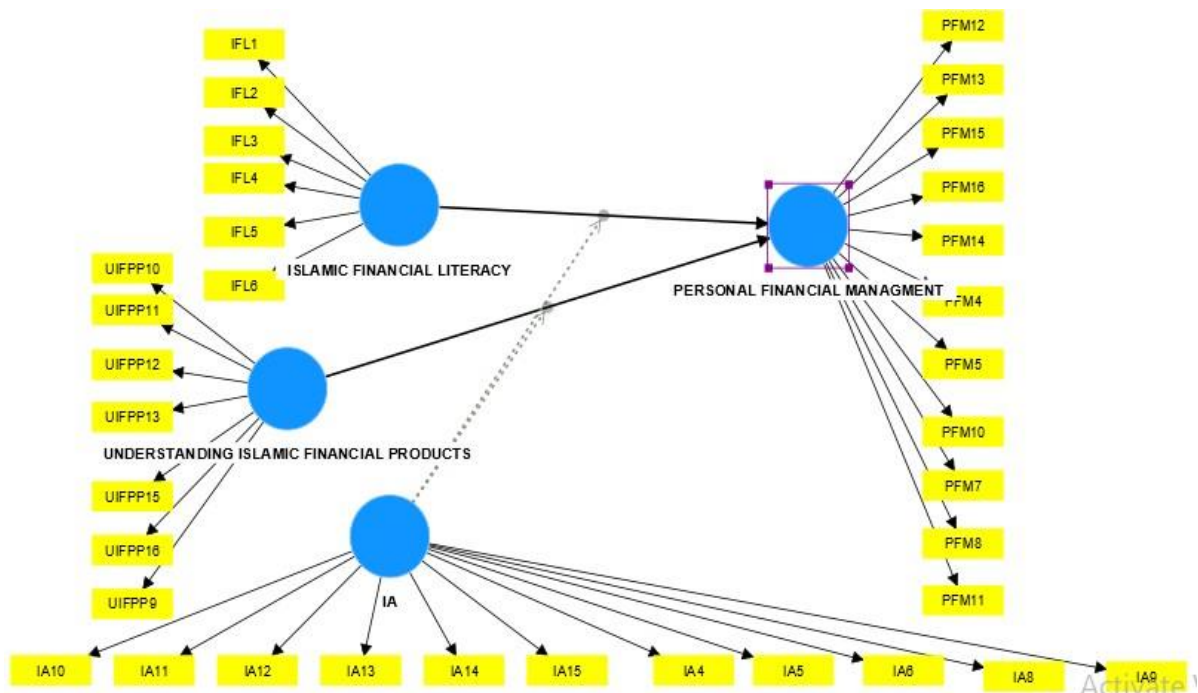


Figure 4.1: Specified Model in PLS-SEM

(Hair et al., 2014). To assess the internal consistency of the constructs, composite reliability is examined and in order to evaluate the convergent validity, average variance extracted (AVE) is examined. And finally, for discriminant validity assessment the Fornell-Larcker criterion (F- L criterion), cross loadings, and Heterotrait-Monotrait (HTMT) ratio are examined. To evaluate the reflective measurement models, each criterion is addressed in following sections.

Table 4.6: Outer Loadings, Composite Reliability, and Average Variance Extracted

Items	Outer loadings	CR	AVE
Individual Attitude10 <- Individual Attitude	0.744	0.91	0.526
IA11 <- IA	0.684		
IA12 <- IA	0.812		
IA13 <- IA	0.87		
IA14 <- IA	0.834		
IA15 <- IA	0.687		
IA5 <- IA	0.72		
IA6 <- IA	0.614		
IA8 <- IA	0.551		
IA9 <- IA	0.676		
Islamic Financial Literacy 1 <- Islamic Financial literacy L	0.818	0.878	0.55
IFL2 <- IFL	0.913		
IFL3 <- IFL	0.686		
IFL4 <- IFL	0.659		
IFL5 <- IFL	0.679		
IFL6 <- IFL	0.658		
Personal Financial Management 10 <- Personal Financial Management	0.789	0.913	0.515
PFM11 <- PFM	0.625		
PFM12 <- PFM	0.79		

PFM13 <- PFM	0.719		
PFM14 <- PFM	0.664		
PFM15 <- PFM	0.719		
PFM16 <- PFM	0.773		
PFM4 <- PFM	0.613		
PFM7 <- PFM	0.781		
PFM8 <- PFM	0.673		
Understanding Islamic Financial Products 10 <- Understanding Islamic Financial Products	0.873	0.908	0.589
UIFP11 <- UIFP	0.88		
UIFP12 <- UIFP	0.794		
UIFP13 <- UIFP	0.582		
UIFP15 <- UIFP	0.677		
UIFP16 <- UIFP	0.736		
UIFP9 <- UIFP	0.785		

One of the most fundamental validity assessment concerns establishes discriminant validity, which confirms that each construct is empirically exclusive and addresses a phenomenon not characterized by other constructs in the conceptual model. (Sarstedt et al., 2011) presented a convenient test for discriminant validity: Heterotrait-Monotrait (HTMT) ratio. The HTMT ratio estimates disattenuated (entirely reliable) construct correlations. The HTMT ratio contrasts the indicator correlations between constructs with the correlations within indicators of the same constructs. An HTMT ratio close to 1 indicates the absence of discriminant validity. A maximum threshold HTMT value of 0.90 is appropriate if the constructs are conceptually similar. However, a more stringent threshold of 0.85 seems desirable (Voorhees, 2016). Table 4.6 shows the discriminant validity of all the first-order reflective constructs in the model. The researcher opted for the more rigorous approach of following the criteria of HTMT 0.85 for establishing discriminant validity among constructs.

