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Demand for Takaful and Microtakaful in Malaysia

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Thesis Submitted for the Degree of Doctor of Philosophy
University of Sussex

July 2020

Declaration

I hereby declare that this thesis has not, and will not be, submitted in whole or in part to another university for the award of any degree.

Signature :

Date : 16 July 2020

University of Sussex
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Degree of Doctor of Philosophy

Demand for Takaful and Microtakaful in Malaysia

Abstract

This thesis examines three main ideas that focus on takaful and microtakaful demand in Malaysia using a mixed methods approach. Takaful is Shariah-compliant insurance that is based on a mechanism of shared responsibility, cooperation and mutual assistance. The importance of takaful and microtakaful in transferring risk across related parties in the event of loss attracts research in this area as there is a lack of empirical evidence in developing countries, specifically in the Malaysia context.

The first essay investigates why the demand for microtakaful is low in Malaysia using a qualitative study. Microtakaful is a distinctive form of micro-insurance that is geared and customized towards meeting the needs and circumstances of low-income populations who require protection from unforeseen financial misfortunes and difficulties. Findings suggest an interactive model: that low demand in microtakaful schemes is influenced by three interconnected issues: affordability, customer awareness and perception, as well as past shock experience. In addition, this study identifies important elements regarding the takaful basis risk issue and customer complaints issue as a result of clients' past experience. The model highlights the interplay between these three issues and challenges existing research that focuses solely on conceptual research on microtakaful demand among low-income households in Malaysia.

The first empirical chapter exhibits the factors determining the demand for takaful and microtakaful that are related to financial protection among households, to understand the demand for takaful and microtakaful. Probit regression is used to examine why some people participate in takaful and some do not; this is done through a questionnaire survey. Additionally, this study examines the impact of risk-coping mechanisms on respondents and shock experience on takaful and microtakaful demand. The findings reveal variables that are statistically significant for takaful and microtakaful demand but have a positive or negative impact on explaining why some people join takaful and some do not.

The next empirical chapter investigates trust in takaful. Building trust plays a central role in the financial services system. This third essay examines the influence of socio-demographics, socio-economics, risk coping mechanisms, financial inclusion and social capital on trust in takaful using a household survey of 526 respondents. The findings show that gender, marital status, income and employment have a negative significant impact on trust in takaful. Interestingly, ROSCA plays an important role in increasing or decreasing trust in takaful. Therefore, this empirical chapter provides a new understanding of why some people trust and some people doubt takaful. This new understanding should help to improve predictions of the demand for takaful in Malaysia by exploring trust in takaful.

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List of Abbreviations

AITAB	Al-Ijarah thumma al-bai
BNM	Central Bank of Malaysia
CAGR	Compound Annual Growth Rate
CBO	Community-based organisation
CCS	Credit coping strategies
DFU	Deficit fund unit
EPU	Economic Planning Unit
EUT	Expected utility theory
GDP	Gross domestic product
GIFR	Global Islamic Finance Report
GLC	Government Link Company
GSS	General Social Survey
IFSA	Islamic Financial Service Act 2013
ISC	Informal social network
JKM	Welfare Development Department
MBN	Member-based networking
ME	Marginal effects
MFI	Microfinance institutions
MTP	Microtakaful participant
NGO	Non-profit organization
PA	Participant's account
PCS	Personal coping strategies
PIF	Participant's Investment Fund
PSA	Participant's Special Account
PTF	Participant's Takaful Fund
RBC	Risk-based capital
ROSCA	Rotating Saving and Credit Association
SFU	Surplus unit fund
TPB	Theory of planned behaviour
TP	Takaful participant
US	United State
WVS	World Value Survey

CHAPTER ONE

Introduction

1.1. Introduction

Insurance is a financial device to manage risks that might occur, it involves the execution of an insurance contract between insurer and insured. It is also a tool to mitigate uncertainty happening in the future by sharing and distributing the cost of losses via a well-planned financing technique (Mehr, 1986). Risk and uncertainty happen as part of human behaviour, they can include all sorts of perils, including theft, accident, sickness, death and fire. The individual who seeks protection is known as a policyholder; they will make regular payments, premiums, and receive benefits from the insurance provider on the occurrence of a contingent event. Insurance enables the policyholder to mitigate risk and losses, it offers financial stability and plays a crucial role in economic sustainable growth. It becomes one of the important financial risk mechanisms due to the increase in risk and uncertainty in most societies (Outreville, 1990). It is also capable of transforming the life of an individual through insurance practice (Ewald, 1991). In addition, the importance of insurance can be seen as an alternative to providing security and support in times of unforeseen need, either in a community or for the individual.

In Malaysia, insurance policies are sold by private companies and there are also certain insurance policies provided by the government to a select group of low-income population. In 2019, there were 22 general insurance companies and 14 life insurance companies in Malaysia (Central Bank of Malaysia, 2019). As one type of life insurance policy, medical and health insurance has been offered to consumers since the 1970s. These insurance policies cover any medical healthcare expenditure, with limited benefits for personal accident coverage, workers' compensation and motor insurance. In addition, the life insurance industry in Malaysia has continued to grow with innovative products being offered and an effective distribution channel. Furthermore, general insurance showed a growth of 1.5% in 2018, with a gross amounting to RM17.92 billion (The Star Online, 2018).

Apart from insurance in the financial market, Islamic insurance or *takaful*, was introduced to cater for the needs of the Muslim population in Malaysia. This is because the current risk mitigation approaches, buying insurance policy to transfer risk, are prohibited by most Islamic scholars, as insurance policies contain forbidden elements such as interest, gambling and uncertainty. In addition, the development of the *takaful* industry in Malaysia was inspired by the needs of the Muslim population for *Shariah*-compliant insurance as an alternative to conventional insurance. Therefore, other approaches are needed to cater for the needs of the Muslim public in Malaysia in order to manage risk, i.e. Islamic insurance or *takaful*.

Takaful is an alternative form of financial risk management or type of insurance policy whereby *takaful* participants contribute a sum of funds or make monthly contributions as donations that will be used by other participants to cover specific types of losses or damage. *Takaful* is also defined as a mutual guarantee among a group of people who face similar risk and agree to contribute a certain amount that will be used to provide compensation to participants in the case of peril or harm (Alhabshi, Sharif, Abdul Razak, & Ismail, 2012).

1.2 Insurance and Microinsurance

Insurance can be referred to as a social device for risk transfer using funds accumulated for uncertain losses (Willett, 1951). It is considered to be one of the oldest financial risk management products that reduces the effect of risk that may occur in the future. Risk management through insurance has been widely used as a protection against various losses by individuals and companies (Harrington and Niehaus, 2003). Ewald (1991) defines insurance as a technology of risk to manage any danger or peril, a way of breaking down, rearranging and ordering certain elements of reality.

Insurance also has the potential to change individual lives by managing risks that occur. Individuals pay monthly premiums to be able to receive benefits payments in the future. It is also an alternative to hedge against the risk of contingencies by transferring the risk of a loss between two parties in exchange for payments or premiums (Khanna, 2002). It works by transferring the risk from the individual to a group or insurance company, sharing and redistributing losses and discriminating via an underwriting process (Baranoff, 2004).

A population with a low income is always vulnerable to risky environments that involve death, disability, illness and other risks (Churchill, 2006). Death and illness are the two risks most often identified in microinsurance. This benevolence programme was created for under-served people who are ignored by commercial insurance and do not have full access to adequate risk management products.

It is often prescribed for low-income and financially excluded populations in developing countries, especially in Africa, Asia and Latin America, as it offers generous benefits for small premium contributions. A significant aspect of microinsurance is to provide opportunities to uninsured individuals who need a product with benefits, affordable premiums, accessibility and simplicity to reduce poverty. In recent years, researchers have shown an increasing interest in explaining the impact of microinsurance on poverty alleviation.

The term microinsurance refers to a scheme of protection for low-income individuals against specific risks in exchange for monthly payments based on the type of risks involved (Mukherjee et al., 2013). The International Association of Insurance Supervisors (IAIS) generally defines microinsurance as a scheme that provides different entities with insurance, but in a form consistent with insurance practices to help low-income populations. However, the definition and perception of microinsurance are based on country perspectives and regulations, as well as the model used by the regulator. According to Apostolakis et al. (2015), microinsurance is related to insurance but differs in two aspects, it focuses on low-income populations and is based on low-price products for the poor.

Microinsurance only covers insurable risk that is economically feasible. The exposure to losses must be independent, manageable and reliable to protect against risk that may occur (Biener and Eling, 2012). The more frequent the occurrence of loss, the more difficult it becomes to be insured. Insurable risk in microinsurance can be classified into four types: agriculture, health, life and property (Matul et al., 2010). It has also been stipulated that cover against death and illness are the policies most frequently demanded by clients in the life insurance line of products. In addition, the most important types of microinsurance are agricultural and catastrophe cover.

Microinsurance was developed after the insurance industry became aware of the protection gap among low-income populations, as they were unable to manage the occurrence of uncertainty and risk. This imbalance in financial conditions led to the development of microinsurance or low-cost insurance based on the provision of financial protection to poor and low-income households by the community, cooperatives, commercial insurers or self-arrangements.

Many types of cover are found in microinsurance offered to the target population, such as accident, agriculture, disaster, health, life, property and weather. For example, health microinsurance focuses on disease, the reduction of mortality and improvements in health as protection in group coverage and individual households, while life microinsurance protects family members in the event of household death by providing financial assistance, such as for funeral expenses. Life insurance is usually offered as an add-on scheme to other financial products that are suitable for the needs of low-income groups, such as life insurance as an additional package in a micro-credit programme.

Microinsurance must be affordable to the poor, or they will not be interested in participating in these programmes as value for money is crucial for them. However, there are various approaches to offer affordable microinsurance schemes, with either a small benefits package, a long-term agreement, or a combination of subsidies from the government. Moreover, a group policy is also more acceptable and affordable to the poor as they organise their sector with women's associations, informal saving groups and cooperative members. It also can reduce moral risks occurring in the insurance industry.

1.3 Islamic finance and the takaful component

Islamic finance deals with similar fundamental issues seen in conventional finance and are subject to the same economic effects but differs in terms of a number of distinctive and unique characteristics. Conventional finance is based on the assumption that human beings are rational in their decision-making and highlights a doctrine of self-interest without concern for moral values or a more value-neutral system (ISRA, 2016). In contrast, in Islamic finance, Muslims are obliged to express elements of sincerity, justice and moral values when making any decision. The integration of ethics and values in Islamic finance highlights the fundamental differences between conventional finance and Islamic finance.

The Islamic financial system is based on the fundamentals originating from the Holy Quran and the practices of the Prophet Muhammad, known as *Hadith*. It is found that any banking or financial activities in Islamic banking and financial institutions are based on the Shariah principle, which eliminates any elements of gambling (*maysir*), interest (*riba*) and uncertainty (*gharar*). The prohibition of gambling, interest and uncertainty in any financial transaction is fundamental to Islamic finance, which distinguishes it from conventional finance.

This is an alternative to conventional finance that is based on the classical loan contract (Al-Jarhi, 2017); Islamic finance is based on the application of several contracts. The first Islamic finance recognised in Egypt was in the early 1960s with the setting up of the Mit Ghamr Saving Bank, followed by similar banks in Malaysia (Pilgrims Management and Fund Board), Jeddah (Islamic Development Bank), Dubai (Dubai Islamic Bank), Sudan (Faisal Islamic Bank), Jordan (Jordan Islamic Bank) and Bahrain (Bahrain Islamic Bank) in 1979 (Muhammad and Ahmed, 2016).

The philosophy of Islamic financial system is more about the concept of risk-sharing rather than risk transfer or risk-shifting. The risk-sharing concept in Islamic finance is embedded in Islamic partnership contracts, which are *mudarabah* and *musharakah* contracts. Profit and loss sharing between both parties is based on agreed equitable proportions. This profit and loss sharing concept also differentiates Islamic and conventional finance arrangement.

The structure of the Islamic financial system is similar to conventional finance in terms of financial institutions and financial markets. It is an important component and acts as a channel for funds between surplus fund units (SFU) and deficit fund units (DFU).

Malaysia has the most advanced and progressive Islamic financial systems in the world. This was achieved through four strategic approaches, namely, enhancement of knowledge and expertise, a legal and Shariah framework, product and market development, and regulatory framework development (*Global Islamic Finance Report*, 2017). At the same time, the development of the takaful industry in Malaysia was encouraged by the need for Shariah-compliant insurance as an alternative to conventional insurance (Abd.Razak, 2016).

Diverse Shariah contracts in Islamic finance contribute to the continuous efforts by the Central Bank of Malaysia and Islamic financial institutions themselves. Many Islamic financial products have been introduced to meet the needs of the Muslim population, such as savings and investment accounts, *sukuk*, Islamic structured products, Islamic derivative products, Islamic forward currency and Islamic hedge funds (Abd.Razak, 2016). There is a combination of various contracts in each Islamic financial product to avoid *riba*, *maysir* and *gharar*, including *murabahah*, *mudharabah*, *musyarakah*, *ijarah*, *salam* and others.

These are basic instruments in Islamic financial contracts that are conducted through valid transactions and mutual consent, including a variety of contract types:

i. Murabahah (Cost plus sale)

This is a contract for sale and purchase between the owner of goods and the buyer. This type of financial contract is a transaction where the buyer knows the price and the profit made by the seller and agrees to pay that sum immediately. This is a purchase and resale contract where a bank will purchase a tangible asset from the supplier as requested by the customer, and any resale is based on cost plus a profit mark-up.

ii. Musyarakah (Partnership – Profit and loss sharing)

This is an equity financing contract where the bank and client contribute jointly to finance a project; the ownership is distributed based on shares in the financing. It is a joint venture contract between two parties for profit and loss sharing; the profit will be shared at a pre-agreed ratio, and any loss will be shared based on the proportion of capital contributed by each party to the project.

iii. Mudharabah (Profit sharing)

This is another type of partnership or trustee-type financial contract where one party provides the capital for the project and one party provides the labour. This is an agreement between the owner of the capital (*sahibul mal*) and the entrepreneur (*mudharib*). Profits are shared based on an agreement between both parties, and losses are borne by the capital provider; this is except in cases of misconduct, negligence or violation of the conditions agreed.

iv. Ijarah (Leasing)

This lease contract is a transaction involving the sale of usufruct rather than an object for a specific period of time. The difference between conventional and

Islamic leasing is that the leased object must be owned by the agency for a specific time and term. The owner of the asset will bear all the risks associated with ownership. A common financial service using Islamic leasing contract is car and home financing or an Islamic hire-purchase contract (AITAB).

v. **Salam (Deferred delivery sales)**

This is a sale and purchase contract with deferred delivery of goods or assets for an immediate (forward) price. This Islamic financial instrument is mostly used in agricultural finance. Both parties agree the duration and instalment amounts for each contract and the number of instalments. The details of the delivered goods or assets must be clearly specified in the agreement; these include the quantity, unit price and place of delivery. This contract meets the needs of small farmers who need some cash to grow their crops until harvest time.

1.3.1 Takaful

Takaful is Shariah-compliant insurance that is based on a mechanism of shared responsibility, cooperation and mutual assistance, which means a join-guarantee. It can be seen as a group of members or participants who have come to an agreement to jointly guarantee each other in the event of loss due to catastrophe or misfortune (Yusof, Wan Ismail and Mohd Naaim, 2011). The word takaful originated from the Arabic verb ‘kafala’, which means to guarantee, to help and to take care of another’s need.

Under the Takaful Act 1984, takaful may be defined as a scheme of brotherhood, mutual assistance and solidarity that provides mutual financial assistance to the participants in case of need, whereby participants mutually agree to contribute to this purpose. A summary definition was given by Mohd Noor (2012) who describes takaful as a system in which a mutually agreed amount is contributed by the participants to the same pool of funds, with the same objective and purpose of mutual indemnity in the event of danger or harm occurring. Therefore, takaful can be defined as a mutual protection mechanism that benefits each member through some protection based on a plan subscribed to by the participants.

The fundamentals of takaful can be summarised as cooperative insurance in which all the policyholders cooperate between themselves for their own sake by paying a subscription to help those in need of assistance. The uncertainty element eliminates compensation and subscription for the group who suffer these losses (Alhabshi et al., 2012). Furthermore,

there are three additional important elements in takaful: including mutual help, mutual responsibility and mutual protection from losses (Muhammad and Ahmed, 2016).

Basically, three main problems are found in conventional insurance, which relate to gambling (maysir), interest and uncertainty (Lewis, 2015). These problems arise in conventional insurance while the fundamentals of Islamic financial transactions are based on Al-Quran and Sunnah. Uncertainty, or gharar, occurs when the benefits to be paid depend on the results of future events that are unknown when the policy contract is signed. In addition, the delivery of benefits or compensation is also unknown until an event occurs (death, loss, accident) (Abdul Wahab, Lewis and Hassan, 2007). The Gharar element exists in both life and general insurance practices, the subject matter of the contract or policy is not certain until the insured event happens (Muhammad and Ahmed, 2016).

Maysir, the second element, is similar to the concepts of betting, gambling or gaming (Mahmood, 1991). This element occurs when a participant with the hope of gain and an essence of speculation takes out a policy. The element of maysir exists in an event when the policyholder is held to be paying premiums and betting on the circumstances of a specific event or does not get anything from the monthly premiums if the insured event does not happen (Muhammad and Ahmed, 2016). Riba, or interest, means to grow or increase and can be described as usury. All insurance policies have an investment portfolio and involve decision-making and investment methods on behalf of the insured. Unfortunately, most of the premiums collected are invested in non-Shariah compliant funds and therefore against the principles of Shariah. Therefore, Islamic insurance or takaful as an alternative to insurance avoids any prohibited elements in the contract.

In addition, a conventional insurance contract is basically a sale and purchase agreement between the insured and the insurance company for a benefit and a guarantee to pay compensation in the future. It is a totally different mechanism compared to takaful whereby a takaful provider is not the insurer to participants but acts more as a takaful manager or administrator of the takaful fund contributed by the takaful client. Furthermore, the relationship between insurance companies and insurance clients is an insurer-insured relationship, while in takaful the client acts as both insurer and insured simultaneously.

There are several takaful models operating worldwide and the most widely practised models in Malaysia are the Mudharabah model and the Wakalah model.

- Mudharabah Model

The Mudharabah model is most suitable for a short-term takaful contract or a renewable takaful product, such as Motor Takaful (Muhammad and Ahmed, 2016). Two parties are found in the Mudharabah contract, namely, the participant or capital provider (*rabb al-mal*), and the entrepreneur or takaful operator (*mudharib*), on a joint-venture basis.

This is a profit-sharing contract arrangement between two parties based on a pre-agreed profit ratio. The takaful operator conducts mudharabah with the participant as a capital provider under the mudharabah model. Apart from that, the participants who make a monthly contribution will give the takaful operator a full decision on the investment, its management and operation.

The funds collected from the participant are placed into two separate pools, Participants' Investment Fund (PIF) and Participants' Takaful Fund (PTF). The Mudharabah income and profit for this model come from a subscription surplus and PIF and PTF investment. Based on the Mudharabah family, the policyholder will contribute a monthly subscription to the agent or takaful operator and the instalments are credited to the takaful family fund for participants in the account (PA). These funds are then saved and used for investment purposes and the Participants' Special Account (PSA) as *tabaru'* or a donation (Alhabshi et al., 2012; Muhammad and Ahmed, 2016).

- Wakalah model

The contract for Wakalah comprises three main elements, namely, the agent (*al-wakeel*), the principal (*al-muwakkil*) and the subject matter (*al-muwakkal fih*). This financial contract is arranged between the parties whereby one party (principal) delegates another person (agent) to act in a fair way on their behalf. The basic component of this model is mutual consent between the agent and the principle in which the subject matter must be permissible and comply with the principles of Shariah. The takaful operator acts as an agent and pays agent fees (or *wakalah* fees), according to the agreed percentage. This model normally authorises the takaful operator, as the agent of the participant, to manage takaful contributions for benefit and investment activities (Alhabshi et al., 2012).

The wakalah model is the most common business model used in the Malaysia market by takaful operators. The significance of using Wakalah as the main alternative is to provide a comprehensive takaful service by effectively employing an agency system with sufficient fees.

1.3.1.1 Differences between insurance and takaful

Insurance and takaful contracts share a similar objective: to offer protection and coverage to the policyholder in case of unforeseen events. Both takaful and insurance are a contract of utmost good faith and it is required that takaful participants or insurance buyers disclose all the information required so that they are protected against any losses in the future. However, there are several differences between insurance and takaful (see Table 1.1).

The main difference between insurance and takaful is the contract behind each product. Takaful is a combination of different contracts, including a donation (tabarru'), profit sharing (Mudharabah) and agency (Wakalah), while insurance is a sale and purchase contract between the insurer and insured. These different contracts applied within a takaful contract conceptually differentiate the takaful system from the insurance system.

In addition, takaful is not a buying and selling policy. Rather, it is a donation contract whereby a participant contributes funds for the purpose of mutual indemnity covering all participants in the event of perils or hazards occurring. The participants make a takaful contribution to the scheme and mutually guarantee each other under the scheme. The risks in a takaful policy are not exchangeable by the contribution of payments from the participant to the takaful operator (Nahar, 2015). Unlike under takaful, policyholders in an insurance contract pay a premium to the insurance operator as stated in the contract.

Second, in takaful, the risk is shared amongst the participants, whereas in an insurance contract the risk is transferred from the insured to the insurer in return for a premium. Takaful participants are not insured in a takaful plan as they are in an insurance plan, rather the profits are shared and deficits are borne by all participants (Archer et al., 2009). In addition, the takaful operator acts as the administrator of the policy and pays any takaful benefits requested by the participants from takaful funds. On the other hand, an insurer is liable to pay the insurance benefits as promised from its assets (insurance fund and shareholders' fund).

Next, there are no restrictions on investment funds in an insurance system with the aim of maximizing profits. In a takaful operation, however, all investment activities are made in accordance with Shariah principles. From the return and profit perspective, takaful earns a return from Mudharabah investment profit and service fees by managing takaful funds while insurance makes a profit from the underwriting surplus. All investments have to clearly involve activities that do not contain any elements of interest, gambling or uncertainty. Each takaful operator has their own Shariah Advisor Council (SAC) to monitor all the activities within the takaful operation to ensure that they are Shariah compliant. Furthermore, the insurable object in takaful must be in line with Shariah principles, though there are no restrictions on insurable objects in insurance plans.

Table 1.1: Differences between takaful and insurance

	Takaful	Insurance
Contract	A combination of a tabarru' contract (donation), profit sharing contract (Mudharabah) and wakalah (agency relationship).	A sale and purchase contract between insurer and insured.
	Contract among participants – tabarru' Contract between participants and operator – wakalah/mudharabah.	One contract between the insurer and insured.
Policyholder's responsibility	Participants make contributions to the scheme Participants mutually guarantee each other under the scheme.	Policyholders pay premiums to the insurer.
Liability of the insurer/operator	The takaful operator acts as the administrator of the scheme and pays takaful benefits from takaful funds.	The insurer is liable to pay insurance benefits as promised from its assets (insurance fund and shareholders' fund).
Access to capital	Access to share capital by the takaful operator but not to debt, except for interest-free loans from operator to underwriting fund.	Access to share capital and debt with possible use of subordinate debt.
Investment of funds	Assets of takaful funds are invested in Shariah compliant instruments.	There are no restrictions apart from those imposed

		for prudential reasons – to optimize returns.
Operation	Product design eliminates elements of uncertainty, gambling and interest.	Product involves uncertainty, gambling and interest.
	Insurable object must be in line with Shariah principles.	No restriction on insurable objects.
Risk management	Risk-sharing among participants.	Risk transfer to the insurance operator.

Source: (Engku Ali and Odierno, 2008; Archer et al., 2009; Nahar, 2015)

1.3.2 Microtakaful

Microtakaful or Islamic microinsurance is a type of takaful product that is designed to respond to the financial needs of low-income households to cope with major expenses or as a temporary or partial relief for financial difficulties happening. It is quite similar to microinsurance but differs from takaful in terms of the product features being simple and easy to understand, affordable for the target group and readily accessible. Unlike takaful, microtakaful covers low-risk events and is developed to serve people at the bottom of the income and social pyramid (Bhatty, 2011). Microtakaful also has great potential to explore hidden markets, including a large low-income and lower-middle income segment that is characteristic of the majority of Muslim countries.

Mohd Kassim (2014) defines micro-policy participants as those with low disposable or irregular income, who do not have a monthly payments bank account, and do not have many assets. For impoverished poor people, it is difficult to pay on a monthly basis and so they depend on government funding or support from NGOs.

This type of scheme will provide new insights and enable takaful to become more acceptable and accessible to the low-income community, while maintaining the benefit of managing their risks. Without such protection, the poor may fall back into poverty and continue to suffer. While research on microtakaful demand has attracted much attention, most studies in other developing countries have focused on microinsurance and insurance.

Microtakaful can be an effective scheme, even in active takaful operating markets with little experience of it, if the procedures, policies and schemes are simple, the premiums

are low, the administration is efficient, and distribution channels are innovative (Mokhtar et al., 2012). The sustainability of microfinance institutions can also be boosted through microtakaful schemes (Ismail, 2014).

A few products on offer are found in the market and they include policies for agricultural losses, disability, education plans, health, loss of property due to theft, personal accident, and savings (Bhatty, 2010). Research conducted by Deutsche Gesellschaft (2014) found that the main factors that determine vulnerability were illness and education expenses. The poor manage their risk after events have happened, when they borrow from family members, money lenders or solidarity groups (Haryadi, 2006).

This will cause hardship and the situation to deteriorate. Risk should be managed and minimised in advance before something terrible happens. Many models for microtakaful based on the takaful model were found to be based on the fundamental principles of microtakaful.

Microtakaful also has various distribution channels to offer services to the community. Three parties were found in takaful that play a significant role to provide these schemes, namely, agents, corporate agents and brokers (Islamic Financial Services Board, 2015). In microtakaful, low-cost distribution is essential to keep microtakaful scheme prices low and affordable. Based on an initial report by the IFSB (2015), this scheme is distributed through grocery shops, mosques, religious groups or microfinance institutions. In Indonesia, Takaful Micro Malaysia implements a microtakaful scheme in cooperation with NGOs, Peramu, cooperative institutions and Baytul Maal (Haryadi, 2006).

Table 1.2 illustrates the differences between takaful and microtakaful. Takaful and microtakaful may seem to have a similar structure and contracts but they differ from each other on certain points (see Table 1.2). These include their target market, underwriting process, product design, marketing distribution, monthly payments and claim handling. Microtakaful characteristics are more simple, accessible and affordable.

Table 1.2: Differences between takaful and microtakaful

	Takaful	Microtakaful
Target market	Households with middle and high income earners who are familiar with takaful protection.	Poor and low-income households, who have no knowledge of takaful.
Underwriting	Complicated and comprehensive with large monthly contributions. Complex terms and conditions with a wide range of exclusions in the agreement.	Simple underwriting practices including small monthly contributions. Simple terms used in the policy and easy to understand.
Product design	Multiple coverage and features. High level of coverage.	Simple product design Low level of coverage.
Marketing and distribution	Offered by licensed takaful operators only.	Many types of channel distribution, including community organisations, cooperatives, micro - financing institutions, NGOs and takaful operators.
Monthly payments	Regular monthly payments by cash, cheque, credit or debit cards.	Irregular payments based on the type of coverage, monthly or yearly. Payments usually made in cash or packaged with other microfinance products.
Claim handling	Detailed process with full documentation is required.	Uncomplicated and fast claim process, as well as simple documentation required by the provider.

Source: Adapted from Mohamad Hasim (2014)

1.4 Significance of the study

This thesis will primarily seek to fill a gap in the literature on the topic of takaful and microtakaful demand. It will do this by empirically estimating the key determinants of takaful and microtakaful demand and trust in takaful, especially in the Malaysian context. Several articles have discussed insurance and microinsurance, especially in developing countries. These use different methodologies and approaches, such as household survey, randomized control trial and interviews. However, there are limited studies on takaful, and these fail to differentiate between the demand for takaful and microtakaful, nor do they discuss trust in takaful.

The importance of this thesis lies in the fact that it conducts an empirical analysis of the demand for takaful and microtakaful. The literature on insurance and microinsurance demand appears to have an overwhelming focus on takaful and microtakaful. Unlike insurance, which is related to the buying and selling of policies with premiums, the findings of this study are expected to add new conceptual insights into the demand for insurance by testing the variables of takaful and microtakaful. Variables, such as religion, could be interesting factors in understanding the uptake for takaful compared to insurance demand. Furthermore, no related studies have discussed the differences between takaful and microtakaful demand in previous literature. Therefore, this research will make a significant contribution to the Islamic finance body of knowledge by comparing these two types of takaful protection and providing a greater understanding of the demand for takaful and microtakaful.

This thesis is important because it examines the trust in takaful, which has not yet been explored in previous studies about takaful demand. Trust in takaful is not paid much attention in previous literature in either the takaful or insurance areas. This thesis can be regarded as the first work that discusses trust in takaful. Specifically, trust in takaful has yet to be explored because there has been less debate about this subject in the Islamic finance area. This study is expected to go one step further and analyse the demand going beyond insurance and microinsurance, and therefore it includes data on trust in takaful.

Past studies have also made no attempt to provide more in-depth information regarding microtakaful demand. Research studies might be more interesting and convincing if the authors consider microtakaful. Therefore, this is an opportunity to conduct research that is focused on microtakaful demand from a broader perspective using a different approach

from the supply side. Furthermore, it is expected to be of significant value in explaining the low demand for microtakaful uptake from microtakaful providers' perspective. This is an important element in understanding the demand for microtakaful from the supply side and to improve accessibility to microtakaful plans in the market.

In addition, this thesis combines the quantitative and qualitative approaches in seeking to understand the demand for takaful and microtakaful, while previously these have been studied separately. This combination is expected to improve on previous approaches by using a more comprehensive methodology and analyses. In addition, the mixed methods approach allows analysing the contribution of each approach.

This study will also test new variables, including financial literacy, social capital and financial inclusion, to see the influence of all these variables on the demand for takaful and microtakaful, and trust in takaful. These variables are not well explored in previous literature, even in the insurance area, and so this study will contribute to the literature by adding new variables and instruments that have not previously been tested, especially in the takaful context.

Another potential contribution of this research is the views of takaful stakeholders and policymakers who are interested in developing hybrid and affordable takaful and offering it in the market. The conclusion of this study can provide valuable information to takaful stakeholders and basic information required in formulating development, marketing and product development strategies. Moreover, the findings in this research are expected to be useful to those who are responsible for formulating public policies regarding takaful coverage to serve the needs of low-income populations.

1.5 Approach of the thesis

The objective of this section is to explain the methodology and why it is used and suits this study best. A mixed methods approach or multiphase research design combining quantitative and qualitative approaches and instruments for data collection and data analysis was used. A quantitative is a deductive process while qualitative research is an inductive procedure. In a quantitative approach, several hypotheses were developed and tested by collecting sufficient data from selected samples for further analysis.

The qualitative data in Chapter 3 help to explain why the uptake for microtakaful is low in more detail through a qualitative methodology and explore the quantitative research

findings in Chapter 4 and Chapter 5 and thus extend the research question by investigating trust in takaful. Both quantitative and qualitative studies are equally important to answer the research questions and provide robust findings in this thesis.

The main objective of this thesis is to examine the demand for takaful and microtakaful in Malaysia. It will also add knowledge on those factors that is relevant to the impact on demand for takaful and microtakaful, as well as trust in takaful. The specific research questions of this thesis are:

1. Why is the uptake of microtakaful low?
2. Why do some people participate in takaful and microtakaful while some do not?
3. What determines trust in takaful among Malaysian households?

In addressing these three research questions, the analysis will include relevant factors and variables that are expected to play an important role in the demand for takaful and microtakaful.

1.6 Structure of the thesis

The thesis aims to investigate the demand for takaful services in Malaysia. In this context, it investigates three main studies which focus on the context of Malaysia. This study also collected data using two main primary resources, namely, qualitative and quantitative methodologies. A mixed methods approach was needed to understand the demand for takaful and microtakaful, as well as to fill a gap in the literature.

This thesis started with a brief introduction in Chapter 1. The second chapter discussed the data used in this thesis in detail. The core approach in this thesis is the empirical analysis of household survey data used in Chapters 4 and 5. This analysis was complemented by qualitative analysis of data obtained from semi-structured interviews discussed in Chapter 3.

Chapter 3 employs a qualitative approach to answer the research questions. This qualitative approach is important in understanding the specific demand for microtakaful and aims to explore why the demand for microtakaful is low. Using semi-structured interviews with microtakaful providers, this chapter shows that the low microtakaful demand is related to interconnected issues, which are affordability, customer awareness and perception, as well as past shock experience. The chapter also recognizes other issues,

including takaful risk issues and customer complaints that indirectly impact on low microtakaful uptake.

The first empirical data are presented in Chapter 4. Using household surveys, the chapter analyses why some people participate in takaful or microtakaful and why some people do not. The empirical analysis conducted shows the significant impact of gender, age, education level, location, religion, trust and financial literacy on the demand for takaful and microtakaful. In addition, frequent experience of shocks has a significant effect on takaful demand. These results are likely to be related to how every individual perceives the takaful approach and other risk-coping mechanisms to guard against the occurrence of shock and other losses.

One of the important factors in understanding the demand for takaful is trust. Therefore, Chapter 5 examines the factors determining trust in takaful. Furthermore, this empirical chapter estimates the influence of socio-demographic and socio-economic factors, risk-coping mechanisms, financial inclusion and social capital on trust in takaful using an ordered logistic regression. The findings report several factors that increase trust in takaful, including income, social capital and online banking use. Furthermore, individuals participating in ROSCA also have more trust in takaful in Malaysia. Nevertheless, gender, marital status, type of employment, bank account use and ROSCA have a negative influence on trust in takaful.

Finally, Chapter 6 summarises the findings and concludes the discussion of the three studies presented in the previous chapters.

CHAPTER TWO

Data on Takaful and Microtakaful in Malaysia

2.1 Introduction

Takaful and microtakaful approaches play a significant role in addressing the issue of managing the occurrence of risks. Research on takaful and microtakaful demand is the main interest to be investigated in order to provide a better understanding of this particular topic. This thesis aims to examine the demand for takaful and microtakaful by collecting primary data through household surveys and interviews due to the availability of data in takaful and microtakaful area, especially in the Malaysian context.

In addition, a qualitative study was undertaken of microtakaful providers, giving a clear picture of the factors affecting the low demand for microtakaful in Malaysia. The analysis also covers the element of trust in takaful to present a significant model to understand the demand for takaful policies in Malaysia.

Therefore, this thesis requires both quantitative and qualitative approaches to collect data and information for further detailed analysis within the limits of the data required for this study. This thesis undertakes two stages of data collection, household surveys and semi-structured interviews, in order to collect primary data. This chapter is divided into three main sections. The first section describes the insurance and takaful industry in Malaysia, followed by a quantitative approach in the second section and a qualitative approach discussed in the following section.

2.2 Overview of insurance and takaful in Malaysia

In Malaysia, a dual banking system policy emphasises that a conventional financial system operates in parallel with an Islamic financial system; this includes the insurance and takaful industry and provide alternatives so consumers and choose their own financial preference (Central Bank of Malaysia, 2005). The takaful industry adds a significant collaboration to the overall Malaysian financial system, specifically the insurance system, and creates a competitive financial environment for both industries. This side-by-side insurance and takaful operation approach has proven to be workable and provides an innovative platform offering various products to the consumer.

The insurance sector is one of the key players in Malaysia's financial services industry, and provides support to Malaysia's economic development (Mansor, 2000). This sector is also one of the most essential financial services in Malaysia and is large in terms of its capitalisation, business turnover and number of employees (Hing, 2012). Malaysia's insurance industry landscape is largely patterned on the British system during the colonial period in the 18th and 19th centuries (Ahmad and Sungip, 2008). Malaysian corporate insurance companies increased from six in 1963 to 51 in 1997 and is dominated by the local incorporation of foreign branches (Mansor and Radam, 2000).

However, the introduction of the Insurance Act 1963 paved the way for the participation of foreign firms. The number of foreign companies later reduced, and only two foreign insurance companies were left in the insurance market in Malaysia by 1999. This restructuring process took place through reincorporation and mergers with domestic companies. This initiative was taken by the government to encourage the participation of local insurance companies, as reflected in the New Economic Policy (Mansor and Radam, 2000).

In addition, the government played an important role in the restructuring of insurance companies, following the Insurance Act 1963, through legislation and tax incentives (Hing, 2012). The Insurance Act 1996 replaced the previous Insurance Act 1963; it made significant changes in terms of the legislative framework and improving the supervision and regulation of the insurance industry (Ahmad and Sungip, 2008). In addition, the Malaysian Insurance Association (MIA) was formed in June 1975 to play an important role in the insurance industry, followed by the creation of the General Insurance Association of Malaysia (PIAM), while the Life Insurance Association of Malaysia (LIAM) was formed in 1977 to support the life and general insurance industry in Malaysia. PIAM and LIAM were established to promote a healthy insurance industry environment that will benefit both general and life insurance.

In the early 1970s, medical and health insurance was structured in Malaysia in order to manage the risk of personal accidents, workmen's compensation and motor insurance by providing basic coverage. This financial risk management developed into various types of policies that responded to the demand and needs of insurance clients in order to help them to deal with any unpleasant incidents, including health crises. Three major crises are covered in insurance policies: hospitalisation, surgical insurance, and severe disease.

In 2003, insurance premiums accounted for 5.1% of Malaysia's nominal gross national product, and in 2007, the assets of life and general insurance funds showed a double digit growth of 14% to RM116 billion (Hing, 2012). During 10 years of insurance industry operations, the market penetration increased significantly from 11.4% to 31% in 1999, while the total paid-up capital of the industry and average capitalisation per insurer increased by 532.4% and 476%, respectively. Currently, there are 22 general insurance providers and 14 life insurance operators with various packages of insurance protection offered to the Malaysia population (Central Bank of Malaysia, 2020b).