All the HTMT values are below the threshold of HTMT0.85. Hence, discriminant validity has been established.

4.6.1.1 Discriminant Validity

The outer loadings, composite reliability, and AVE values in Table 4.7 meet the required threshold values, explained by (Huit et al., 2018) and discussed in Chapter 3. Discriminant validity is defined as “the extent to which a construct is truly distinct from other constructs by empirical standards” (Hair et al., 2014, p. 104). Thus, the establishment of discriminant validity is an indication of uniqueness of a construct i.e. the occurrence of a construct is not characterized by any other construct present in the model. This study used three measures to determine the discriminant validity i.e. Fornell-Larcker criterion (F-L criterion), cross loadings (Hair et al., 2014) and the Heterotrait-Monotrait (HTMT) ratio (Henseler et al., 2015). The following section explains all three measures in order to establish discriminant validity.

Table 4.7: Discriminant Validity (HTMT Ratios)

	IA	IFL	PFM
Islamic Financial Literacy	0.309		
Personal Financial Management	0.742	0.307	
Understanding Islamic Financial Products	0.304	0.517	0.405

4.6.1.2 Internal Consistency Reliability

Internal consistency reliability is the first measure in evaluating the reflective measurement model (Hair et al., 2014). The traditional approach to measure internal consistency is known as Cronbach’s alpha. Reliability estimation through Cronbach’s alpha

is based on the indicator's inter-correlations of the observed variables. Cronbach's alpha considers the reliability of all the indicators as equal i.e. having similar outer loadings. On the contrary PLS-SEM gives priority to the indicators based on their individual reliability (Hair et al., 2014, p. 101). Cronbach's alpha also takes into consideration the number of indicators or items present in a scale and therefore misjudge the internal consistency reliability. That is why Hair et al. (2014) have suggested to use Cronbach's alpha as a conventional approach to measure internal consistency. Due to these limitations of Cronbach's alpha, a more appropriate approach is to use composite reliability. Composite reliability takes into consideration all the indicators' outer loadings. Cronbach's alpha and composite reliability have a same procedure of assessing the reliability as composite reliability also have values between 0 and 1.

According to Hair et al. (2014), values of composite reliability between 0.60 and 0.70 are considered as acceptable while doing exploratory research. The values that come in the bracket of 0.70 and 0.90 are considered as satisfactory (Nunnally & Bernstein, 1994). Values of composite reliability that exceeds the limit of 0.95 are considered as undesirable because a value this high indicates that all the items of a construct are measuring the same thing which therefore is not a valid measure. Finally, the values of composite reliability that are below 0.60 show the absence of internal consistency reliability. This study has used both, Cronbach's alpha and composite reliability in order to assess the internal consistency reliability.

It is evident from Table 4.8 that all the values of Cronbach's alpha and composite reliability are above the critical level. The lowest value of Cronbach's alpha belongs to brand (0.849) while ideological incompatibility has the highest Cronbach's alpha value (0.879).

Among the values of composite reliability, Islamic financial literacy has the lowest while ideological incompatibility has the highest value i.e. 0.820 and 0.850 respectively. These values indicate that all the reflective indicators of the constructs have strong internal consistency reliability.

Table 4.8: Internal consistency reliability

	Cronbach's alpha	Composite reliability
IA	0.849	0.879
IFL	0.820	0.850
PFM	0.854	0.877
UIFPP	0.899	0.917

4.7 Structural Model Assessment

This thesis followed the suggestions given by (Hair et al., 2019) for the standard assessment of the structural model. Steps for structural model assessment included collinearity diagnostics (Inner VIF values), the coefficient of determination (R^2), statistical significance and size of path coefficients, and effect size (f^2).

4.7.1 Coefficient of Determination (R^2)

Maximizing the value of the explained variance of the endogenous variable is the goal of PLS-SEM analysis. Since R^2 is an in-sample prediction, PLSEM analyses focus on metrics that indicate a model's predictive ability. The coefficient of determination, R^2 , signifies the independent latent constructs' combined effect on the dependent latent construct. The R^2 typically represents the independent constructs and illustrates how much

of the explained variance of the dependent construct. (Hair et al., 2019) and Sarstedt et al. (2014) pointed out that R^2 measures the model's in-sample predictive power because R^2 is the squared correlation of actual and predicted values. It includes all the data for model estimation. The range of values for R^2 is from 0 to 1. Values closer to 1 indicate a higher predictive power of the model. It is challenging to decide upon the threshold values of R^2 as the value depends upon the field of research and model complexity. However, in marketing research, Hair et al. (2011) suggested that values of 0.75, 0.5, and 0.25 are substantial, moderate, and weak, respectively. However, (Moksony, 1990) asserted that if researchers assume that R^2 guarantees the quality of work, it is incorrect. Researchers' efforts to increase the value of R^2 for finding out perfect models are not sensible.

Table 4.9: Coefficient of Determination R^2

	R Square	R Square Adjusted
Personal Financial Management	0.492	0.480

Moreover, it is understandable that perfect models do not exist because it reflects reality. Hence, it is more appropriate to criticize models based on some competing theory than to criticize them on the value of R^2 . Theoretical reasoning is a better parameter for model criticism than the coefficient of determination. Table 4.9 show the value of R^2 for the endogenous construct of personal financial management is 0.492, and the adjusted R^2 is 0.480, considered moderate. The adjusted coefficient of determination (R^2 adj.) can be utilized as the benchmark to avoid bias toward composite models and is always lower than the R-squared.

4.7.2 Effect Size (f^2)

Sullivan and Feinn (2012) observed that most marketing research studies rely solely on reporting p-values supporting the hypothesis. P-value can inform us about the statistical significance but does not signify its effect size. Hence, reporting for p-value and effect size (f^2) is essential for interpreting studies. f^2 explains the change in the value of R^2 with the omission of an exogenous construct from the model. According to Cohen (1988), a value of 0.02 for f^2 is small, while values 0.15 and 0.35 depict medium and large effect sizes, respectively. The relatively larger sample size is prone to showing a significant p-value. Thus, relying only on the reported p-values for analysis may halt research understanding (Sullivan & Feinn, 2012).

Table 4.10: Effect Size (f^2)

	PERSONAL FINANCIAL MANAGEMENT
IA	0.543
ISLAMIC FINANCIAL LITERACY	0.001
UNDERSTANDING ISLAMIC FINANCIAL PRODUCTS	0.143

4.7.3 Assessment of the Significance of Structural Model Path Coefficient

A path coefficient is statistically significant if the calculated t-value is higher than the critical value; that is, the path coefficient is statistically significant at a specified significance level. Researchers generally set a significance level of 5%; therefore, the critical

value is 1.96 for a 5% significance level for a two-tailed test. The critical value is 1.65 for a one-tailed test at the same significance level.

4.7.4 Direct and Moderating Effects

In this study, the model type is first-order reflective. Table 4.11 analyses the statistical significance of path coefficients via a bootstrapping procedure for direct effects in the model. Here according to the standard value mean the effect theoretically is exist mean that if the P value is less and T value is higher than the standardize value means the people of Sarawak Islamic financial literacy (IFL) to personal financial management, shows positive effect.

Table 4.11: Statistical significance of Path Model Coefficients

	Beta	Standard Error	T statistics	P values	Decision
H1: IFL -> PFM	0.146	0.066	2.192	0.014	Supported
H2:UIFP -> PFM	0.196	0.064	3.069	0.001	Supported
H3:IA x IFL -> PFM	0.125	0.063	1.866	0.031	Supported
H4:IA x UIFP -> PFM	0.186	0.062	2.743	0.003	Supported

On the other side if the value is greater than the standard P value and T value is less than standard value that means the people of Sarawak have negative effect of Islamic financial literacy (IFL) to personal financial management (PFM). the support for hypothesis is evident as t-values are higher than 1.65 (one-tail testing), and p-values are less than 0.05. Analysis of t-statistic value 2.192 and P values 0.014 reveal that the statistical significance

of H₁ is supported. H₁ exhibits the direct effect of Islamic financial Literacy (IFL) on personal financial management. However, the T Value 3.069 and P value 0.001 of the H₂ is supported, mean that which signifies the impact of understanding Islamic financial products (UIFP) on personal financial management (PFM).

As discussed, the research model included evaluation of the moderating effect of individual attitude IA on the associations between Islamic financial literacy and personal financial management and between understanding of Islamic financial products and practices and Personal financial management using the approach suggested by Cohen (1983) and expanded by (Hair et al., 2019). Adopting Cohen's recommendations (1983), the different measures of the independent variable (i.e., IFL) and the moderating variable (i.e., IA) were mean- centered to overcome the potential for multicollinearity (Arifin & Soleha, 2019; Cohen et al., 2017) to impact the evaluation's outcomes (Antara et al., 2016a). After mean-centering, the interaction (product term) was generated by multiplying each PFM factor.

The Individual attitude IA value before conducting the moderation test in SmartPLS to confirm or reject H₃ and H₄. Table 4.9 shows the results of the moderation test, which indicate that individual attitude significantly moderates the association between Islamic financial literacy and personal financial management (IA x IFL -> PFM: $\beta = 0.125$, t value = 1.866). Albaity and Rahman (2019) stated which has supporting H₃. The interaction between individual attitude IA and Islamic financial literacy IFL similarly substantially moderates the association between Personal financial management and understanding Islamic financial products (IA x UIFP -> PFM: $\beta = 0.186$, t value = 2.743), (Zaman et al., 2017) providing statistical evidence in support of H₄.

Additionally, following the methodological suggestion of Cohen et al. (2017) the effect of differential IA on the interaction between Islamic financial literacy IFL and personal financial management PFM and individual attitude IA on interaction between UIFPP and PFM activities were estimated and plotted. It demonstrates that the relationship between Islamic financial literacy and personal financial management is much stronger for high Individual attitude. similarly demonstrates the moderating effect of high and low levels of individual attitude on the association between understanding Islamic financial products and practices and personal financial management.