The Financial Sector Masterplan 2001–2010 highlighted three important phases in improving the insurance industry in Malaysia. Phase I is the early stage, aimed at building the capabilities of domestic insurance by encouraging product innovation in the market and effective distribution channels. The second phase aims to promote consolidation and strengthen incentives to improve performance as a preparation for phase III. The next phase, phase III, focuses on stimulating innovation in the insurance market through progressive liberation of the insurance sector. This phase opened up new opportunities for new insurance players and created a competitive insurance market in both general and life insurance.

In general, the insurance sector recorded high profits in the second half of 2019 compared to the same period in 2018. This positive growth was mainly attributed to the gains in investments in debt instruments as interest rates declined (Central Bank of Malaysia, 2020). Life insurers' income continued to show strong growth in the first half of 2019, while the profitability of general insurance declined due to weaker underwriting performance.

Looking back 30 years ago, only 1 in 10 Malaysians had a life insurance policy; today this has increased to 3.5 in 10 Malaysians (*The Star Online*, 2018). This situation appears to show a positive outlook, although it is a small percentage that is affected by high out-of-pocket healthcare spending, a low market penetration rate for insurance, and other external factors. However, in November 2017, the Central Bank of Malaysia introduced a microinsurance scheme, *Perlindungan Tenang*. This was based on three important criteria, namely, affordability, accessibility and simplicity.

According to LIAM, the total premiums for life insurance rose by 14.19% to RM11.8bn in 2019 compared with RM10.3bn in 2018. The healthy performance of the life insurance industry might be related to awareness among consumers of the significance of having life insurance protection. Furthermore, new policies issued in 2019 revealed an increase, and investment-linked policies are among the products with high consumer demand.

In addition, the general insurance sector developed modestly in 2018 due to a steady expansion in motor and fire business, which grew by 1.9% and 3.3%, respectively. However, the general insurance industry showed a drop for the first six months in 2019 as compared to 2018 because of several challenges, including a low penetration rate and escalating claims. The general insurance association (PIAM), together with the insurance companies, continued to launch a range of new general insurance products in 2019 to offer protection and insurance benefits across all segments of the population.

On the other hand, the history of the takaful industry in Malaysia started in October 1982, when the Malaysian government established a Special Task Force to explore the viability of setting up a takaful company. The takaful industry in Malaysia was developed to complement the operation of the Islamic bank (established in 1983) and to provide a Shariah-compliant alternative to conventional insurance. As a result, as recommended by the Task Force, the Takaful Act was passed in 1984 and Takaful Malaysia was established as the first takaful service in Malaysia in 1985. This increased to four takaful operators in the market in 2004, with 16,316 registered takaful agents. As of 2020, 15 registered takaful operators were found to be providing family and general takaful services in the market (see Table 2.2). Market penetration was only 0.1% in 1990; this slowly grew to 5.1% in 2004, and increased to 15.2% by 2018.

Table 2.1: List of takaful operators

No	Name	Ownership
1	AIA PUBLIC Takaful Berhad	F
2	AmMetLife Takaful Berhad	L
3	Eiqa Family Takaful Berhad	L
4	Eiqa GeneralTakaful Berhad	L
5	FWD Takaful Berhad	L
6	Great Eastern Takaful	F
7	Hong Leong MSIG Takaful Berhad	L
8	Prudential BSN Takaful Berhad	L
9	Sun Life Malaysia Takaful Berhad	L
10	Syarikat Takaful Malaysia Am Berhad	L
11	Syarikat Takaful Malaysia Keluarga Berhad	L

12	Takaful Ikhlas Family Berhad	L
13	Takaful Ikhlas General Berhad	L
14	Zurich General Takaful Malaysia Berhad	F
15	Zurich Takaful Malaysia Berhad	F

Source: Central Bank of Malaysia *Status of Ownership (L) Local (F) Foreign

There are three important phases in the development of the takaful industry in Malaysia. Phase 1, from 1984 to 1992, started with the enactment of regulatory law and the first takaful operators being established. During this phase, the main aim was to establish the basic infrastructure of the takaful industry. It was also the phase where Shariah committees were set up in order to ensure that takaful business operations complied with Shariah principles at all times.

The second phase started in 1993 and lasted until 2000. This stage saw a more competitive environment in the takaful industry with the entry of another takaful operator. This phase emphasised the formation of the ASEAN Takaful group in 1995 and the establishment of ASEAN Retakaful International in 1997. The third phase began in 2001 with the launch of the Financial Sector Masterplan (FSMP). This enhanced the legal, Shariah and regulatory framework as well as promoting the development of the takaful industry in Malaysia. In 2002, the Malaysian Takaful Association (MTA) was established to promote harmonisation and cooperation among takaful players in this industry (Central Bank of Malaysia, 2005). This phase lasted until 2010.

Today, there is a better risk management approach to deal with losses or disasters. The takaful industry in Malaysia has developed successfully and is recognised as a significant factor that contributes to the Islamic financial system as a whole, with more significant financial regulation under the Islamic Financial Services Act 2013 (IFSA). In addition, the takaful family market leads in the Malaysian market, compared to the general takaful market share (Ismail et al., 2017). Overall, the global takaful market reached US\$19bn in 2017, a Compound Annual Growth Rate (CAGR) of 13% from 2013–2017. The market is further estimated to exceed US\$40bn by 2023 (IMARC Group, 2018). In terms of regulation, Malaysia continues to lead the takaful industry by implementing a risk-based capital (RBC) framework (Ismail et al., 2017).

Despite the robust growth of the takaful industry in local and global markets, the penetration rate for takaful in Malaysia remained low (14.8%) in 2017 compared to conventional insurance (54%) (*Global Islamic Finance Report*, 2017). Moreover, in

2019, the penetration rate for family takaful business was 15.9%, compared to 15.3% in the previous year (Malaysian Takaful Association, 2019). Based on the *Global Islamic Financial Report* (2017), the takaful industry has faced many issues, including low penetration rates, lack of human capital, inadequate technological capability, ineffective governance practices and lack of business model innovation.

The general takaful contribution increased to 8% in 2018, compared to 6.3% in year 2017. The main business in the general takaful sector includes motor takaful, medical and personal accident coverage and fire plans. Similarly, for family takaful products, family business contributions rose by 13.1% to RM4.9 billion in 2018.

In Malaysia, it was shown that there was a gradual development of the microtakaful sector when Takaful Ikhlas launched a microtakaful scheme in conjunction with the Farmers Welfare Federation of Malaysia to fulfil the needs of poor farmers (Brugnoni, 2013). This scheme was funded by the government and provided immediate death expenses that covered 100,000 members. Takaful Ikhlas also has an agreement with the Selangor Zakat Centre, representing ten Takaful fund agencies.

In the meantime, the Financial Sector Blueprint 2011–2020 emphasises the importance of developing microtakaful to provide financial security to the under-served segment. A comprehensive discussion paper on microtakaful and microinsurance sought comments from stakeholders in the takaful and insurance sector for an effective framework for microtakaful products. The next important year was 2017 when Perlindungan Tenang was launched. They offered an affordable microtakaful plan to encourage takaful operators to offer microtakaful products to serve the needs of the lower income segment.

Furthermore, BNM launched Perlindungan Tenang in order to provide a takaful policy that is affordable, accessible, easy to understand, easy to claim on and offers good value for the targeted low income population. This action taken by BNM attracted the interest of insurers and takaful operators by introducing simple, low premium takaful protection using several agents and selected agencies. With four main elements in this plan, affordability, simplicity, accessibility and an easy claim process, this microtakaful plan aimed to offer important financial planning for future protection against death, fire or other unfortunate events.

The monthly contribution can be a few Ringgit a month; this is short-term financial protection using a yearly renewable microtakaful plan. In order to increase the awareness of and demand for this microtakaful plan, the policy prepared a simple and easy to understand procedure; in addition, claims made by the participant or beneficiaries with the completed required documents would be paid out within five working days. In 2019, ten Perlindungan Tenang products were available online in the market as an initiative by the government with the collaboration of takaful and insurance operators.

There are three takaful operators involved in providing microtakaful schemes under Perlindungan Tenang: AIA Public Takaful, Prudential BSN Takaful and Takaful Ikhlas (*Malaysian Takaful Association – Perlindungan Tenang*, 2017). AIA Public Takaful offers an AIA-I Stater plan with a coverage period of up to one year; this has death benefits and a choice of coverage, from a minimum of RM10,000 to a maximum of RM30,000. This is a simple and affordable family takaful plan that can be subscribed to online and has an easy application procedure. Prudential BSN Takaful has a ‘Lindungi’ microtakaful plan for consumers between the ages of 19 and 69 years that offers death coverage and total and permanent disability benefit. The contribution to the ‘Lindungi’ microtakaful plan is as low as RM50 per year, depending on the participant’s age, gender, health status or occupation; it offers financial protection to manage the occurrence of risk. This is a yearly renewable family takaful term plan that provides a sum covered of RM30,000 or less.

Third, the ‘Agro Mabrur-I’ is a comprehensive microtakaful protection package offered by Takaful Ikhlas to cater for the needs of those in the community wishing to have some basic financial protection. The coverage is up to RM80,000, with fees as low as RM0.20 per day. There are three plans provided with various benefits; these include death or total and permanent disability (natural or due to an accident), hajj by proxy, endowment and funeral expenses.

There are also free microtakaful protection plans in the market, designed especially for eligible low-income households; these are known as “My Salam” or national B40 protection schemes. These products operate as a trust fund governed and managed by a board of trustees; they cover critical illness and hospitalisation income replacement of up to RM700 per calendar year and at any government hospital.

The total coverage for microinsurance and microtakaful in Malaysia was 3.84% in 2012, as reported by the Landscape of Microinsurance in Asia and Oceania (Mukherjee *et al.*, 2013). The growth in Malaysia is mainly because of microtakaful protection plans; they were introduced to cover small and medium businesses, micro-enterprises and individuals, and shock events such as death, illness, accident, fire and loss of property. The next section explores the quantitative and qualitative methodology applied in this study to understand the demand for takaful and microtakaful in Malaysia.

2.3 Quantitative Data

This section discusses the quantitative approach used in this thesis, including ethical considerations, sampling strategy, data collection procedure, structure of the questionnaire and measurement of the variables used.

2.3.1 Ethical Consideration

Any research usually considers ethics and how the researcher deals with ethical issues and conflicts. For this purpose, the following steps were taken before the research project, and during and after the fieldwork. First, a formal ethical review application was made online via the student portal of the University of Sussex (see Appendix: Figure 2.6).

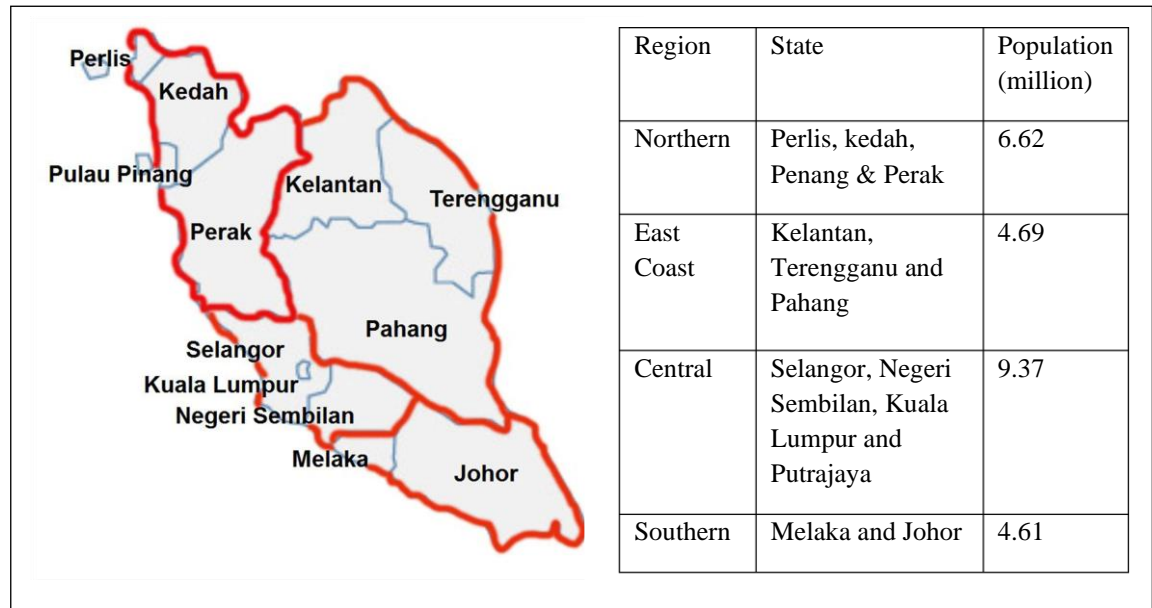
Second, formal permission was obtained from the Economic Planning Unit, the Department of the Prime Minister in Malaysia (see Appendix: Figure 2.5) and the authorities in this study area to do research, particularly in Malaysia. Then, verbal consent was obtained from each respondent, and any information given by the respondents remains unidentifiable and confidential. Anonymity and confidentiality are maintained through the use of a respondent code in order to protect the personal information of each respondent.

2.3.2 Sampling Strategy

The sampling process involves the collection of data on a particular topic decided by the researcher. By selecting the samples properly, it provides a sufficient amount of information to be used. According to Hair *et al.* (2007), the sampling process usually consists of five procedures that define the target population, select the sampling framework, select the sampling method, determine the sample size, and implement the sampling plan.

The fieldwork for this study focuses on four regions, namely, the central region, northern region, east coast region and southern region, as shown in Figure 2.1. These regions were chosen because of the diversity of the Malaysian population and used in the survey questionnaire to collect data from households. In total, about 25.29 million people live in these four regions.

Figure 2.1: Regions based on states in Malaysia



Source: Author's Illustration

These four regions were selected according to the availability of data and takaful ownership. Due to the limited access to sample information, 750 respondents in the four regions were selected, using a different approach for each region. To ensure a good decision model, the sample size (n) is determined from population size (N) based on the Krejcie and Morgan (1970) sample size determination table. As the sample size increases, the sampling error decreases (Bryman, 2012).

A sample size of 750 is adequate and in line with the previous studies on microinsurance demand in Ghana and Sri Lanka, with sample sizes of 330 participants, 350 participants and 399 participants, respectively (Arun and Bendig, 2010; Giesbert, Steiner and Bendig, 2011; Arun, Bendig and Arun, 2012; Erlbeck, 2017).

The sampling unit for this study is individuals who have or have not participated in takaful. This target population is relevant to this study and is based on the main objective,

which is to identify the involvement of people participating in takaful. In order to answer the research questions, households were selected based on the area of interest of this study, which is takaful and microtakaful participation.

A purposive sampling method was applied to select a sample size for identifying takaful and microtakaful clients and non-clients. A contact list provided by a takaful provider was used for takaful and microtakaful clients. For this research, the list provided is strictly confidential and takaful and microtakaful clients were randomly selected from the list supplied. Apart from the list, verbal consent was obtained from each respondent and the survey was completed using a face-to-face interview technique. For non-takaful clients, the respondents were purposively selected from block housing in that area through face-to-face interviews to answer this study's research questions.

2.3.3 Data Collection Procedure

In this study, quantitative data collection involved an interviewer completion method, which directly engaged with the respondents through face-to-face interviews. This study is based on a household survey conducted in Malaysia in which the data set represents four major Malaysian regions. One of the purposes of the survey is to investigate and obtain information in order to observe and understand the demand for takaful and microtakaful services. From the primary data collection, it can be seen that this study attempts to demonstrate why some people participate in takaful and some people do not. An essential part of the research is primary data collection to obtain the required information from the respondents.

Data were collected by sending a formal request to takaful and microtakaful providers as well as JKM (Department of Social Welfare), takaful agencies and zakat authorities. Unfortunately, the feedback received from them was insufficient and not encouraging due to the long-distance communication, which consumes some time while waiting for their feedback.

For each selected respondent, the individual was personally contacted, when they were informed about the study and their willingness to participate was explored. In this survey, respondents had the choice to decline participation. Several respondents refused to participate in this survey mainly because the survey was carried out by telephone.

Data were collected through a structured questionnaire using binary and 5-point Likert-scale survey questions and closed-ended questions in order to measure the effect of each variable. The questionnaire was prepared in English and then translated into Malay. The instrument was divided into several parts, including a questionnaire covering socio-economic and demographic characteristics, shock experience, risk-coping mechanisms, financial behaviour, social capital, takaful participation and trust in takaful. A total of 650 completed surveys from four regions were obtained from two strata of takaful clients and non-takaful clients. The response rate was approximately 87% of the 750 total questionnaires distributed.

The fieldwork lasted for four and was carried out with the assistance of five enumerators, it provided the required information for this study within the time constraint. The sampling frame for the survey consisted of four main regions in Peninsular Malaysia, as shown in Figure 2.1. The data used in this study were obtained from a survey conducted in these selected areas from August to December 2017.

The survey used a paper-based method with data stored in both a digital system and on paper. All the information obtained from the respondents was recorded in an online survey to avoid any future difficulties. The online survey was used to convert and extract data put into digital files in Excel and later uploaded to Stata to analyse. These steps were taken to reduce errors in data entry. From the 650 surveys collected, only 635 were completed due to the absence of some values. Hence, the remaining surveys were rejected.

2.3.4 Structure of the Questionnaire

The questionnaires and instruments were adapted from previously validated research scales with some modifications being made in order to fit the interests of takaful research (see Appendix: Figure 2.5). In addition, questions were adapted from previous research conducted by Paulin and Dietz (1995), Giné, Townsend and Vickery, (2008), Cole, Sampson and Zia (2010), Huber (2012) and Saqware (2012), as well as adapted from a takaful perspective. The questionnaire contains seven sections, which are described below:

i. Section A:

Section A was designed to elicit socio-demographic and socio-economic information about the respondent. Each respondent was asked to indicate their gender, household size, monthly income, age, marital status, educational level, number of dependents, employment, religion, region and location.

ii. Section B:

This section aimed to study financial inclusion by exploring the financial services used by each respondent. Respondents were asked about their experience of using financial services offered in the market, and what types of financial services were used by them. The financial services listed in the questionnaire are bank accounts, loans, finance, credit cards and online banking

iii. Section C:

In this section, respondents were asked about their shock experience over the past three years and how often their household had experienced shocks over the past three years. This included death, accident, illness and other shocks such as property damage and losing a job.

iv. Section D:

This section attempted to access the risk-coping mechanisms of the respondents and how frequently risk was mitigated using these mechanisms. These risk-coping strategies included no coping action, using one's own funds, getting an additional job, getting free of charge help, borrowing, takaful, *Rahnu*, ROSCA and selling household assets.

v. Section E:

This section explored the financial literacy of the respondents. It covered the agreement of the respondents with saving and borrowing in their daily financial practice.

vi. Section F:

Section F required respondents to indicate the extent to which they agreed or disagreed with a series of five independent statements on the social capital indicator. The questions asked were related to their society and social practices in their neighbourhood area.

vii. Section G:

This section asked respondents whether they participated in any takaful policy on the market and if they subscribed to what types of takaful policies in the market. This section was also designed to ask the respondents about their trust in takaful services in Malaysia and their knowledge of takaful policies.

The structure of the questionnaire structure was designed to probe all the factors related to takaful and microtakaful demand as well as the strength of the relationship between those two. All the enumerators were trained in order to ensure that they understood the questions and the requirements of this study.

2.3.5 Measurement of Variables

2.3.5.1 Dependent variable

1) Takaful and microtakaful demand

Table 2.3, below, shows two categories of takaful policies used by households. These categories indicate whether or not households have takaful or microtakaful policies. Of all respondents, 66% were non-takaful clients, while only 19% had microtakaful coverage. The question on takaful participation asked: “Have you participated in any takaful schemes offered in the market?”

Table 2.2: Distribution of respondents based on takaful participation

Type of Takaful	Client	Non-client
Takaful	218	417
Microtakaful	121	514

Source: Author’s calculation

2) Trust in takaful

The dependent variable for the third essay in Chapter 5 is trust in takaful. The respondents then chose the main item of trust to evaluate their agreement with trust by stating: “I do trust takaful.” The original item was measured using a 5-point Likert scale and recoded

into dichotomous variables, 1 if the respondents trusted takaful and zero if they doubted takaful services, for further descriptive analysis. Table 2.3, below, reports the frequency distribution of amalgamated trust attitudes among respondents.

Table 2.3: Trust among respondents (5-point Likert Scale)

5-point Likert scale	Frequency	Percentage
Strongly agree	16	3.04
Agree	217	41.25
Neutral	257	48.86
Disagree	29	5.51
Strongly disagree	7	1.33

Source: Author's calculation based on survey data

Table 2.4: Trust in takaful services (N= 526)

I do trust takaful (N = 526) respondents who know about/are aware of takaful		
Yes/no	Freq.	Percentage
Agree	233	44.30
Disagree (neutral, disagree)	293	55.70
Total	526	100

Source: Author's calculation

Furthermore, Table 2.4 presents the distribution of respondents based on takaful participation and trust. As can be seen from the table, there were 87 respondents who participated in takaful who had doubts regarding it. However, there were 102 respondents who trusted in takaful schemes, but they did not participate in takaful. There may be several factors that contribute to their decision-making regarding whether or not to participate in takaful, even though they trust it.

Table 2.5: Distribution of respondents based on takaful Participation and trust

N = 526 (Respondents with Takaful Knowledge)			
Variable	Trust in takaful		Total
	Yes	Otherwise	
Takaful client			
Yes	131	87	218
No	102	206	308
Microtakaful client			
Yes	67	54	121
No	166	239	405

Source: Author's calculation

2.3.5.2 Independent variable

In addition to independent variables, participation in a takaful scheme and trust in takaful may also be associated with different characteristics. These factors are included as control variables in the analysis and comprise socio-demographics, socio-economics, shock experience, risk-coping mechanisms, financial literacy and social capital.

i. Socio-demographic factors

(a) Gender

Gender in this survey is categorised into female and male.

(b) Household size

Household size is the number of people living in the same household. This variable is used as an indicator of individual risk exposure as a larger household size is most likely to experience shock and risk. Three household sizes are used in this study, 1–3 people, 4–6 people, and more than 6.

(c) Age

There age the respondents are grouped into four categories: 20–30 years old, 31–40 years old, 41–50 years old and 51 years old and above.

(d) Marital status

Marital status is categorised as follows 1) Married 2) Other (single, divorced, other)

(e) Dependent

The number of dependents was recoded and categorised into: none, 1–3 dependants, 4–6 dependants and more than 6 dependants.

(f) Education level

Based on the survey questionnaire, this variable was recoded into four groups: higher education level, tertiary level, secondary level, other.

(g) Location

Each respondent was asked about their current location and this was recorded as urban or rural area.

(h) Religion

The majority of respondents are Muslims and this variable is grouped into two: Muslim, other.

(i) Region

Four regions represent the respondents: northern, east coast, central, southern.

ii. Socio-economic factors

1. Income

Income determined the economic status of each respondent. In the questionnaire, monthly income was recoded into three groups: 1) less than RM1000; 2) RM1001–RM2000; 3) RM2001 and above.

2. Employment

Employment status was recoded as follows: government employee, private sector, self-employed, not employed.

iii. Financial inclusion

Financial inclusion was measured by asking about respondents' experience of using financial services in the market. Several financial services were listed in the questionnaire including bank accounts, loans, finance, credit cards and online banking. The respondents' responses were recorded as a dichotomous variable: value 1 if the respondents ticked the list provided, 0 otherwise.

iv. Shock experience

This section asked the respondents about how often shock experiences had occurred to them or their household members over the previous three years. The original variable was measured using 5-point Likert scale variables: almost always, often, sometimes, seldom and never. A variable called "frequently happens" was recoded as a dichotomous variable: value 1 if the respondents almost always or often faced shocks over the past three years, 0 otherwise.

v. Risk coping strategies

This section covers the risk coping mechanisms used by respondents. It includes 13 risk coping strategies: no coping action, use own funds, get an additional job, get free of charge help, donations, get assistance from employer, borrow from relatives or friends, borrow from a credit union, borrow from a bank, takaful, ROSCA, Rahnu, sell household assets. All of these variables were measured using 5-point Likert scale variables: almost always, often, sometimes, seldom and never. These risk-coping mechanisms were also recorded for further analysis as dichotomous variables.

vi. Financial Literacy

Financial literacy provides information on the agreement of each respondent regarding their financial behaviour, in particular savings behaviour and borrowing activity. D

Information on different items was requested from the respondents based on measurement using 5-point Likert scale variables: strongly disagree, disagree, not sure, agree and strongly agree.

vii. Social capital

This section asked the respondents about their agreement with social capital statements. Several statements concerning social capital elements were used to measure their level of agreement for each of these variables. The original variables were measured using 5-point Likert scales.

2.4 Qualitative data

This research also attempts to investigate the reasons why the uptake of microtakaful is low, especially in Malaysia as an emerging market. Additionally, it explores the current situation and challenges faced by microtakaful providers, especially those operated by corporate agents whose participants engage directly with the clients. Semi-structured interviews were undertaken in an attempt to obtain a more precise understanding of the issues facing microtakaful providers. This section examines several elements: (1) research design, (2) data collection, (3) data analysis.

Respondents were referred to the complete group of elements related to this research. The respondents were selected on the basis of the degree of homogeneity of their experience and involvement in the microtakaful industry. A purposive sampling method enhances the efficiency and effectiveness of the information required by selecting respondents for a specific purpose. Moreover, this sampling method selected those respondents who were willing to participate in this study, and who could provide information about the low uptake issue in the microtakaful market.

There are several microtakaful providers in Malaysia, including corporate agencies, cooperative and microfinance institutions, as well as the government. In this study, the sample consists of three microtakaful providers that are relevant to the present research. Since the study aims to explore why the take-up of microtakaful is low, the selection of microtakaful providers to be used as research subjects should be engaged in offering low monthly takaful contributions. This is useful to obtain the opinions and perceptions of practitioners in the microtakaful market, since they are involved and experienced in this area. This study will look at the views and understanding of the practitioners of the demand problems and challenges faced by them in Malaysia.

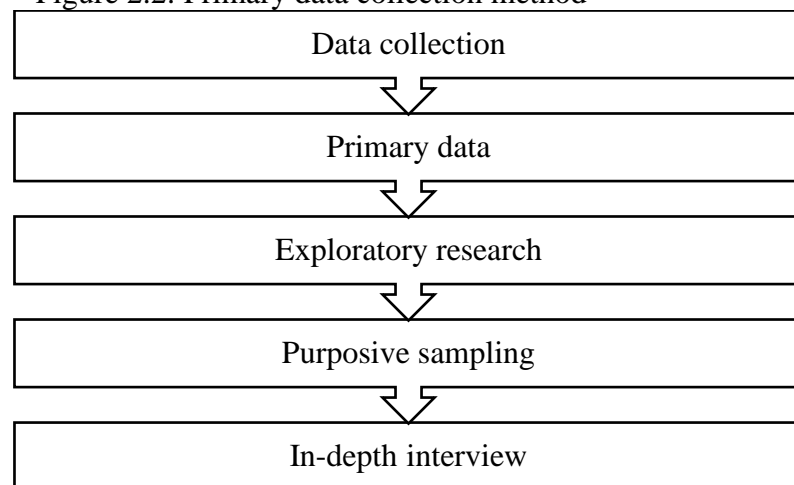
2.4.1 Research design

This research uses an exploratory approach to allow deeper insights into the issues faced by microtakaful providers. An exploratory approach is appropriate in instances where the purpose is to study in depth, issues which have rarely been investigated. It is used to discover ideas and find answers to the research questions.

This explanatory design is also useful for this research as the research questions are vague and unclear: In addition, there is little theory available to develop propositions. This research design was selected and developed to obtain a better understanding of current problems in the microtakaful market. Therefore, this research did not intend to test any specific hypothesis, but to obtain a better understanding of the issues of microtakaful schemes and follow-up schemes that meet customer demand.

The numerous constraints faced by microtakaful institutions in Malaysia pose a challenge for researchers seeking to study developments and issues arising within the microtakaful market. Nevertheless, three cases were chosen to illustrate the current situation in this area, and further developments on this topic can be taken into consideration. The research questions primarily involve the discovery and clarification of several issues, so an explanatory approach is the best research design. In addition, it is a useful approach to explain the current problem. The two principal ways of conducting exploratory research are (1) a literature search, and (2) talking to experts on the subject through in-depth interviews.

Figure 2.2: Primary data collection method



Source: Author

Therefore, this study relied on a series of interviews with officer and general managers in the field in order to obtain detailed information regarding microtakaful demand issues for analysis.

2.4.2 Data Collection

This research used in-depth interviews to investigate why the take-up rate is low for microtakaful schemes from the supply perspective and other issues faced by microtakaful providers. Data were collected from semi-structured interviews, this being the primary method of data collection, to further explore the issues arising for microtakaful providers offering microtakaful schemes. Semi-structured interviews were conducted with three respondents to capture the complexity of the phenomenon.

Furthermore, it was intended to gather insights into the problems and issues facing the microtakaful market in Malaysia. The interviews for this research were arranged after discussion and approval from both supervisors. After obtaining this approval, likely respondents were contacted through e-mails and phone calls: E-mail addresses were acquired from websites. The emails included an attachment with a covering letter explaining the objectives of the study, a consent letter and an information sheet about the research.

Interviews were conducted over a month-long period and averaged one hour in duration. To maintain consistency, all interviews were conducted by the researcher and tape-recorded with the permission of the respondent. One-to-one discussions between microtakaful providers and the interviewer were chosen carefully, because they offer some specialised insights. This technique is more comfortable for the discussion of potentially sensitive topics regarding the low demand for microtakaful schemes offered in Malaysia, especially when dealing with executives and top managers.

In an attempt to make each interviewee feel comfortable and at ease, the interviewer conducted the interview sessions in informal conditions to gather as much information as possible from the interviewee.

Table 2.6: Qualitative research strategy used by the researcher

Semi-structured interviews	General Manager State Corporate Agency
	General Manager Independent Corporate Agency
	Officer from Pos Malaysia Berhad

Source: Author

Table 2.6, above, provides details about the respondents from the semi-structured interviews for this research. The unit of analysis for this topic is a corporate agent that

offers microtakaful schemes; this can be easily identified from the research focus and research objectives. Two managers and one officer were interviewed in total. The respondents were from the state corporate agency, GLC (Government Link Company) and an independent corporate agency. The discussion focuses on a broad microtakaful overview and issues as seen by the officers, especially regarding the low demand for microtakaful schemes and other related issues.

To obtain this information and other data, the respondents were asked to identify their current line of takaful products and issues regarding the demand for this takaful segment. The interviewer also used probing questions to obtain in-depth responses from the respondents on certain issues. The researcher then asked them to give their opinion on recent issues related to low uptake and high claims, and to describe any problems that occurred while offering takaful schemes.

Each respondent was chosen due to their direct experience and first-hand knowledge of providing low-cost takaful products to customers. The researcher conducted a face-to-face interview with each respondent. Each respondent had been working as a takaful corporate agent for more than three years, and they were all familiar with current issues and policies pertaining to microtakaful products.

An interview question guide was developed based on previous research and a literature review. The interviews were recorded on a digital audio recorder and transcribed using NVivo software to ensure the accuracy of the interview transcripts; notes were also taken during the interviews.

Our aim is to identify and explore the demand issues that arise when offering microtakaful products to customers and potential customers from the perspective of microtakaful operators. To this end, the researcher developed a list of questions based on previous literature on the topic of microinsurance, to which a question specifically concerning the microtakaful element was added.

2.4.3 Data analysis

This research adopts a deductive method to explore issues arising from the deductive method using thematic analysis. Thematic analysis was done to summarize the data, identify constructs and investigate relationships based on the transcripts. Each case was

analysed before a cross-case analysis was performed. This study followed the steps suggested by Hair et al. (2007) when analysing qualitative data, including data collection, data reduction, data displays, drawing conclusions and verifying findings.

The data from the respondents were organised and guided by relevant themes. A data reduction process was employed to select, simplify and transform raw data into understandable data. This process was an important step in managing the amount of data and maintaining key points at the same time. The coding process in this study involved selecting coding units including words, themes and phrases to ease the understanding of the data. The selection of coding units represented particular key points and topics within a particular document.

In the coding process, the transcript was first read, and relevant passages were coded at the same time. Using Nvivo software, coded passages can be retrieved and reviewed repeatedly to reduce any mistakes or for data validation. All the themes in this research were transformed into codes in a codebook using a data reduction technique to build a theoretical model from the raw data; this was for the purposes of analysis at a later point. Clarke and Braun (2017) highlight using thematic analysis as it is reliable and very useful for describing the difficulties in understanding meanings within a textual data set.

After the data reduction process was completed, the data were displayed by organising information that was reduced to simplify reaching a conclusion. Data display identifies linkages and related findings for this research. The next step was to reach a conclusion from the information gathered and present this by deciding on themes and patterns in the data.

The verification process for this qualitative data involved checking and re-checking the data collected to ensure they were valid and realistic. The data were analysed using NVivo, which allowed coding the data into a number of significant categories relating to the core findings and propositions.

2.5 Summary

This chapter has presented the two main approaches used in data collection for this thesis. The main data were collected from household surveys and semi-structured interviews in Malaysia. Table 2.7 provides a summary of the data set and its use in this thesis:

Table 2.7: Summary of the thesis' data sets

No	Approach	Sources of Data	Data Usage
1	Qualitative	Semi-structured interview	Chapter III
2	Quantitative	Household survey	Chapter IV
3	Quantitative	Household survey	Chapter V

Source: Author

The next three chapters in this thesis use the data presented in this chapter to conduct an empirical analysis based on the research questions discussed previously.

2.6 Appendix

Figure 2.3: Survey questionnaire



Dear Respected Respondents,

You are invited to participate in a research study titled “Takaful and Microtakaful Demand in Malaysia”.
The survey will take only 15 minutes to complete.
The main purpose of this study is to examine the factors that influence Takaful and microtakaful demand in Malaysia.
The findings will be valuable to improve financial protection among Malaysian Households.

All the information is STRICTLY for the purpose of the research only and complete anonymity is respected. If you have any questions regarding this study, please contact me at syahidah33@yahoo.com.

Thank you for your participation. I look forward to receiving your valuable response and your direct contribution to the body of knowledge. Your kind co-operation is highly appreciated.

Yours sincerely,

syahidah

Nor Syahidah Ishak
PhD Candidate,
School of Business, Management and Economics,
Jubilee Building G08,
University of Sussex,
BN1 9SL Brighton, United Kingdom.

Section A: Profile of respondent

This section covers the background information of the respondent. Please answer all the questions by ticking (✓) in the appropriate boxes.

1. Gender
Male () Female ()

2. Household size
1-3 ()
4-6 ()
More than 7 ()

3. Age
20-30 ()
31-40 ()
41-50 ()
Above 50 ()

4. Educational level
Bachelor degree ()
Diploma ()
STPM () Certificate ()
SPM () PMR ()
Others (please state): _____

5. Individual monthly income.
Less than RM500 ()
RM501 - RM1,000 ()
RM1,001 - RM1,999 ()
RM2,000 - RM2,999 ()
RM3000 and above ()

6. Number of dependents
None ()
1- 3 ()
4- 6 ()
7- 9 ()
More than 9 ()

7. Employment
Government ()
Private ()
Self-employed ()
Not-employed ()
Student ()
Others (please state): _____

8. Religion
Muslim () others ()

9. Region
Northern: Perlis, Kedah, Penang & Perak ()
East Coast: Kelantan, Terengganu & Pahang ()
Central: Selangor, Negeri Sembilan, Kuala Lumpur & Putrajaya ()
Southern: Melaka & Johor ()

10. Location
Rural () Urban ()

11. Marital status:
Married ()
Single ()
Divorced ()

Section B: Financial Inclusion

This section is aimed at studying the financial inclusion.

Please answer all the questions by ticking (✓) in the appropriate boxes.

Have you own in any of the financial services offered in the market?

Yes () No ()

If yes, what types of financial service that use by the respondent

- i. Bank Account ()
- ii. Loan ()
- iii. Financing activities ()
- iv. Credit card ()
- v. Using online banking ()

Section C: Risk Assessment

		F1. Have any of the following risks happened to you or other household members in the last 3 years		F2. How many times has it happened in your household during the last 3 years? 1. Almost always 2. Often 3. Sometimes 4. Seldom 5. Never				
		1-Yes	0 -No	1	2	3	4	5
	Death & Accident			1	2	3	4	5
1.	Accident of household member leading to temporal disability/permanent disability	1	0	1	2	3	4	5
2.	Death (natural/unexpected)	1	0	1	2	3	4	5
	Illness							
3.	Illness of household member (hospitalization/ (surgical treatment needed/ without hospitalization, but needed visit to a doctor)	1	0	1	2	3	4	5
	Other Shock							
4.	Damage to property (flood/fire/)	1	0	1	2	3	4	5

Section D: RISK COPING MECHANISMS

- Did you take an action in response to the shock happen?
Yes () No ()
- Did you change the coping mechanism against shock happen?
Yes () No ()

Coping mechanisms	Almost always	Often	Sometimes	Seldom	Never
1) No coping action (i.e. neglecting the illness, not re-building the stolen assets, etc.)	1	2	3	4	5
2) Using own funds, depleting savings, etc.	1	2	3	4	5
3) Getting additional job (or working more)	1	2	3	4	5
4) Getting free of charge help (from working collective or the community/ relatives and friends)	1	2	3	4	5
5) Donation. (getting free of charge help, government, local associations, private persons, organizations)	1	2	3	4	5
6) Getting assistance from the employer (packages and formal help)	1	2	3	4	5
7) Borrowing from relatives and friends	1	2	3	4	5
8) Takaful	1	2	3	4	5
9) Using rotating saving association(Kutu)	1	2	3	4	5
10) Borrowing from credit unions	1	2	3	4	5
11) Borrowing from banks	1	2	3	4	5
12) Rahnu household assets in Rahnu shop (including jewellery, household consumer durables, etc.)	1	2	3	4	5
13) Selling household assets (including jewellery, household consumer durables, land, transport vehicles, house, etc.)	1	2	3	4	5

Section E: Financial Literacy

	Strongly disagree	disagree	not sure	agree	Strongly agree
1. Borrowing money is the only tool to respond to emergency situations	1	2	3	4	5
2. It is worth to plan my household finances for the next five years	1	2	3	4	5
3. Nowadays, everybody can save at least a small amount	1	2	3	4	5
4. Saving money is a way to build financial stability	1	2	3	4	5
5. It makes sense to save for an emergency	1	2	3	4	5

Section F: Social Capital

	Strongly disagree	disagree	not sure	agree	Strongly agree
1. I think a majority of the villagers can be trusted	1	2	3	4	5
2. I think the village leaders can be trusted	1	2	3	4	5
3. I think villagers concern issues that not only relate to themselves but also relate to others.	1	2	3	4	5
4. I think villagers will provide help if someone really needs it.	1	2	3	4	5
5. I will lend money to my neighbor if he/she faced a problem	1	2	3	4	5

Section G: Takaful Knowledge, Takaful participation and trust in Takaful

Please answer all the questions by ticking (✓) in the appropriate boxes.

- Have you heard about takaful? Yes () No ()
- Have you participated in any of the takaful schemes offered in the market?
Yes () No ()

If YES, please answer next question.

- Which product did you participate in?

	Yes	No	monthly payment
Health (illness & accident)			
Death			
Khairat kematian (Funeral)			
Motor/Vehicle			
Free takaful policies			n/a

- Trust in Takaful
I trust Takaful:

Strongly disagree	disagree	Not sure	Agree	Strongly agree
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Figure 2.4: Indicative interview question

Indicative interview question

1. Could you please describe the product offered by your institution?
2. Did it offered to the low-income population?
3. Is there any pertinent problem(s) arising from the current practice of microtakaful? Especially related to claim or renewal rate, dropout from the scheme or uptake issues?
4. Is there any issues arise regarding the benefit covered especially when dealing with claim by the clients?
5. How your institution attract/tried to market the product?
6. How do you approach a new potential participant?
7. How do you think about the market acceptance about this microtakaful scheme?
8. How is the microtakaful scheme received and accepted by your customer?
9. Did you faced any high claim problem among participants? What action does your company take against high claim from the participants?

Figure 2.5: Certificate approval from Economic planning Unit, Government of Malaysia



UNIT PERANCANG EKONOMI
 Jabatan Perdana Menteri
 Blok B5 & B6
 Pusat Pentadbiran Kerajaan Persekutuan
62502 PUTRAJAYA
MALAYSIA

Tel : 603-8000 8000
 Laman web : www.epu.gov.my

Ruj. Tuan:
 Your Ref.:

Ruj. Kami: UPE 40/200/19/3447
 Our Ref.: (7)

Tarikh:
 Date: 4 August 2017

Ms. Nor Syahidah binti Ishak
 33C Park Village
 University of Sussex
 BN1 9RD United Kingdom
 Email : N.Ishak@sussex.ac.uk

APPLICATION TO CONDUCT RESEARCH IN MALAYSIA

With reference to your application, I am pleased to inform that your application to conduct research in Malaysia has been approved by the **Research Promotion and Co-ordination Committee, Economic Planning Unit, Prime Minister's Department**. The details of the approval are as follows:

Researcher's name : **NOR SYAHIDAH BINTI ISHAK**
 Passport No./ I.C No : **861218-02-5556**
 Nationality : **MALAYSIAN**
 Title of Research : **"MICROTAKAFUL DEMAND AMONG LOW INCOME POPULATION IN MALAYSIA"**
 Period of Research Approved : **2 years and 2 months (4.8.2017-3.10.2019)**


2. Please take note that the study should avoid sensitive issues pertaining to local values and norms as well as political elements. At all time, please adhere to the conditions stated by the code of conduct for researchers as attached.

3. The issuance of the research pass is also subject to your agreement on the following:

- a) to ensure submission of a brief summary of your research findings on completion of your research;
- b) to submit three (3) copies of your final dissertation/publication; and
- c) to return the research pass to the Research Promotion and Co-ordination Committee, Economic Planning Unit, Prime Minister's Department.

4. Thank you for your interest in conducting research in Malaysia and wish you all the best in your future research endeavor.

Yours sincerely,



(AZRAL IZWAN BIN MAZLAN)

Macroeconomics Section
for Director General
Economic Planning Unit
Prime Minister's Department
Email: azral.mazlan@epu.gov.my / oridb@epu.gov.my
Tel : 03 88725277
Fax : 03 8883798

ATTENTION

This letter is only to inform you the status of your application and cannot be used as a research pass.

C.C.:

Bank Negara Malaysia
Jalan Dato' Onn
P.O. Box 10922
50929 Kuala Lumpur
(u.p. : Encik Aznan bin Abdul Aziz
Pembangunan Sektor Kewangan)

Ketua Pengarah
Jabatan Kemajuan Islam Malaysia, Jabatan Perdana Menteri
Blok A dan B, Kompleks Islam Putrajaya
No 23, Jalan Tunku Abdul Rahman, Presint 3
62100 Putrajaya
(u.p. : Encik Mohamad bin Saari
Pengarah
Bahagian Perancangan & Penyelidikan)

Ketua Pengarah
Jabatan Kebajikan Masyarakat
Aras 18
No 55 Persiaran Perdana
Presint 4, 62100 Putrajaya

Figure 2.6: Certificate approval from University of Sussex



Social Sciences & Arts C-REC
c-recss@admin.susx.ac.uk

Certificate of Approval	
Reference Number	ER/NI62/1
Title Of Project	Microtakaful Demand in Malaysia
Principal Investigator (PI):	Nor Syahidah Binti Ishak
Student	Nor Syahidah Binti Ishak
Collaborators	
Duration Of Approval	3 months
Expected Start Date	01-Jul-2017
Date Of Approval	06-Oct-2017
Approval Expiry Date	30-Sep-2017
Approved By	Ana Pereira
Name of Authorised Signatory	Ana Pereira
Date	06-Oct-2017

*NB. If the actual project start date is delayed beyond 12 months of the expected start date, this Certificate of Approval will lapse and the project will need to be reviewed again to take account of changed circumstances such as legislation, sponsor requirements and University procedures.

Please note and follow the requirements for approved submissions:

Amendments to protocol

- * Any changes or amendments to approved protocols must be submitted to the C-REC for authorisation prior to implementation.

Feedback regarding the status and conduct of approved projects

- * Any incidents with ethical implications that occur during the implementation of the project must be reported immediately to the Chair of the C-REC.

Feedback regarding any adverse(1) and unexpected events(2)

- * Any adverse (undesirable and unintended) and unexpected events that occur during the implementation of the project must be reported to the Chair of the Social Sciences and Arts C-REC. In the event of a serious adverse event, research must be stopped immediately and the Chair alerted within 24 hours of the occurrence.

Monitoring of Approved studies

The University may undertake periodic monitoring of approved studies. Researchers will be requested to report on the outcomes of research activity in relation to approvals that were granted (full applications and amendments).

Research Standards

Failure to conduct University research in alignment with the Code of Practice for Research may be investigated under the Procedure for the Investigation of Allegations of Misconduct in Research or other appropriate internal mechanisms (3). Any queries can be addressed to the Research Governance Office: rgoffice@sussex.ac.uk

(1) An "adverse event" is one that occurs during the course of a research protocol that either causes physical or psychological harm, or increases the risk of physical or psychological harm, or results in a loss of privacy and/or confidentiality to research participant or others.

(2) An "unexpected event" is an occurrence or situation during the course of a research project that was a) harmful to a participant taking part in the research, or b) increased the probability of harm to participants taking part in the research.

(3) <http://www.sussex.ac.uk/staff/research/rqi/policy/research-policy>

Table 2.8: Total population based on states in Malaysia (Million)

State	Population (million)	2017
Perlis	0.25	
Kedah	2.14	
Penang	1.74	
Perak	2.49	
Kelantan	1.83	
Terengganu	1.21	
Pahang	1.65	
Selangor	6.38	
Kuala Lumpur	1.79	
Putrajaya	0.09	
Negeri Sembilan	1.11	
Melaka	0.91	
Johor	3.70	

Table 2.9: Summary of independent variables

Socio demographic factors		
Gender	Frequency	Percentage
Male	346	54.59
Female	289	45.51
Household size		
1-3	205	32.28
4-6	321	50.55
More than 6	109	17.17
Age		
20-30	152	23.94
31-40	232	36.54
41-50	146	22.99
51 and above	105	16.54
Marital status		
Married	471	74.17
Others (single / divorce and others)	164	25.83
Number of dependent		
None	171	26.93
1-3	352	55.43
4-6	95	14.96
More than 6	17	2.67
Education		
Higher education	118	18.58
Tertiary	222	34.96
Secondary	247	38.90
Others	48	7.56
Location		
Rural	261	41.10
Urban	374	58.90

Religion		
Muslim	595	93.70
Others	40	6.30
Region		
Northern	118	18.58
East Coast	123	19.37
Central	258	40.63
Southern	136	21.42
Socio economic factors		
Monthly income		
Less than RM1000	184	28.98
RM1001 – RM2000	189	29.76
RM2001 – RM3000	158	24.88
Above RM3000	104	16.38
Employment		
Government	91	14.33
Private	270	42.52
Self-employed	149	23.46
Not-Employed	69	10.87
Others	56	8.82

CHAPTER THREE

Why is the take up for microtakaful low? The case of Malaysia

3.1 Introduction

Suitable risk management, such as microinsurance, is likely to decrease the impact when unexpected situations happen in the future, especially among the low-income population (Churchill, 2007; Dror, Radermacher, Khadilkar, Schout, Hay, Singh & Koren, 2009; Radermacher & Brinkmann, 2011). This chapter aims to look beyond the demand for microinsurance by specifically investigating the low microtakaful uptake from the supply point of view which is from the microtakaful provider perspective on this issue. In addition, this chapter intended to look at microtakaful specifically while the next chapter focused on takaful and microtakaful demand among Malaysian household.

Many developing countries have witnessed the important role played by microinsurance in providing better financial protection and safety net amongst the low-income population (Churchill, 2002). The development of microinsurance is seen as a trigger in providing support to the underserved population when facing any shocking or unexpected event that occurs. Islamic microinsurance is better known as microtakaful, being a form of microinsurance which adheres to Shariah principles. It is based on the spirit of brotherhood and cooperation among takaful participants and managed by takaful operators (Erlbeck *et al.*, 2011).

Despite the growing attention towards microinsurance, there are a limited number of studies that shed light on decisions to take up microtakaful. Although several studies report the problem of the low take-up rate for microinsurance, which is slightly similar to microtakaful, they commonly focused on a certain country that excluded the Malaysia context. That is why this study makes an important contribution towards the current problem of providing affordable microtakaful or insurance plans in developing countries.

The important of affordable microtakaful protection as an alternative risk coping mechanism have attracted an attention to research interests on studying the demand of microtakaful in managing any unexpected event. Microtakaful and microinsurance programmes play an important role in supporting the low-income population to achieve

economic and social development through various types of protection, in particular to help the poor escape from the poverty trap and lead better quality lives (Bakhtiari, 2013). The microtakaful target is to serve the low-income community and to help them move from the financial difficulties (Hasim, 2014b).

In addition, previous research has extensively analysed the factors influencing the demand for microinsurance, providing a comprehensive understanding on the challenges in offering microinsurance (Churchill, 2002, 2007; Ito and Kono, 2010; Arun, Bendig & Arun, 2012; Fiala, 2017). They commonly conclude with their own findings, which is applicable in the insurance and microinsurance context. Therefore, this study will compare and contrast with the previous literature on insurance and microinsurance and expects to provide a significant contribution to the body of knowledge in the microtakaful area. Furthermore, the literature on discussions related to microtakaful is scarce at the international and regional levels, and particularly so in Malaysia.

As part of its efforts to promote financial inclusion, the Central Bank of Malaysia (BNM) released a discussion paper on 18th April 2016 to facilitate the growth of microtakaful and microinsurance in the country (Bank Negara Malaysia, 2016). This discussion paper serves as a guidance for all takaful operators to develop their microtakaful products under the framework laid down by the Islamic Financial Service Act 2013 (IFSA). It is also an initiative taken to assist the takaful industry to achieve the targeted takaful and insurance penetration rate of 25% by 2020 by serving all segments of the population in Malaysia, including the underserved markets (Bank Negara Malaysia, 2016).

Microinsurance Landscape Record reported that the penetration rate for microinsurance coverage (mainly contributed by microtakaful policy) in Malaysia is quite low by 3.71% compared to Thailand (15 %) and Philippine (20%) (Mukherjee, Oza, Chassin & Ruchismita, 2013). The level of awareness and understanding towards microtakaful also still at low level (Salleh and Padzim, 2018).

Additionally, Bank Negara's financial inclusion and capability studies reported that only 6% of Malaysians could survive for more than six months, and 18% up to three months if they lost their main source of income. This is the low-income group, which makes up the bottom 40% of Malaysian households (Kok, 2016). In addition, a report by the Khazanah Research Institute (2016) indicates that more than 50% of the country's urban

households did not have any savings, and 20% would be only able to survive for less than three months if their incomes were cut off.

Thus, it gives a significant impact towards low-income households that are vulnerable to financial risk. In certain circumstances, they will fall into financial crisis and would face difficulties in any financial shock incident. Therefore, it is important to understand the issues behind the low penetration rate of microtakaful schemes as a financial protection to encounter unexpected shock events and mitigate their risk and increase the demand for microtakaful schemes.

Therefore, the motivation for this chapter is to explore the issues surrounding why people do or do not participate in takaful and microtakaful through the employment of semi-structured interviews. Moreover, it introduces expected utility theory and prospect theory in explaining the low take-up rate for microtakaful. The findings are expected to contribute in giving more justifications and explanations on the current situation for microtakaful demand and to lead into justification and support for the further exploratory analysis in the following two empirical chapters.

In order to bridge this gap, this research also attempts to explore the underlying issues pertaining to microtakaful demand and this study provide an evidence from research on microtakaful provider perspectives. All of these will shed some light on the current problems which have surfaced in the microtakaful market. To fill the above research gaps, this study specifically pursues and examines the following research questions: (a) Why the take up rate for microtakaful demand is low? (b)What are the specific constraints facing by microtakaful provider in offering microtakaful scheme?

Furthermore, this chapter also contributes in the literature by showing opinions from the microtakaful provider's perspective, and what we can learn from the findings to understand the demand for microtakaful. It also extends the existing model of demand for microinsurance in the microtakaful perspective by highlighting other important factors that have not received much attention in the microtakaful literature. This chapter also is one of the first attempts to study why the uptake for microtakaful is low from the microtakaful provider viewpoint.

This study chose an exploratory approach as a research method to fit the investigative nature of our research question. The data were collected through in-depth interviews with

officers and general managers who have working experience in offering low-cost takaful schemes. This primary qualitative dataset enables this study to explore the issues in microtakaful schemes and the factors that influence the low penetration rate for microtakaful demand.

The rest of this chapter is structured as follows. In the next section, this study will review the main literature on microinsurance demand and provide a background theoretical explanation about related theories. Then, this study will explain the research methodology including data collection and data analysis to draw findings. This study also illustrates the interplay between issues in the microtakaful market, including the factors that affect low demand for microtakaful in Malaysia, and the strategies from microtakaful providers' experiences. In conclusion, this study will highlight the main contributions for this research, together with implications for practices, limitations and suggestions for future research.

3.2 Literature review

3.2.1 Theoretical background

The previous literature discusses the arguments and theory dealing with insurance and takaful demand. Expected utility theory (EUT) and prospect theory clearly explain individual decision-making under risk (Tversky, 1975; Marquis & Holmer, 1986; John, 2001). EUT is a well-known theory that explains the decision-making model under uncertainty risk. Under EUT, a decision to participate in takaful or microtakaful is a choice made in an uncertain situation, it involves paying an agreed monthly subscription to help those that need assistance. This theory assumes that individuals who are risk-averse or risk-takers will make different decisions that have different impacts on their wealth. Risk-averse individuals will transfer or share risk through a microtakaful policy in the event of loss.

This is related to several considerations that are discussed before making any financial decision, such as whether they might become ill in the future or not, or their financial circumstances might change (Starmer, 2000). The more risk-averse that individuals are, the more insurance coverage they will buy, the more individuals will take out microtakaful policies, and the more coverage they will pay for. However, microtakaful decision-making is not only affected by risk aversion but also other related factors. The

EUT is not able to explain clearly the phenomenon of decision-making under risk (Schmidt, 2016).

Hence Prospect Theory developed by Kahneman & Tversky (1979) is used to extend the observations of the EUT. They argue that this theory is able to observe individuals' behaviour vis-à-vis risk (Starmer, 2000), and it involves future outcomes or gains or losses, relative to their wealth. This theory predicts how likely or not a rational individual is to take out a policy, and how much they will contribute to a policy depending on their current and future wealth or income (Camerer, 1998). This theory suggests that individuals make decisions to join microtakaful based on gains or losses, and they prefer gains to losses as expected outcomes.

Based on this theory, individuals believe that participating in any microtakaful plan is associated with losses or gains and will affect their expected outcome. Therefore, different individuals will emphasize gains based on their own decision-making as regards microtakaful participation, referring to their own capabilities and condition at the reference point. This theory predicts that loss aversion may decrease or increase insurance demand; this theory is applicable in the microtakaful context. Individuals may lose the benefit of monthly contributions if problems do not occur, or they may see microtakaful as a risky investment due to the intangible benefits provided. At the reference point, the decision to join microtakaful or not is based on gains and losses, and individuals tend to avoid losses so as to make equivalent gains. In addition, this theory assumes that individuals who like risk in evaluating losses are likely to participate in microtakaful, while individuals who are risk-averse in evaluating losses are less likely to join a microtakaful plan. However, other trigger factors not related to wealth or risk aversion will influence an individual's decision about microtakaful participation.

Thus, this study believes that EUT and prospect theory can explain the low take-up rates and seeks to offer further explanation of the underpinning theory to extend the previous theoretical approach and paint a complete picture of the factors that can be expected to influence low demand for microtakaful services; they can be used to answer the research questions. The main aim of this study is to explore the theoretical aspects that may explain the low uptake of microtakaful products and other related challenges faced by microtakaful providers in Malaysia. It focuses on three main aspects: low uptake, customer complaints and takaful risk.

3.2.2 Microinsurance demand and challenges

Shock events affecting poor households will reduce their assets and consumption, eliminate their source of income and lead to them falling into a poverty trap. There is a need for innovation in product design and services to serve appropriate programmes in term of coverage, accessibility and affordability in understanding supply and demand for microinsurance (Cohen et al., 2005).

In the past, low-income populations were ignored by the insurance industry, thus prevented from getting any protection; they faced many challenges to achieve this programme. Existing research recognizes the critical role played by microinsurance in increasing the level of protection among the poor population. The main challenge faced by microinsurance providers is to deliver suitable products to the target population; this is crucial in getting this insurance accepted by them.

One of the main obstacles concerns insurance knowledge and financial literacy (Clarke & Grenham, 2012; Black et al., 2013; Chummun & Bisschoff, 2014; Zimmerman & Magnoni, 2014). This problem has led to a low uptake of microinsurance because of the poor understanding of the benefits of this product.

This has been discussed and debated by many researchers, including Takahashi et al., (2016), Elabed & Carter (2015) and Ito & Kono (2010), who discuss the low rate of microinsurance uptake among the low-income population. The main disadvantage of this situation is that the goal of this programme, to protect the poor from the poverty trap, cannot be achieved. It has been reported that women comprise 70% of the world's poor: only 3% of the low-income population in the world's 100 poorest countries have microinsurance protection. It is important to have better products to respond to the needs of women, being more gender-sensitive, with the aim of reducing poverty and increasing profitability (Banthia et al., 2009).

To increase microinsurance take-up, Eskander et al. (2014) suggest enhancing the literacy rate among the poor, together with an awareness campaign and support from the main stakeholders. Despite the success of the microinsurance schemes introduced by various institutions, many fundamental problems and key questions remain unanswered, such as whether this scheme has been well delivered to the target population.

In addition, the scheme itself has problems with product design, as it does not match the demands of poor households. Generally, the poor and low-income population is less educated and has a low literacy rate. Thus, as the rules and regulations of the scheme are very complicated, they cannot be understood by the less fortunate.

Several studies have reported this problem, e.g. Chummun & Bisschoff (2014). These authors found that financial literacy is a major problem in South Africa, in addition to customers being hard to reach and low commission is paid to agents. This is similar to Zimmerman & Magnoni (2014) in terms of education and information challenges, but slightly different from those who have concluded that the challenges relate more to product and process design, regulation and financial dependability, capabilities and responsibilities. It is important to create a value proposition and trust through insurance knowledge among low-income people, therefore increasing financial inclusion within microinsurance products.

On these lines, Clarke & Grenham (2012) concluded that financial literacy within the target population is a really difficult situation. Microinsurance providers are more likely to convince potential subscribers to partake in microtakaful and build trust and awareness by providing accurate information. A simple approach is required to deliver information by explaining the procedures, benefits, claims process and documentation requirements to decrease the insurance literacy gap among the low-income population. Focusing on knowledge improvement in microinsurance will improve the client proposition and lower acquisition costs for clients (Matul et al., 2013).

In addition, microinsurance schemes today are driven more by supply than demand from the low-income population. Therefore, this will limit the effectiveness of the programme; it will need some innovations from microinsurance providers (Mosley, 2009). The problem of the mismatch between demand and supply has an indirect effect on acceptance among the target population. Moreover, the challenges faced in approaching the poor with a microinsurance programme are based on different countries' regulations and the industry itself (Clarke & Grenham, 2012; Akter & Fatema, 2011).

It is challenging to sell disaster microinsurance at low cost. However, it can be affordable to the target population with support from every sector, especially government, by

approving affordable product design, an awareness campaign to increase knowledge, a different approach to product delivery, and financial assistance for the uninsured.

On the other hand, in Bangladesh, the challenges to microinsurance supply have raised many issues; these include the microinsurance market structure being a stand-alone market with resulting low demand, poor governance and viability of the product. In addition, the current regulations in Bangladesh do not protect the client's rights (Akter & Fatema, 2011). The regulation problem in the microinsurance market could be improved to avoid incentives for regulatory arbitrage by boosting financial literacy and awareness of microinsurance characteristics (Biener et al., 2014).

In addition, the research done by Jütting (2003) states that microinsurance still cannot reach the poor, even though microinsurance providers are effective in terms of affordability and their insurance models. It gives new insights to explore more areas and institutions providing products, especially what the real determinants of demand for microinsurance are among the low-income population. There are many reasons for the low take-up.

Sinha et al. (2007) demonstrated that problems of dropout from existing participants of microinsurance were because most participants that left were less educated and poorer. The dropout rate was also related to internal management who did not contact participants to encourage them to renew their programme. This author found that to reduce dropout rates, contacting all participants should be managed effectively and systematically to enhance the efficiency and sustainability of the scheme.

Poor risk-management tools in uncertainty events give a bad experience to the low-income population as they will fall back into poverty or become hard-core poor. For instance, in Belize, Grenada, Jamaica and St Lucia, low-income individuals manage extreme weather events using different approaches, including savings (36%), borrowing (12%), government assistance (9%) and doing nothing (0.1%) (Lashley & Warner, 2015).

These phenomena, especially borrowing and doing nothing, will lead to other problems, such as loss of income source, loss of access to finance, depletion of assets, health problems and social isolation. One microinsurance type experienced problems with a community-based scheme regarding fraud. They faced difficulties in collecting regular payments, resulting in lack of progress of the programme. In addition, the low renewal

rate among participants creates an issue in community-based schemes that needs to be managed well to sustain the availability of the programme in the future (Ralf et al., 2006).

Another challenge in offering microinsurance to the poor is educating the target market about the importance of having this risk protection in the future. They are always doubtful about the intangible benefits of paying insurance premiums that may never be claimed if no shock event happens. Furthermore, there are negative perceptions of insurance companies that affect microinsurance providers wishing to introduce these programmes to the target population (Ralf et al., 2006).

3.2.3 Microtakaful demand

Microtakaful is also one of the mechanisms that offer the opportunity to eradicate extreme poverty and establish basic financial protection for this particular segment of the society. It is based on a concept that is somewhat similar to microinsurance, whereby a type of microinsurance aim to confers protection on people from the low-income group who have previously been excluded from the takaful and insurance industry.

There is very little research examining demand issues in Malaysia, or in Indonesia as a pioneer in offering microtakaful schemes. Moreover, microtakaful in Malaysia is still in the trial phase, hence it needs many collaborations from other institutions to become successful in the future. To date, only a few microtakaful schemes are offered by takaful institutions and other formal and informal organizations.

Salleh & Padzim (2018) examined the level of awareness and understanding among Malaysian SMEs towards microtakaful products through a questionnaire survey. The authors found that the levels of awareness and understanding towards microtakaful among them was were at a low level and that education level influences individuals' awareness of microtakaful in Malaysia.

Based on research by the Deutsche Gesellschaft (2014), regarding a market assessment of microtakaful in Indonesia, it was found that the price and benefits of takaful schemes were the most important factors for customer preferences, rather than whether a scheme was in line with Shariah or not. There were some different views of students and teachers at a local boarding school who were aware of Islamic principles and willing to buy a

microtakaful scheme if it was Shariah-based. This opinion is supported by Gor (2013), as the author also mentioned that proper regulation is needed to enhance the quality of microtakaful schemes. Regulators and authorities should take action to force people to have a takaful scheme. It can be seen that there are no studies that can be comprehensively used to explore demand issues from microtakaful providers' perspective in Malaysia.

Sukmana & Hidayat (2014) identified the challenges and opportunities in developing microtakaful market in Indonesia using library-based method. The authors found that insurance regulation, lack of awareness and shortage of human capital were the main challenges, while high economic growth, a huge population, a Muslim majority and the high growth rate of Islamic banking were opportunities. A qualitative study by Ya'u (2012) explored the opportunities for microtakaful business in Nigeria and examined the concept of takaful, along with taking a mirror look at microtakaful. The author also suggests strategies and modalities for the establishment of microtakaful companies in Nigeria. Hasim (2014a) proposed a conceptual model of microtakaful, integrating with other government financial support such as waqf, donation, zakat and grants.

Taken together, there are numerous studies that discuss the challenges and issues faced in microinsurance, but limited studies are found that explain why microtakaful penetration is low. In addition, there seems to be some evidence to help explore the question at the heart of this chapter: Why is the take-up of microtakaful low, while the theory assumes that microinsurance may increase protection for the poor against adverse shock? Do claims settlement and claim management issues exist in the microtakaful market? What efforts are made and actions taken in the microtakaful market to improve the level of uptake and microtakaful demand in Malaysia? The next chapter explains the methods used in this chapter.

3.3 Methodology

A qualitative approach was used in this study to develop an in-depth understanding of this unexplored field of study. The main purpose of this approach was to investigate the reasons for the low demand for microtakaful policies in Malaysia. In this study, semi-structured in-depth interviews were conducted with selected respondents to capture the complexity of the phenomenon. In-depth interview was used as a method to identify and

understand the low demand for microtakaful schemes in Malaysia. In-depth interviews are generally considered practical for a study that needs more information based on an individual's desire to explore new issues in depth (Boyce & Neale, 2006).

In this study, the sample consisted of microtakaful providers that were relevant to the present research to answer the research question of why the take up rate for microtakaful demand is low. Respondents were chosen using purposive sampling to select respondents for the specific purpose related to this study's aim, which is to provide comprehensive information on the main issue of low demand in microtakaful from the perspective of microtakaful providers. Purposive sampling enhances the efficiency and effectiveness of gathering the information required by selecting respondents for a specific purpose (Tongco, 2007). In addition, it was not possible to identify respondents using a typical sampling method as there was difficulty in finding willing respondents to be involved in this research.

Therefore, the microtakaful providers that participated in the interviews were companies or corporate agents who were ready to participate in the study and who could provide information about the low uptake issue in the microtakaful market. Additionally, they offer microtakaful plans to the Malaysian population regardless of the category of the population. Furthermore, the selection of respondents on the basis of similarity was based on their experience and involvement in the microtakaful industry, as suggested by Etikan (2016), to ensure they were relevant informants for this study.

Only three respondents from different types of microtakaful providers were interviewed in this study due to the difficulty in finding suitable respondents. In addition, the microtakaful market in Malaysia is currently in a growth stage of development (Bank Negara Malaysia, 2016) and there are only five takaful companies in Malaysia that offer microtakaful: Etiqa Takaful, Takaful Ikhlas, AIA Takaful, Syarikat Takaful Malaysia Berhad and HSBC Amanah (Razak et al., 2018; Salleh & Padzim, 2018).

The had tried to contact several microtakaful providers and corporate agents based on contact information available on their websites, but some of them were not ready to be interviewed and engage in this study. Only a sizeable sample can validate the situation in the microtakaful market, since there is limited access to respondents in the takaful market.

Hence, this study only found three suitable respondents to be involved in answering questions and discussing issues regarding the low demand for microtakaful in Malaysia.

A small number of the respondents can facilitate a close connection between the interviewer and respondents and enhance the in-depth interview setting, as well as clarify details about a specific situation (Crouch & Mckenzie, 2006). Similar to Baker et al. (2012), a very small sample can also facilitate an in-depth study, depending on the research setting, by the researcher and it is valuable for the research to access a population comprising elite respondents. It is useful to obtain the opinions and perceptions of practitioners in the microtakaful market since they are both involved and experienced in this area.

Usually, a small sample is selected on the basis of having an unsettling situation and focuses on the quality of the respondents rather than the quantity (Crouch & Mckenzie, 2006). An adequate qualitative research sample can vary from one to a hundred or more, based on the research setting and limitations. Additionally, this research does not intend to test any specific hypothesis, but rather to develop a better understanding of the issues facing microtakaful scheme uptake and challenges to meet customer demand.

3.3.1 Sample

Two managers and one officer were interviewed in this study. Each respondent was chosen based on their direct experience and first-hand knowledge of providing microtakaful products to customers and their familiarity with current issues regarding offering affordable takaful plans. The researcher conducted a face-to-face interview with each respondent. Each respondent had been working as a takaful corporate agent for more than three years, and they were all familiar with the current issues and policies pertaining to microtakaful products. The respondents were from a state corporate agency, a government linked company and an independent corporate agency (see Table 3.1).

Table 3.1: Summary of the respondents

Semi-structured interviews	General Manager State Corporate Agency
	General Manager Independent Corporate Agency
	Officer from Government Linked Company

Source: Author

The first respondent was a general manager in a state corporate agency. This microtakaful provider offers microtakaful services to all departments and agencies of the state government, whether corporate, private group or individual. They constantly promote microtakaful products in the state of Kelantan and to any other individuals across Malaysia. The Malaysian population is entitled to participate in any microtakaful plan provided by this microtakaful provider. This company offers several different products, including microtakaful plans and free takaful plans for older citizens (60 years and above). These cater to the needs of the community wishing to have some protection in the future in terms of funeral management. They also offer a personal accident microtakaful plan designed for all Malaysians from 18 to 64 years old for only RM12 (US \$3) per year. Participants of this plan will be paid in the event of death, and it also covers their medical expenses and comes with a hospital confinement allowance. Other microtakaful plans offered by this microtakaful provider include Kifaalah Takaful Ehsan, Kifaalah Takaful Rumah Desa for property and Kifaalah Takaful Kembara for travel.

The second respondent was a general manager in an independent corporate agency. This agency offers various plans in the market, including microtakaful, with additional packages such as funeral management and other benefits including personal accident cover. The agency started as a funeral management company and grew as a corporate agent for a takaful company, offering microtakaful plans to the community as one of their product lines. This company was established almost 10 years ago and their takaful and microtakaful products, offered to all levels of people, start from RM5 per month, with RM30 per month being the maximum rate. They offer takaful and microtakaful plans throughout Malaysia regardless of religion or individual background. By offering both takaful and microtakaful plans, their potential customers vary in their levels of income, and they give their customers the option to choose a suitable takaful or microtakaful plan based on the individual's needs and ability to pay. Their microtakaful plans are not specifically designed only for those with a lower income, they also offer affordable microtakaful plans to give an option to potential customers to choose the plan that suits them best to obtain basic protection against any unforeseen circumstances that might arise in the future. A list of microtakaful client contacts was received from this microtakaful provider and was used in the quantitative analysis in the next chapter to understand the demand for takaful and microtakaful through a household survey.

The third respondent was an officer in a government-linked company who had experience in providing microtakaful protection plans to consumers through the post office, which is the most accessible centre, through its network of some 926 branches and mini-post offices in Malaysia. One of their microtakaful plans was related to funeral management; this is open to potential participants from 18 to 69 years old. The policy can cover the policyholder and policyholder's family members. In 2016, this policy had issued almost 5,000 certificates with a total contribution amounting to RM331,400 (Olano, 2016). Any new registration or renewal for a policy can be done via a post office counter, the company's website or participants can directly contact their Etiqa Online hotline for more information.

3.3.2 Data Collection

Basically, this study intends to gather insights into the problems and issues faced by the microtakaful market in Malaysia. The interviews for this research began after discussion and approval from both supervisors. After obtaining approval, likely respondents were contacted by e-mail or phone, using e-mail addresses acquired from websites. An email was sent that included an attachment with a covering letter explaining the objectives of the study, a consent letter and an information sheet about the research. Interviews were carried out over a month and each respondent was interviewed for an average of one hour. In addition, interviews were primarily carried out in the workplace.

To maintain consistency, all interviews were conducted by the researcher and recorded with the permission of the respondents. One-to-one discussions were between the interviewer and microtakaful providers carefully chosen for their specialised insights. This technique made it more comfortable to discuss potentially sensitive topics regarding the low demand for microtakaful schemes offered in Malaysia, especially when dealing with executives and top managers.

In an attempt to make each interviewee feel comfortable and at ease, the interviewer conducted the interview sessions in informal conditions to gather as much information as possible from the interviewee. An interview question guide was developed based on previous research and a literature review on the topic of microinsurance, to which a question specifically concerning the microtakaful element was added (see Appendix, Fig. 3.4).

The interviewees were first asked to describe their takaful products and microtakaful schemes offered to customers in general and in detail, followed by issues involved in delivering this protection to the public and potential clients. Particular attention was paid to why the penetration of microtakaful is low as well as the role of their institution in raising the uptake rate for microtakaful policies. The researcher also used probing questions to obtain in-depth responses from the respondents regarding certain issues.

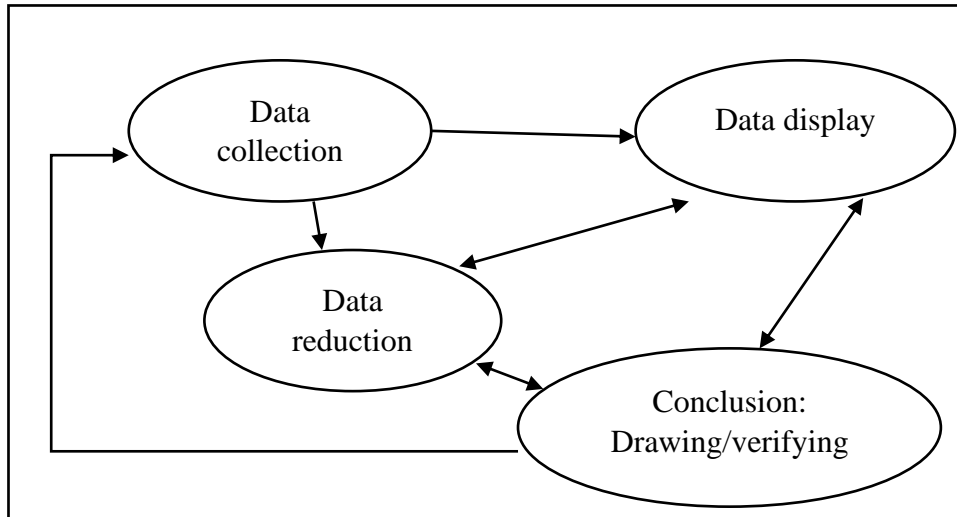
The researcher then asked them to give their opinion about recent issues related to low uptake and high claims, and to describe any problems that had occurred when offering microtakaful schemes. In addition, other questions were asked relating to issues of affordability, claims and coverage as well as benefits of the scheme. Most of the interviews were conducted in Malay and translated into English.

The discussion focuses on a broad microtakaful overview and issues as seen by the officers, especially regarding the low demand for microtakaful schemes and other related issues. Our aim is to identify and explore the demand issues that arise in offering microtakaful products to customers and potential customers from the perspective of microtakaful operators. Respondents were thanked for their time and effort and for sharing their experience of the microtakaful industry.

3.3.3 Data analysis

This research adopted a data-driven analysis or deductive method to uncover detailed elements of contributing antecedent issues, as well as the outcome from the qualitative data. Thematic analysis was used in this study to analyse the data and focus on identifying patterns across the data set. Clarke & Braun (2017) highlight the use of thematic analysis as reliable and very useful in describing the difficulties in understanding meanings within a textual data set. In addition, this will help in summarising the data, identify constructs and investigating relationships based on the data transcripts. Each case was individually analysed before a cross-case analysis was performed.

Figure 3.1: Steps in qualitative data analysis



Source: (Hair et al. 2007)

Figure 3.1, above, presents an overview of the steps involved in data analysis in qualitative research, as outlined by Hair et al. (2007), including data collection, data reduction, data display, drawing conclusions and verification of findings.

Most of the interview sessions were conducted in Malay and translated into English. With the consent of the respondents, information from all the interviews was recorded and transcribed for further analysis to obtain the findings for this chapter using NVivo software. NVivo software was used to carry out a thematic analysis, structure the data, following the approach of Gioia, Corley & Hamilton (2012), and develop a cognitive map to understand the data collected from the interviews. Furthermore, this software enables the researcher to identify specific themes and subsequently code the interview transcripts (Bringer, Johnston, & Brackenridge, 2004).