The moderating (interaction) effect of individual attitude (IA) in the relationship between Islamic financial Literacy (IFL) and personal financial management, is also supported according to the data. The fourth hypothesis T value 2.743 and P value 0.003 in H4, shows the positive moderating effect of individual attitude (IA) on the relationship between understanding Islamic financial products (UIFP) and personal financial management (PFM) for this reason H4 is also supported.

4.8 Importance-Performance Map Analysis

Fornell et al. (1996) explained that an importance-performance map contrasts the total effects, representing the exogenous constructs' importance in forming a specific endogenous target construct, with their average latent variable scores representing the performance of exogenous variables. Slack (1994) asserted that the basis of IPMA analysis is the total effects of exogenous constructs. IPMA aims to detect those exogenous variables with comparatively high importance in forming an endogenous construct, exogenous constructs with a robust total effect but with a low score on the performance axis and small average latent variable scores. The IPMA combines these two aspects graphically by

contrasting the (unstandardized) total effects on the x-axis with the latent variable scores, rescaled from 0 to 100 on the y-axis. To interpret the results, researchers focus on constructs in the lower right area of the importance-performance map; that is, constructs have high importance for the target construct but show a lower performance. Table 4.8 and Figure 4.2 reflect the results of IPMA analysis with brand loyalty as the target construct. The two crucial antecedent variables for knowledge worker productivity are employee performance monitoring and financial management.

Table 4.12: IPMA Matrix

Constructs	Importance	Performance
IA -> PERSONAL FINANCIAL MANAG EMENT	0.605	60.046
ISLAMIC FINANCIAL LITERACY -> PERSONAL FINANCIAL MANAGEMENT	0.028	65.034
UNDERSTANDING ISLAMIC FINANCIAL PRODUCTS -> PERSONAL FINANCIAL MANAGEMENT	0.183	63.407

The results of Table 4.12 are supplemented by Figure 4.2, which shows that the construct of individual attitude has the highest total effect (importance) but the lowest performance. Hence, it is imperative that if financial institutions could improve the individual attitude of Islamic financial product customers, it may result in better results.

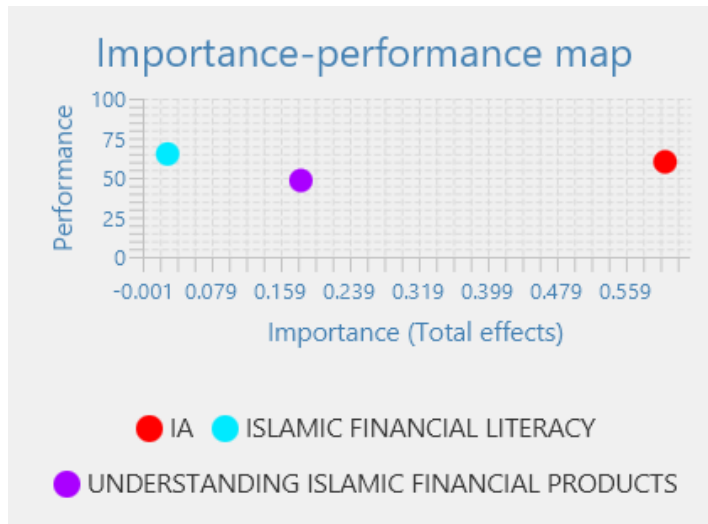


Figure 4.2: Note: Personal Financial Management is the target construct

4.9 Discussion

The study's results supported the hypothesis that Islamic financial literacy positively affects personal financial management. Such a result aligns with the investigations of (Sayyida et al., 2021). However, the study of (Sayyida et al., 2021) used covariance-based SEM for data analysis in the context of Indonesia and the Independent variable of Islamic financial Literacy. The study of (Baihaqqy et al., 2020) was conducted in the Indonesian context and used first-generation statistical software SPSS with the dependent variable of investment decisions. However, this study is unique as it has used non-parametric, second-generation PLS-SEM for data analysis in the Malaysian context, and the dependent variable is personal financial management.

Another distinct feature of this study is the introduction of an individual attitude as a moderator. Studies (Lajuni et al., 2020) did use attitude as an moderate variable. (Abdurahim et al., 2016; Rahim et al., 2016; Rijal & Yasin, 2017; Rozikin & Sholekhah, 2020) have argued that Islamic financial literacy helps develop a positive financial management.

However, the extant literature is scant on using individual attitude as a moderator in the relationship between Islamic financial literacy and personal financial management and between understanding Islamic financial products and personal financial management.

This study has introduced the independent variable of understanding Islamic financial products, which draws a corollary from the study of Biancone and Radwan (2016) and Hair et al. (2019) which checked the effect of Islamic financial literacy for Muslims to promote awareness of Islamic financial guidance. Another study by Abdurahim et al. (2016) that explained the effect of financial knowledge on investment planning is similar to the current study. The major difference between Amilahaq et al. (2022) and this study is the descriptive literature review versus quantitative research designs. Studies (Abdullah et al., 2022a) introduce the moderators of marketing communication and financial consideration in the relationship between customer attitude and purchase intention of Islamic banking products.

However, the existing literature is scant to the introduction of understanding of Islamic financial products as an independent variable. In short, those who aspire to achieve their financial goals must increase their financial knowledge (literacy) and understanding of Islamic financial products (Akhmad et al., 2018; Lajuni et al., 2020). These results imply that in the case of Sarawak, people with a good understanding of Islamic finance are better at planning their financial management.