The data collected from the respondents were organised and reduced by selecting, simplifying and transforming them into understandable data. This process was guided by themes relevant to study the research questions. The data reduction process is important to manage the amount of data whilst maintaining the key points of them in order to answer the research questions.

First, the interview transcripts were imported into NVivo to allow the researcher to highlight and reveal the respondents' interpretations. Then, each interview transcript was read several times to familiarize the researcher with the data and to capture the respondents' views regarding the low demand for microtakaful in Malaysia. The

interview transcripts underwent a codification process to create codes and themes to understand and capture significant interview statements related to the research questions.

The coding process used nodes, which involved selecting coding units including words, themes and phrases to assist in understanding the data. Nodes represent ideas selected from the text which are related to the research question of this study. The selection of coding units represents particular key points and topics within a particular document. In this coding process, the transcript was read, and relevant passages were coded at the same time. The coding process also helped in selecting the correct words, themes and phrases to understand the data using this software.

The transcripts were carefully re-read to identify and highlight correct codes. After several codes were identified, codes were linked within case-analysis and across cases to identify themes and key patterns that emerged from the transcripts. The researcher also linked documents to other documents or nodes by selecting nodes with the same themes or ideas that were connected to the low demand for microtakaful. Furthermore, visual coding was used on documents to highlight text with different colours to show different nodes or meanings. Using this codification process, coded passages can be retrieved again for checking purposes to reduce the possibility of mistakes; important passages were saved as evidence in the discussion of the results. Nodes in NVivo are easily retrievable, and it is easy to access, create, delete, alter or merge them at any stage (Wong, 2008).

During the codification process, the study always referred to the aims of this research to get relevant codes and themes. Selected paragraphs or sentences were linked to available nodes or, if there were no related nodes in the list, this study created new nodes to code sentences. Selected sentences or words must always be in parallel to the objective of the research questions, which is to determine the factors influencing the low demand for microtakaful. When considering coded data together in order to build themes or dimensions across cases, a summary based on nodes was explained in order to paint a clear picture from the data analysis.

For example, when considering the problems or factors that influence the low uptake for microtakaful, relevant text from all the interviews was coded and a coding report was made to summarise it before drawing any conclusions or findings. The theme of “affordability” which relates to one of the problems in understanding the demand for

microtakaful was identified from this node coding report, and thus initial ideas were formulated for the discussion of findings in this essay. It became easier to analyse the data once they were categorised under nodes and themes.

This data analysis process followed the steps and procedure of Gioia, Corley & Hamilton (2012) by identifying first order codes directly from the interview transcripts and then merging these codes into second order concepts as themes, which were then integrated into a further dimension as third order codes. Additionally, from the data gathered, the researcher aggregated related first order concepts into second order concepts following the standard procedure by comparing data collected from the interviews. A graphic presentation of the data structure is provided in Figure 3.2 showing the movement from quotations as a first order concept into a second order concept of themes and then a third order concept. After reading the interview transcripts, several first order codes that represent ideas emerged from the data collected using the codification process.

Consequently, 18 first order codes emerged that represent issues in microtakaful demand. At this stage, the researcher identified which factors influence the low uptake for microtakaful from several codes in the list of first order codes. These were: *can't afford monthly contributions, reluctant to pay the premiums, income, education, financial literacy, takaful literacy, negative perception, risk exposure, claim management, knowledge gap, claim settlement, claims issues, mismatch of information, social media and build trust* (see Fig. 3.2).

In the second step of the analysis, from the first order, the researcher grouped the codes that emerged from the interview transcripts into second order concepts which corresponded to related themes: *affordability, awareness and perception, past shock experience, customer complaints and strategies to overcome low demand issues*. The next step involved further reading the codes and merging second order concepts into other dimensions to understand the interpretation expressed by the interviewers to answer the research questions.

For example, a passage from the third interviewee “*Many people said that they don't want to participate in microtakaful protection because they can't afford the monthly contributions, they do not have enough salary because the salary is too small, etc. We try to educate the consumer on the importance of having protection, even basic protection, to prevent any future losses*” was highlighted and coded with several first order code,s

including “*can’t afford monthly contributions*”, “*reluctant to pay the premiums*”, “*income*”, “*financial literacy*” and “*education*”.

At this point, the researcher identified where the first order codes belonged and grouped them to represent themes of affordability or awareness in second order codes. They were “*can’t afford monthly contributions*”, “*reluctant to pay the premiums*” and “*income*” under affordability, while other first order codes of “*financial literacy*” and “*education*” corresponded to awareness as a theme in second order codes (see Fig. 3.2).

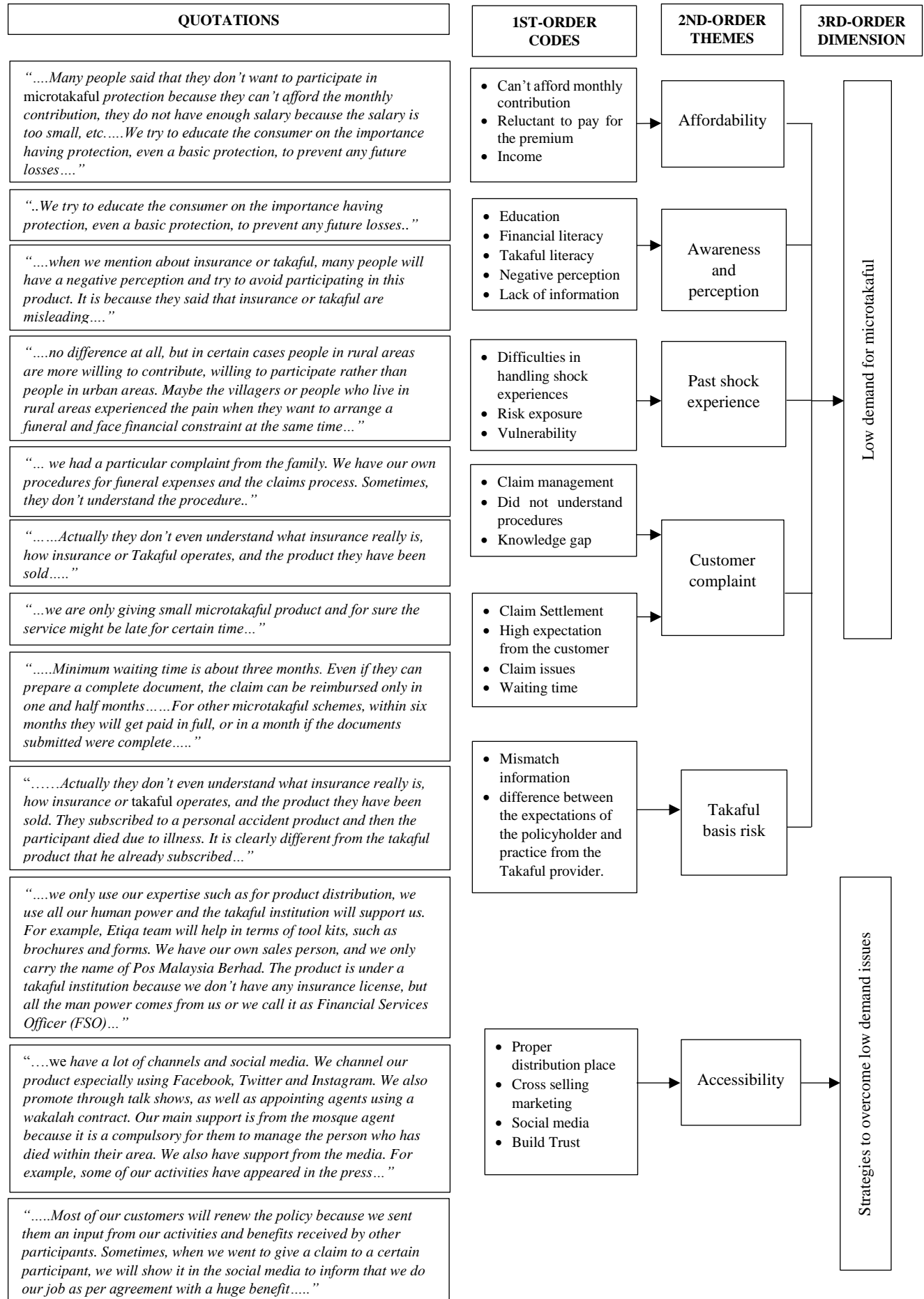
Furthermore, using this software, coded passages can be retrieved and reviewed to reduce any mistakes in a data validation process. All the themes in this research were transformed into codes in a codebook using the data reduction technique to build a theoretical model from the raw data; this was for the purpose of analysis at a later point.

The software drew raw findings from the occurrences of keywords that appeared in the data using the “Maps” application in the software for a general understanding and information for further steps in the analysis.

After the data reduction process was complete, the data were displayed by organising information that was reduced to simplify reaching a conclusion. The data displayed identify linkages and related findings for this research. This software helps to identify codes and related themes based on the data gathered. The next step was to reach a conclusion from the information gathered and display this by deciding on themes and patterns in the data, and structuring the data using models to show relationships. This model is important to describe and visualize meaningful findings and conclusions by connecting ideas and themes (Wong, 2008).

The verification process for this qualitative data involved checking and re-checking the data collected to ensure they were valid and realistic. With NVivo software, the data were analysed, which allowed for the coding of data into a number of significant categories related to core findings and propositions. The findings from the data reduction and data displays were used to illustrate the data structure, from quotations to codes and themes which build the proposition to answer the research questions.

Figure 3.2: Synopsis of the data structure



3.4 Results

Following progressive growth in the takaful sector in Malaysia, the viability of affordable financial protection for low-income and poor populations is vague in terms of the demand. With one possible exception, the findings of this research suggest that the low take-up rate of microtakaful schemes in Malaysia is influenced by several issues. Several major recurring themes from the supply point of view emerged from the research data with regard to the rationale behind demand issues for microtakaful schemes among the Malaysian population.

In expected utility theory, there are assumptions that explain an individual's decision of whether or not to insure; if they are risk-averse, they are likely to participate in insurance and takaful. However, individual microtakaful decisions are affected not only by risk aversion but also by other factors; these include affordability, customer awareness and perception, as well as past experience.

Thematic analysis within and across cases identified diverse subthemes in issues pertaining to the microtakaful market in Malaysia. Each theme is presented with sample quotations from interviews with the respondents. The following subsections describe the results of several main themes.

3.4.1 Low microtakaful scheme uptake

The respondents agreed overall on the low microtakaful uptake issues. Concerns were expressed about the low penetration rate in Malaysia, even in the takaful market. These views surfaced mainly in relation to low demand and the issues behind this situation. A number of issues were identified, including affordability, awareness and perception, as well as past shock experience.

3.4.1.1 Affordability

The affordability issue among public and microtakaful clients also contributes to the reasons why there is low demand for microtakaful schemes in Malaysia. This is because there are no specialised products offered to the low-income population, which is all that

microtakaful schemes in Malaysia were meant to offer to Malaysian citizens, regardless of their level of income. In contrast, there are free microtakaful schemes that are subsidised only for selected low-income populations. There is many subsidised microtakaful schemes; this is because of the free subscription and the fact that participants are protected without paying anything.

Microtakaful should be affordable by clients and the public; otherwise they are unwilling to participate in these products and services. Affordability issues remain complicated to resolve if microtakaful providers do not implement various strategies, e.g. having a small package of microtakaful protection, spreading premium payments, obtaining support from the government. As respondent 3 said:

“Many people said that they don’t want to participate in microtakaful protection because they can’t afford the monthly contributions, they do not have enough salary because the salary is too small, etc. ... We try to educate the consumer on the importance of having protection, even basic protection, to prevent any future losses.”

In light of the above, it is evident that the public are unwilling to participate in microtakaful protection due to affordability issues. They are reluctant to pay in advance because the premiums do not meet with their preference. Current and dominant takaful or microtakaful products are often costly and complex, especially with saving and investment policies. The innovations of takaful or microtakaful products have been increased by including a saving and investment element to attract consumers but neglect the low-income population as the price may be unaffordable.

From another perspective, affordability is related to financial literacy; what individuals think about the affordability of certain products and services is strongly influenced by their literacy. In contrast, understanding certain products influences what people think they get from the premiums paid. Therefore, the meaning of affordability should be explained in detail and the consumer informed about the real differences between takaful and microtakaful. This is because consumers always see microtakaful as being expensive as takaful, and they might think they cannot afford the monthly contributions. This difference is not well understood, especially among the low-income group. Furthermore, the complexity of policies could be reduced to minimize prices and enable households to be insured.

The affordability of premium contribution is important as this minimizes the cost of administration and distribution without sacrificing the length of any claims settlement process. The costs incurred have to be kept to a minimum to ensure that microtakaful schemes are affordable and yet easily accessible in order to suit the needs of the low-income population. There is a need to restructure monthly payments in a way that makes sense to future policyholders. In addition, policy education is also needed to enhance financial literacy, as well as takaful literacy among consumers. It is important to ensure that individuals make better decisions regarding whether or not to participate based on previous theories. From the above results, this study suggests the following statements:

Statement 1.1: An individual's affordability positively influences the low uptake of microtakaful schemes.

Statement 1.2. The degree of financial literacy education is related to microtakaful penetration among individuals in Malaysia.

3.4.1.2 Awareness and perception

Unfortunately, there are certain individuals who do not have any kind of social and financial protection as a safety net in difficult situations. They tend towards *ex post* action rather than participating in *ex ante* protection. Awareness among this population gives a critical understanding of the penetration rate of microtakaful. When they are approached by microtakaful providers to participate in any microtakaful scheme, they give their own reasons and opinions for refusing that particular scheme.

Due to a lack of understanding and awareness regarding microtakaful protection, microtakaful providers face difficulties in explaining to participants and the public about their schemes. In addition:

“We try to educate the consumer on the importance of having protection, even basic protection, to prevent any future losses.”

At the same time, Respondent 3 shared his views on the matter of customer awareness of microtakaful, particularly the importance of having appropriate social and financial protection if any unexpected event occurs. This issue raised the need to increase the level

of awareness of risk mitigation. It would be worse for them if they do not have any temporary or partial relief for financial difficulties arising from unforeseen situations.

This shows that they do not care if they are protected or not. To create awareness takes time and effort. Sometimes, they have their own risk-coping mechanisms that leads to the low uptake of microtakaful schemes. They were aware of how important microtakaful schemes are, but they believe they can manage their own risk by themselves. They may have their own savings, investments in unit trusts, assets, a permanent job or other risk-coping mechanisms.

The interview sessions also explored the respondents' views on issues regarding public perception towards microtakaful schemes in Malaysia. All of the respondents expressed their own opinions and emphasised the challenge in offering microtakaful schemes to the low-income population. Respondent 3 explained that:

“...when we mention insurance or takaful, many people will have a negative perception and try to avoid participating in this product. It is because they say that insurance or takaful is misleading... .”

Negative public perceptions might start from several factors, including lack of customer awareness, education, takaful literacy and financial knowledge about microtakaful protection among participants and potential customers; this leads to misconceptions in the microtakaful market. It is important to educate microtakaful participants and the public about paying monthly premiums for intangible benefits that they have never claimed or experienced. Creating awareness and informing the public about the importance of extending social protection is time-consuming and costly, which requires endeavours from both directions in microtakaful markets.

Lack of information also results in misunderstanding and misapprehension towards microtakaful schemes among the general public. Therefore, it becomes a problem to microtakaful providers since these misconceptions create negative public perceptions about their products; this then leads to low demand for microtakaful protection in Malaysia.

The dimension involves perception and awareness in response to microtakaful demand and supply. Overall, these results indicate that customer awareness and perception are

among the important issues to be addressed and solved in order to increase the rate of microtakaful uptake. If clients are well served and identified, and ongoing communication with the customer is maintained as well as with potential customers, it will prevent any demand problems for microtakaful providers. Additionally, in takaful institutions, these issues are still debated among takaful providers. Among the target group, it is important to overcome these problems by improving the quality and efficiency of relayed information and the communication used. This finding is also in line with previous theory, which explains that individuals will make decision based on their condition at the reference point. The level of awareness at the reference point will influence their willingness to join a microtakaful plan. This leads to the following statements:

Statement 2.1. Low demand for microtakaful schemes is influenced by the level of awareness among individual and potential microtakaful participants.

Statement 2.2 The better the perception among individuals towards microtakaful, the more likely it is for the uptake of microtakaful schemes to increase.

3.4.1.3 Past shock experience

In some circumstances, public perception differs in different areas. Surprisingly, the demand for microtakaful protection is slightly higher in rural areas based on their past shock experience of having difficulties in handling risk exposure. According to Respondent 2:

“...no difference at all, but in certain cases people in rural areas are more willing to contribute, willing to participate, rather than people in urban areas. Maybe the villagers or people who live in rural areas have experience pain when they want to arrange a funeral and face financial constraints at the same time... .”

Experience of any circumstances or hazards in the past, in particular a death or accident to a community or household member, influences them to participate in microtakaful protection. Additionally, risk exposure will affect whether people participate in microtakaful protection or not. Any past shock experience influences the behaviour of the individual against risk.

From the above evidence, groups not having had any previous difficult situations are slightly reluctant to get any microtakaful protection. Furthermore, people in rural areas who are exposed to vulnerability, and who have experienced previous difficult situations in funeral management around their community, may be motivated to adopt takaful protection. As per the theory discussed in the previous section, risk preferences will influence individuals to make decisions under uncertainty risk regarding choosing whether or not to join a microtakaful plan. This finding leads to the following statement:

Statement 3.1: Individuals without any experience of previous difficult shocks will not be interested in having microtakaful protection.

3.4.2 Customer Complaints

There are many hurdles to overcome in the microtakaful market. A recurring theme in the interviews was a sense amongst interviewees regarding past experiences arising from claim settlement issues between microtakaful providers and customers that contributes to low demand for microtakaful schemes. This market failure situation in microtakaful is associated with the allocation of microtakaful services not being efficient. Customer complaints contribute to this market imperfection, whereby information does not flow equally between two parties and leads to claim settlement and management problems in the future.

Compared to micro-insurance, this issue has been debated repeatedly, including in the insurance and takaful markets: accordingly, there are several studies that discuss and address this problem. When microtakaful providers introduced microtakaful products to the consumer, initial team management is set up to meet the demands of microtakaful. The most challenging part comes when potential customers state that they no longer trust microtakaful protection; this is based on their complaints and past experience of using takaful services. In addition, due to a lack of information and past experience regarding takaful protection, several households were reluctant to participate in any microtakaful protection; they had their own valid reasons and personal opinions for doing this.

3.4.2.1 Claims management

This interview continued by exploring problems that occur in the microtakaful market regarding past experiences faced by microtakaful providers that exist in the claim managements and claims settlement processes. In this regard, a particular emphasis should be put on issues that arose during in-depth interview sessions. For example, with Respondent 2, the interviewee noted that when they handle a number of claims requests from customers, some information is not identical between agent and customer.

“...we had a particular complaint from the family. We have our own procedures for funeral expenses and the claims process. Sometimes, they don’t understand the procedure... .”

One respondent argued that clients did not understand procedures, especially the claims process. A conflict of interest may arise in this situation and lead to further conflicting problems in the future; this would then result in a breakdown in the claims process of a microtakaful scheme. In addition, further explanation is required to clarify the problems that arise between two parties that might affect their interest to participate in microtakaful schemes in the future.

“Actually they don’t even understand what insurance really is, how insurance or takaful operates, and the product they have been sold... .”

The statement by Respondent 3 shows a knowledge gap between microtakaful providers and participants. The participant accused a microtakaful provider because their claim on the policy to which he had subscribed was refused. The conflict happened because the participant did not understand all the terms and conditions applied to the microtakaful policy. The participant did not have the same depth of information about the policy as its microtakaful provider.

Therefore, stemming from the customer complaints problem, participants or beneficiaries feel upset with the microtakaful operation as it gives a bad perception in the future towards takaful protection and affects the level of microtakaful uptake in times to come.

In addition, it contribute to the levels of up-take and renewal for this scheme. On the basis of this finding, this study posits the following:

Statement 4.1: Because of customer complaints regarding claims management problems, individuals are more likely to be reluctant to participate in microtakaful policies in the future: this affects the microtakaful uptake rate.

Statement 4.2: Takaful literacy and financial knowledge among individuals will decrease the number of customer complaints and increase microtakaful uptake.

3.4.2.2 Claims Settlement

A further significant problem arose in microtakaful demand regarding issues arising in claims management that reflect client experience. Clients' past experience affects the demand for microtakaful in the future. Participants with bad experiences of microtakaful services will decline having more. This is particularly significant with microtakaful itself where proficient claims management is an important part of stimulating microtakaful demand by providing social and financial protection with low monthly contributions and offering exceptionally good value.

Commenting on claims management, respondent 1 said that it was a common issue in the claims process as this is only cheap takaful protection. Therefore, the customer cannot have high expectations of the scheme and the benefits received.

"...we are only offering a small microtakaful product and for sure the service might be slow at times..."

However, even though the poor and low-income population cannot afford to make higher monthly contributions, this does not mean they deserve poor quality products. In addition, they have a need for a quality product that offer quick claims settlement, without any cases of claim rejection, in order to encourage high demand for microtakaful schemes in the future.

The services from a microtakaful provider might be slow in terms of payment of a claim. Nevertheless, in claims issues, if all of the documents required are submitted in the correct format, there should not be any issues at all. The customer or any beneficiary should be aware of the terms and conditions applied by the policy. With respect to the issue of the claims procedure, simple product features with low monthly contributions should have a simple claims procedure, and verification to reassure participants who face financial difficulties when unexpected events happen. This is one of the key operational requirements to promote a positive experience among participants of any microtakaful scheme. Respondent 1 added:

“Minimum waiting time is about three months. Even if they can prepare a complete document, the claim can be reimbursed only in one and a half months. For any old citizen scheme, the waiting period to claim the benefits of takaful can take up to one year. This is because the government pays the yearly contribution for them and it is up to the government to pay the balance of any claim. For other takaful schemes, within six months they will get paid in full, or in a month if the documents submitted are complete...”

For certain microtakaful plans, such as free microtakaful for senior citizens from the government, the waiting time for policyholders to make a claim is too long. Even though it is a normal procedure, the waiting time offered by microtakaful providers should be reduced as the policy is quite simple. This kind of experience in claims settlement with free microtakaful plans might influence the demand for other microtakaful products. This is because consumers may have bad perceptions and experience of microtakaful in the future, especially regarding delays in claim payments to policyholders or beneficiaries.

In addition, Respondent 3 emphasized that the minimum waiting time for claims reimbursement is between three months and a year for their own policy. This lengthy process is designed to avoid any counterfeit claims in the future that might affect the takaful operator's funds. Processes and procedures have been created and must be followed for the customer and beneficiaries to make a claim. Otherwise, product and claim procedures must be disentangled in order to ease transactions for participants and boost the demand for microtakaful protection. Based on this study's findings, it can thus be proposed that:

Statement 5.1 As microtakaful provision continues to grow and increase microtakaful uptake, the ability to offer an efficient claims settlement process is essential to fulfil the needs of participants and beneficiaries.

In summary, the best way of increasing demand for microtakaful is by lowering administrative costs to increase satisfaction among policyholders. Moreover, microtakaful providers have their own claims procedures in order to avoid any moral hazard and fraud and all claims must be thoroughly scrutinized and well managed. However, the claims process should not so long that it discourages the demand for microtakaful schemes and reduces customer satisfaction. The principal, i.e. the takaful operator, could play a role in overcoming any difficulties faced by corporate agents or microtakaful providers. However, it is possible that this finding does not hold across the whole range of takaful protection as most takaful schemes offered are general takaful.

3.4.3 Takaful Basis Risk Issues

Basis risk is a familiar term in financial risk management; however, the concept has not been well-defined from the takaful or microtakaful perspective. It can be defined as the risk or possibility that the takaful provider does not pay out when it should, or a mismatch exists between what policyholders expect a microtakaful policy to cover and what the contract actually provides as loss indemnification. This may arise for several reasons; either a mismatch of information between policyholder microtakaful provider, or different losses captured in different locations, or because of the difference between the expectations of the policyholder and the practice of the takaful provider.

Microtakaful providers might fail to pay out to participants or beneficiaries and microtakaful then becomes risky in itself. Another response from Respondent 3 was:

“Actually, they don’t even understand what insurance really is, how insurance or takaful operates, and the product they have been sold. They subscribe to a personal accident product and then the participant dies due to illness. This is clearly different from the takaful product that he subscribed to... .”

The statement by Respondent 3 presents the basis risk issue between microtakaful providers and participants. This loss scenario of delays in settlement payments to policyholders may affect takaful coverage due to the mismatch that exists between what participants expect microtakaful policies to cover and what microtakaful providers actually offer to cover losses and benefits. Such discrepancies between two parties in a microtakaful transaction represents the basis risk issue that can influence participants' dissatisfaction towards microtakaful schemes.

Moreover, someone who subscribes to takaful can end up in a situation where they have contributed monthly, suffered a loss and do not receive a payout. This is because there is a mismatch of information between microtakaful providers and participants. This scenario is worse and leads both participants and beneficiaries to face a bad experience in this situation. This, therefore, particularly contributes to the problems in offering microtakaful schemes, related to takaful contract disputes.

From the evidence relating to customer complaints and takaful basis risk issue, it can be deduced that running a claims management process to satisfy participants and beneficiaries is a crucial part of improving microtakaful performance; it is not an easy task. There are issues and problems in this process, and this element should be addressed to increase the number of microtakaful clients. In addition, when taking out a simple takaful policy to get protection, both parties separately have their own responsibilities.

The decision to participate in microtakaful protection will be influenced by experience of past transactions, which will indirectly influence demand in the microtakaful market. Therefore, issues that arise will contribute to other problems between customers and microtakaful providers; it will be difficult if there are any further disagreements and contract disputes. The lack of any proper explanation when policies are issued will result in misunderstandings and misconceptions among customers and potential participants of any microtakaful schemes offered by microtakaful providers, which will affect the uptake rate of microtakaful schemes.

3.4.4 Strategies to overcome the low-demand issue

There are various ways of dealing with demand issues and challenges. Respondent 3 drew attention to how the demands of customers arise. According to him:

“...we only use our expertise, such as for product distribution, we use all our human power and the takaful institution will support us. For example, the Etiqa team will help in terms of toolkits, such as brochures and forms. We have our own salesperson, and we only use the name Pos Malaysia Berhad. The product is from a takaful institution because we don't have an insurance licence, but all the manpower comes from us or we our Financial Services Officer (FSO)... .”

In this case, the FSO plays an important role in offering takaful and microtakaful protection to the public and potential customers. With various branches in each state and district, their scheme can be delivered door-to-door to the customer. Policyholders can renew their policy within 12 months in any branch or outlet.

In addition to having a proper distribution outlet, their marketing approach has been adapted to cope with demand issues by using cross-selling and marketing. They sell vehicle protection schemes to the customer as well as offering a personal accident policy to cover any losses due to an accident to the driver and passengers. Thus, this is a big opportunity to offer the scheme to potential customers, in addition to having advertisements as a second choice in their marketing approach.

One of the reasons for low microtakaful uptake is the limited distribution approach of microtakaful providers to create awareness and increase takaful literacy among potential customers. Distribution diversity could increase the takaful penetration rate and stimulate participation in microtakaful. Respondent 2 explained that they implement aggressive policies and concepts to deal with issues. More innovation is required to deal with the problem of distribution and customer awareness and trust.

“...we have a lot of channels and use social media. We channel our product especially using Facebook, Twitter and Instagram. We also promote through talk shows, as well as appointing agents using a wakalah contract. Our main support is from the mosque agent because it is compulsory for them to manage a person who has died within their area. We also have support from the media. For example, some of our activities have appeared in the press... .”

Some marketing approaches and techniques are used, especially through social media. Technology is the key to promote microtakaful schemes, especially in rural areas. This technique will attract the attention of target stakeholders in the microtakaful sector.

However, it is a quite straightforward approach that can benefit both parties, microtakaful providers and participants. Another response by Respondent 2 relates to how they frequently update the latest activities and progress to attract more potential customers to subscribe to microtakaful schemes:

“Most of our customers will renew their policy because we send them input about our activities and the benefits received by other participants. Sometimes, when we go to pay a claim to a certain participant, we will show it in social media to inform how we do our job as per the agreement, with huge benefits... .”

Additionally, social media have become a powerful way to approach new customers, as well as maintaining participants’ relationship with microtakaful providers. This is a secret weapon, using lower costs to acquire a better market share in the microtakaful market. In addition, microtakaful providers can send out emails, put advertisements on television and radio to alert customers to their products. Moreover, it is an opportunity to build trust among existing participants and promote positive review and word-of-mouth tactics; this eliminates problems in microtakaful markets.

3.5 Discussion and Conclusions

3.5.1 Problems and challenges arising for microtakaful schemes in Malaysia

Microtakaful schemes provide exciting protection and a new opportunity to expand the frontier of finance, especially in takaful markets. The demand is there, even if the percentage is low compared to insurance penetration. The challenge is to find the best alternatives with the correct product designs and effective institutions to provide value to the customer and encourage the public to participate in microtakaful schemes, especially among low-income households.

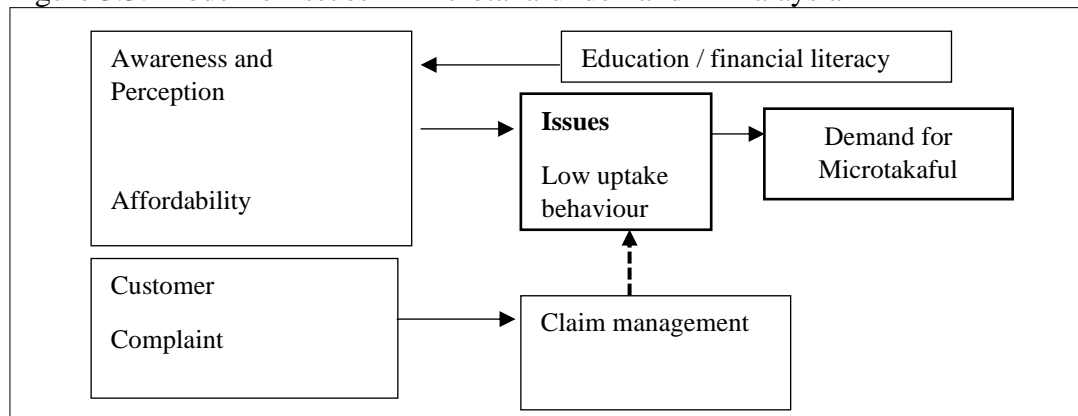
Three corporate agents were interviewed and data were analysed in this research. Consequently, microtakaful providers are well placed to offer a strategy to eliminate any low uptake and related issues that arise. It has been the premise of this research that low microtakaful uptake is related to affordability, consumer awareness and perception of past shock experience, and this captures the central elements of the challenges. In addition, it provides the conceptual tools needed to better understand why the uptake rate is low in

microtakaful markets, as well as other related significant issues, including customer complaints and takaful basis risk.

Based on our findings, this study proposes a model (Fig. 4.2) to illustrate the issues that influence microtakaful demand in Malaysia and its consequences in takaful practice. Subsequently, other theories have emerged that aim to account for these weaknesses. Based on the framework model below, issues in the microtakaful market are related to affordability, customer awareness and perception, which directly affect microtakaful demand.

Moreover, other issues were identified that influence the demand for microtakaful; these are customer complaint problems and takaful basis risk that lead to negative experiences for participants and beneficiaries. Significantly, it was found that past experience indirectly affects low uptake issues for microtakaful. The findings of this study are in line with the theories discussed, and they indicate other factors that influence the individual's decision-making in uncertainty situations. Other trigger factors indirectly influence the low demand for microtakaful, as well as other factors discussed in theory, such as risk aversion, losses and gains.

Figure 3.3: Model for issues in microtakaful demand in Malaysia



Source: Author's illustration

In addition, based on Figure 3.3, education and financial literacy regarding takaful protection and services are still lacking, resulting in a lack of awareness and negative public perception. The lack of ability to explain to the public and potential takaful participants regarding microtakaful schemes and services leaves customers and the public with inadequate information about having proper protection against unforeseen uncertainty situations. Furthermore, insufficient public knowledge regarding takaful

operations and procedures will sustain negative perceptions and wrong interpretations of takaful services.

When affordability, awareness and perception are the main issues faced by microtakaful providers, other approaches are clearly needed here to extend protection to respective potential participants, such as subsidies from government. Even though there are subsidized microtakaful schemes in the Malaysian market, coverage is limited to certain age groups of the population.

Public intervention has an important role in extending microtakaful roles through appropriate ways to mitigate unforeseen risk. Without subsidizing premium contributions, the issue of affordability will remain in the microtakaful market. Government can play a role in risk mitigation activities to contribute to the success of microtakaful schemes and ensure the microtakaful role is viable, as well as create greater awareness among the society about some basic protection through microtakaful policies.

3.5.2 Implications for theory and practice

The present chapter makes an important contribution to both theory and practice. Our study is one of the first to offer a subtle nuanced understanding of low demand issues in offering microtakaful protection in Malaysia using in-depth interviews. Theoretically, this research contributes to the concurrence of opinions framework in the microtakaful and microinsurance demand literature by investigating the reasons why the uptake of microtakaful is low in Malaysia along with issues in the microtakaful market.

In addition, this chapter continues from the previous chapter to understand the demand for takaful and microtakaful; it does this by exploring microtakaful demand further using a qualitative method. This chapter also confirms and compares previous findings, which are that individual factors influence the low demand for microtakaful; these include individual affordability, individuals' awareness and perceptions of microtakaful or takaful.

These findings expand the arguments over microinsurance demand by including several important factors in microtakaful demand. Importantly, this research identifies how the antecedent element affects the low take-up for microtakaful schemes. In addition, with

the respect to the relationship between attitude towards risk and microinsurance demand, this offers new insights into the factors that indirectly influence the demand for takaful protection and the consequences for microtakaful practice.

This research focuses on the discussion, therefore, of demand issues and challenges among microtakaful providers in Malaysia. As is apparent from the results, this research suggests that affordability, customer awareness and perception have a strong effect on the low uptake of microtakaful schemes, but at the same time past experience of claim managements and settlement issues indirectly encourages microtakaful uptake.

This finding confirms the previous theory, which assumes that an individual's decision as to whether to participate in microtakaful or not is based on risk, losses and gains. Their affordability and perception at the reference point are the most important factors that influence their decision; this is also associated with losses or gains that will affect their expected outcome in the future. Furthermore, there are several external factors found that might be related to the low demand for microtakaful; these are customer experience and the takaful basis risk issue, which can explain more about the demand for microtakaful policies.

Three major challenges arising from the microtakaful uptake issue are addressed in this research. Customer awareness and knowledge problems align with Chummun & Bisschoff (2014), Zimmerman & Magnoni (2014), Clarke & Grenham (2012) and Black et al. (2013) that low micro-insurance uptake is caused by a lack of knowledge and poor understanding of the benefits of these schemes. Government intervention and support measures that help overcome the imbalance of information between contracting parties are of great importance to limit customer complaints and takaful basis risk issues.

These results seem to be consistent with other research that found that issues arising from customer complaints in the microtakaful market have a significant impact on takaful demand in Malaysia. This was subsequently related indirectly to customer awareness and claims management problems. However, other findings from this study contradict previous studies on the micro-insurance market which have suggested that the main challenges in offering micro-insurance are related to insufficient resources for risk evaluation, the small size of this insurance group and the size of insurance premiums.

Of greater interest in understanding the issues that arise, however, were other challenges that had no direct effect on low microtakaful uptake in the orienting framework. These elements may be especially important to the microtakaful role in a broad setting. Clients' past experiences of claims management, aimed more at microtakaful provider management, emerged frequently in this research.

Some of the issues emerging from this finding relate specifically to different types of schemes, as well as different types of microtakaful providers. This finding has important implications for developing better social protection schemes by reducing low uptake issues and other related issues as a coping strategy among the low-income population to understand the demand for microtakaful schemes.

3.5.3 Limitations and Future Research

In spite of its anticipated contributions, this research is subject to a number of limitations. The first pertains to the narrowness of the sample, and the extent to which the dimensions of the problems generated from the study might have relevance to broader types of respondents among microtakaful providers.

In addition, there are limitations related to our inability to examine differences in perspective from different types of microtakaful providers. Hence, there are various types of microtakaful schemes in Malaysia, including free microtakaful schemes and paid microtakaful ones. For example, it is conceivable that free takaful schemes could be provided by the government and microfinance institutions, as also cooperative institutions. Do uptake issues arise in this microtakaful provider type of market and why? If so, this would present a different view on offering microtakaful schemes to selected participants. These topics await future research using different types of microtakaful providers in larger samples including academicians and expertise in this area.

There are also limitations pertaining to the methodology. All the data were collected through semi-structured interviews from microtakaful providers. There was no information in the field from the participants' point of view regarding low microtakaful uptake to corroborate the findings reported by microtakaful providers. In future research, it would be interesting to see how customer awareness and perception as well as financial

literacy and takaful knowledge affect microtakaful demand from participants' viewpoint and perception using a quantitative approach. It would also be useful to compare different results from the findings analysed in this chapter.

These findings are also important for future research that could benefit by exploring the same four elements: affordability, awareness, perception and past shock experience through a household survey on the demand side. Future research could examine the demand factors for takaful and microtakaful by including several items that are related to affordability, which is linked to an individual's socio-economic status, such as income and socio-demographic factors.

However, the researcher devised a questionnaire survey whereby each section of the questionnaire was discussed and prepared before the interview phase. Given the results obtained from this study, if there is a chance to repeat the study, improvements could be made by adding several variables related to the individual's ability to pay, awareness, perception of microtakaful and past shock experience to design a better questionnaire survey for future research. Extended quantitative analysis using these factors is needed to understand the demand for microtakaful in more depth and contribute to the body of knowledge in microtakaful research.

To sum up, this qualitative study is the first attempt to study in depth why microtakaful scheme uptake is low in an emerging market and what issues arise in the microtakaful market. This research makes both practical and theoretical contributions to the field of microtakaful from a supply point of view. The researcher has critically explored demand issues among microtakaful providers using semi-structured interviews and extracted the most significant problems using coding and thematic analysis.

This study attempts to inform the literature on microtakaful, especially in Malaysia, by developing a theory that helps to advance our understanding of what problems are faced by microtakaful providers in offering microtakaful schemes relating to the low uptake issue, takaful basis risk and customer complaint issues, and how these issues can be mitigated.

CHAPTER FOUR

The Determinant of Takaful and Microtakaful Demand among Households in Malaysia: Why Do Some People Participate or Not Participate in a Takaful?

4.1 Introduction

Recent global shifts in the takaful market have directed much attention and interest towards researching the demand for takaful policies. Takaful or Islamic insurance is a type of insurance protection, but it is different in terms of its mechanism and philosophy as it follows Islamic principles and rules in protecting the customer. The latest developments in the field of takaful have led to a renewed interest in microtakaful, especially in the Malaysian context. Although 60% of the population in Malaysia is Muslim, only 15.2% of the population participated in takaful in 2018 (Lim, 2019). Furthermore, reducing financial shock and vulnerability through takaful protection is a significant way to help the low-income population, which indirectly contributes to poverty reduction (Lin, 2017). Hence, this study intends to understand the demand for takaful and microtakaful in the Malaysian context. Thus, this chapter focuses on both takaful and microtakaful aspects to better understand individual demand based on a household survey.

The primary aim of the present study is to examine why some people participate in takaful and some do not, which will contribute to a better understanding of the pattern of individual risk management against risk and, in doing so, develop a contextualized approach to theory. To achieve the purpose of this study, a probit regression model was utilized to provide a unique perspective for the study of takaful and microtakaful demand.

Initially, a risk can be shared or transferred by a takaful mechanism, and a loss is shared accordingly. Ideally, to handle risk, takaful comes up with and develops appropriate methods to control the risk and reduce the cost of losses when dealing with unexpected events. Given the particular situation in the takaful and microtakaful market, I believe that the study of takaful and microtakaful demand can enhance our understanding of the factors influencing the demand for takaful and microtakaful policies in terms of offering financial protection that is appropriate for the needs of consumers, with reduced cost losses when risk materialises.

Previous literature on insurance and microinsurance demand is relevant to this study, which looks at specific contexts from takaful and microtakaful perspectives. Furthermore, previous studies on takaful are limited to using a survey approach to explore the demand for microtakaful in Malaysia. Therefore, this study seeks to make a significant contribution to the takaful and insurance literature, especially from a Malaysian perspective.

Additionally, the factors that influence demand and uptake rate are ambiguous; there is, therefore, a need for improvement from the customer's and the public's perspective regarding their acceptance of takaful and microtakaful in order to understand the demand for takaful and microtakaful protection and thus enhance an inclusive Islamic financial system.

Previous studies raise intriguing questions: What drives the demand for takaful schemes in emerging markets? Relevant empirical literature is still limited, especially on microtakaful demand and why precisely some people participate in microtakaful and some do not. Hence, this leaves a gap to be researched and analysed. To bridge this gap, this study attempts to analyse the antecedent factors that influence takaful and microtakaful demand, so as to further contribute to the convergence between different domains of research, especially on takaful. To fill the above gap, this study specifically addresses the following research question: Why do some people participate in takaful and microtakaful policies in Malaysia and some do not?

Here, I intend to explore the demand side of the takaful and microtakaful market by understanding the factors affecting the demand for takaful and microtakaful coverage in Malaysian households. From this perspective, I attempt to analyse the factors that determine the demand for takaful and microtakaful related to financial protection among Malaysian households in this emerging market, so as to understand the nexus between sociodemographic, socio-economic and shock experience, risk-coping strategies, trust in takaful and financial literacy on takaful and microtakaful participation. This takes into consideration the fact that Malaysia is well known for offering takaful services, hence the microtakaful uptake.

4.1.1 Motivation for the study

My interest in the topic of takaful and microtakaful began when I read a report by BNM about the low penetration of takaful policies in Malaysian households. Although there are many advertisements and social financial awareness programmes implemented by takaful institutions and non-government organisations to promote the significance of having takaful protection, the number of insured households in Malaysia remains low.

Therefore, this research aims to understand what affects the decisions taken in Malaysian households to take out, or not, a takaful or microtakaful policy. In general, takaful is understood as a mutual protection mechanism that benefits each member of a household through some protection based on a plan subscribed to by the participant. Microtakaful is a distinctive form of micro-insurance that focuses on the low-income population segment by offering affordable and accessible policies as basic financial protection against unexpected financial difficulties.

Poor risk-management tools in times of uncertainty result in a bad experience, especially for the low-income population, as they fall back into poverty or become very poor. These phenomena of borrowing and doing nothing lead to other problems, such as loss of income sources, loss of access to finance, depletion of assets, health problems and social isolation.

Malaysian households are exposed to different types of risk, including financial shock that may lead to losing a job, changes in interest rates, and other factors such as physical impairment, death and divorce. Moreover, an unpredictable economic situation can affect many households and cause major problems. A report by the Khazanah Research Institute (2014) revealed that more than 50 per cent of urban households did not have any savings, and less than 20 per cent could survive for three months if their income was cut off.

Together, these studies offer important insights into Malaysian coping mechanisms, especially among the low-income population, through takaful and microtakaful approaches. The pattern of risk management is based on their main priority: to take action. Furthermore, coping strategies are also influenced by the ethnic group within the population, due to the wealth disparity problem in a given area. In view of all that has been mentioned so far, past research seems to suggest a pertinent role for risk coping strategies for building financial protection among the riskiest communities. Hence, this

study will examine the factors that influence the demand for takaful protection compatible with the needs of Malaysians nowadays and the development of risk-coping strategies and approaches.

A recently published article about the viability of microtakaful in Malaysia by Htay et al. (2015) does not give sufficient information; this is because of the limitations on time and area coverage to examine the real target population. In addition, previous studies on micro-insurance that studied factors affecting insurance demand are not consistent. Thus, this study would have been more interesting if it had included the takaful and microtakaful demand perspective in a deeper analysis to reach Malaysian households.

I decided to focus on takaful and microtakaful as the academic research in this area continues to grow. Moreover, microtakaful is a takaful type with a simple payment and low-cost financial instrument to cater for low-income populations by offering affordable takaful policies. Existing takaful studies focus on the theory and nature of takaful contracts, operational models and ownership issues, as well as comparisons between countries. Thus, it is important to conduct a study that looks at the demand for takaful, as well as microtakaful policies, to understand why some people do not participate in this form of financial protection.

4.1.2 Aim of the study

This chapter attempts to show the significant factors that determine takaful and microtakaful demand in Malaysia. Thus, it is crucial to compare takaful clients and non-clients when investigating the factors that influence their decisions to take out a takaful or microtakaful policy. Using household-level data from peninsular Malaysia, this study focuses on the following research questions:

Research Question 1: Why do some people take out a takaful policy and some do not? And what factors affect the demand for a takaful policy?

The first research question will examine the demand for takaful among households in Malaysia specifically. This research is significant to boost the awareness of a suitable product design based on demand factors to effectively manage risk. It is important to examine the reasons why some Malaysian households participate in takaful and some do not; this will allow designing a better programme based on the needs of under-served people.

There is various research that has focused on insurance and micro-insurance demand, especially using a household survey method, based on other single Asian countries. However, based on cross-country analysis, there is no evidence to show significant factors that determine microtakaful demand, especially in Malaysia.

Research Question 2: What factors affect the demand and decisions to take out a microtakaful policy?

The second research question will critically investigate the factors that determine microtakaful demand among Malaysian households to compare between microtakaful clients and non-clients. Thus, it is necessary to know the demand pattern among the target population. Furthermore, it is also important to predict the likelihood of a person taking out a microtakaful policy.

To answer these research questions, I use a quantitative approach involving a household survey of 635 respondents living in peninsular Malaysia. The research location was particularly suitable because of its diversity and the supply of takaful and microtakaful policies.

4.1.3 Overview of the study

This chapter is structured as follows. Section 1 presents an introduction to the study, research questions and aim of the study.

In the second section, past studies contributing to takaful demand are briefly explored and reviewed. This broad discussion includes insurance demand because of the limited studies in the takaful market that contribute to the conceptual model for this study. In addition, due to insufficient previous studies on microtakaful, Section 2 will also review studies from a microinsurance perspective. The theoretical and conceptual framework is developed in this chapter.

In Section 3, the methodology employed to test the hypotheses, as well the model used in this study, is provided and explained. Thereafter, the results of descriptive analysis as well as probit regression providing the factors that influence the demand for takaful policies and microtakaful schemes are presented in Sections 4 and 5. In the concluding section there is a discussion of the results and some implications for research and suggestions for future research are considered.

4.2 Literature Review

4.2.1 Theories influencing the demand for takaful and microtakaful

It is important to note that a theoretical model for insurance consumption should be applicable to the case of takaful and microtakaful uptake. Even though the principle and philosophy behind this financial product differentiates it from an ordinary insurance policy, the functions and aims of these products are the same – to minimize risk and reduce hazards when someone is exposed to financial fragility.

From an insurance perspective, most of the previous literature discusses prospect theory and utility theory to explain the demand for the purchase of insurance. With the same intention to minimize risk in the future, most of the conventional theories are applicable from a takaful perspective. Thus, in this section, expected utility theory can offer further explanation and is used to answer the research questions of this study.

i. Expected Utility Theory

This economic theory explains the behaviour of individuals based on their preferences, along with utility maximization. Clients' decisions to take out insurance or not involve a great deal of critical decision-making when dealing with uncertainty. Expected Utility Theory (EUT) was devised by Danielle Bernoulli in 1738, and further explained by Neumann and Morgenstern (1944) and Savage (1961), who integrated utility maximization and the implications for wealth and dealing with the analysis of decision-making under risk and uncertainty. EUT explains how expected utility is an important element in making a decision to buy any insurance policy, by suggesting that the negative is accelerated within a utility function for money (Tversky, 1975).

EUT assumes that individuals are risk-averse and try to mitigate risk by making choices concerning different levels of risk and their implications for wealth. At the same time, other related factors, such as the individual's financial consequences or health conditions, are considered as uncertainties (Schneider, 2004). Therefore, insurance demand is related to an individual's risk aversion and desire for protection against uncertainty. The more the individual is perceived to be against risk, the more insurance cover they will buy (Begg et al., 2000).

The basis of EUT is related to takaful decision-making, which explains how decisions are made by a risk-averse individual. Additionally, risk-averse individuals are inclined to

choose the option that mitigates their risk with no implications for their utility and consumption without an element of uncertainty. The level of risk will directly reflect the decision of the individual, who will evaluate a takaful contract and benefit by making assumptions about the occurrence of risk, which subsequently has implications for their wealth or utility in the future. The individual is expected to participate in takaful protection if the decision increases their utility; this depends on how this element affects their wealth, as well as being in line with Islamic principles and based on the individual's characteristics and risk preferences.

The main purpose of this study is to examine why some people take out a takaful policy and others do not. It focuses on socio-demographic and socio-economic factors, shock experience, trust in takaful and individual financial literacy. Theories are employed to explain how all these factors influence decision-making by takaful clients and non-clients.

Expected utility theory is expected to assist in explaining the demand for takaful and microtakaful. EUT focuses on how individual decision-making in uncertainty situations is affected, based on the effect on their wealth. In summary, EUT is adopted with additional consideration of Shariah principles to understand why some people participate in takaful and some do not.

4.2.2 Determinant demand factors for takaful policies

To date, several studies have also assessed the determinants of takaful demand (Redzuan et al., 2009; Gustina and Abdullah, 2012; Kadir, 2013; Sherif and Shaairi, 2013; Arifin, Yazid and Hussin, 2014; Akhter, Khan and Elgammal, 2017), while other studies have argued about the theoretical aspect of takaful policies in Malaysia (Mohd Noor, 2009, 2012; Lim, Idris and Carissa, 2010; Rahman and Mohamad, 2010; Fauzi and Rashid, 2016).

The study by Arifin et al. (2014) involved a survey among Muslim customers who joined family takaful, it analysed data collected using stepwise regression analysis. They identified that religious adherence, reputation and image influence the demand for family takaful among Muslims in Malaysia. A broader perspective was adopted by Akhter et al. (2017), who analysed the data from 14 countries from 2005–2014; they used a fixed and random effect regression model to examine the demand for takaful and insurance across the ASEAN and Middle East regions. This study concluded that income, urbanization and

the financial sector have a significant positive impact, while education has a negative impact, but this is insignificant on the demand for a takaful policy. This is related to low general public knowledge and awareness of takaful products.

In a study conducted by Gustina and Abdullah (2012), using the data for the period 1990–2009, it was shown that family takaful demand is significantly affected by GDP per capita, education, savings and religion. However, the customer price index and financial sector negatively influence the demand for family takaful. The inconsistent results from previous studies give an opportunity to analyse in more depth in this area by focusing on one country, such as Malaysia, to give a different view based on single country results and a different methodology.

Moreover, Kadir (2013) performed a conceptual analysis to examine the major factors affecting the demand for takaful schemes. Data collected from 2002 to 2012 were used, and it was found that income, premium payments and the rate of interest had a significant impact on the demand for takaful products in Malaysia. This is similar to Arifin, Yazid and Sulong (2013) and Md Husin and Ab Rahman (2013), who systematically explored previous studies and found that the intention to participate in a family takaful scheme is not only affected by subjective norms, attitudes and perceived behavioural control, but also influenced by other variables including demographic, knowledge and situational factors, as well as religiosity.

Overall, there seems to be some evidence to indicate that demographics, shock experience, financial literacy, location and trust in takaful play a critical role in influencing the demand for takaful. Hence, this study highlights the need to understand the demand for takaful policies by including additional variables, including shock experience and an individual's risk-coping strategies for further analysis. Furthermore, the analysis will extend to the demand for microtakaful policies, providing important insights into low-cost takaful policies catering for the needs of Malaysian households.

4.2.3 Demand for insurance and microinsurance

Despite the focus on takaful and microtakaful policies in this study, a review of the literature on insurance and micro-insurance demand presented as research on takaful services is still nascent and limited. The pioneer in the study of life insurance consumption was Yaari (1965), who introduced the concept of the uncertainty of life. Also, Browne

and Kim (1993) in their study on a sample of 45 countries using data from 1987, identified that income, insurance-pricing, inflation, government social security, dependency ratio and religion have a significant effect on life insurance consumption.

Zietz (2003) examined the literature relating to socio-demographic and socio-economic factors and the demand for life insurance. There are several areas in the demographic and socioeconomic environment that need to be explored, and it is likely that significant results from previous studies may be considered obsolete. Previous studies also divided insurance demand into four categories (Feyen, Lester and Rocha, 2011; Outreville, 2013; Fiala, 2017). These are:

- 1) economic factors;
- 2) demographic factors;
- 3) sociocultural factors;
- 4) structural factors.

A study conducted by Lin et al. (2017) found that people with high financial literacy are more likely to purchase life insurance. Moreover, the study found that for males aged 20–29 years, employment has a negative impact on the demand for life insurance, while married individuals, urban life and income have a positive effect. Another recent study by Wang et al. (2018), using data from 22 countries from 2004–2013, showed that health shock variables have a positive dynamic effect on insurance consumption growth. Considering all these previous studies, it seems that there are several factors that influence the demand for insurance and provide important insights into other areas to be explored, especially in the *takaful* context.

Low-income populations also demand to participate in this programme because of the bequest motivation factor. There are several studies that show a significant relationship between bequest and microinsurance demand, based on Panda et al. (2014), who found that insurance coverage is more popular among household heads, the spouses of household heads and both male and female children than other relatives. Insurance programmes focus more on women to give inclusiveness and sustainability. This is similar to a finding by Arun et al. (2012) that low-income households purchase microinsurance for bequest motives to give security to beneficiaries in the event of death.

Essentially, microinsurance demand stems from other factors, such as household financial capability and affordability (Bhat and Jain, 2006; Akotey, Osei and Gemegah, 2011; Panda et al., 2014). These factors determine microinsurance uptake, and therefore determine the impact of microinsurance as well. Panda et al. (2014) found that household socioeconomic status is not the main factor for insurance uptake, but households with greater financial liabilities are more interested in insurance in rural Bihar and Uttar Pradesh, India.

This result is similar to a finding by Huber (2012) and Akotey et al. (2011), who concluded that income level has a significant effect on microinsurance demand. However, Bhat & Jain (2006) also found that income is significant for microinsurance demand but in a non-linear relationship. Together, these studies provide important insights for exploring and analysing the demand for takaful and microtakaful policies, especially in developing countries.

Increased demand has a huge impact on the development of takaful programmes; it can even help uninsured populations to protect themselves. Studies on takaful demand have been conducted using different methodologies and analyses. The demand for a takaful programme increases when people are faced with difficult situations before they happen and understand what the protection is for. Essentially, takaful and insurance demand stems from many other factors, such as household financial capability and affordability (Bhat and Jain, 2006; Akotey, Osei and Gemegah, 2011; Panda et al., 2014). These factors determine insurance uptake and therefore also determine the impact of insurance.

4.2.4 Hypotheses development

i. Gender

Previous research findings on gender and takaful or insurance demand have been inconsistent and contradictory (Husin and Ab Rahman, 2013; Eling, Pradhan and Schmit, 2014; Soualhi and Al Shammari, 2015; Luciano, Outreville and Rossi, 2016; Bageant and Barrett, 2017). One study, by Husin and Ab Rahman (2013), demonstrated that behavioural intention that leads to any individual decision is influenced by gender. Eling, Pradhan and Schmit (2014) analysed a range of previous literature and found that women have greater risk aversion and make greater levels of insurance purchases due to the relationship between them.

This finding is similar to Soualhi and Al Shammari (2015), who found that women in Kuwait have more awareness of takaful plans compared to men; however, men also have the intention to take out Shariah-compliant insurance like females. However, Luciano, Outreville and Rossi (2016) found that women are less likely to be insured than men. Gender differentiated demand is positively associated with decisions to purchase insurance (Bageant and Barrett, 2017). Therefore, this study predicts that gender may influence the uptake of takaful or microtakaful products by customers.

Hypothesis 1: Men positively influence the demand for takaful or microtakaful participation.

ii. Age

In order to predict the factors that influence the uptake of takaful, this study considers the individual's age should be included. Previous literature stresses the importance of socio-demographics for takaful or insurance uptake (Giesbert, Steiner and Bendig, 2011; Arun, Bendig and Arun, 2012), including the age factor. Age has been included in previous studies as a control variable, rather than focused on as a main variable to be explored and discussed. The influence of age may be related to risk aversion, as in prospect theory which influences risk attitudes and utility function.

In addition, the literature discussed on age and attitudes to takaful or insurance is ambiguous. Some studies show a positive significant influence, while others demonstrate a negative significant effect on takaful or insurance demand. Giesbert, Steiner and Bendig (2011) found that the demand for insurance increases with age, whereby older households request more insurance compared to others. However, there is also a study that found no relationship between age and life insurance (Arun, Bendig and Arun, 2012).

Hypothesis 2: When considering the uptake of takaful, individual age is positively associated with the demand for takaful.

iii. Education

To better understand the factors that determine insurance demand, the level of education is an important element to be considered in this study: it will determine the level of awareness among the population. Browne and Kim (2015), Li et al. (2007), Dragos (2014)), Beck and Webb (2003) and Huber (2012) found that there is a positive

relationship between education and insurance demand, and Sherif and Shaairi (2013) found that education is positively related to family takaful demand. Using panel data, Dragos (2014) indicates that education positively influences the demand for non-life insurance, but it is not significant for the life insurance sector.

This insignificant result, using tertiary education as a proxy for education level, is not appropriate for life insurance; this is because of the problem of wealth accumulation and the distribution of wealth products. A different approach based on a household survey in Ghana by Akotey et al. (2011) shows that formal education is not a significant determinant of insurance demand. Furthermore, Sherif and Shaairi (2013) found that education appears to be a significant factor that influences family takaful consumption in Malaysia. However, Akhter, Khan and Elgammal (2017) found that education level has a negative impact on the demand for takaful policies. These inconsistencies in the results of previous studies give an opportunity to measure the relationship by using the highest education level to confirm the relationship between these variables and takaful demand.

Hypothesis 3: A higher education level is positively related to takaful or microtakaful demand.

iv. Type of employment

The empirical evidence and association between type of employment and takaful demand are ambiguous and limited. Employment status is also one of the important socio-economic status determinants of insurance and takaful demand. Furthermore, it has been argued by some scholars that employment status may have a significant effect on takaful and insurance participation. The self-employed and government employees are generally found to be less likely to join insurance schemes in their workplace, while the opposite is true for private-sector employees (Besley et al. 1999; King and Mossialos 2005).

Propper (1989) found that the employment of the head of family and the spouse was positively significant for the probability of insurance purchase compared to the unemployed, while being self-employed shows a negative influence on insurance participation. On the other hand, several studies have revealed a negative relationship between unemployment and demand for life insurance (Lenten and Rulli, 2006). This chapter therefore expects employment status to be positively related to takaful uptake.

Hypothesis 4: An individual who is employed is more likely to take out a microtakaful policy.

v. Location

Location is positively significant to the needs of health insurance but negatively affects the probability to purchase it. People need health insurance but cannot afford the price of the insurance policy (Wang and Rosenman, 2007). In addition, it is found that the urban population is positively correlated with life insurance demand (Hwang and Gao, 2003). Similarly, a study by Dragos *et al.* (2017), using a sample of 32 European countries, demonstrated that there are positive effects of urbanisation on life insurance density. Furthermore, economies with a higher share of urban to total population are expected to have a higher penetration rate of life insurance consumption (Outreville, 2013).

However, other studies from a consumer survey collected by the Korea Insurance Development Institute (KIDI) found that residents in small cities and rural areas purchase more insurance protection compared to metropolitan areas (Lee et al., 2010). Therefore, whether a location is urban or rural tends to have a mixed effect on insurance and is expected to have a positive influence on takaful demand. Therefore, the following hypothesis is proposed:

Hypothesis 5: There is positive relationship between urban locations and the demand for takaful or microtakaful.

vi. Religion

The demand for insurance in a country may be affected by its unique characteristics. There are inconsistent opinions among researchers about the influence of religion on insurance demand. Through household studies, Burnett and Palmer (1984), who investigated the relationship between religion salience and life insurance consumption, reported that households that attach high importance to religion are less insured than people who have a low level interest in religion. In addition, Browne and Kim (2015) found a negative relationship with the demand for insurance. The results show that insurance demand is less predominant in Islamic countries.

The Muslim population generally disapproves of insurance programmes because the nature of the products is against Islamic philosophy. However, it is different with insurance where the main aim of the products is geared more towards social responsibility

to protect low-income populations. Therefore, it is an opportunity to measure the religion factor in takaful demand and to see whether there are any findings that contradict previous studies.

Hypothesis 6: Muslim individuals are more likely to participate to take out takaful policies compare to non-Muslims.

vii. Financial literacy

The research literature that explores the relationship between financial literacy and their demand for takaful or insurance is relatively limited. Cole et al. (2010) conducted two large household surveys in India and Indonesia; they found a strong relationship between financial behaviour and financial literacy, one which drives the demand for financial services in emerging markets. Lin et al. (2017) explored the effects of financial literacy on the demand for life insurance in Taiwan using a logistic regression model; they demonstrated that individuals with high financial literacy are more likely to purchase life insurance. Similarly, using unique cross-sectional household data from Ethiopia, Awel and Azomahou (2015) demonstrated that people with high financial literacy tend to demand insurance and it is simply for strengthening the provision of financial literacy programmes.

In addition, financial literacy is found significantly and positively with individual's financial behaviour, such as cash-flow management, credit management, savings and investment (Hilgert et al., 2003). However, a low level of financial literacy does not necessarily imply that individuals will make poor financial decisions; individuals can seek advice and guidance to make financial decisions (Calcagno and Monticone, 2015). Ngatia et al. (2013) present the evidence from a randomised field experiment; they found a positive effect of financial literacy on index insurance that will have greater influence if individuals receive sufficient access to financial literacy materials. However, studies by Mahdzan and Peter Victorian (2013) found that financial literacy is insignificant in determining life insurance demand in Malaysia. The previous evidence reviewed here showed mixed results and seems to suggest a pertinent role for financial literacy in takaful participation to be analysed.

Hypothesis 7: Financial literacy is positively associated with takaful or microtakaful uptake.

viii. Trust

Prior to research on decision-making models, this study investigates the relationship between trust and demand for takaful and microtakaful. The individual's decision to take out insurance is based on individual acceptance of regular premium contributions in uncertain situations (De Bock and Gelade, 2012). Trust can serve as a crucial strategy in dealing with uncertainty or mitigate risk that may happen in the future. The author argues that trust may directly influence purchase intentions and decisions indirectly by influencing risk perception. In addition, empirical results show that customer trust directly and indirectly affects purchasing intention (Kim, Ferrin and Rao, 2008). This study argues that the effect of trust directly influences the demand for takaful and microtakaful, based on the previous literature.

In other words, this study proposes that trust has an important effect on the demand for takaful and microtakaful, which is one of the main areas of focus of this study. Bateman and Valentine (2015) found that trust was positively related to purchase intentions and becomes one of the most powerful influencers in the selling and buying relationship (Shukor, 2020). Furthermore, in the financial services industry, it was found that trust has a positive relationship with intention to purchase (Guenzi and Georges, 2010). Therefore, it is expected that trust will have a significant impact on the demand for takaful. Hence, the following hypothesis regarding the relationship between trust and demand for takaful is proposed:

Hypothesis 8: Trust in takaful is positively related to the demand for takaful or microtakaful.

ix. Risk exposure and shock experience

Previous research findings for risk exposure and shock experience have been inconsistent and contradictory but have had a significant effect on the demand for microinsurance (Arun and Bendig, 2010; Giesbert, Steiner and Bendig, 2011; Arun, Bendig and Arun, 2012; Turner, Said and Afzal, 2014; Liu and Miranda, 2015; Fiala, 2017). Fiala (2017) analysed the data from discrete a choice experiment and found that household experience of natural disasters decreases the demand for microinsurance.

This result is similar to Giesbert et al. (2011) who discovered that individuals who consider themselves more exposed to risk are less likely to purchase insurance. Moreover,

Arun et al. (2012), using a household survey conducted during 2007 and 2008, found that households with more exposure to risk are less likely to take out life insurance. This result might be due to other factors, including income level. In contrast, Liu and Miranda (2015) and Ito and Kono (2010) showed a positive relationship between past shocks and microinsurance demand.

Hypothesis 9: An individual's shock experience is positively associated with the demand for takaful or microtakaful.

All these factors, which are control and main variables, are taken from previous research done in insurance studies. This is because the same principles apply to insurance and takaful policies, even though they have different target populations. These factors are as follows: gender, age, educational level, marital status, employment, religion and location, as well as several additional control variables, including shock experience, risk-coping strategies and financial literacy.

The literature on insurance demand has highlighted several factors that influence the demand for insurance and takaful. However, the results from previous studies are ambiguous and inconsistent. Moreover, there is no evidence found in the microtakaful context specifically. This study therefore attempts to explore from a takaful and microtakaful perspective and to make a significant contribution and offer critical insights as to why people do or do not take out takaful policies in Malaysia by focusing on Malaysian households.

From the literature review in the previous section, I develop my hypotheses and summary predictions of the expected relationship between the dependent and independent variables presented in Table 4.1, below.

Table 4.1: Summary of predictions

Variables	Hypothesized sign
X ₁ = Gender	Positive
X ₂ = Age	Positive
X ₃ = Education	Positive
X ₄ = Employment	Positive (employed)
X ₅ = Location	Negative (rural)
X ₆ = Religion	Positive
X ₇ = Financial literacy	Positive
X ₈ = Trust in takaful	Positive
X ₉ = Shock Experience	Positive

X₁₀=Risk Coping Mechanism Mixed

Source: Author

Overall, there seems to be some evidence indicating a need to examine the key determinants of takaful and microtakaful demand in order to have better insights and reach the Malaysian population, especially low-income households, in the future.

4.2.5 Summary

This part has discussed relevant theories in insurance demand and replicated the takaful perspective. In addition, this part establishes the literature review on takaful, insurance and microtakaful demand and theories related to this study. The current study examines the factors that affect the demand for insurance and microinsurance, including socio-demographics, socio-economics, shock experience, risk coping strategies, trust in takaful and financial literacy, and decisions whether to take out a takaful policy. A limited range of literature is found on factors that affect the demand for takaful and microtakaful.

4.3 Methodology

This section explains the research design and processes used to answer the research question. It also explores why people do or do not take out a takaful policy in Malaysia. This study uses a quantitative approach to explore the relationship between variables using statistical analyses. Moreover, it uses cross-sectional studies to test whether or not independent variables affect takaful and microtakaful demand.

In order to test our model, the unit of analysis is an individual or a household to determine the demand for takaful and microtakaful using a survey for data collection in four regions of Malaysia. As mentioned in Chapter Two, 635 completed questionnaire surveys were received from the respondents. The survey was distributed and collected by hand and also through a phone survey, and selected enumerators were trained to collect data for this study. More details about this part are explained in Chapter Two.

4.3.1 Model specification

The analysis will segregate individuals who have participated in a takaful scheme from those who have not. A binary dependent variable is commonly used in estimating such observation. Since a binary model can only take two values, 1 and 0, an appropriate estimator in this research can be either logistic or probit maximum likelihood estimators.

Therefore, this chapter will conduct a probit regression analysis to test the association between explanatory variables on the take-up of takaful and microtakaful policies.

This study uses a probit model to investigate the correlation between households and their uptake of takaful. The probit model enables this chapter to estimate dichotomous dependent variables using the simulated maximum likelihood method. Therefore, the dummy variable Y is as follows:

$$Y_i = \begin{cases} 1 & \text{if person } i \text{ participates in takaful} \\ 0 & \text{otherwise} \end{cases}$$

Thus, this study observes Y_i such that Y_i is equal to one (1) if the respondent participates in takaful, otherwise zero (0).

$$\text{Prob}(y_i = 1) = \text{Prob}(y_i^* > 0) \quad (1)$$

Thus, this chapter uses it to estimate the determinant of takaful demand, which is given by the following rules:

$$\text{Demand} = \begin{cases} 1 & \text{if demand}^* > 0 \\ 0 & \text{if demand}^* \leq 0 \end{cases} \quad (2)$$

From the above equation, $y^*(\text{Demand}^*)$ is known as a latent variable which is unobserved. Thus, the probit model assumes the assistance of an underlying latent dichotomous realization. The latent variable, y_i^* , is therefore defined as:

$$\text{Demand}^* = X' \beta_{TP} + \varepsilon_{TP} \quad (3)$$

The term X' represents the vectors of independent variables, i.e. demographics, socioeconomics, shock experience, risk-coping mechanisms, trust in takaful and financial literacy as a control variable. This function is estimated using the method of simulated maximum likelihood (SML), as mentioned above, in order to evaluate multivariate normal distribution functions. Thus, the probit model estimating the factors affecting the demand for takaful uptake is as follows:

$$\begin{aligned}
\text{DEMAND}_{\text{TP}} = & \beta_0 + \beta_1 (\text{socio demographic}) + \beta_2 (\text{socio economic}) \\
& + \beta_3 (\text{trust in Takaful}) + \beta_4 (\text{financial literacy}) \\
& + \beta_5 (\text{shock experience}) + \beta_6 (\text{risk coping mechanism}) + \varepsilon
\end{aligned} \tag{4}$$

There are several versions of the model that were estimated. The model was first estimated with takaful participation as the dependent variable. Then, model was estimated by including other important variables, including trust in takaful, financial literacy, shock experience and risk-coping mechanisms. These three versions of the model were repeated for microtakaful participation as the dependent variable.

4.4 Descriptive Analysis

4.4.1 Descriptive analysis for socio-demographics and socio-economics

Table 4.2 summarises the definitions of the variables in this research. It covers different types, including socio-demographic and socio-economic variables. All the variables are binary, except financial literacy. The variables used in this part include gender, age, marital status, education, income, employment, location, religion, trust in takaful and financial literacy.

Table 4.2: Definition of variables

Variable	Definition
Dependent variable	
Takaful participation	Dummy variable, 1 if respondent participated in takaful, and 0 otherwise
Microtakaful participation	Dummy variable, 1 if respondent participated in microtakaful, and 0 otherwise
Explanatory Variables	
Gender	Gender of the respondent. 1 for men, and 0 otherwise.
Age_1	Dummy variable, 1 if respondent is 20–30 years old, and 0 otherwise
Age_2	Dummy variable, 1 if respondent is 31–40 years old, and 0 otherwise
Age_3	Dummy variable, 1 if respondent is over 50 years old, and 0 otherwise.
Maritalstatus_1	Dummy variable, 1 if respondent is married, and 0 otherwise
Higher	Dummy variable, 1 if respondent has a degree or above, and 0 otherwise
Tertiary	Dummy variable, 1 if respondent has a diploma or STPM, and 0 otherwise
Secondary	Dummy variable, 1 if respondent has secondary education (SPM), and 0 otherwise.
Other	Dummy variable, 1 if respondent has another type of education level including primary school and no education, and 0 otherwise
Employment_1	Dummy Variable, 1 if respondent works in the government sector, and 0 otherwise
Employment_2	Dummy Variable, 1 if respondent works in the private sector, and 0 otherwise
Employment_3	Dummy Variable, 1 if respondent is self-employed, and 0 for otherwise
Employment_4	Dummy Variable, 1 if respondent is not employed, and 0 otherwise
Location_1	Location of the respondent, 1 from a rural area, and 0 otherwise.
Religion	Dummy Variable, 1 if respondent is Muslim, and 0 otherwise

Government	0.14	0.35	0.23***	0.42	0.10	0.29	0.14	0.35	0.17	0.37	0.14	0.35
Private	0.43	0.49	0.55***	0.50	0.36	0.48	0.43	0.49	0.66***	0.48	0.37	0.48
Self-employed	0.23	0.42	0.14***	0.35	0.29	0.45	0.23	0.42	0.12***	0.33	0.26	0.44
Not employed	0.11	0.31	0.04**	0.20	0.14	0.35	0.11	0.31	0.01***	0.09	0.13	0.34
Religion												
Muslim	0.94	0.24	0.99***	0.10	0.91	0.29	0.94	0.24	1.00**	0.00	0.92	0.27
Location												
Rural	0.41	0.49	0.24***	0.43	0.50	0.50	0.41	0.49	0.13***	0.34	0.48	0.50
	635		218		417		635		121		514	

Source: Author's calculations. Statistical differences are calculated with mean comparison tests (*t-statistic*). Significant differences are presented via asterisks next to mean values: ***significant at 0.01 ** significant at 0.05 *significant at 0.1.

4.4.2 Descriptive analysis of shock experience

The next question asked respondents about their shock experience. Table 4.4 presents the definitions of variables for this part. The results of summary statistics for the variables included in this part are presented in Table 4.5.

Table 4.4: Definition of variables for shock experience

Shock experience	
Accident	Dummy variable, 1 if an accident happened to the respondent or household member in the last three years, and 0 otherwise.
Death	Dummy variable, 1 if respondent had experience of the death of a household member, and 0 otherwise.
Illness	Dummy variable, 1 if the respondent or a household member had been ill, and 0 otherwise.
Other shock	Dummy variable, 1 if the respondent had a shock experienced, and 0 otherwise.

Source: Author

As shown in Table 4.5, non-takaful clients frequently experienced four major shocks compared to takaful clients, including an accident to a household member, death, illness or damage to property. What also stands out in the table is that the percentage for illness is slightly higher than for other shocks for both takaful and non-takaful clients.

The main shock identified among takaful clients was illness of a household member, either hospitalization or only needing to visit a doctor. This addresses the statistical probability of risk occurring; a potential takaful product and service can be developed to meet the needs of the community. The pattern of a death or accident shock happening, as well as damage to property (due to forces beyond the respondent's control), indicates that

non-takaful clients were vulnerable to substantial financial constraints and a high level of being without basic protection in the future.

For microtakaful clients, the respondents frequently deal with illness and other shocks, but rarely with accidents and death. The main shock identified among microtakaful clients was illness of household members, either hospitalization or only needing to visit a doctor.

Table 4.5: Descriptive analysis on shock experiences

	Full sample		Takaful				Microtakaful			
			client		non-client		client		non-client	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Accident	0.09	0.29	0.02***	0.13	0.13	0.34	0.01	0.09	0.11	0.31
Death	0.08	0.28	0.03**	0.16	0.11	0.32	0.00	0.00	0.10	0.30
Illness	0.32	0.47	0.24**	0.43	0.35	0.48	0.17	0.37	0.35	0.48
Other shock	0.25	0.43	0.14***	0.35	0.30	0.46	0.04	0.20	0.30	0.46
Observation	635		218		417		218		417	
	340		152		188		86		254	

Source: Author

4.4.3 Risk coping mechanisms

The aim of this section is to present and discuss the risk coping strategies used by each respondent to mitigate and deal with risk. All respondents were asked to respond based on the risk strategies listed in the survey questionnaire, based on the frequencies of coping strategies used in Malaysia. This section compares the risk management techniques in place. The characterization of risk-coping mechanisms offers some important insights into microtakaful scheme development that is compatible with the needs of the community.

The section is divided into three major parts. The first part discusses the major coping strategies used by individuals. The next part provides a descriptive analysis of risk-coping strategies between takaful and non-takaful clients, followed by the strategies used by microtakaful and non-microtakaful clients. The last part is descriptive analysis of risk-coping mechanism variables in takaful and microtakaful demand.

4.4.3.1 Major risk coping mechanisms among respondents

This study set out with the aim of assessing respondents' risk-coping strategies for possible shock and risks. There are four major types of coping mechanisms: personal

coping strategies (PCS), informal social networks (ISC), credit-coping strategies (CCS), and member-based networking (MBN).