There has been few research on Islamic financial literacy that investigated the relationship between Islamic financial literacy and personal financial management. Previous research (Albaity & Rahman, 2019; Setyowati et al., 2018; Zaman et al., 2017) has been carried out in countries other than Sarawak to explore the Islamic financial literacy in

Sarawak, as well as individual attitude as moderate toward intension of the Sarawak Muslim people toward Islamic finance. This research explored the influence of the Islamic financial literacy of the Sarawak Muslims to see their personal financial management through Islamic perspective, and the novelty of the study is to identify the moderating effect of individual attitude between Islamic financial literacy and personal financial management. According to the findings of the study, Islamic financial literacy effectively enhanced personal financial management (Hair Jr. et al., 2017) Furthermore, the findings suggest that individual attitude moderate the relationship between understating Islamic financial products and practices UIFPP and personal financial management. Therefore, the findings of the study were compatible with the research hypothesis and able to answer the research questions.

The first research question was: “Does Islamic financial literacy affect personal financial management”?

Research question 1 was related to the test path of Islamic financial literacy. Hypothesis H1 was found to predict Islamic financial literacy with personal financial management. Which is supported by (Beta: 0.146, T value: 2.192 significant p value 0.014) which is low as compared to the standard value p value < 0.05 . which is supported the hypothesis 1,

Research question 2 while the second hypothesis understating Islamic financial products and practices the (Beta: 0.196, T value: 3.069 significant p value: 0.001) is significant which show the positive relation between the Understanding Islamic financial products and practices and personal financial management (Zaman et al., 2017).

The research question was “Does financial attitude moderate the relationship between Islamic financial literacy and personal financial management and between understanding Islamic financial products and personal financial management”?

The Moderating effect of the individual attitude IA (Beta: 0.125 T value: 1.866 significant P value: 0.031) with Islamic financial literacy and Personal financial management having a positive relation, other hand the moderating effect of the individual attitude IA (Beta: 0.186, T value: 2.743 significant p value: 0.003) having a good effect of understanding of Islamic financial products and practices with personal financial management which a positive relation, hence hypothesis four is also supported.

CHAPTER 5

CONCLUSION

5.1 Summary of Findings of the Study

The model reveals that some Islamic financial Literacy characteristics are significantly related to personal financial management. For example, Islamic financial literacy is positively related to Islamic financial knowledge. Antara et al. (2016a) point out that Islamic financial Literacy is essential in assessing one's financial preparedness, retirement, and personal financial management.

Furthermore, understanding Islamic financial products positively affects personal financial management. This is supported by numerous studies (Abdul Razak et al., 2015)

in this study, proving that understanding Islamic financial products impacts Islamic financial management. In addition, the studies done by Lusardi et al. (2014) demonstrate that individual attitude level is considerably associated with personal financial management.

Previous results show the consistency with this study that understanding Islamic financial products is significantly related to the personal financial management of Sarawak. Mouna and Anis, (2017) has further proved that the higher the understanding of Islamic financial products, the better the financial preparedness is in the context of Sarawak.

This study shows that Islamic financial literacy is significantly related to personal financial management. Moreover, individual attitude as a moderator is also a significant predictor in personal financial management. Nonetheless, individual attitude as a moderator significantly affects personal financial management in this study. Islamic financial literacy,

understanding of Islamic financial products, and individual attitude variables are included in the model to analyze these factors' significance on personal financial management among Sarawak Muslims. Therefore, the above findings have answered research question one and concluded the relationship between Islamic financial literacy and personal financial management.

Islamic financial knowledge and its effect on personal financial management decisions has been the focus and extensively investigated in many countries (Monticone, 2010). Islamic Financial literacy is a useful indicator of an individual's financial management decision. Yet not much investigation has been done in the Sarwakian context.

Islamic Financial knowledge is one of the best tools in the current financial environment to equip Sarawak to make informed Islamic financial choices. The Islamic financial literacy e model shows a positive relationship between Islamic financial knowledge and personal financial management. Specifically, Islamic financial literacy has been highlighted in many Islamic financial studies.

Rahim et al. (2016) proved a positive relationship between Islamic financial management and personal financial management. Results answer research question two, that individual attitude moderates between Islamic financial literacy and personal financial management and between understanding Islamic financial products and personal financial management. A good practice of personal financial management is essential, enabling more of the Sarawak public to reap the benefits.

5.1.1 Contribution of the study

This study has a theoretical contribution of introduction and statistical significance of the individual attitude as a moderator between Islamic financial literacy, understanding of Islamic financial products, and personal financial management. On the contextual contribution front, conducting the study in Sarawak, Malaysia, is a major leap. The practical contribution of the study stems from the fact that it allows policymakers and marketers of Islamic financial institutions to grasp the importance of Islamic financial literacy and understanding of Islamic financial products in the personal financial management behavior of a Muslim.

An understanding of these factors will assist individuals in keeping financial management on track. It simply increases the effectiveness of financial management by improving decision-making behavior by recognizing personal finance. It would benefit Sarawakians as they can improve their portfolio performance by understanding their financial management and may better position themselves.

The research analyzes individual attitudes and applies the Financial Socialization theory to personal financial management. It holds out the prospect of a better understanding of an individual's Islamic financial products and scope for everyone to make better financial management and decisions based on understanding potential impacts such as impulsiveness and irrationality. By considering the possible effects and better understanding of this management, the significant impact can be avoided and help to evade problems and make wise financial management in Islamic finance.