Personal coping strategies emerge as the major coping strategies among respondents. There are four types of PCS: no coping action, using own funds, getting an additional job and selling household assets. This coping strategy requires awareness of risk and shock happening. Any loss that occurs will be absorbed by the individuals using their own assets, savings or future income. Saving is an effective coping approach for the majority of economic shocks (Manje and Churchill, 2002). No coping action is where they neglect illness or do not replace stolen assets, etc.

Second, risk coping mechanisms are broadened to include informal social networks as follows: i) getting free help from either a working collective, community, relatives or friends abroad, ii) donation by getting free help from the government, local associations, private persons or organizations, iii) getting assistance from an employer via packages and formal help. Credit-coping strategies are explained by borrowing activities, as a strategy to cope with shocks faced by the household. This type of risk mitigation includes borrowing with or without interest from relatives and friends, borrowing from credit unions, and borrowing from banks.

The fourth element of coping mechanisms is the member-based networks used by respondents, including takaful, the Rotating Saving and Credit Association (ROSCA), and Islamic pawn-broking. Takaful is one of their options as a financial tool providing extra protection for themselves and their family. ROSCA is a common and traditional way for individuals to use, especially in rural areas, as this is an easy way for them to have savings and credit facilities.

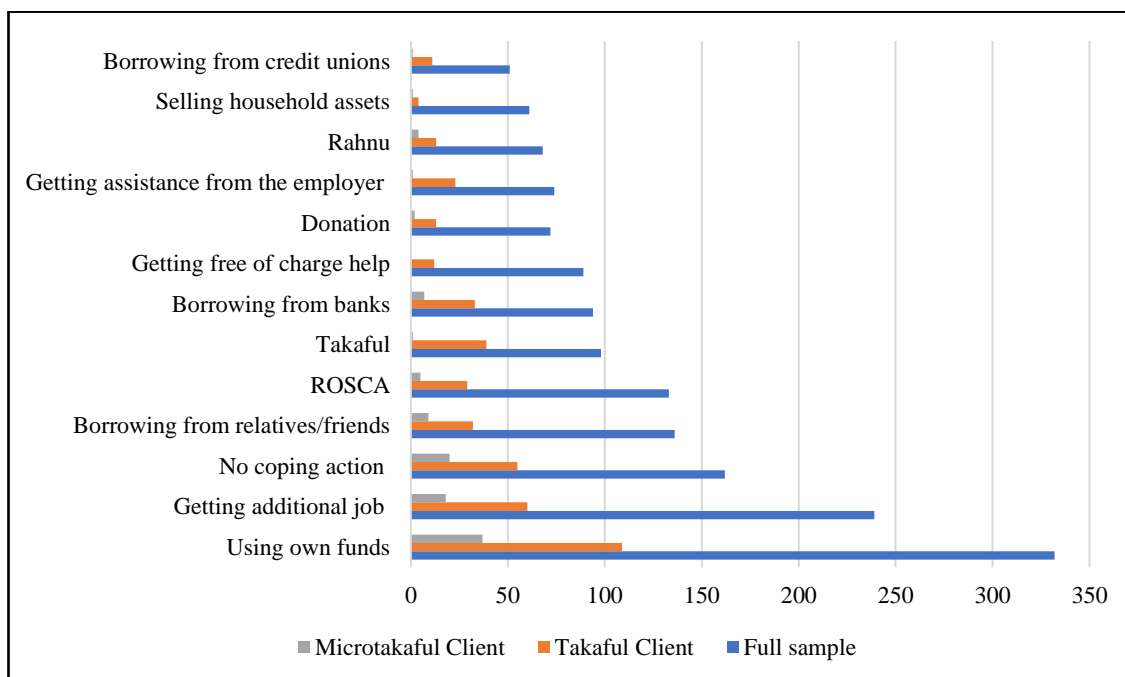
This is group-based with some contributions from each member to each member at a regular time as per an agreement. No interest is charged and this is based on a *qard al hassan* transaction. Rahnu, or Islamic pawn-broking, is an alternative involving pledging some assets or gold to a certified pawn-broking or banking institution. This will help the individual who needs funds immediately. Usually this is applicable to small and medium-size entrepreneurs who face financial difficulties in running their business. Table 4.6 presents the definitions of variables for this part.

Table 4.6: Definitions of variables for risk-coping mechanisms

Definition of variables	
Variable	
No coping action	Dummy variable, 1 if it frequently happens that respondent has no coping actions, and 0 otherwise.
Using own funds	Dummy variable, 1 if respondent frequently uses their own funds, 0 otherwise.
Getting an additional job	Dummy variable, 1 if respondent frequently gets an additional job, 0 otherwise.
Getting free of charge help	Dummy variable, 1 if respondent frequently gets free of charge help from a relative, friend or community, 0 otherwise.
Donation	Dummy variable, 1 if respondent frequently uses donations, 0 otherwise.
Getting assistance from an employer	Dummy variable, 1 if respondent frequently gets assistance from an employer, 0 otherwise.
Borrowing from relatives/friends	Dummy variable, 1 if respondent frequently borrows from relatives/friends, 0 otherwise.
Borrowing from credit unions	Dummy variable, 1 if respondent frequently borrows from credit unions, 0 otherwise.
Borrowing from banks	Dummy variable, 1 if respondent frequently borrows from banks, 0 otherwise.
Takaful	Dummy variable, 1 if respondent frequently uses takaful, 0 otherwise.
ROSCA	Dummy variable, 1 if respondent frequently uses Rosca, 0 otherwise.
Rahnu	Dummy variable, 1 if respondent frequently uses Rahu, 0 otherwise.
Selling household assets	Dummy variable, 1 if respondent frequently sells household assets, 0 otherwise.

Source: Author

Figure 4.1: Risk-coping mechanisms used by takaful and microtakaful clients.



Source: Author's illustration

Figure 4.1 presents an overview of the major risk-coping mechanisms among respondents. Surprisingly, half of the respondents answered that they used their own funds as a coping mechanism (52%). A further 38% of the respondents answered that they got an additional job to mitigate their risk. A total of 162 respondents (26% of the sample) reported that they had no coping mechanisms to deal with a shock happening.

Table 4.7 provides a descriptive analysis of relevant risk-coping mechanism variables collected from the household survey. Using one's own funds is the primary risk-coping mechanism for all respondents, including takaful and microtakaful clients. In addition, most non-takaful clients borrowed from relatives or friends, joined ROSCA, or got an additional job compared to takaful clients. Non-takaful clients also chose Rahnū, sold household assets, or received free of charge help or donations as their preferred risk-coping mechanisms.

Table 4.7: Descriptive analysis of risk-coping mechanisms based on selected group

			Takaful				Microtakaful			
	Full sample		client		non-client		client		non-client	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
No coping action	0.26	0.44	0.25	0.44	0.26	0.44	0.17**	0.37	0.28	0.45
Using own funds	0.52	0.50	0.50	0.50	0.53	0.50	0.31***	0.46	0.57	0.49
Getting additional job	0.38	0.48	0.28**	0.45	0.43	0.50	0.15***	0.36	0.43	0.50
Getting free of charge help	0.14	0.35	0.06***	0.23	0.18	0.39	0.00***	0.00	0.17	0.38
Donation	0.11	0.32	0.06**	0.24	0.14	0.35	0.02***	0.13	0.14	0.34
Getting assistance from an employer	0.12	0.32	0.11	0.31	0.12	0.33	0.01***	0.09	0.14	0.35
Borrowing from relatives/friends	0.21	0.41	0.15**	0.35	0.25	0.43	0.07***	0.26	0.25	0.43
Borrowing from credit unions	0.08	0.27	0.05**	0.22	0.10	0.29	0.01***	0.09	0.10	0.30
Borrowing from banks	0.15	0.36	0.15	0.36	0.15	0.35	0.06***	0.23	0.17	0.38
Takaful	0.15	0.36	0.18	0.38	0.14	0.35	0.04***	0.20	0.18	0.39
ROSCA	0.21	0.41	0.13**	0.34	0.25	0.43	0.04***	0.20	0.25	0.43
Rahnū	0.11	0.31	0.06**	0.24	0.13	0.34	0.03***	0.18	0.12	0.33
Selling household assets	0.10	0.29	0.02***	0.13	0.14	0.34	0.01***	0.09	0.12	0.32

Source: Author's calculations

On the other hand, for microtakaful clients, most chose no coping action, using their own funds and getting an additional job as their risk-coping strategies, compared to non-takaful clients, who used most of the coping strategies listed in the survey. They also preferred to borrow from relatives or friends during emergencies, rather than borrow from credit unions or banks. None of the microtakaful clients chose getting free of charge help as a risk-coping strategy but 17% of non-microtakaful clients used this coping strategy to minimize risk.

As shown in Table 4.8, the number of takaful clients exceeds the number of ROSCA clients. However, there are 29 respondents who use ROSCA and participate in takaful simultaneously. In addition, 189 respondents participate in takaful but do not use ROSCA as an alternative to cope with risk. Only 104 respondents reported that they frequently use ROSCA as a coping strategy but do not participate in takaful. The largest percentage comes from respondents who do not use either takaful or ROSCA as risk-coping strategies (313 respondents).

Table 4.8: Descriptive analysis of ROSCA and takaful

Takaful client	ROSCA participants		Total
	No	Yes	
No	313	104	417
Yes	189	29	218
Total	502	133	635

Source: Author's calculations

4.5 Factor analysis

In this study, factor analysis is applied for financial literacy and risk coping variables. Factor analysis indicates that there is a strong association between the items in financial literacy and risk coping mechanism. The results of the factor analysis are displayed in Table 4.10 and 4.11. In this analysis, there were three variables found along with their eigenvalues (see Table 4.10). Based on Hair et al., 2(007), it is suggested that variables with factor loadings of 0.5 and above are selected because their significance to determine the minimum loading is necessary. A total of 14 items from two of the independent variables, financial literacy and risk coping mechanism, were subjected to factor analysis.

4.5.1 Financial Literacy

The validity and reliability of the questions asked regarding measurement of the financial literacy variable can be tested using factor analysis, a KMO test and Cronbach's alpha. Based on the questionnaire, the respondents had to indicate their agreement with five statements related to financial literacy on a 5-point Likert scale. If the questionnaire has construct validity, all the selected items are a good match for the underlying construct.

In addition, factor analysis tries to explain the relationships or correlations among items in the financial literacy variable. It can also measure and determine the existence of intercorrelation between items within this variable for a developing measure. This analysis produces factor loadings or scores; these are the Pearson correlation coefficients, as presented in Table 4.10. A correlation matrix table generated before factor analysis can be constructed to check whether the items correlate too high or too low with other items (see Table 4.9). Based on the result of the KMO statistic, the overall adequacy of the factor analysis for financial literacy can be considered reasonable which is 0.6007 (> than 0.50) and each item was predicted by each other factor.

Table 4.9: Correlation table for 5 items under financial literacy.

Variable	FL1	FL2	FL3	FL4	FL5
FL1	1.000				
FL2	0.129***	1.000			
FL3	0.429***	0.211***	1.000		
FL4	0.113***	0.405***	0.031	1.000	
FL5	0.007	0.568***	0.180***	0.371**	1.000

*

*** p<0.01, ** p<0.05, * p<0.1. FL1: Borrowing money is the only tool to respond to emergency situations. FL2 denoted it is worth planning my household finances for the next five years. FL3 denotes nowadays, everybody can save at least a small amount. FL4 denotes saving money is a way to build financial stability. FL5 denotes it makes sense to save for emergencies.

The factor analysis also indicates whether there is a strong association between the items in financial literacy or not. A total of five items from one of the independent variables, financial literacy, were subjected to factor analysis.

The factor loadings or correlation coefficient values are shown in Table 4.10. The range of factor loadings is from 0.2632 to 0.6997 for factor 1. Based on Hair et al. (2007), it is suggested that variables with factor loadings of 0.5 and above are selected because of their significance to determining the minimum loading necessary; there is an intercorrelation between the items to present that variable. However, the cut-off point of 0.35 in this study follows previous researchers to balance a cut-off of 0.4; this is generally used and is suggested by Arlinghaus et al. (2019) and Tabachnick and Fidell (2019) as being an appropriate parameter for the minimum loading of an item and to explain the construct.

Table 4.10: Factor loading estimates (coefficient values)

Items	Construct	Value
Borrowing money is the only tool to respond to emergency situations	0.2632	
It is worth planning my household finances for the next five years	0.6997	
Nowadays, everybody can save at least a small amount	0.3506	
Saving money is a way to build financial stability	0.4953	
It makes sense to save for emergencies	0.6535	
Eigenvalue		1.3541
Cronbach's Alpha		0.5801
KMO test		0.6007

4.5.2 Risk coping mechanism

Nine items under risk coping mechanisms were subjected to principle factoring analysis to access the validity of the question asked in the questionnaire. The KMO was found to be 0.8357; this indicates that the value can be considered acceptable (> than 0.50) for factor analysis and each item was predicted by each other factor (see appendix Table 4.17).

Based on Table 4.11, one factor was extracted explaining 27.34% of the variance. The range of factor loading or correlation coefficient score for all the items loaded as shown in Table 4.11 was from 0.4257 to 0.6145. The Cronbach's alpha value for risk coping

mechanism items was 0.7786, which is acceptable and within the range (see appendix Table 4.18).

Table 4.11: Factor loading for risk coping mechanism

Items	Construct	Value
No coping action	0.4257	
Using one's own funds	0.5250	
Getting an additional job	0.5321	
Getting free of charge help	0.6145	
Getting assistance from an employer	0.5356	
Borrowing from relatives/friends	0.5202	
Borrowing from banks	0.4627	
ROSCA	0.4839	
Rahnu	0.5557	
Selling household assets	0.5479	
Eigenvalue		2.7324
KMO		0.8357
Cronbach's alpha		0.7786

4.6 Empirical Results

4.6.1 Takaful demand

Table 4.12 shows the empirical results for the factors that influence the demand for takaful in Malaysia. The following analysis focuses on identifying the characteristics associated with takaful participation. A probit regression was conducted to investigate the significance of the relationship between explanatory variables and the demand for takaful. The marginal effects obtained from columns (3) and (5) are shown in columns (4) and (6). Three different specifications were examined, as follows:

- i. Specification 1: effect of gender, age, education, location, trust in takaful religion, and financial literacy on takaful demand without trust in takaful for the full sample.
- ii. Specification 2: effect of gender, age, education, location, trust in takaful religion, and financial literacy on takaful demand for the full sample.
- iii. Specification 3: effect of gender, age, education, location, trust in takaful religion, and financial literacy on takaful demand with interactions.

All the model specifications tested in this study estimate the determinants of takaful demand in Malaysia. The model in Table 4.12 is a single variable with interaction for several variables, including education, location and trust. Therefore, before estimating the effect of any interaction on takaful demand, the basic model of takaful demand is estimated to see the differences in the effect of these variables before moving on to analysis of the interaction effect.

Table 4.12 presents the results for takaful regression of our hypothesis testing in the first model specification. The significant variables for this part were men, aged between 20 to 30 years old, with a higher or tertiary education, live in a rural area, have trust in takaful, are Muslims, and are financially literate. However, education level and an age of between 31 to 50 years old have no significant impact on takaful participation.

Model 2 (column 3) in Table 4.12 presents the probit regression results for takaful demand; these include gender, age, education, location, trust in takaful and financial literacy. McFadden's adjusted r-squared for model 2 is 0.167. From the results obtained in model 2, gender is a significant variable for explaining the individual's demand for takaful. Male respondents are more likely to participate in a takaful policy in this model

($\beta = 0.275, p \leq 0.05$), compared to women. However, respondents aged between 20 to 30 years old have a negative significant impact on takaful demand ($\beta = -0.516, p \leq 0.05$), supporting Hypothesis 2. This result indicates that respondents within this age group are less likely to participate in takaful.

Respondents with a higher or tertiary education level show a positive significant influence on interest in a takaful policy (higher education: $\beta = 0.921, p \leq 0.01$; tertiary education: $\beta = 0.568, p \leq 0.05$). Therefore, these results suggest that a higher education level increases the level of demand for takaful. Moreover, coming from a rural area has a negative impact on the demand for takaful ($\beta = 0.600, p \leq 0.01$). This result demonstrates that most takaful policies are taken out by urban populations because of other external factors, including accessibility and marketing approach.

For trust in takaful, this variable is a significant variable for explaining the demand for takaful ($\beta = 0.645, p \leq 0.01$), supporting Hypothesis 7. Thus, this result indicates that trust in takaful increases the demand for takaful in Malaysia. The marginal effect shows that one unit of change in trust in the takaful variable increases the probability of taking out a takaful policy by 47.8 percentage points (see Table 4.12).

Religion, which here is Islam, is positive and statistically significant at $p \leq 0.01$ in Model 2 with a coefficient $\beta = 1.361$. Therefore, this suggests that religion is associated with high demand for takaful, supporting Hypothesis 5. In addition, the financial literacy factor has a positive impact on the demand for takaful ($\beta = 0.071, p \leq 0.05$). This result indicates that the demand for takaful will increase for an individual with high financial literacy. Respondents with financial literacy, which is related to saving behaviour, increases the probability that the individual will take out a takaful policy.

The probit regression was repeated by including the interaction between education and trust in Model 3 (see Table 4.12). McFadden's adjusted r-squared for Model 3 is 0.205. The empirical evidence shows that the interaction between education variables (higher and tertiary education) and a rural location is negative, indicating that educated respondents who have obtained either a higher or tertiary education level and live in a rural area have a lower demand for takaful. Surprisingly, the interaction between an educated respondent and trust in takaful indicates a negative significance for demand for

takaful. Therefore, respondents who are educated and have trust in takaful are less likely to participate in takaful.

Table 4.12: Probit regression for takaful demand

VARIABLES	Without trust	Model 2	Marginal effect	Model 3	Marginal effect
Gender	0.224** (0.112)	0.275** (0.117)	0.097** (0.041)	0.285** (0.117)	0.100** (0.041)
20-30 years old	-0.578*** (0.214)	-0.516** (0.216)	-0.156** (0.066)	-0.554** (0.221)	-0.166** (0.067)
31-40 years old	0.167 (0.182)	0.197 (0.182)	0.073 (0.066)	0.175 (0.182)	0.065 (0.066)
41-50 years old	0.0948 (0.189)	0.127 (0.188)	0.047 (0.068)	0.121 (0.189)	0.044 (0.069)
Higher Education	1.055*** (0.276)	0.921*** (0.278)	0.320*** (0.083)	1.310*** (0.328)	0.439*** (0.088)
Tertiary education	0.697*** (0.254)	0.568** (0.254)	0.182** (0.071)	0.957*** (0.305)	0.299*** (0.078)
Secondary education	0.214 (0.244)	0.156 (0.243)	0.043 (0.064)	0.144 (0.249)	0.032 (0.053)
Location	-0.640*** (0.120)	-0.600*** (0.122)	-0.211*** (0.042)	-0.401** (0.179)	-0.140** (0.062)
Religion	1.483*** (0.396)	1.361*** (0.396)	0.227*** (0.135)	1.415*** (0.408)	0.334*** (0.138)
Trust		0.645*** (0.117)	0.478*** (0.041)	0.954*** (0.184)	0.495*** (0.063)
Financial literacy	0.107*** (0.0289)	0.0714** (0.0287)	0.025** (0.010)	0.0765** (0.0292)	0.027*** (0.010)
educated*Location				-0.402* (0.244)	-0.141* (0.086)
educated*trust				-0.538** (0.238)	-0.188** (0.082)
Constant	-3.565*** (0.611)	-3.250*** (0.601)		-3.572*** (0.623)	
Observations	635	635		635	
Pseudo r-squared	0.159	0.196		0.343	
McFadden's (adjusted) r-squared	0.132	0.167		0.205	
Prob > chi2		0.000		0.000	

Note: ***Significance at $p < 0.01$, ** Significance at $p < 0.05$, * Significance at $p < 0.1$. Robust standard errors appear below coefficients. Specification (1) does estimate the full sample (N=635). Column (4) are the model estimate the marginal effects of significant variables obtained from model (2). Age` denotes "above 50 years old" as reference group; Educational level`` denotes "others" as reference group.

4.6.2 Shock experience and risk-coping mechanisms

The empirical results for shock experience and risk-coping mechanisms are reported in Table 4.13. The results found in this model mean that this chapter makes a novel and significant contribution since certain variables have not been used in previous literature, especially in the takaful area. A description of the variables used in the regression is

provided in Table 4.3. Two different specifications are used to explain the relationship and robustness of the results. These specifications are described below:

- i. Specifications 4: effect of shock experience on takaful demand;
- ii. Specifications 5: effect of risk coping mechanisms on takaful demand.

Shock experience

Table 4.13, below, presents the model estimation showing shock experience variables, including accident, death, illness and other shocks, to determine the factors that affect takaful demand among Malaysian households. The empirical results reveal that respondents who with frequent experience of accidents to household members, leading to temporary or permanent disability, are less likely to join takaful ($\beta = -0.820, p \leq 0.05$). These results are similar to a death experience, either the death of a breadwinner, death by natural causes or unexpected death, that have a significant negative influence on takaful demand ($\beta = -0.528, p \leq 0.05$).

The results show that the more people are exposed to the shock of death or accident, the less likely they are to take out a takaful policy. The marginal effects reported in Table 4.13 show that the frequently having accidents variable significantly decreases the probability of taking out a takaful policy, at 28.6 percentage points. No significant effects on takaful participation were found between illness and other shocks.

Risk coping mechanisms

The results of the probit models used in this part are exhibited in Table 4.13. Marginal effects for all variables are reported in column (5). McFadden's Adj R² is 0.139. Several of the estimated effects for the risk-coping mechanism variables are found to be statistically significant for takaful demand; these include using one's own funds, getting an additional job, getting free of charge help, getting assistance from an employer, borrowing from banks and selling household assets.

Based on Table 4.13, this study finds a positive relationship between using one's own funds and takaful demand at $p < 0.05$. Additionally, these results suggest that individuals who frequently used their own funds to minimize risk are more likely to take out a takaful policy. As shown in Table 4.13, respondents who frequently get an additional job as their coping strategy have a negative impact on takaful demand ($\beta = -0.224, p \leq 0.10$). The

results suggest that the more frequently people choose to cope with risk by getting an additional job, the less they will participate in takaful and microtakaful.

Getting free of charge help from friends or relatives has a negative significant effect on the demand for takaful participation ($\beta = -0.518$, $p \leq 0.05$). This result indicates that respondents who get free of charge help are less likely to participate in takaful. However, as reported in Table 4.13, respondents who borrow from banks as their coping strategy have a positive significant impact on takaful demand ($\beta = 0.034$, $p \leq 0.10$). Borrowing from banks to mitigate risk is more likely to increase the interest in takaful among respondents. Selling household assets exhibits a statistically significant effect with a negative direction on takaful demand ($\beta = -0.808$, $p \leq 0.05$). Therefore, this risk-coping strategy matters for understanding the demand for takaful among Malaysian households.

Table 4.13: Probit regression for takaful demand (shock experience and risk coping mechanisms)

Variable	Model 4	Marginal effect	Model 5	Marginal effect	Model 6
Risk assessment					
Accident	-0.820** (0.319)	-0.286** (0.110)			
Death	-0.528** (0.259)	-0.184** (0.090)			
Illness	0.0245 (0.137)	0.009 (0.048)			
Other shock	-0.001 (0.163)	-0.000 (0.057)			
Risk coping mechanism					-0.188*** (0.0676)
Using one's own funds			0.274** (0.125)	0.096 (0.044)	
Getting an additional job			-0.224* (0.135)	-0.078 (0.047)	
Getting free of charge help			-0.518** (0.223)	-0.180 (0.078)	
Getting assistance from an employer			0.344* (0.207)	0.120 (0.072)	
Borrowing from relatives/friends			-0.212 (0.167)	-0.074 (0.058)	
Borrowing from banks			0.304* (0.175)	0.106 (0.061)	
ROSCA			-0.115 (0.162)	-0.040 (0.056)	
Selling household assets			-0.808** (0.320)	-0.282 (0.111)	
Constant	-2.148*** (0.464)		-2.088*** (0.447)		-2.112*** (0.453)
Observations	635		635		635
Pseudo r-squared	0.164		0.184		0.154
McFadden's (adj) r-squared	0.130		0.139		0.127
Prob > chi-squared	0.000		0.000		0.00

Note: Robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors are provided below coefficients. Specification (1) estimates the full sample ($N=635$). Columns (3) & (5) are the marginal effects of significant variables obtained for risk assessment and risk coping mechanisms. Column (6) is the probit regression for risk coping mechanism using factor score.

4.6.3 Microtakaful demand

Table 4.14 presents the probit estimation results for household decisions on microtakaful participation. A description of the variables used in this regression is provided in Table 4.2. Three model specifications were used to explain the relationship between seven variables, demand for microtakaful and the robustness of the results. These specifications are described below:

- i. Specification 1: effect of gender, marital status, education, employment, location, trust in takaful, and financial literacy on microtakaful demand without trust for the full sample.
- ii. Specification 2: effect of gender, marital status, education, employment, location, trust in takaful, and financial literacy on microtakaful demand for the full sample.
- iii. Specification 3: effect of gender, marital status, education, employment, location, trust in takaful, and financial literacy with interactions on microtakaful demand.

Model 1, 2 and 3 in Table 4.14 presents the results of hypotheses testing for microtakaful demand. Model 2 includes only control variables, and in Model 3 this study adds interaction effects. Adding these interaction effects increases the overall model fit, compared to Model 2. All the variables in Model 1 and Model 2 show a significant impact on microtakaful uptake, except education. McFadden's adjusted r -squared for Model 2 is 0.178. Hypothesis 1 predicts a relationship between gender and microtakaful demand. As shown in Table 5.4, the coefficient for gender (men) is positive and statistically significant ($\beta = 0.284$, $p \leq 0.05$), supporting Hypothesis 1.

Married individuals demonstrate a positive influence on the demand for microtakaful ($\beta = 0.303$, $p \leq 0.05$). This result suggests that married individuals are more likely to participate in microtakaful compared to other marital statuses. Hypothesis 3 predicts a positive relationship between higher education and microtakaful demand. However, the coefficient in this model is not significant and therefore Hypothesis 3 is not supported. Nevertheless, as shown in model 2, the coefficient for educated individuals is positive and statistically significant ($\beta = 1.763$, $p \leq 0.05$).

Type of employment in Model 2 exhibits a positive significant influence of government employment, private employment and self-employment. Thus, these results suggest that employed individuals, in either the government sector or the private sector, or those who are self-employed, are more likely to buy microtakaful products. A rural location shows a negative relationship with microtakaful demand and suggests that interest in microtakaful decreases among individuals from rural areas ($\beta = -0.833$, $p \leq 0.01$).

Hypothesis 8 predicts a positive relationship between trust in microtakaful and demand for it. The results from Models 2 and 3 and the coefficient for trust in takaful are positive and statistically significant ($\beta = 0.422$, $p \leq 0.01$). This result provides support for the hypothesis and suggests that high trust in takaful among individuals increases the demand for microtakaful, as shown in both models. However, the regression coefficient for financial literacy is not significant and therefore this variable does not seem to be an important factor in understanding microtakaful uptake.

The interaction effect between education and a rural area is statistically significant in a negative direction ($\beta = -0.526$, $p \leq 0.10$). Therefore, this result indicates that educated individuals who are from rural locations are less likely to participate in microtakaful, even though they have completed higher education. Unpredictably, the second interaction effect between education and financial literacy also shows a negative direction and significance with the coefficient ($\beta = -0.111$, $p \leq 0.10$). Thus, these results may explain why individuals with a high education level and high financial literacy have less microtakaful participation.

Table 4.14: Probit regression for demand for microtakaful

VARIABLES	Without trust	Model 2	Marginal effect	Model 3	Marginal effect
Gender (men)	0.261* (0.137)	0.284** (0.139)	0.063** (0.030)	0.282** (0.140)	0.062** (0.030)
Married	0.290* (0.149)	0.303** (0.152)	0.067** (0.034)	0.268* (0.156)	0.059* (0.035)
Educated	0.258* (0.139)	0.215 (0.140)	0.048 (0.031)	1.763** (0.795)	0.388** (0.173)
Government employment	0.673** (0.265)	0.645** (0.266)	0.099** (0.043)	0.659** (0.271)	0.100** (0.043)
Private employment	0.961*** (0.228)	0.985*** (0.226)	0.189*** (0.034)	1.013*** (0.233)	0.194*** (0.034)
Self-employment	0.474* (0.260)	0.506* (0.259)	0.070* (0.035)	0.492* (0.260)	0.066* (0.034)
Rural location	-0.867***	-0.833***	-0.184***	-0.570***	-0.125***

	(0.151)	(0.151)	(0.031)	(0.214)	(0.046)
Trust in Takaful		0.422***	0.093***	0.429***	0.094***
		(0.137)	(0.030)	(0.138)	(0.030)
Financial literacy	0.0276	0.00738	0.002	0.0728*	0.016*
	(0.0299)	(0.0313)	(0.007)	(0.0441)	(0.010)
Educated*rural				-0.526*	-0.116*
				(0.313)	(0.069)
Educated*financial literacy				-0.111*	-0.024*
				(0.0618)	(0.013)
Constant	-2.178***	-2.129***		-3.040***	
	(0.468)	(0.463)		(0.634)	
Observations		635		635	
Pseudo r-squared	0.161	0.178		0.185	
McFadden's (adjusted) r-squared	0.132	0.145		0.147	
Prob > chi2	0.000	0.000		0.000	

Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors are provided below coefficients. Specification (1) does estimate the full sample (N=635). Column (4) & (6) are the Marginal effects of significant variables obtained from model 2 and 3.

4.6.3.1 Shock experience, risk-coping mechanisms and demand for microtakaful

Table 4.15 presents the probit estimation results between shock experience, risk-coping mechanisms and household decisions on microtakaful participation. A description of the variables used in this regression is provided in Table 4.3. Two model specifications are used to explain the relationship between variables and demand for microtakaful, and the robustness of the results. These specifications are described below:

- i. Specifications 1: effect of shock experience on microtakaful demand;
- ii. Specifications 2: effect of risk-coping mechanisms on microtakaful demand.

The variables reflecting the demand for microtakaful services show different empirical results in columns (2) and (4), and marginal effect results are shown in columns (3) and (5).

Based on Table 4.15, in column (2), respondents who had frequently had other shock experiences in the last three years were less likely to take out a microtakaful policy ($\beta = -0.764$, $p \leq 0.01$). The marginal effect estimated suggests that one unit of change in experience of other shocks among respondents decreases the probability of taking out a takaful policy by 15.3 percentage points. Other shock experiences, including accident and illness, have no significant impact on the demand for microtakaful.

Columns (4) and (5) present the results for the effect of risk-coping mechanisms on microtakaful demand (see Table 4.15). The results show that frequently using one's own funds as one of the alternatives to manage risk is statistically significant with a negative direction on the demand for microtakaful ($\beta = -0.367, p \leq 0.05$). Individuals who use their own savings have less interest in participating in microtakaful as they have their own approach to mitigate shock. In addition, the results also show that individuals who frequently receive assistance from their employers to cope with risk are less likely to take out a microtakaful policy ($\beta = -1.285, p \leq 0.01$).

Furthermore, respondents who had joined ROSCA as their risk-coping strategy had a negative and significant ($\beta = -0.599, p \leq 0.05$) effect on demand for takaful. This result suggests that ROSCA decreases the demand for microtakaful and the marginal effect estimated indicates that this variable significantly decreases the probability of microtakaful participation at 11.5 percentage points. Other risk-coping mechanisms have no significant impact on the demand for microtakaful, as shown in column (4), including no coping action and using Rahnu.

Table 4.15: Probit regression for demand for microtakaful (shock experience and risk-coping mechanisms)

VARIABLE	Model 3	Marginal effect	Model 4	Marginal effect	Model 5
Experienced accident	-0.575 (0.470)	-0.115 (0.093)			
Experienced illness	-0.245 (0.162)	-0.049 (0.031)			
Experienced other shock	-0.764*** (0.243)	-0.153 (0.048)			
Risk coping mechanism					-0.537*** (0.256)
No coping action			0.143 (0.192)	0.028 (0.037)	
Use own funds			-0.367** (0.151)	-0.071 (0.029)	
Get assistance from an employer			-1.285*** (0.458)	-0.247 (0.079)	
ROSCA			-0.599** (0.250)	-0.115 (0.045)	
Rahnu			0.0146 (0.355)	0.003 (0.068)	
Constant	-1.626*** (0.235)		-1.446*** (0.244)		-1.848*** (0.256)
Observations	635		635		635

Note: Robust standard errors are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Robust standard errors are provided below coefficients. Specification (1) estimates the full sample (N=635). Columns (3) & (5) are the marginal effects of significant variables obtained for shock experience and risk coping mechanisms

Column (6) is the probit regression for risk coping mechanism using factor score.

4.6.4 Robustness checks

In addition to the probit regression presented above, OLS regression have been used in this model estimation (1) to (2), to ensure the robustness of the reported results (see Appendix Table 4.22). Tests for a robust regression confirmed the results of the presented probit regression. Regression in Table 4.22 also confirmed the direction and scale of the results presented in this section. On this note, it appears that gender, higher and tertiary education, religion, trust and financial literacy are matters in determining whether people participate in Takaful or not. Moreover, 20-30 years old and location have a negative significance impact on the demand for takaful.

4.6.5 Are there any differences between takaful and microtakaful?

A mixed relationship between variables and takaful demand, as well as microtakaful uptake, has been reported in the results. Several differences were found that influence the demand for takaful and microtakaful; these include gender, age, marital status, type of employment, shock experiences, and risk-coping mechanisms.

Based on this study, it is found that men are more likely to participate in microtakaful schemes than women, which is consistent with Fiala's (2017) findings, which showed that men are more likely to be interested in insurance than women. In contrast, this outcome contradicts previous studies that have suggested that women are more likely to purchase an insurance policy (Turner et al. 2014; Eling et al., 2014). However, this result was found not to be statistically significant from a takaful perspective.

Another difference between takaful and microtakaful demand is the marital status of the respondents. Married respondents are more likely to have microtakaful. In general, for shock experience in the previous three years, respondents who had frequent experience of accidents or death were less likely to participate in takaful; this factor did not have any significant influence on microtakaful. Additionally, illness and frequent experience of other shocks in the last three years had a negative significant effect on microtakaful demand, but not on takaful participation.

The previous results show that certain items in risk-coping mechanisms had a significant influence on takaful and microtakaful demand. Respondents frequently get an additional

job, get free of charge help, borrow from banks and sell household assets as their alternatives to minimize risk happening; these significantly affect the demand for takaful. On the other hand, several of the estimated effects for risk-coping strategies are found to be statistically significant for microtakaful demand; these include frequently using ROSCA. However, both frequently using one's own funds and getting assistance from an employer show an impact on takaful and microtakaful demand.

4.6.6 Rotating Saving and Credit Association (ROSCA)

The previous section is extended by investigating the determinants of using ROSCA specifically, and comparing with takaful participation. This is important to understand the impact of ROSCA as this is one of the alternatives in risk-coping mechanisms and takaful participation, as presented in Table 4.8 and the results presented in Table 4.16.

4.6.6.1 Determinants of ROSCA – Socio-demographics and socio-economics

Based on the table provided, there are several important variables that might have a strong influence on ROSCA participation; these include gender, monthly income, religion and location. Men are less likely to participate in ROSCA compared to women, at $p \leq 0.01$. Frequently using ROSCA as a risk-coping strategy increases among women respondents. In addition, monthly income also shows a positive significant impact on low-income respondents and ROSCA.

Location is a significant variable for explaining the use of ROSCA to cope with risk. Respondents who live in rural areas are more likely to participate in ROSCA compared to urban residents. The regression was repeated by including the interaction between marital status, income, location and gender. The connection between gender and the selected variables becomes clearer in Model 2. Male respondents with a monthly income below RM2000 are more likely to use ROSCA.

When we compare the determinants for takaful and ROSCA, there are several similar factors that influence both types of risk-coping strategies; these include income, religion and location, but in different directions. The results indicate that individuals with a monthly income of less than RM2,000 are more likely to participate in ROSCA, but they are less likely to participate in takaful. Respondents who live in rural areas also frequently use ROSCA to cope with risk, but have less interest in takaful.

Table 4.16: Comparison between ROSCA and takaful – socio-demographics and socio-economics

VARIABLES	Rosca		Takaful
	Model 1	Model2	Model 3
Gender			
Male	-0.36*** (0.12)	-0.61* (0.33)	0.12 (0.13)
Marital status			
Married	-0.34* (0.18)	-0.15 (0.22)	0.07 (0.17)
Monthly income''''			

<RM1000)	0.85*** (0.28)	0.64* (0.33)	-1.61*** (0.25)
RM1001- RM2000	0.84*** (0.22)	0.55** (0.28)	-1.17*** (0.20)
RM2001-RM3000	0.21 (0.22)	0.29 (0.24)	-0.46** (0.18)
Religion			
Muslim	-0.56** (0.22)	-0.54** (0.23)	1.43*** (0.42)
Location			
Rural	0.27** (0.13)	0.06 (0.18)	-0.39*** (0.13)
Takaful participation		-0.11 (0.15)	
Male*Married		-0.56* (0.29)	
Male*Income 1		0.51 (0.34)	
Male*Income 2		0.69** (0.32)	
Male*Rural		0.45* (0.26)	
Constant	-0.618 (0.586)	-0.43 (0.61)	-1.04 (0.66)
Observations	635	635	635
Pseudo R2	0.094	0.113	0.250
Wald chi2	67.41	72.07	158.81

Note: ***Significance at $p<0.01$, ** Significance at $p<0.05$, * Significance at $p<0.1$. Robust standard errors appear below coefficient; Income'''' denotes "above RM3001" as a reference group; We are also included other variables in the model including household size, age, level of education, number of dependent and type of employment, but only presented the significance variables in the table.

4.7 Discussion and Conclusion

This research essentially explores the factors that determine the demand for takaful and microtakaful policies using probit regression through a questionnaire survey of takaful clients and non-takaful clients. It is important to reveal the factors that influence the demand for takaful and microtakaful policies. In addition, there is a need to explore why some people participate in takaful and some do not, in a way that diversifies the potential for risk in the future. In general, the findings reveal the variables that are statistically significant for takaful and microtakaful demand but have a positive and negative impact on explaining why some people join takaful and some do not.

From the results presented in the previous section, it can be summarized that there are some important differences and similarities that affect takaful demand and microtakaful participation. This study finds that several variables have an impact on takaful in Malaysia, including gender, marital status, type of employment, religion, location and financial literacy, which all affect the demand for three types of takaful policies. Besides, several items in shock experience and risk-coping mechanisms influence the demand for takaful policies.

One interesting finding suggests that people who have completed higher education are more likely to take out a takaful policy, or microtakaful. This result matches results observed in earlier studies (Dragos, 2014; Browne and Kim, 1993; Akotey et al., 2011; Arifin et al., 2014). These factors may explain the relatively strong correlation between education level and takaful participation, and generally having knowledge.

Another important finding was that individuals who work in the government or private sectors or are self-employed are more likely to join microtakaful. These results seem to be consistent with Propper (1989), who found a positive relationship between employment and insurance purchases. It seems possible that these results are due to need and the benefits offered by different types of microtakaful schemes. Moreover, people tend to maximize their utility and need by participating in selected microtakaful policies in order to have different coverage and small protection packages in the future. In addition, participating in different coverage with microtakaful will benefit both the policyholder and their family. Sometimes, their employer covers health with takaful protection and they assume that it is appropriate to pay more for microtakaful protection.

The results of this study also indicate that individuals who live in urban locations are more likely to take out takaful and microtakaful policies, as alternative protection against the occurrence of any shock or risk. These results corroborate the ideas of Dragos (2014), Beck and Webb (2003), Hwang and Gao (2003), and Gustina and Abdullah (2012). Moreover, these results are consistent with those of Dragos (2014), who found that urbanization significantly influenced life insurance demand in Asia. Furthermore, these findings suggest that individuals who live in urban locations are expected to have higher takaful consumption, because it reduces costs relating to premium collection, claim-handling and underwriting to manage their risk.

This study also investigates the role of financial literacy in predicting the determinants of takaful and microtakaful participation. The results show a positive effect for demand for takaful but not for microtakaful. With respect to the research question, it is found that good financial literacy influences the demand for takaful but does not seem to be an important factor in determining microtakaful demand. These results are consistent with those Jurkovicova (2016) and Cole et al. (2010) who found a strong relationship between financial literacy and the demand for financial services and insurance purchases.

Moving to the effect of other variables, this study also examines the role of shock experience and risk-coping mechanisms in takaful and microtakaful demand. Frequent experience of accident, death and other shocks have a significant effect on takaful demand. On the other hand, other shocks have a negative significant influence on microtakaful participation. It is interesting to note that four items of shock experiences exhibit mixed results for both takaful and microtakaful participation.

The frequency of accident and death shocks a respondent has experienced in the last three years has a negative effect on the takaful participation equation. This could be as a result of the conditions in different households and it might be assumed that people who have experience of accident or death are less likely to join takaful mainly due to the loss of the most productive household member and are less able to afford a takaful monthly contribution. Moreover, they might also be vulnerable to other additional expenses after an incident which reduces their interest in buying takaful due to financial constraints.

However, the observed effect between shock experiences and microtakaful participation was shown a different result. In this context, the incidence of other shock including

damage to property during the past three years has a negative significant effect on the demand for microtakaful.

This finding was unexpected and suggests that people who have experienced damage to property are less likely to participate in microtakaful. A possible explanation for these results could be the additional effect of sociocultural factors, including the belief that there is no action guaranteed to protect against any financial vulnerability. In addition, other risk-coping strategies by the respondents also influence the negative impact of shock experience on the demand for takaful and microtakaful.

Another important finding is that most of the risk coping strategies the respondents were asked about have a significant negative effect on the demand for takaful and microtakaful. Surprisingly, individuals who use their own funds are more likely to take out a takaful policy. However, borrowing from banks as an alternative to manage risk has a positive effect on takaful demand among the respondents. These results are likely to be related to how every individual perceives a takaful approach and other risk coping-mechanisms against shocks and losses happening. It is therefore likely that such connections exist between risk-coping mechanisms and education level. Hence, this study highlights a key finding from a takaful and microtakaful demand perspective to add results to the body of knowledge.

The ROSCA variable is included in a separate model so that it can be compared to takaful participation to see the different impact on these two risk-coping strategies. The findings exhibit several unexpected results for takaful and ROSCA. The most interesting finding is that women are more likely to participate in ROSCA compared to men, while no significant differences were found between gender and takaful uptake. Another important finding is that individuals who live in rural areas prefer to use ROSCA rather than takaful, but individuals from urban areas choose to join takaful as their preference to manage risk.

Another important finding is that most of the financial literacy items have a negative impact on ROSCA, while only one item has an impact on takaful. These results may be explained by the fact that ROSCA and takaful are different approaches to manage the occurrence of risk, and several factors show that people are willing to choose ROSCA rather than takaful. A possible explanation for these results may be the lack of knowledge about takaful among the population and their familiarity with ROSCA. Their trust in

ROSCA and takaful might also influence them to choose which alternative is more suitable for them.

Contribution

On a general level, this study contributes to emerging literature on takaful demand by explaining why people participate in takaful, as well as in microtakaful. This study also makes the following contributions. First, this research sheds light on the effect of different variables and different levels of income on takaful and microtakaful participation; this has received less attention in the literature, especially in the takaful context. Research shows that level of income significantly influences the demand for takaful based on different income levels. However, age group is not significant when other control variables are added to the estimation of takaful demand.

Second, unlike previous studies, the findings from this study provide new insights into microtakaful demand through demographic and socioeconomic factors and their extent from a takaful perspective. Although it is well documented that certain factors have an impact on insurance and micro insurance, there is a lack of evidence on the effect of socioeconomic factors on takaful and microtakaful demand. This study therefore adds much needed evidence on the important link between demographic and socioeconomic factors as regards takaful demand.

This research also has some practical implications for takaful institutions. Takaful providers must be aware of the needs of potential customers in order to assess demand and supply, and be consistent in sending out messages about the importance of having takaful protection to the public to increase penetration rates. The results also have wide applications in terms of understanding the factors that affect takaful demand in peninsular Malaysia. This may provide guidance on the factors associated with takaful demand in order to increase penetration rates and achieve the target to become the international leader in takaful by 2020. The findings of this research complement those of earlier studies.

Moreover, this research highlights the gap in certain groups that contribute to the low demand for takaful as well as microtakaful; this leads to the suggestion that the demand for microtakaful is slightly lower among low-income groups and individuals who live in rural areas. Therefore, there should be an initiative by takaful institutions to look at rural

and low-income groups as potential demand drivers by diversifying the variety of takaful and microtakaful to meet the needs of this category.

Limitations

The major limitation of this research is the issue of the generalization of results due to the focus on a selective sample. I tried to collect data using random sampling but it did not work as planned. In addition, the data only compare two groups, takaful clients and non-takaful clients. Moreover, the data do not represent the population due to sampling issues during the data collection process, as mentioned earlier. The second limitation is related to the selection of takaful policies, which can be separated into different types of takaful services, either family takaful or general takaful.

As emerging markets in developing countries in general and Malaysia in particular take stronger positions in the global takaful market, demand issues will become increasingly important and worthy of further study, especially in the microtakaful area. Moreover, I encourage future studies to replicate my theoretical model and explore the willingness to join microtakaful schemes to capture other significant results and contributions, especially among low-income households.

In addition, to paint a full picture of takaful and microtakaful demand, additional studies will be needed that include other important variables that can be used in future research. Additionally, the sample in this study only represents Malaysia. Hence, I recommend replication in other developing countries in South East Asia, such as Indonesia, Thailand and Vietnam, with selected areas and different numbers of samples, that might differ.

4.8 Appendix

Table 4.17: Level of acceptance of KMO value

KMO Value	Level of acceptance
Above 0.90	Marvellous
0.80 to 0.89	Meritorious
0.70 to 0.79	Middling
0.60 to 0.69	Mediocre
0.50 to 0.59	Miserable
Below 0.50	Unacceptable

Source: Kaiser and Rice (1974)

Table 4.18: Cronbach's Alpha

Cronbach's Alpha Value	Level of reliability
0.90 and above	Excellent reliability
0.70 to 0.90	High reliability
0.50 to 0.70	Moderate reliability
0.50 and below	Low reliability

Source: Hinton, McMurray and Brownlow (2014)

Table 4.19: Factor analysis for financial literacy.

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.35409	0.80884	0.9652	0.9652
Factor2	0.54525	0.55568	0.3887	1.3539
Factor3	-0.01043	0.18783	-0.0074	1.3465
Factor4	-0.19827	0.08953	-0.1413	1.2052
Factor5	-0.28780	.	-0.2052	1.0000

LR test: independent vs. saturated: $\chi^2(10) = 568.12$ Prob> $\chi^2 = 0.0000$

Table 4.20: Factor analysis for risk coping mechanism

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	2.73238	2.40392	1.0354	1.0354
Factor2	0.32845	0.05831	0.1245	1.1599
Factor3	0.27015	0.17583	0.1024	1.2623
Factor4	0.09432	0.08436	0.0357	1.2980
Factor5	0.00996	0.08738	0.0038	1.3018
Factor6	-0.07741	0.01993	-0.0293	1.2725
Factor7	-0.09734	0.06460	-0.0369	1.2356
Factor8	-0.16194	0.03445	-0.0614	1.1742
Factor9	-0.19639	0.06691	-0.0744	1.0998
Factor10	-0.26330	.	-0.0998	1.0000

Table 4.21: Correlation table for risk coping mechanism

Items	rcm1	rcm2	rcm5	rcm7	rcm10	rcm11	rcm16	rcm14	rcm18	rcm20
rcm1	1.00									
rcm2	0.36***	1.00								
rcm5	0.16***	0.46***	1.00							
rcm7	0.25***	0.28***	0.29***	1.00						
rcm10	0.23***	0.28***	0.27***	0.41***	1.00					
rcm11	0.26***	0.24***	0.26***	0.35***	0.30***	1.00				
rcm16	0.24***	0.19***	0.17***	0.28***	0.22***	0.36***	1.00			

rcm14	0.21***	0.21***	0.26***	0.25***	0.22***	0.24***	0.27***	1.00		
rcm18	0.21***	0.19***	0.28***	0.37***	0.34***	0.25***	0.29***	0.30***	1.00	
rcm20	0.10***	0.25***	0.33***	0.39***	0.27***	0.22***	0.21***	0.36***	0.39***	1.00

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4.22: Robustness check

VARIABLES	(1) Model 1	(2) model 2
Gender	0.091*** (0.034)	0.093*** (0.034)
20-30 years old	-0.179*** (0.061)	-0.191*** (0.062)
31-40 years old	0.051 (0.053)	0.045 (0.052)
41-50 years old	0.022 (0.053)	0.019 (0.053)
Higher Education	0.296*** (0.077)	0.421*** (0.092)
Tertiary education	0.179*** (0.069)	0.304*** (0.085)
Secondary education	0.046 (0.060)	0.049 (0.061)
Location	-0.190*** (0.036)	-0.117** (0.047)
Religion	0.307*** (0.050)	0.321*** (0.052)
Trust	0.219*** (0.039)	0.300*** (0.057)
Financial literacy	0.0183** (0.008)	0.0188** (0.008)
educated*Location		-0.154** (0.070)
educated*trust		-0.146* (0.077)
Constant	-0.351*** (0.121)	-0.434*** (0.122)
Observations	635	635
Pseudo R-squared	0.229	0.240

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

CHAPTER FIVE

An empirical investigation of trust in takaful among Malaysian households.

5.1 Introduction

The previous two chapters demonstrated the factors that significantly affect the demand for takaful and microtakaful, and why the uptake of microtakaful is low among Malaysian households. However, previous literature seemed to be silent on the determinants of trust in takaful, which is one of the key factors when using any financial service. Therefore, this chapter attempts to investigate important factors of trust in takaful. This thesis will explore how many people know about takaful, and how many people do or do not trust the takaful services provided in Malaysia.

In addition, it is intended that this thesis will contribute to the literature on takaful by investigating the determinants of trust in takaful along with related factors of social capital, financial inclusion and risk behaviour. In the previous chapter (Chapter 4), it was demonstrated that the demand for takaful and microtakaful focused on the chosen variables of socio-demographic, socio-economics, financial literacy, trust and shock experience. Furthermore, the previous chapter on takaful demand used the standard probit regression model. This chapter, however, imposes the ordered logit model on understanding trust in takaful, based on 5-point Likert scale variables.

This chapter aims to address the following research question: (a) What are the factors that influence an individual's trust in takaful? To date, no study is found that discusses the factors that influence trust in takaful, and only limited studies are found that explain the factors that impact on trust in insurance. Presumably, some people do not participate in any takaful scheme as they do not have enough knowledge about them. However, in certain cases, they may have information about what takaful is, but they do not trust it and decide to avoid participating in any takaful policy. Thus, this study aims to fill this gap by examining the factors that influence trust in takaful in Malaysia.

Building trust plays a central role in financial systems (Guiso, 2012; Fungáčová, Hasan and Weill, 2019). Moreover, this will trigger better financial inclusion, which is identified as a substantial component of achieving sustainable economic growth (Kim, 2016;

Sharma, 2016; Bakar and Sulong, 2018). The last unprecedented drop in trust in financial markets led to a financial crisis in both the US and Europe (Guiso, 2012).

The determinants and antecedents of trust are considered important topics of academic debate and should be investigated (Ferrante-Schepis, 2014; Fungáčová et al., 2019). Although previous literature has elevated the interest in trust in financial services, including insurance, no existing model describes what factors may influence trust in takaful. To date, there has been insufficient literature that examines the antecedents of trust in takaful. In addition, the mechanisms of trust are not fully understood, especially in the takaful context.

Existing studies suggest that trust has a significant influence on insurance participation (Bhat and Jain, 2006; Giné, Townsend and Vickery, 2008; Saqware, 2012; Guiso 2012). Consumers who generally trust the insurance industry want to remain loyal and, in fact, tend to buy more from the same provider (Rorbye, 2013). Also, purveyors of insurance build trust in insurance by delivering a great customer experience and responding to customers' changing needs throughout the life cycle.

There are many factors that can reduce trust, including individual characteristics, risk aversion and financial accessibility (Moorman, Deshpande and Zaltman, 1993; Alesina and Ferrara, 2000; Jones and George, 2007; Fiala, 2017). Based on empirical analysis, it is expected that we can understand the most important factors that influence the element of trust in takaful. Thus, this research intends to fill this gap and achieve an understanding of trust in takaful by extending prior research and developing a model of trust in takaful.

This study conducts a broad analysis to enhance our understanding of trust in takaful. This study will further investigate the influence of socio-demographics, socio-economics, social capital, financial inclusion and risk-coping mechanisms on trust in takaful. Data were collected using a household survey with 635 respondents from four regions in Malaysia. From the full sample, only respondents who are aware of takaful were selected to determine trust in takaful.

This is the first study to undertake an investigation of trust in takaful, using an ordered logit regression analysis to estimate the important factors that significantly impact on trust. This study tests the model using a sample of 526 respondents from four regions in peninsular Malaysia. The sample allow a comparison between individuals who trust or

doubt Takaful, thus enhancing the interpretability to understand trust in takaful. The findings should make an important contribution to the field of takaful and Islamic finance generally. Furthermore, this study makes a major contribution to the research on trust in financial services by including trust in takaful.

This chapter also contributes towards developing general knowledge on basic research by explaining trust in takaful in developing countries. Specifically, trust involves a range of interesting factors that will develop into financial decisions regarding takaful subscriptions. As a result, this study seeks to contribute to the existing literature that considers trust in financial services and insurance generally, but pays less attention to trust in takaful services.

There are five sections in this chapter. The next section discusses the previous literature review; this chapter also presents a hypothesis development section on the topic. Section 3 shows the methodology and data used in this study. The following section presents descriptive, model specifications and empirical results. Finally, Section 5 concludes with a discussion of the limitations of the study and suggests potential avenues for future research.

5.2 Literature review

This section discusses the previous discussion on trust in financial services and insurance, and the need to expand this literature to the context of takaful. The paucity of trust in takaful highlights an important significant element when examining the most influential determinants of trust. This section also discusses the theory of planned behaviour; this was expected to explain that an individual's behaviour is influenced by three main dimensions: attitude, subjective norms and perceived behavioural control. The current study argues that previous studies leave some important gaps to be explored.

This section will start by discussing the theory related to trust, followed by defining trust and discussing the previous literature related to trust in financial services. This section discusses trust in insurance more broadly, due to the lack of studies on trust in takaful, followed by a hypothesis development section.

5.2.1 Theory of Planned Behaviour

There are no specific theoretical discussions on trust in insurance or takaful. However, there are several theories that analyse the influence of the individual's behavioural

intentions and behaviours before making any decision, such as the Theory of Planned Behavior (TPB). This theory broadens the previous Theory of Reasoned Action (Fishbein and Ajzen, 1975); it aims to predict an individual's intentions in their behaviour by adding a new construct, which is perceived behavioural control. The main idea of this theory is to model behaviours as they apply to this chapter, to model trust in takaful.

There are three antecedents influencing behaviour in TPB: attitudes, subjective norms and perceived behavioural control. The attitudes component relates to an individual's silent behavioural beliefs (Norman and Conner, 2017). The subjective norm element explains perceived social pressure to behave in a particular way (Paul and Shrivatava, 2016). Perceived behavioural control determines both the intention and behaviour that engage with an individual's own judgement about their capability to engage in a particular behaviour. In addition, it is the individual's perception as to which performance of behaviour is under their control.

In addition, this theory is based on an individual's logical and reasoned decisions to engage in a specific behaviour, such as trust, by evaluating information received. In this study, TPB was applied in the context of an individual's intention to trust in takaful. Attitude is related to an individual's belief and trust in takaful, which is affected by the individual's background, such as socio-demographic and socio-economic factors.

Subjective norms towards trust in takaful correlate with others' views about whether the individual should or should not engage in that behaviour and the importance of others' opinions. It relates more to the influence of social capital and how others' opinions impact on the individual's behaviour. Furthermore, the third element, which is perceived behavioural control towards trust in takaful, concerns an individual's perception and capability to trust in takaful. The element of perceived behavioural control is associated with how risk-coping mechanisms and financial services are used and influence the individual's trust in takaful.

Theoretically, the determinants of trust in the context of takaful remain unclear. Changes in behavioural decision-making, or trust in uncertain financial services, depend on factors within the individual's framework. TPB theory reflects that the individual's decision to trust in takaful will be based on their attitude, others' views and their ability to trust in takaful based on related factors. including socio-demographics, socio-economics, social

capital, financial services used and risk-coping strategies. Therefore, a model to estimate the individual's trust in takaful services is required to understand the fundamentals of trust in takaful.

5.2.2 Trust

There is interest in doing research on trust and the relationship between consumers, providers and insurers (Gilson, 2003). However, there is a relatively small body of literature that is concerned with trust in takaful. Therefore, I broaden the definition of trust to a larger perspective to highlight the importance of trust based on previous studies in insurance and financial services. Trust refers to the relationship between two parties, either individual and individual, or individual and institutions. Gilson (2003) mentions that trust is a psychological state and based on an individual's expectation of an outcome in the future.

Trust may differ depending on the context, who is trusting and whom or what is trusted. Furthermore, past experience, second-hand knowledge from others or general trusting tendencies influence the level of trust among individuals. (Goold, Fessler and Moyer, 2006). This is also related to individual perceptions that may reflect trust. Recent evidence has also reported that limited trust can be a major obstacle to the adoption and spread of financial contracts (Guiso, 2012)

In addition, based on the Edelman global trust report (2018), the main factors increasing trust in financial services are easily understood terms and conditions, reliable fraud protection, easily found product and services information, business convenience, and access to real people. The major factors reducing trust in financial services are little or no product or cost transparency, confusing products or services, unwanted (hard-)selling, not responsive, and difficulty in addressing problems. Overall, trust can be defined as an act of belief and the level of confidence in another party in a given transaction, between either individual and institution or individual and individual, based on many factors that may significantly affect the confidence level.

According to Shukor (2020), using a total of 182 completed survey questionnaires, it was found that a client's trust in a takaful agent was influenced by the agent's communication and expertise, as well as their takaful operator image. Carbo-Valverde et al. (2013) conducted an investigation on trust in banks in 2007; they found that trust in banks is

mainly affected by the bank's performance and attributes. They suggest that a bank's sensitivity and commitment increase the probability of trusting a bank. Knell and Stix (2015) report a study on people's trust in banks in Austria during the global financial crisis; the results show that trust in banks declined during this critical period. They also found that an agent's subjective view of the economic situation and experience of bank failure caused a decline in trust in banks. They also show that the extension of deposit insurance coverage prevents a larger decline in trust in banks.

A recent study on trust in banks by Fungáčová et al. (2017) analysed data using a World Values Survey and concluded that several factors affect trust, including gender, income, age and education. The author also found that the attributes of Muslim, Orthodox, No Religion, and Atheist have a negative effect on trust. In addition, Atheists and Orthodox Christians do not only distrust banks compare to Protestants, but they also distrust banks more than other institutions. Respondents with a higher preference for democracy were associated with higher trust in institutions including banks. Trust in banks is based on the stability of the financial institution and the attitudes of bankers, as well as the individual's perception of the role of banks (Fungáčová and Weill, 2017).

Building trust in health systems needs three significant elements: personal behaviour, managerial and organisational practices, and political processes. However, Mechanic (1998) defines consumer trust in insurance as comprising three interrelated components: customer trust in a provider's technical and interpersonal competence, trust in insurance management, and trust generated by regulation and legal enforcement. In addition, trust is a very significant variable that influences informal workers to subscribe to microinsurance products: insurers must respect their legal responsibilities by arranging prompt indemnity when necessary (Guiso, 2012).

Ozawa and Walker (2009) conducted a study in Cambodia through a mixed methods approach to understand the influence of trust in health insurers on community-based health insurance (CBHI) enrolment. The authors found that villagers with poor past experience of other organizations were less willing to trust insurers. However, no relationship was found between trust in the insurance system and the purchase of life insurance (Buric et al., 2017).

Maarse and Jeurissen (2018) briefly explored trust in health insurers in the Netherlands. They reported that there are four models to explain trust problems: lack of information model, anti-competition model, pro-profession model, and political communication model. The authors also found that trust seems to be more related to perception than an insured's purchasing behaviour.

An analysis of trust in insurance by Giné, Townsend and Vickery (2008) found that less individual trust in an insurance provider results in eschewing purchasing insurance. The author proposed that insurance participation is lower when trust in insurance is weak and found that households with a greater degree of familiarity with or trust in an insurance provider will have higher participation rates.

Furthermore, the authors also found that social networks and trust in an insurance provider are key determinants of insurance uptake, and households regard the use of formal services as additional risk, possibly because they do not trust providers or do not understand the functioning of their services. Lack of trust in insurance is also influenced by complex products, intangibility, heavy regulation and the commission model (Ferrante-Schepis, 2014). In a study conducted by Goold et al. (2006), the authors examined predictors and correlates of trust in insurers. This was based on a structured telephone survey within 400 respondents and found that individuals who were less trusting in their insurer were more likely to change insurance plans.

According to a definition by Mechanic (1998), trust in insurance services and an individual's preferences are interconnected, though with some degree of independence. Furthermore, trust in insurance agents usually comes from an individual's direct experience of insurance operators or agencies, but trust in insurance institutions and their arrangements is substantially formed by the media, including social media, and by informal public opinion.

Similarly, Gilson (2003) reported that trust in health systems is influenced by an individual's previous experience of insurance providers and their reputation for managing claims and patients' interests. Fam et al. (2004) argue that trust is a dynamic process that requires time to achieve an individual's satisfaction. Ennew et al. (2011) suggest that the kernel of trust is related to expectations of future behaviour and plays an important role in reducing the transaction costs implied in regulations and governance.

In addition, both individual experience and community characteristics influence people's trust. Alesina and Ferrara (2000) analysed the data from a General Social Survey (GSS) in US localities and found that the factors that reduce trust include a history of traumatic experiences, discrimination against certain groups, being unsuccessful economically, and a racially mixed community. They also showed that religious and ethnic origins have no significant effect on trust.

Trust is an ongoing relationship between individuals and the social structure (Granovetter, 1985). Individuals prefer to enter into transactions with people they know and trust. Economic transactions are increasingly made for individual gain rather than for social or kinship obligations. However, Granovetter (1985) argues for the importance of social embeddedness between social relationships and economic transactions, which are different if based on trust. Therefore, trust can be built through networks and informal organizations, which will affect an individual's behaviour as regards trust in takaful.

Trust is a significant determinant of microinsurance (Saqware, 2012). The author examines the factors that influence household demand for microinsurance using a household survey, and a focus-group discussion indicates that trust is one of the significant determinants of microinsurance in Tanzania. Trust in insurance refers to an individual's expectations and the value of the insurance service. Studies by Giné, Townsend and Vickery (2008) and Bhat and Jain (2006) reported that an individual's perception of insurance is positively associated with insurance purchases.

Individuals with lower levels of trust have a lower probability of investing in a risky situation (Delis and Mylonidis, 2015). Hence, the element of trust increases the probability of participating in insurance. An individual's tendency to trust is also affected by personal characteristics, values and attitudes (Jones and George, 2007). Similarly, there is a study by Moorman et al. (1993), who found that interpersonal factors are the most predictive of trust.

Given the previous discussion on trust and theory, there are several important elements highlighted in the literature that can predict trust. These include individual characteristics, other financial services used, knowledge of the counterpart, risk behaviour, social capital, financial institution's performance and poor past experience with either the insurance

provider or agent. Nevertheless, this study will investigate some relevant factors that might have an impact on trust in takaful by extending the context of this chapter.

Previous studies on trust, either trust in financial services or trust in insurance, have their limitations. There are mixed results reported in the literature and no specific studies related to trust in takaful. This study therefore intends to extend the previous literature by investigating trust in takaful to see the variations in the results. Therefore, this study will examine the determinants of trust beyond trust in financial services and insurance and fill some gaps in the literature by providing empirical evidence in a takaful context.

Furthermore, trust in insurance and financial services shares a similar dimension of trust in takaful because it is based on the financial institution itself. Furthermore, trust in these two types of financial services is important as this ensures that individuals have an element of trust in order to deposit their money in banks that are perceived to be trustworthy. Trust in takaful can be influenced by similar factors to banks, by sharing similar preferences among individuals.

Overall, based on theoretical predictions, the effects of demographic, socio-economics, risk-coping mechanisms, financial inclusion and social capital become empirical questions that are shaped by individual behaviours and beliefs. Thus, this study carries out an empirical analysis using data from a household survey.

5.2.3 Hypotheses development

a) Socio-demographics

The most recent study on trust in banks was by Fungáčová et al. (2017), who analysed data taken from a World Values Survey of 52 countries between 2010 and 2014; it concluded that women mainly tended to trust banks, income increases trust, and trust can decrease with age and education. They also reported that religious, political and economic values affect the trust in banks. Another recent study conducted by Fiala (2017) examined the impact of natural disasters on the level of an individual's trust and reported that most socioeconomic variables have a significant influence on trust. Respondents become more trusting with increasing age and, on average, men are more trusting than women. However, total income has no significant impact on an individual's trust.

Individuals with lower levels of trust have a lower probability of investing in risky situations (Delis and Mylonidis, 2015). Hence, the element of trust can increase the

probability of people participating in insurance. An individual's tendency to trust is also affected by personal characteristics, values and attitudes (Jones and George, 2007). Similarly, a study by Moorman et al. (1993) found that interpersonal factors are the reasons most predictive of trust. Following these studies, this study hypothesises that:

Hypothesis 1: Socio-demographic and socio-economic factors significantly influence an individual's trust in takaful.

b) Social Capital

There is a considerable amount of literature published on social capital. Social capital can be broadly defined as the information, trust and norms of reciprocity inherent in one's social network (Woolcock, 1998). Previous economic literature on social capital indicates a positive relationship between social capital and trust (Migheli, 2012), and this study argues that any commercial or financial transaction related to any human relationship is based on the element of trust, and this factor is one of the reasons for any imperfect market. Putnam (2001) identified that generalising trust is a good proxy for social capital as it is related to the element of trust and the relationship of a person with the people surrounding them.

According to Carpenter, Danieri and Takahashi (2004), individuals with higher levels of social capital will trust each other more, that there is a link between social capital and trust. Researchers have attempted to evaluate the impact of social capital on insurance purchases, and this study expands the field into trust in takaful. In a study conducted by Mladovsky et al. (2014), it was shown that several indicators of social capital seemed to be strongly and positively consistent in association with community-based health insurance in Senegal.

Overall, the relationship between social capital and trust in takaful has never been studied, to the best of our knowledge. Therefore, the second hypothesis is:

Hypothesis 2: Social capital factors are positively associated with trust in takaful.

c) Financial Inclusion

The World Bank defines financial inclusion as individuals and businesses that have access to affordable financial products and services, including payments, savings, credit and insurance. Financial inclusion has become one of the elements for policymakers and

regulators in the financial sector's development to ensure sustainable economic growth (Zulhibri, 2016). These financial transactions should be delivered in a sustainable and accessible way to meet the needs of everyone (Demirgüç-Kunt and Klapper, 2013; Xu, 2019). Access to financial services, which includes bank accounts, loans, financing, credit cards, debit cards, saving accounts and online banking, is a first step towards better financial inclusion for customers.

Guiso (2012) found that trust in insurance reflects the trust people have in banks; a low level of trust in banks is generally associated with a low level of trust in insurance companies. It can be assumed that the determinants of trust in insurance are reflected by trust in other financial services provided in the market. In addition, the author also argues that trust towards others also has a strong effect on trust in insurance.

According to Xu (2019), social trust has a significant and positive influence on various aspects of financial inclusion and is expected to help promote the use of formal financial services in the market. Correspondingly, Okello Candiya Bongomin and Ntayi (2019) argue that trust and financial inclusion can have an impact on the adoption of mobile money in developing countries. Hence, this study hypothesises:

Hypothesis 3: Financial inclusion positively affects trust in takaful.

d) Risk Behaviour

Previous literature has often linked trust and risk together, but the relationship between these two elements remains vague (Das and Teng, 2004). Consistently, in consumer behaviour studies, trust and risk taking have been conceptually connected with one another (Mayer, Davis and Schoorman, 1995). Using a binary trust game, a study by Eckel and Wilson (2004) examined the relationship between risk attitudes and decisions to trust. The study found that there is no statistical relationship between behavioural risk measures and decisions to trust; this is in contrast to a study by Fiala (2017), which argues that an individual's trust behaviour is significantly impacted by their risk behaviour.

A meta-analysis of 119 published articles also revealed that there is a strong, positive relationship between trust and risk-taking (Colquitt, Scott and Lepine, 2007). A study by Hauff (2014) confirmed that trust and risk have a significant impact on one another. However, the relationship between risk and trust in takaful has not yet been explored.

Therefore, based on the empirical evidence for the relationship between trust and risk, this study hypothesises that:

Hypothesis 4: An individual's risk-coping mechanisms are associated with trust in takaful.

Overall, this section has discussed the previous discussion on trust and the need to expand this literature to the context of trust in takaful. The paucity of trust in takaful highlights an important and significant element to examine the most influential determinants of trust. This section has also discussed the theory of planned behaviour; this was expected to explain that an individual's behaviour is influenced by three main dimensions: attitude, subjective norm, and perceived behavioural control. The current study argues that previous studies leave some important gaps to be explored.

5.3 Methodology

The focus of this study is on examining what determines trust in takaful services. Measuring trust involved steps explained in Chapter 2. In order to empirically identify the nexus between the potential factors of trust in takaful, this study used household survey data collected in 2017. It consists of 635 completed questionnaires. However, only 526 survey were included in this study by selecting respondents with takaful knowledge to model trust in takaful. The questionnaire was designed to gain information regarding trust from the respondents.

These survey data are particularly suitable for this study, as the questionnaire asks about respondents' preferences and their answers regarding trust and other related factors that are expected to influence trust in takaful. In addition, this survey questionnaire was used to evaluate trust by measuring each individual's socio-demographic and socio-economic status through specific questions.

The survey consists of three main sections that relate individually to the determination of overall trust in takaful. The questionnaire for this study is divided into five sections: demographics, risk-coping mechanisms, financial inclusion, social capital and trust in takaful. The aim of this research is to collect individual information regarding trust in takaful services in Malaysia. A detailed discussion of data collection was conducted in Chapter 2.

5.3.1 Dependent variable

i. Trust in takaful

The main variable was measured by asking the respondents about their trust in takaful. Respondents were asked to indicate their agreement with the question: ‘I trust in takaful’ to show what they think and feel about it by using a coded scale based on the strength of the person’s agreement: 0 = strongly disagree, 1 = disagree, 2 = not sure, 3 = agree, and 4 = strongly agree, as presented in Table 5.1.

The results for the trust variable in this study have the following distribution (see Table 5.1). Based on the categorical characteristics of the data for trust in takaful, this study applies an ordered logistical regression model to predict the probability of trust in takaful and represents a technique applicable to categorical dependent variable analysis. This trust variable was also recorded as dichotomous variables for further descriptive analysis (Table 5.2).

Table 5.1: Trust among respondents (5-point Likert scale)

Likert-scale response	Frequency	Percentage
Strongly agree	16	3.04
Agree	217	41.25
Neutral	257	48.86
Disagree	29	5.51
Strongly disagree	7	1.33

Source: Author’s calculation based on survey data

Table 5.2: Trust among respondents (2-point Likert Scale)

I do trust takaful (N = 526)		
Yes/no	Freq.	Percentage
Agree	233	44.30
Disagree (neutral, disagree)	293	55.70
Total	526	100

Source: Author’s calculation based on survey data

Table 5.3 presents summary statistics for trust in takaful for both takaful and non-takaful clients. It is apparent from this table that takaful clients are more likely to trust takaful.

Surprisingly, there are 87 respondents who doubt takaful although they have a takaful policy.

Table 5.3: Trust and takaful participation

Trust in takaful	Takaful client	Non-client	Total
Agree	131	102	293
Otherwise (neutral, disagree)	87	206	233
Total	218	308	526

Source: Author's calculation based on survey data

Table 5.4 summarizes the definitions of the variables used in the analysis.

Table 5.4: Definition of variables

Variable	Definition
Dependent variable	
Trust	Categorical variable, 4 if respondent strongly agree that they trust in takaful and 0 if respondent strongly disagrees that they trust in takaful
Explanatory Variables	
Gender	Gender of the respondent. 1 for men, 0 otherwise.
Maritalstatus_1	Dummy variable, 1 if respondent is married, 0 otherwise
Income_1	Dummy variable, 1 if respondent's monthly income is below RM1000, 0 otherwise.
Income_2	Dummy variable, 1 if respondent's monthly income is between RM1001-RM2000, 0 otherwise.
Income_3	Dummy variable, 1 if the respondent's monthly income is between RM2001 and RM3000, 0 otherwise.
Income_4	Dummy variable, 1 if the respondent's monthly income is above RM3000, 0 otherwise.
Employment_1	Dummy variable, 1 if respondent works in the government sector, 0 otherwise
Employment_2	Dummy variable, 1 if respondent works in the private sector, 0 otherwise
Employment_3	Dummy variable, 1 if respondent is self-employed, 0 otherwise
Employment_4	Dummy variable, 1 if respondent is not employed, 0 otherwise
Social capital	Ordinal variable measures the level of social capital of the respondent.
Risk-coping mechanism	
Using one's own funds	Dummy variable, 1 if respondent frequently uses their own funds, 0 otherwise
Borrowing from relatives/friends	Dummy variable, 1 if respondent frequently borrow from relatives/friends, 0 otherwise.
ROSCA	Dummy variable, 1 if respondent frequently uses Rosca, 0 otherwise.
Financial inclusion	
Bank Account	Dummy variable, 1 if respondent has a bank account, 0 for otherwise
Loans/financing	Dummy variable, 1 if respondent has a loan/finance from a financial institution, 0 otherwise
Internet literacy	Dummy variable, 1 if respondent has experience of online banking, 0 otherwise.

5.3.2 Factor analysis for social capital variable

The construct validity and reliability of the questions for the social capital variable asked in the questionnaire can be tested using factor analysis and Cronbach's alpha. The factor analysis' overall adequacy was evaluated through the results for the correlation coefficient value and Kaiser Meyer Olkin (KMO) statistic (see Table 5.5). For the social capital variable, the factor loading is shown in Table 5.5 for five items, with no items removed. The range of factor loading was from 0.690 to 0.858 and this shows that the correlation coefficient for the first factor, which is above 0.4. The eigenvalues for the five factors in social capital are 3.05, 0.10, 0.05, 0.11 and 0.15.

The Cronbach's alpha value within the items in social capital is 0.887, which shows high reliability and is within the range (> than 0.60) suggested by Hinton, McMurray and Brownlow (2014). A sample is adequate if the KMO value is more than 0.7 and inadequate if it is less than 0.50 (see Table 5.11). The factors analysis' overall adequacy for the KMO statistic test is 0.857 (see Appendix: Table 5.14). Based on the KMO result, the overall statistic can be considered meritorious, being more than 0.80.

Table 5.5: Pattern matrix for social capital (correlation coefficient values)

Items	Construct
Social capital	
SC1 - A majority of the villagers can be trusted	0.756
SC2 - Village leaders can be trusted	0.858
SC3 - Villagers concerned with issues not only relating to themselves but also to others	0.810
SC4 - Villagers will offer help if someone really needs it	0.780
SC5 - They will lend money to their neighbour if they face a problem	0.690
Cronbach's Alpha	0.887
KMO test	0.857

5.3.3 Model specification

This study aims to understand how explanatory factors influence an individual's trust in takaful. The analysis examines why some people trust in takaful and some people doubt it by including other explanatory variables. Since an individual's trust is measured as categorical variables, an ordered logit regression is an appropriate method to overcome

the limitations of the LPM¹ model. An ordered logit regression model was conducted to investigate the influence of explanatory variables on trust in takaful services in Malaysia.