This research contributes to financial socialization theory by showing that it impacts explaining financial behavior. The financial socialization theory positively impacts individual attitude, and when individual attitude interacts with Islamic financial literacy and understanding of Islamic financial products, it positively influences personal financial management. This research also confirms Islamic financial knowledge by showing the positive impact of Islamic financial literacy on personal financial management. If Islamic financial knowledge stands alone and predicts personal financial management, it will have a significant effect. However, if it is moderated by individual attitude, the impact of Islamic financial knowledge is diminished.

5.2 Managerial Implications

Factors such as Islamic financial literacy, understanding of Islamic financial products, and individual attitudes influence the financial management of Muslims in Sarawak. Thus, this study is intended to assist Sarawakian Muslims in spending their funds wisely and improving their Islamic financial capability to have balanced investment portfolios by understanding Islamic financial products. On the other hand, the research can contribute significantly to policymakers such as Islamic financial institutions, government, businesses, marketers, and every individual in different households so that Sarawakian Muslims can better come out with sensible personal financial management.

Understanding the investors' behavior can help the relevant Islamic financial institutions improve their operation and marketing processes regarding investment services and Islamic financial product selections and strategies. Individuals' Islamic financial decision-making processes have consistently been emphasized after the financial crisis in 2007-2008. The renewed interest in psychology by the social sciences and businesses has

stimulated new exploration of investor behavior. This study will assist the policymakers to improve the quality of Islamic financial product quality and maximize financial satisfaction.

According to Sharia, getting Sarawak Muslims to feel they control their lives would be helpful. The government should be concerned about the role of Islamic financial knowledge factors as these will impact personal financial status. To understand these factors, the government may intervene in related programs such as inventing Islamic financial products to share specific Islamic financial responsibilities so that the government may ease the problem of these individuals who cannot fully understand Islamic financial products.

Industry and policymakers engaging in Islamic financial curricula and counseling interventions are essential in supporting and reinforcing positive financial attitudes about better personal financial management among Sarawakian Muslims. This research is an avenue for personal financial management advancement. It may contribute to the knowledge related to the individual financial management of Muslims in general and Sarawakian Muslims in particular. Nevertheless, the present study has several limitations. Overall, this study has shown that individual attitude is an important determinant of personal financial management.

5.3 Limitations of Study

This research has several limitations due to the scope of the study. For example, this research only explains personal financial management, which may not capture an individual's retirement planning and precautionary saving behavior. The Islamic financial knowledge issue in Sarawak is considered undefined or not precisely determined (Lajuni et al., 2020).

The methodological limitation is also another issue in this research. The Individual attitude affects Islamic financial knowledge and personal financial management. However, the dummy trap issue and estimation bias do not allow the model to do so; however, using self-reported measures is a second limitation of this study.

5.4 Suggestions for Future Research

This study can be regarded as an explanatory study for Islamic financial knowledge research in the context of the Sarawak Muslims. Not much research has been done investigating the relationship between these factors in the context of an emerging.

Islamic financial market (Abdullah et al., 2017) In addition, a similar study can also be extended to the entire Malaysia. The comparison can be made on the collected data to show if there are any differences among other states in Malaysia. Good personal financial management among citizens can affect the Islamic financial status of that state.

Furthermore, individual attitude is one of the major influencers on personal financial management. Hence, individual attitudes can be input as one of the variables in future research. Apart from that, future researchers can also consider changing the dependent variable from personal financial management to Islamic financial planning since Islamic financial planning topic has always been in the limelight among the public as Muslims, as well as non-Muslims, is one of the Islamic financial knowledge issues faced by most of the states in Malaysia.

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APPENDICES

Table 1: Islamic financial knowledge

Items Loading Factors	Loading
I understand the Concept of Islamic Finance	0.815
I know that Islamic finance involves Profit and Loss sharing principle <i>(Musyarakah)</i>	0.771
Profit maximization is the main goal of Islamic finance.	0.645
Islamic finance Providing opportunity to earn income as per Islamic values	0.829
Good source to promote Islamic values	0.680

Table 2: Understanding of Islamic financial products (Independent variable)

Items	Loading
How familiar are you with the following Islamic financing Products & Practices	0.874
How Familiar are you with Musharaka (Profit and loss Sharing)	0.942
How Familiar are you with Murabaha (sale contract)	0.919
How Familiar are you with Ijara (Leasing)	0.879
How Familiar are you with How Familiar are you with Mudarabah (Sharing the profit and loss with venture capital)	0.690
How Familiar are you with Takaful (Insurance)	0.627
How Familiar are you with Qard Hasanah (interest-free loan)	0.407
How Familiar are you with Kafala (to guarantee)	0.561
Initial Eigenvalues	57.725
% Of Variance	57.725
Cronbach's Alpha	0.770

Table 3: Individual Attitude (Moderate Variable)