An ordered logit model was used in this study to address the problems associated with a binary or logit model. Following previous literature, this study assumes that trust in takaful can be described by the following latent variable model:

$$TT^* = X_i' \beta_1 + z_i' \beta_2 + \varepsilon_i \quad (1)$$

Where TT^* is a latent variable measuring trust in takaful. Trust in takaful is measured as an ordinal variable. Therefore, instead of observing TT^* , this study observes an ordinal variable, $TT = j$ if $C_{j-1} < TT^* \leq C_j$ with C_j being cut-off points. In the survey data, trust in takaful is described as an ordinal response variable, $TT_j = 0, 1, 2, 3, 4$, indicating that whether an individual either strongly agrees ($TT = 4$), agrees ($TT = 3$), is not sure ($TT = 2$), disagrees ($TT = 1$) or strongly disagrees ($TT = 0$) with the statement “I trust takaful”. The latent variable TT^*_i is defined as follows:

$$\begin{aligned} TT^* &= 0 \text{ [strongly disagree]} && \text{if } TT^*_i < \theta_0 \\ TT^* &= 1 \text{ [disagree]} && \text{if } \theta_0 \leq TT^*_i < \theta_1 \\ TT^* &= 2 \text{ [not sure]} && \text{if } \theta_1 \leq TT^*_i < \theta_2 \\ TT^* &= 3 \text{ [agree]} && \text{if } \theta_2 \leq TT^*_i < \theta_3 \\ TT^* &= 4 \text{ [strongly agree]} && \text{if } \theta_3 \leq TT^*_i \end{aligned} \quad (2)$$

Taken together, this section has reviewed the methods employed and dependent variables in the analysis. The details of the data collection and methodology approach were explained earlier, in Chapter 2. This chapter has also described that this study used a quantitative approach, a household survey in Malaysia. The next chapter describes the descriptive analysis based on data gathered from the fieldwork.

5.4 Descriptive statistics

We now move to Table 5.6 that presents the descriptive analysis about the element of trust in takaful protection. This table reports the mean values and standard deviation for the full sample ($N = 526$), of respondents who trust in takaful services ($N = 233$) and another column for those who have doubts about takaful services ($N = 293$).

¹ Linear probability model.

Male respondents are less likely to trust in takaful, also married respondents. Furthermore, the latter result suggests that their low level of trust correlates with the number of dependents who need sufficient financial protection to cope with risk. As we can see from Table 5.6, individuals with an income greater than RM2,000 are more likely to trust in takaful. These results demonstrate that low-income individuals are less likely to trust takaful services, in contrast to high-income individuals.

Furthermore, government employees present a significant difference between trust and doubt in the takaful group of respondents. However, self-employed respondents are less trusting in takaful, as shown in Table 5.4. This result might be related to the exposure of these employment groups to takaful. Table 5.6 also exhibits the descriptive analysis of social capital between respondents who trust and doubt in takaful. Based on these results, there is a significant difference in this variable at $p \leq 0.10$ between these two groups.

Great financial inclusion increases individual access to useful and affordable financial products, including payments, savings, credit and insurance. Financial inclusion allows people to make any desired transactions and send and receive payments in order to manage day-to-day living and handle unexpected emergencies. Table 5.6 presents the respondents' financial inclusion by summarising the types of financial services used.

What is interesting about the data in this table is that respondents who trust in takaful utilise more financial services compared to respondents who doubt takaful. They engage in financial transactions in the market, including loans, finance and online banking. Respondents who use loan or financing facilities from financial institutions are more likely to trust in takaful. Internet banking users are also more trusting in takaful.

These results indicate that they are willing to trust new banking facilities and approaches provided by financial institutions. As shown in Table 5.6, the results indicate that all the variables have a statistically significant difference at the $p < 0.01$ and $p < 0.05$ levels, except for bank accounts.

Table 5.6: Descriptive analysis of trust among respondents

Variable	Respondents with takaful knowledge (N= 526)						P-value of t-test (2) – (3)
	Full sample Mean	Sd.	Trust in takaful Mean(2)	Sd.	Otherwise Mean(3)	Sd	
Gender							
Male	0.54	0.50	0.46	0.50	0.60	0.49	0.002***
Marital Status							
Married	0.75	0.43	0.70	0.46	0.79	0.41	0.020**

Income							
Below RM1000	0.27	0.44	0.22	0.42	0.31	0.46	0.031**
RM1001 – RM2000	0.28	0.45	0.22	0.42	0.33	0.47	0.008***
RM2001 – RM3000	0.26	0.44	0.30	0.46	0.23	0.42	0.039**
Above RM3000	0.19	0.39	0.25	0.43	0.14	0.35	0.001***
Employment							
Government	0.16	0.37	0.22	0.41	0.12	0.32	0.002**
Private	0.44	0.50	0.42	0.50	0.45	0.50	0.611
Self-employed	0.22	0.41	0.15	0.35	0.27	0.45	0.001***
Not employed	0.10	0.30	0.12	0.33	0.08	0.27	0.109
Social capital	18.40	3.31	18.70	3.00	18.16	3.52	0.063*
Bank account	0.89	0.32	0.89	0.32	0.88	0.32	0.874
Loan	0.35	0.48	0.43	0.50	0.28	0.45	0.00***
Internet literacy	0.44	0.50	0.57	0.50	0.34	0.47	0.000***
Use own funds	0.51	0.50	0.58	0.49	0.46	0.50	0.005***
Borrow from relatives/friends	0.20	0.40	0.19	0.39	0.20	0.40	0.720
ROSCA	0.19	0.39	0.14	0.34	0.24	0.43	0.005**
Observation	526		233		293		

Many antecedent factors might be connected to the situation, thus explaining the unpredictability of trust among takaful clients. The next questions asked in this section of the questionnaire explored the risk-coping mechanism aspect among respondents. Table 5.4 shows the descriptive analysis for each item in risk-coping mechanisms. Surprisingly, respondents who trust in takaful frequently use their own funds to manage risk. They trust takaful but simultaneously choose to use their own funds to cope with risk.

There are also statistically significant differences between respondents who trust and doubt in ROSCA as their alternative to cope with risk. As one of the informal saving mechanisms among a small group of people, ROSCA shows that respondents who frequently use ROSCA to cope with risk are less trusting in takaful. This result indicates that trust in takaful might be influenced by other financial mechanisms, where accessibility becomes the main concern.

Correlation tables are reported in the Appendix (see Table 5.10). Taken together, these results indicate that there are several reasons that might influence decisions to trust in takaful, and reasons why respondents doubt takaful services. The respondents were asked several questions about socio-demographics, socio-economics, risk-coping mechanisms, financial inclusion and social capital; some of the results provide important insights into understanding trust in takaful and increasing the trust level among the Malaysian

population. This view surfaced mainly in relation to how to increase trust as well as understand the demand for takaful among Malaysian households.

5.5 Analysis and Results

5.5.1 Trust in takaful

This section explains the determinants of trust in takaful services among respondents who know about takaful; these are presented in Tables 5.7, 5.8 and 5.9. The marginal effects obtained are described in the same tables. This study seeks to observe whether respondents with takaful knowledge will trust takaful services.

Of the 526 participants of this survey, only 44% answered that they trust takaful. Using the model based on three specifications, including different sets of explanatory variables, the influence of the factors as well as how to control the sensitivity of the results were observed. Three different specifications were investigated as follows:

- i. Specification 1: includes socio-demographic and socio-economic status such as gender, marital status, income employment status and social capital variables in the model;
- ii. Specification 2: includes financial inclusion variables in the model;
- iii. Specification 3: includes risk-coping mechanism variables in the model.

5.5.2 Socio-demographics, socio-economics & social capital

Based on Table 5.7, an ordered logit model (OLM) was used where the level of trust in takaful was examined. All the variables listed before were tested for their significance and influence. Generally, gender, marital status, income above RM2,000, private employment, self-employment and social capital factors influence an individual's trust in takaful. No significant effects were found from other explanatory variables, including the low-income household (income <RM2,000) and government employment variables.

To determine the economic contribution from the results presented in Table 5.7, the marginal effects of each significant variables were computed and presented in the same table (columns 3–7). Marginal effects explain the magnitude of the effects for each variable. Moreover, they help to measure the effect that a change in explanatory variables has on predicted probability when other covariates remain fixed.

It is shown that men's trust in takaful was statistically significant ($\beta = -0.456, p \leq 0.05$). The ordered logit for males in the category that has a higher level of trust in takaful was 0.456 less than for females when other variables in the model remained constant. Thus, it

is suggested that for one unit increase in males, this study expects a 0.456 decrease in the log odds of strongly agreeing that they trust takaful, given that all the other variables remain constant. These results also explain that women are more likely to trust in takaful services compared to men. Based on marginal effect, it indicates that a man is 8.80 percentage points less likely to agree that they trust in takaful.

Second, pertaining to marital status, if an individual is married, it is statistically significant in the negative direction of trust in takaful ($\beta = -0.545$, $p \leq 0.01$). Therefore, individuals who are married are less likely to trust takaful. The marginal effect reported that an individual being married decreases the agreement that they trust in takaful by 10.6 percentage points.

Next, individuals who have a monthly income of RM2,001 and above showed a positive significant effect for trust in takaful at $p = 0.01$. This result shows that for one unit increase in the monthly income variable, this study would expect a 0.909 increase in the log odds of having a higher level of trust in takaful. Therefore, individuals with an income of RM2,001 and above are more likely to have trust in takaful. The estimated marginal effect indicated that an increase in income to between RM2,001 to RM3,000 could reduce by 4.6 percentage points the probability of reporting 'disagree' and increase by 18 percentage points the probability of responding 'agree' that they trust in takaful. These results suggest that individuals with a higher income tend to have higher trust in takaful in comparison to low-income individuals, which indicates that income affects trust in takaful.

The fourth variable, which is employment, exhibits mixed results whereby individuals who are both privately employed and self-employed are statistically significant in the negative direction in this model. The results show that for one unit increase in private employment, this study expects a 0.617 decrease in the log odds of agreeing with trust in takaful, given that all other variables remain constant. The marginal effect for this variable explains that respondents who work in the private sector were 12.1 percentage points less likely to agree that they trust takaful. However, for individuals who work in the government sector, their trust in takaful was not significant.

As mentioned above, this study includes the social capital factor in the model to capture the effect of this variable on the level of trust in takaful. The results for social capital were also statistically significant, being positively related to trust in takaful ($\beta = 0.080$, $p \leq$

0.01). For one unit increase in social capital, this study would expect a 0.080 increase in the log odds of having a higher level of trust in takaful. The estimated marginal effect of social capital suggests that an increase in the social capital factor could increase by 17.9 percentage points the probability of responding ‘agree’ to trust in takaful. These results suggest that greater social capital among people will increase their level of trust in takaful. For incomes between RM1,001 and RM2,000, government employment does not seem to be an important factor in determining the level of trust in takaful.

Table 5.7: Ordered logistic regression (Model 1)

Variable	Trust in takaful		Marginal effects				
	Coef.	St.Err.	0	1	2	3	4
Gender (Male)	-0.456**	0.183	0.006	0.022	0.073	-0.088	-0.013
Married	-0.545***	0.203	0.007	0.027	0.088	-0.106	-0.016
Income (RM1001–RM2000)	0.258	0.299	-0.005	-0.017	-0.033	0.050	0.005
Income (RM2001–RM3000)	0.909***	0.313	-0.012	-0.046	-0.145	0.180	0.024
Income (RM3001 and above)	1.161***	0.311	-0.014	-0.054	-0.194	0.227	0.035
Government employment	-0.261	0.350	0.002	0.009	0.049	-0.050	-0.010
Private employment	-0.617**	0.304	0.006	0.025	0.110	-0.121	-0.021
Self-employment	-0.913***	0.302	0.011	0.042	0.153	-0.179	-0.027
Social capital	0.080***	0.028	-0.001	-0.004	-0.013	0.016	0.002
cut1	-3.692	0.649					
cut2	-1.967	0.576					
cut3	1.104	0.569					
cut4	4.518	0.595					
Mean dependent var			2.392	SD dependent var			0.700
Pseudo r-squared			0.055	Number of obs			526
Chi-square			62.443	Prob > chi2			0.000
Akaike crit. (AIC)			1058.757	Bayesian crit. (BIC)			1114.206

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5.5.3 Financial inclusion

Table 5.8 presents the impact of financial inclusion on the level of trust in takaful. The results for the ordinal logistic regression of the model are shown in Table 5.8, with the dependent variable specified as a five-group ordinal scale, measuring agreement with trust in takaful and above. The marginal effects are shown in columns 3 to 7. In this specification model, all variables that indicate an individual’s financial inclusion were statistically significant; including loans or finance, credit card use and online banking use. For this model, pseudo $R^2 = 0.068$.

First, the online banking variable was statistically significant for trust in takaful ($\beta = 0.589$, $p \leq 0.01$). The ordered logit regression for online banking suggests that for one unit increase in online banking, this study predicts a 0.589 increase in the log odds of having a higher level of trust in takaful, given that all other variables remain constant.

Second, loan or finance customers were statistically significant in the positive direction for trust in takaful ($\beta = 0.349$, $p \leq 0.10$). An estimation for this variable suggests that individuals who have used loan or finance services are 6.6 percentage points more likely to 'agree' with trusting in takaful.

Third, having a bank account was also found to be statistically significant, but negatively related to trust in takaful ($\beta = -0.690$, $p \leq 0.05$). Surprisingly, for one unit increase in bank account use, this study expects a 0.69 decrease in the log odds of 'agree/ strongly agree' to trust in takaful. All items under the financial inclusion variables showed an important influence on trust in takaful. Therefore, there is an implication that financial inclusion influences our understanding of an individual's trust in takaful. The next part, therefore, moves on to discuss the impact of risk-coping mechanisms on takaful.

Table 5.8: Ordered logistic regression (Model 2)

Variables	Trust in takaful		Marginal effect				
	Coef.	St. Err.	0	1	2	3	4
Gender (Male)	-0.344*	0.184	0.004	0.017	0.054	-0.065	-0.010
Married	-0.465**	0.202	0.006	0.022	0.073	-0.088	-0.013
Income (RM1001–RM2000)	0.177	0.295	-0.003	-0.010	-0.024	0.034	0.004
Income (RM2001–RM3000)	0.730**	0.322	-0.009	-0.035	-0.117	0.142	0.020
Income (RM3001 and above)	0.855**	0.344	-0.010	-0.039	-0.140	0.165	0.024
Government employment	-0.324	0.348	0.003	0.012	0.058	-0.060	-0.012
Private employment	-0.649**	0.301	0.007	0.027	0.111	-0.123	-0.022
Self-employment	-0.795***	0.302	0.009	0.035	0.132	-0.151	-0.025
Social capital	0.080***	0.028	-0.001	-0.004	-0.013	0.015	0.002
Loan/finance	0.349*	0.210	-0.005	-0.017	-0.055	0.066	0.010
Bank account	-0.690**	0.322	0.009	0.033	0.108	-0.130	-0.020
Online banking	0.589***	0.221	-0.008	-0.028	-0.092	0.111	0.017
cut1	-3.982	0.699					
cut2	-2.255	0.621					
cut3	0.867	0.612					
cut4	4.330	0.646					
Mean dependent var		2.392	SD dependent var				0.700
Pseudo r-squared		0.068	Number of obs				526
Chi-square		80.453	Prob > chi2				0.000

Akaike crit. (AIC)	1050.643	Bayesian crit. (BIC)	1118.888
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$			

5.5.4 Risk-coping mechanisms

This explores the nexus between risk-coping mechanisms and trust in takaful by studying the impact of explanatory variables on trust. The descriptions of the variables used in this section are available in Table 5.9. This third model specification exhibits the results from ordinal logistic regression analysis, which includes risk-coping mechanism items for the full sample ($N = 526$).

The outcomes of the ordinal regression model are presented in Table 5.9 and marginal effects are shown in columns 3–7. Model 3 includes risk-coping mechanisms as control variables (Pseudo $R^2 = 0.071$). As stated in Table 5.9, using one's own funds as a coping strategy has a positive impact on trust in takaful ($\beta = 0.611$, $p \leq 0.01$). Using one's own funds as an alternative to cope with risk and having a higher level of trust in the takaful category is 0.611 more than other risk-coping mechanisms, when other variables in the model remain constant.

Additionally, the coefficient for ROSCA is negative and statistically significant ($\beta = -1.034$, $p \leq 0.01$). This finding explains that ROSCA users are more likely to disagree with trust in takaful and a unit increase in ROSCA leads to a 1.034 decrease in the level of trust in takaful. The estimated marginal effect of ROSCA suggests that an increase in ROSCA participation could reduce by 19.4 percentage points the probability of reporting 'agree' to trust in takaful and an increase of 5 percentage points in the probability that they mistrust takaful. Borrowing from a family or friend to cope with risk does not have any significant impact on trust in takaful.

All in all, these results provide important insights into the nexus between risk-coping mechanisms and trust in takaful.

Table 5.9: Ordered logistic regression (Model 3)

Variables	Trust in takaful		Marginal effect				
	Coef.	St. Err.	0	1	2	3	4
Gender (Male)	-0.547***	0.180	0.007	0.026	0.085	-0.103	-0.016
Married	-0.422**	0.208	0.005	0.020	0.066	-0.079	-0.012
Income (RM1001–RM2000)	-0.084	0.291	0.001	0.005	0.011	-0.016	-0.002
Income (RM2001–)	0.668**	0.313	-0.008	-0.031	-0.109	0.130	0.018

RM3000)							
Income (RM3001 and above)	0.934***	0.309	-0.010	-0.039	-0.159	0.179	0.030
Government employment	-0.007	0.358	0.000	0.000	0.001	-0.001	0.000
Private employment	-0.379	0.307	0.004	0.016	0.064	-0.073	-0.012
Self-employment	-0.640**	0.285	0.008	0.031	0.102	-0.123	-0.018
Using one's own funds	0.611***	0.189	-0.008	-0.030	-0.095	0.115	0.018
Borrowing from family/friends	0.283	0.240	-0.004	-0.014	-0.044	0.053	0.008
ROSCA	-1.034***	0.265	0.013	0.050	0.161	-0.194	-0.030
cut1	-5.044	0.467					
cut2	-3.288	0.318					
cut3	-0.125	0.275					
cut4	3.322	0.356					
Mean dependent var		2.392	SD dependent var				0.700
Pseudo r-squared		0.071	Number of obs				526
Chi-square		75.857	Prob > chi2				0.000
Akaike crit. (AIC)		1045.64	Bayesian crit. (BIC)				1109.623
		3					
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$							

5.5.5 Robustness check

The robustness check on the previous ordered logit model needs to be further explored. Hence, an ordinal logit estimation with three groups (disagree, neutral and agree) is used to predict the trust in takaful with similar variables. We ran the regression with these three groups as some of the groups were too small to be analysed.

The results in this case are similar to the ordered logit model regression with five groups as presented in Tables 5.7, 5.8 and 5.9 in the main models, indicating that the analyses in this study are not affected by the different regression analyses used with different sets of dependent variables.

Based on Table 5.11 in the Appendix, gender, marital status, private employment, self-employment, having a bank account, finance and using ROSCA to cope with risk negatively influence trust in takaful. On the other hand, an income above RM2,000, social capital factors, having loan or finance, using online banking and using one's own funds to manage risk positively influence an individual's trust in takaful. The results of the robustness check presented in Table 5.11 confirm the direction and scale of the results presented in Tables 5.7–5.9.

5.6 Discussion and Conclusion

This study has examined trust in takaful services in Malaysia based on household survey evidence. It has also addressed the research question of how socio-demographics, socio-economics, risk-coping mechanisms, financial inclusion and social capital influence trust in takaful in developing countries, specifically in the Malaysian context.

Our theoretical arguments are based on the Theory of Planned Behaviour from Ajzen (1991) and this study integrates this theory to enhance our understanding of trust in takaful services in Malaysia. The data collected provide interesting information about the special factors that determine trust in takaful and answer the research question.

This study contributes to the current research on trust in takaful in developing countries. Our results make a contribution to the Islamic finance literature, particularly in the takaful area, from the individual's point of view. Previous research failed to establish antecedent factors of trust in takaful with respect to the Malaysian context. We argue that the study makes an important contribution to exploring trust in takaful in order to understand the demand for takaful and microtakaful in Malaysia.

Second, this study has argued and shown statistically that an ordered logit model can investigate different effects on trust in takaful which could not be revealed by a standard logit model. Additionally, this study has shown that trust in takaful is influenced by gender, marital status, level of monthly income, type of employment, social capital, financial inclusion and risk-coping mechanisms.

Third, when estimating the model, our findings confirm that several factors decrease trust in takaful, such as gender, being married, type of employment, having a bank account and being a ROSCA user. However, several factors are likely to increase trust in takaful, including income, social capital, loan and finance activities and online banking. This has the potential to create and understand trust among Malaysian households and subsequently increase the demand for takaful and microtakaful. In contrast, a monthly income below RM2000, private employment and being a credit card user do not seem to have any impact on trust in takaful.

Fourth, this research also contributes additional insights to the takaful literature, in particular those associated with an individual's attitude towards financial decision-making under risk and uncertainty conditions. Our finding of a significant relationship

between gender and trust in takaful adds to, and reinforces, the growing research (Bjørnskov, 2005; Knell and Stix, 2015; Fungáčová et al., 2017) demonstrating that gender is an important predictor in shaping trust in takaful. Also, these results support previous studies that found that women trust more than men (Fungáčová et al., 2017). Therefore, this finding agrees with previous studies on other financial services that confirm the impact of gender on trust and financial decision-making.

In addition, the social capital variable is found to be an important factor that influences trust in takaful. The positive relationship between these two variables is consistent with previous studies conducted by Carpenter, Danieri and Takahashi (2004) and Migheli (2012). With increasing social capital level, an individual has more trust in takaful, probably because of the influence of others' opinions when making any decisions, especially under risk and uncertainty conditions. The social capital element is crucial in a community because it enhances others' individual decision-making as well as their perceptions of takaful.

This study also notes that the frequent use of ROSCA as a coping mechanism has an important influence on trust in takaful. ROSCA is an informal credit arrangement seen as a viable alternative risk-coping mechanism with simple regulations. Accessibility and simplicity are the main reasons why people choose ROSCA and doubt takaful. As this study shows, individuals who are ROSCA participants doubt takaful; the results also suggest that an individual's income is connected to both ROSCA use and trust in takaful. Therefore, this is a significant contribution to the body of knowledge in terms of understanding the differences between individuals who trust and those who doubt takaful.

A further academic implication of this study is devising measures for factors influencing trust in takaful in the Malaysian setting. This study presents work that responds to the need to fill the gap in the takaful area and identify new explanatory variables regarding trust in takaful.

Our findings also have implications for policymakers, takaful operators, and microtakaful providers. As trust in insurance has a significant influence on insurance penetration rate (Giné, Townsend and Vickery, 2008; Saqware, 2012), it is expected that trust in takaful also has a similar influence on increasing the demand for takaful and microtakaful due to similar aims. It may be beneficial for policymakers who aim to promote microtakaful and

takaful in Malaysia to work towards strengthening takaful policies and approaches to increase the penetration rate, especially the Central Bank of Malaysia. Furthermore, as a main regulatory body structuring takaful in Malaysia, the Central Bank of Malaysia may see the findings of this study as important to strengthen takaful for financial risk management in Malaysia by understanding trust in takaful to improve trust levels among the Malaysian population.

For takaful operators who are looking for potential clients and to meet the Malaysian population's needs, this research may be helpful in their respective decision-making processes to increase their market share and number of clients. For instance, understanding the socio-demographic and socio-economic factors of individuals may improve their ability to effectively evaluate trust and predict the acceptability of takaful in Malaysia.

This study has several limitations; however, these limitations may open up avenues for future research in the takaful area. This study has analysed the factors that influence trust in takaful, and this analysis of the relationship is only a first step in understanding trust in the Malaysian context. This opens up a line for future research, i.e. comparing within and between developing countries that provide takaful services to see different patterns of trust in different contexts of financial services being provided. In addition, there are opportunities to research trust among takaful clients. It would be interesting to look at their experiences with takaful providers and takaful agents to investigate trust in specific contexts as the degree of trust among takaful clients and non-clients can also be studied.

Another important area for future research is the replication of this model to other Islamic financial services in the market, such as Islamic banking products, Islamic unit trusts, Islamic financial services, and others. We can then compare different Islamic financial services and understand trust by comparing different influencing factors within different services.

Overall, this study's goal was to contribute a greater understanding of trust in takaful by comparing individuals who trust and those who doubt takaful in Malaysia. This study has discussed the factors influencing trust in takaful by providing evidence from a household survey. Our results offer important insights, in that several factors have a significant influence on trust in takaful. Using a household survey, the present study adds to the

growing body of research that indicates that trust in takaful is influenced by several factors.

The empirical findings in this study also provide a better understanding of why some people trust takaful and some people doubt it. This new understanding should help to improve predictions of the demand for takaful in Malaysia by exploring their trust.

5.7 Appendix

Table 5.10: Correlation of the variables

Variables	trust_1	Gender	Status_1	income_1	income_2	income_3	income_4	Employment_1	Employment_2
trust_1	1.000								
Gender	-0.135***	1.000							
Status_1	-0.115***	0.132***	1.000						
income_1	-0.089**	-0.064	-0.122***	1.000					
income_2	-0.121***	0.046	0.031	-0.381***	1.000				
income_3	0.095**	0.011	-0.016	-0.361***	-0.371***	1.000			
income_4	0.134***	0.007	0.122***	-0.293***	-0.301***	-0.286***	1.000		
Employment_1	0.135***	-0.065	0.054	-0.199***	-0.117***	0.159***	0.182***	1.000	
Employment_2	-0.000	0.102**	-0.011	-0.432***	0.139***	0.193***	0.115***	-0.390***	1.000
Employment_3	-0.169***	0.099**	0.124***	0.252***	0.009	-0.154***	-0.123***	-0.233***	-0.464***
Employment_4	0.046	-0.225***	0.086**	0.336***	-0.048	-0.151***	-0.158***	-0.145***	-0.289***
Social capital	0.089**	0.038	0.129***	0.176***	-0.209***	0.006	0.034	0.064	-0.208***
Loan/financing	0.125***	-0.024	0.057	-0.311***	-0.007	0.092**	0.259***	0.204***	0.093**
Bank account	-0.030	0.075*	0.151***	-0.226***	-0.081*	0.172***	0.157***	0.029	0.099**
Online banking	0.222***	-0.164***	-0.036	-0.322***	-0.170***	0.234***	0.299***	0.127***	0.208***
RCM1	0.123***	0.002	-0.110**	-0.057	0.163***	-0.044	-0.074*	0.031	-0.066
RCM2	0.018	-0.014	-0.024	0.056	0.149***	-0.085*	-0.140***	-0.050	-0.087**
RCM3	-0.163***	-0.129***	-0.030	0.073*	0.124***	-0.091**	-0.124***	-0.020	-0.041

6 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

7

8

Variables	Employment_3	Employment_4	Social capital	Loan/financing	Bank account	Online banking	RCM1	RCM2	RCM3
Employment_3	1.000								
Employment_4	-0.172***	1.000							
Social capital	0.191***	0.032	1.000						
Loan/financing	-0.115***	-0.173***	0.009	1.000					
Bank account	-0.014	-0.125***	0.078*	0.226***	1.000				
Online banking	-0.270***	-0.109**	-0.001	0.275***	0.293***	1.000			
RCM1	-0.095**	0.127***	-0.017	0.063	-0.088**	0.045	1.000		
RCM2	-0.004	0.081*	-0.008	0.030	-0.004	-0.089**	0.204***	1.000	
RCM3	0.025	0.101**	-0.024	-0.024	-0.022	-0.120***	0.196***	0.222***	1.000

Table 5.11: Robustness check

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3
Gender (Male)	-0.451** (0.186)	-0.341* (0.187)	-0.576*** (0.188)
Married	-0.576*** (0.214)	-0.500** (0.213)	-0.446** (0.219)
Income (RM1001-RM2000)	0.182 (0.295)	0.0671 (0.290)	-0.139 (0.288)
Income (RM2001-RM3000)	0.950*** (0.323)	0.737** (0.328)	0.704** (0.321)
Income (RM3001 and above)	1.244*** (0.330)	0.903** (0.361)	1.005*** (0.326)
Government employment	-0.255 (0.367)	-0.312 (0.368)	0.0161 (0.378)
Private employment	-0.636** (0.315)	-0.660** (0.312)	-0.392 (0.317)
Self-employment	-0.935*** (0.301)	-0.828*** (0.301)	-0.653** (0.287)
Social capital	0.0720** (0.0282)	0.0706** (0.0282)	
Loan/financing		0.402* (0.218)	
Bank account		-0.612** (0.301)	
Online banking		0.568** (0.221)	
Using own fund			0.626*** (0.196)
Borrowing from family/friends			0.224 (0.239)
ROSCA			-1.068*** (0.251)
/cut1	-2.161*** (0.585)	-2.424*** (0.630)	-3.368*** (0.326)
/cut2	0.922 (0.576)	0.712 (0.619)	-0.181 (0.286)
Observations	526	526	526
Pseudo r-squared	0.067	0.082	0.0883
Prob > chi2	0.000	0.000	0.000

Note: ***Significance at $p < 0.01$, ** Significance at $p < 0.05$, * Significance at $p < 0.1$. Robust standard errors appear below coefficients. Income'''' denotes "below RM1001" as a reference group; Employment'''''' denotes "Not-employed" as a reference group.

Table 5.12: Dependent variable

I trust Takaful	Freq.	Percent	Cum.
strongly disagree	7	1.33	1.33
disagree	29	5.51	6.84
not sure	257	48.86	55.70
agree	217	41.25	96.96
strongly agree	16	3.04	100.00
Total	526	100.00	

Table 5.13: Level of acceptance of KMO value

KMO Value	Level of acceptance
Above 0.90	Marvellous
0.80 to 0.89	Meritorious
0.70 to 0.79	Middling
0.60 to 0.69	Mediocre
0.50 to 0.59	Miserable
Below 0.50	Unacceptable

Source: Kaiser and Rice (1974)

Table 5.14: Cronbach's Alpha level of reliability

Cronbach's Alpha Value	Level of reliability
0.90 and above	Excellent reliability
0.70 to 0.90	High reliability
0.50 to 0.70	Moderate reliability
0.50 and below	Low reliability

Source: Hinton, McMurray and Brownlow (2014)

Table 5.15: Factor loading for social capital

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	3.049	2.953	1.074	1.074
Factor2	0.096	0.142	0.034	1.108
Factor3	-0.045	0.064	-0.016	1.092
Factor4	-0.110	0.043	-0.039	1.054
Factor5	-0.152	.	-0.054	1.000

LR test: independent vs. saturated: $\chi^2(10) = 1474.64$ Prob> $\chi^2 = 0.0000$

Table 5.16: KMO for social capital

KMO Test	
SC1_1	0.882
SC5_1	0.824
SC6_1	0.855
SC7_1	0.863
SC8_1	0.875
Total	0.857

CHAPTER SIX

Conclusion

This thesis has investigated takaful and microtakaful demand in Malaysia using a mixed method approach of household survey and semi-structured interview. Little empirical literature was found in explaining the factors that influence the demand for takaful and microtakaful. In addition, the amount of relevant qualitative research on microtakaful demand is limited. Therefore, this thesis was motivated by the desire to fill the gap in the takaful and microtakaful literature. Furthermore, this thesis expected to shed light on takaful and microtakaful demand by understanding the issues in this area.

The first essay in this thesis, presented in Chapter 3, used the primary dataset collected through semi-structured interviews among microtakaful providers in Malaysia. One of the more significant findings to emerge from this study was which factors relate to low demand for microtakaful in Malaysia; these are individual affordability, awareness, perception, and shock experiences. Furthermore, other significant issues raised that had an indirect influence on the demand for microtakaful include customer complaints' problems and takaful basis risk issues; these gave a negative experience to the client and beneficiaries. Specifically, some basic financial literacy and takaful awareness could enhance the affordability and create awareness among the Malaysian population regarding microtakaful protection.

The first empirical chapter provided in Chapter 4 examined the demand for takaful and microtakaful using household survey data collected from four regions in Peninsular Malaysia. This chapter offered evidence that gender, marital status, type of employment, religion, rural area, financial literacy, shock experiences and risk coping mechanism play an important role in understanding the demand for takaful and microtakaful. However, several factors influenced the demand for takaful and microtakaful in different directions.

There is also a huge opportunity to extend the awareness about having financial protection through takaful and microtakaful among people in rural areas; this is because most of them do not participate in takaful or microtakaful. Therefore, financial literacy and takaful knowledge was needed to boost this under-served population's understanding of takaful or microtakaful. There is also a noteworthy finding that ROSCA is shown to be a more

important measure for takaful demand in Malaysia. Single women prefer to use ROSCA rather than takaful as their risk coping strategy and the connection between income level and the demand for ROSCA and takaful.

Chapter 5 in this thesis provided evidence on the determinants of trust in takaful. No prior studies have addressed the factors that influence trust in takaful. The earlier chapter also found that trust level among respondents are low. It is an important finding to be explored in this chapter about trust in takaful. Chapter 5 purposely addressed this absence by showing that ROSCA negatively influenced individual's confidence in takaful; it also showed their preferences for using other financial instruments that are more familiar in the market. Furthermore, the empirical evidence in this third essay showed that trust in takaful was influenced by an individual's background, risk coping mechanism, other financial instrument use in the market, and the social capital factor.

This thesis contributes to the existing literature in a number of ways. Generally, the findings emphasize the importance of takaful and microtakaful demand and trust in takaful to be initiated by all stakeholders in understanding the uptake rate for takaful and microtakaful in Malaysia. Moreover, the present study appears to be the first attempt to thoroughly examine and compare between the demand for takaful and microtakaful and explore why the demand for microtakaful is low from the microtakaful provider perspective. The work in this thesis also contributed to the existing knowledge of trust in financial services by providing evidence of trust in takaful. Additionally, this thesis has provided a deeper insight in understanding the factors that significantly effect and demonstrate a significant role in takaful and microtakaful demand.

This thesis also contributes to the understanding of trust in takaful that come from the exploration of the demand for takaful and microtakaful in earlier chapters. In this sense, this study provides new insights into trust in takaful in the Malaysia context as a developing country. This is particularly relevant to the trust in financial services literature, where limited studies discuss the element of trust in takaful and broaden the Islamic finance and takaful literature.

The findings in this thesis have implications for policy makers, takaful operators, and related ministry and government agencies. Takaful operators and policymakers need to constantly find an innovative way to understand the demand for takaful and microtakaful.

In addition, they need to develop an effective strategy in order to create awareness about takaful among the Malaysian population to boost their trust in takaful. This is because the studies showed that individuals prefer to use ROSCA rather than takaful because they trust what they know; this is where takaful knowledge plays an important role regarding takaful and microtakaful demand in Malaysia. To make sense of how to boost trust in takaful, the related ministry and government agencies should have their own approaches to expand trust in takaful and boost demand for takaful and microtakaful. This should be through roadshows, television, or newspaper advertisement to reach people in rural areas, or individuals who are interested in takaful but have little knowledge or doubt in takaful.

The information from this study can also be used to develop a model to understand more regarding the demand for takaful and microtakaful in Malaysia and provide significant information for policymakers in advertising the importance of takaful and microtakaful. A reasonable approach to tackle low demand for microtakaful could be made by takaful operators and microtakaful providers. The information from this thesis can also be used to strengthen takaful as a risk coping mechanism by understanding trust in takaful.

These findings are subject to several limitations but may provide space for future research. This study is limited by the availability of certain important data. A limitation of the questions asked can be extended to individuals' previous experiences with takaful; this would be one of the important elements that influence the demand and trust in takaful or microtakaful. The element of client experiences was not explored in greater depth in determining trust in takaful. More information on takaful client experiences in the questionnaire would help us to establish a greater degree of accuracy on trust in and demand for takaful.

Another limitation of this study is that the sample size of respondents used in the survey approach did not allow for the generalization of the results and findings; this was because of the sampling issues as mentioned in the previous chapter. Random sampling could be used in the future to measure the demand for takaful and microtakaful. In addition, to avoid the occurrence of any sampling issues, a list of respondents could be obtained from the authorities in each selected area, and more takaful companies could be approached to get a list of takaful clients.

Another potential limitation of this study is the small number of interviews conducted; this small number failed to capture real constraints behind the low demand for microtakaful in Malaysia. This study was limited by the absence of opinions from microtakaful clients and Malaysia households who did not want to join microtakaful. More interviews sessions should be conducted by combining the data from microtakaful providers, microtakaful clients and non-clients, and experts or policy makers in this area. Future research would benefit greatly from interviews with microtakaful clients and the non-client perspective to give strong evidence in understanding the low demand for microtakaful among the Malaysian population. The findings also show that there are several individuals who are takaful clients but have doubts about takaful. This result is open for future qualitative research to confirm and explore more on this strange situation.

Taken together, the results suggest that the factors that influence the demand for takaful and microtakaful, as well as trust, are not only based on losses, gains and risk but are also affected by other aspects; these include an individual's financial inclusion, and their social capital environment. Furthermore, this thesis offers evidence that individual's characteristics and other related factors play an important role in understanding the demand for takaful and microtakaful. In addition, this thesis also makes explicit the influence of ROSCA on the demand and trust in takaful and microtakaful. The findings of these investigations complement each other and those of earlier studies, especially regarding the demand for insurance and microinsurance. These findings also have significant implications for the understanding of how these factors affect demand and trust in takaful from the Malaysia context.

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