Items	Loading
Dealing with money is stressful	0.826
Before I buy anything, I must carefully consider whether I can afford it	0.670
I look at my financial affairs regularly	0.659
I pay my debts regularly and on time	0.644
I set long-term goals and strive to achieve it	0.806
I spend my money now rather than save it for the future	0.838
I tend to live for today and let tomorrow take care of itself	0.757
I rarely run short of money	0.768
Choosing Islamic finance is useful	0.727
My friends would think that I should choose Islamic finance	0.803
I look at my Islamic financial affairs regularly	0.891
I willingly switch to Islamic finance	0.852
Choosing Islamic finance is beneficial for good finance	0.871
Islamic finance is the standard of living and welfare of community	0.831
Reason behind using Islamic finance is Religious.	0.779
Islamic finance is meant for Muslims only	0.893
Initial Eigenvalues	37.452
% Of Variance	35.649
Cronbach's Alpha	0.824

Table 4: Personal financial management (dependent variable)

Items	Loading
It is important to have Long-term financial Plan	0.621
I am responsible and must have a household budget	0.864
It is important to have Short-term financial Plan	0.784
The practices of transparency by Islamic finance are more visible than that of conventional	0.816
I take advantage of profit sharing to start saving for my retirement	0.805
I rarely give beggars money when they ask for it	0.672
I distribute my wealth while I am alive and not leave it for after death	0.649
I am responsible and must have a household budget	0.841
I plan to invest in a portfolio of Islamic shares to build up assets	0.743
I am taking advantage of Takaful/Insurance to create Wealth	0.733
I will invest in Islamic financial shares a lot	0.766
An investment with a high return is likely to have higher than average risk	0.802
I regularly set money aside for possible unexpected expenses	0.775
I should spend all of my income as I get it and do not really plan for the future.	0.736
I could read a lot about earning income through investing activities.	0.735
By adopting Islamic financial institute, I believe that they Indulge in Islamic business	0.610
Initial Eigenvalues	37.545
% Of Variance	37.545
Cronbach's Alpha	0.824

Table 5: Demographic Characteristics

Items	Percentage
Gender:	
Male	55.5%
Female	44.1%
Marital Status:	
Single	54.6%
Married	45.0%
Age:	
20-29	38.4%
30-39	24.0%
40-49	20.1%
50-59	16.6%
Above 60age	0.4%
Race:	
Malay	43.2%
Bumiputra	24.0%
Chines	30.1%
Indian	0.4%
Others	1.7%
Education level:	
Secondary	8.7%
Higher secondary	27.1%
Undergraduate	41.0%
Postgraduate	19.2%
Others	3.5%
Gross Monthly:	
Below RM1,500	35.4%
RM2,500-5,000	34.5%
RM5,000-RM7,500	14.4%
RM7,500-RM10,000	7.9%
Above RM10,000	7.4%

Table 4.1: Descriptive Statistics

Items	Standard deviation	Excess kurtosis	Skewness
IFL1	1.003	-0.231	-0.281
IFL2	0.989	0.16	-0.581
IFL3	1.061	-0.044	-0.661
IFL4	0.884	1.17	-1.006
IFL5	0.91	1.71	-1.195
IFL6	0.939	0.034	-0.577
IFL7	0.887	0.929	-0.86
IFL8	0.932	1.365	-1.149
UIFP9	1.301	-1.123	0.168
UIFP10	1.285	-1.07	0.156
UIFP11	1.228	-0.833	0.397
UIFP12	1.331	-1.188	0.153
UIFP13	1.208	-0.858	-0.516
UIFP14	1.305	-1.035	0.194
UIFP15	1.279	-0.89	0.486
UIFP16	1.299	-0.909	0.5
IA1	1.021	0.679	-1.002
IA2	0.785	1.635	-1.08
IA3	0.875	1.124	-1.064
IA4	1.242	0.222	-1.089
IA5	1.313	-0.528	-0.78
IA6	1.354	-1.218	-0.075
IA7	1.396	-1.312	-0.128
IA8	1.293	-1.084	-0.057
IA9	1.095	-0.627	-0.539
IA10	1.057	-0.249	-0.779
IA11	1.094	-0.573	-0.455
IA12	1.052	-0.701	-0.485
IA13	1.079	-0.742	-0.53

IA14	1.244	-0.131	-0.848
IA15	1.372	-0.968	-0.462
IA16	1.313	-0.806	0.668
PFM1	0.779	3.397	-1.401
PFM2	0.842	2.277	-1.224
PFM3	0.858	0.998	-0.965
PFM4	0.836	0.531	-0.657
PFM5	0.92	0.818	-0.903
PFM6	1.377	-1.322	-0.035
PFM7	1.156	-0.981	-0.303
PFM8	1.11	-0.651	-0.597
PFM9	1.126	-0.846	-0.316

Table 4.2: Multivariate Normality via Mardia's Test (Output of Skewness and Kurtosis)

```

Mardia's multivariate skewness and kurtosis
      b          z p-value
Skewness 1125.115 42754.36516    0
Kurtosis  3492.170   22.87216    0

```

Table 4.4: Full collinearity Diagnostic Test

	RANDOM
Individual Attitude	1.023
Islamic Financial Literacy	1.131
Personal Financial Management	1.051
Understanding Islamic Financial Products	1.117

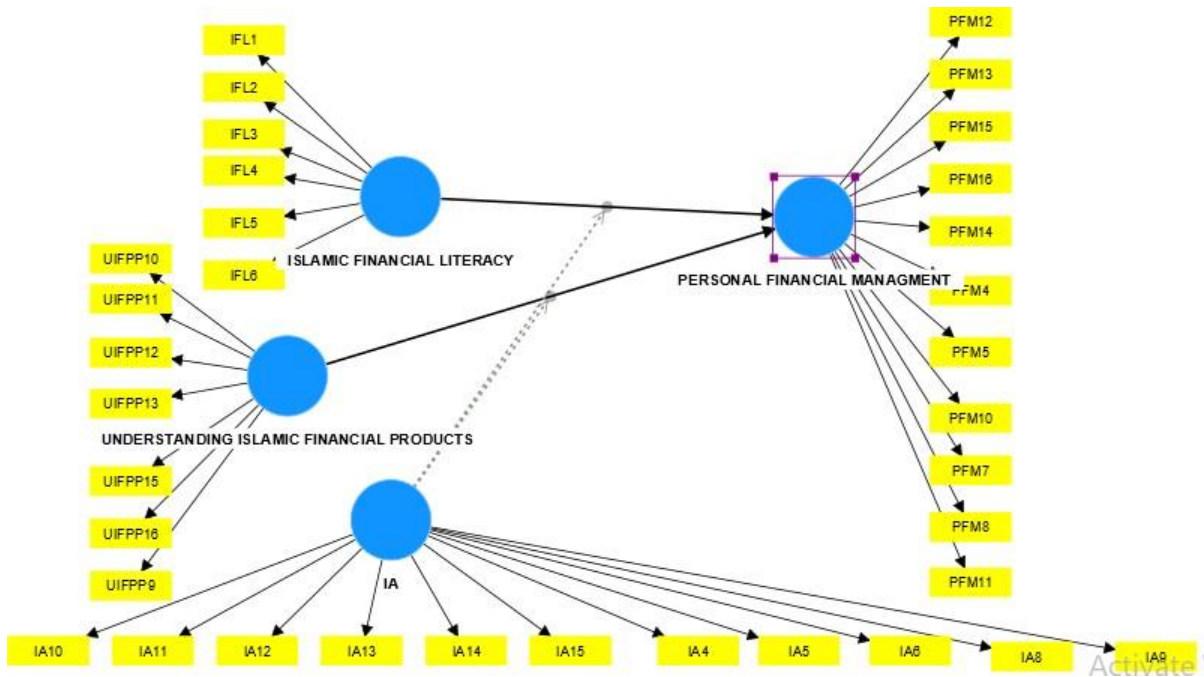


Figure 4.1: Specified Model in PLS-SEM

Table 4.6: Outer Loadings, Composite Reliability, and Average Variance Extracted

Items	Outer loadings	CR	AVE
IA10 <- IA	0.744	0.91	0.526
IA11 <- IA	0.684		
IA12 <- IA	0.812		
IA13 <- IA	0.87		
IA14 <- IA	0.834		
IA15 <- IA	0.687		
IA5 <- IA	0.72		
IA6 <- IA	0.614		
IA8 <- IA	0.551		
IA9 <- IA	0.676		
IFL1 <- IFL	0.818	0.878	0.55
IFL2 <- IFL	0.913		
IFL3 <- IFL	0.686		
IFL4 <- IFL	0.659		
IFL5 <- IFL	0.679		
IFL6 <- IFL	0.658		
PFM10 <- PFM	0.789	0.913	0.515
PFM11 <- PFM	0.625		
PFM12 <- PFM	0.79		
PFM13 <- PFM	0.719		
PFM14 <- PFM	0.664		
PFM15 <- PFM	0.719		

PFM16 <- PFM	0.773		
PFM4 <- PFM	0.613		
PFM7 <- PFM	0.781		
PFM8 <- PFM	0.673		
UIFP10 <- UIFP	0.873	0.908	0.589
UIFP11 <- UIFP	0.88		
UIFP12 <- UIFP	0.794		
UIFP13 <- UIFP	0.582		
UIFP15 <- UIFP	0.677		
UIFP16 <- UIFP	0.736		
UIFP9 <- UIFP	0.785		

Table 4.7: Discriminant Validity (HTMT Ratios)

	IA	IFL	PFM
Islamic Financial Literacy	0.309		
Personal Financial Management	0.742	0.307	
Understanding Islamic Financial Products	0.304	0.517	0.405

Table 4.8: Effect Size (f^2)

	PERSONAL FINANCIAL MANAGEMENT
IA	0.543
ISLAMIC FINANCIAL LITERACY	0.001
UNDERSTANDING ISLAMIC FINANCIAL PRODUCTS	0.143

Table 4.9: Statistical significance of Path Model Coefficients

	Beta	Standard Error	T statistics	P values	Decision
H1: IFL -> PFM	0.146	0.066	2.192	0.014	Supported
H2: UIFP -> PFM	0.196	0.064	3.069	0.001	Supported
H3: IA x IFL -> PFM	0.125	0.063	1.866	0.031	Supported
H4: IA x UIFP -> PFM	0.186	0.062	2.743	0.003	Supported

Table 4.10: IPMA Matrix

Constructs	Importance	Performance
IA -> PERSONAL FINANCIAL MANAGEMENT	0.605	60.046
ISLAMIC FINANCIAL LITERACY -> PERSONAL FINANCIAL MANAGEMENT	0.028	65.034
UNDERSTANDING ISLAMIC FINANCIAL PRODUCTS -> PERSONAL FINANCIAL MANAGEMENT	0.183	63.407