INTENTION TO ADOPT MICROFINANCE SERVICES AMONG SMALLHOLDER FARMERS IN TANZANIA: CAN PERCEIVED BENEFITS AND PERCEIVED BARRIERS SHARPEN THE THEORY OF PLANNED BEHAVIOUR?

JULIUS JOSEPH MACHA

DOCTOR OF PHILOSOPHY IN FINANCE

FACULTY OF BUSINESS AND FINANCE

UNIVERSITI TUNKU ABDUL RAHMAN

JUNE 2018

INTENTION TO ADOPT MICROFINANCE SERVICES AMONG SMALLHOLDER FARMERS IN TANZANIA: CAN PERCEIVED BENEFITS AND PERCEIVED BARRIERS SHARPEN THE THEORY OF PLANNED BEHAVIOUR?

By

JULIUS JOSEPH MACHA

A thesis submitted to the Department of Finance,
Faculty of Business and Finance,
Universiti Tunku Abdul Rahman,
in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Finance

JUNE 2018

DEDICATION

I dedicate this work to my grandparents, Victory Cosma Makoroma (1926-2015) and Angelita Victory; to my parents, Joseph Macha and Adolphina Victory; and to my wife, Fina Macha. They are the biggest supporters in my life. Their role in my life was, and remains immense.

ABSTRACT

INTENTION TO ADOPT MICROFINANCE SERVICES AMONG SMALLHOLDER FARMERS IN TANZANIA: CAN PERCEIVED BENEFITS AND PERCEIVED BARRIERS SHARPEN THE THEORY OF PLANNED BEHAVIOUR?

Julius Joseph Macha

In Tanzania, the government promotes microfinance services to assist local citizens who are not qualified for conventional banking services. In response to government's policy, more financial institutions are providing microfinance services but the response from smallholder farmers is not encouraging. To solve the problems; the influence of perceived barriers, perceived benefits and the TPB constructs' (attitude, subjective norms and perceived behaviour control) on intention to adopt microfinance services were examined.

Quantitative approach using drop-off and pick-up self-administered questionnaire was employed to collect data. Probability sampling technique was used to select 600 smallholder farmers and 489 of the collected questionnaires were useful for analysis. The study's hypotheses and mediation effects were tested by using structural equation modelling (SEM). The results suggest that all studied variables could influence the smallholder farmers' behavioural intention. Furthermore, their attitude could mediate the effect generated by perceived benefits on intention to adopt microfinance services. Nevertheless, their attitude

could not mediate the effects created by perceived barriers on intention to adopt microfinance services.

The government should organize more training sessions to enhance farmers' financial knowledge; disseminate the microfinance's benefits more efficiently; introduce financial products that match rural farmers' needs; reduce the interest rate; and revise group lending models. Problems in comprehending the questionnaire message and the conduct of research in a secular state could limit generalisation of the present results to population. Finally, Future researchers are suggested to investigate how respondents with different language background could understand the questionnaire message and widen the data collection areas.

ACKNOWLEDGEMENT

First and foremost, I would like to thank God for good health, strength and protection during my PhD journey. I would also like to extend solemn gratitude to my supervisor Asst. Prof. Dr. Chong Yee Lee for her inspiration, patient supervision, constructive criticism, guidance, and valuable comments during the course of my PhD studies. My appreciation goes to Co-supervisor Asst. Prof. Dr. Chen I-Chi as well for her constant support, positive criticism, suggestions and guidance in each step of the study.

Special thanks to management of UTAR and staffs at large for moral and physical support that created a conducive environment to pursue my studies. I appreciate the support availed to me by Faculty of Business and Finance (FBF), department of postgraduate programmes, Library and department of international students services. I acknowledge the critical review and constructive suggestions offered by examiners from FBF during the proposal defence (PD) and work completion seminar (WCS) that helped to improve my thesis. In particular, I would like to thank Asst. Prof. Dr. Gengeswari Krishnapillai for her tireless support on various academic issues that include training on quantitative data analysis.

I sincerely offer my gratitude to all individuals, institutions and government officials at regional, district and village levels in Tanzania that facilitated access to data and granted permit to conduct the research in their respective areas. I acknowledge all smallholder farmers who devoted their precious time to complete the questionnaire through giving their truthful opinions in respect to

questionnaire items. The support of different individuals during the proposal writing, research instrument development and data collection is highly appreciated. I specifically acknowledge moral and physical support from Professor Satta T, Dr Kato P, Dr Mnzava I, Dr Kiwia B, Dr Euseby J, Dr Nkoba A, Alfred Shao, Bakari Kombo, Mtandika Abdallah, Aristides Tarimo, Ngalupia S, Muhidin Ally, Dr Jamal A, Dr Mbura O, Dr Bupe M, and Dr Mori N. I appreciate the commitment of Mtani E and Urassa B for proofreading and translation of various documents.

I am grateful to management of the Institute of Finance Management (IFM) for collaboration arrangement with UTAR through which I managed my PhD studies, the encouragement and financial support towards my study. The PhD course had been impressive as the result of cooperation and encouragement from Tanzanian colleagues in Malaysia: Herman Mandari, Zackaria Elias, Daniel Kolosen, Jumanne Basesa, Edmund Kimario, Mussa Juma and Jackson Makashi. Their physical and psychological contribution from the outset to triumph of PhD programme was immense.

I would like to thank all my family members and friends that include my in-laws, Saukiwa Family, Victory Cosma Family, Makashi Family, Livin Kerety, Dorothea Victory, Beatrice Macha, Mary Paul, Rogatte Macha Makyao, Telesphory Focus, Denis Urassa, Jane Focus and Juliet Kiberit for their daily prayers, encouragement and support in the era of my academic journey. Last, but not the least, the profound love, sacrifices, spiritual and material support from my beloved wife Fina, my sons Ryan; Rolin and my daughter Rachael are categorically acknowledged. Thank you.

APPROVAL SHEET

This thesis entitled "**INTENTION TO ADOPT MICROFINANCE SERVICES AMONG SMALLHOLDER FARMERS IN TANZANIA: CAN PERCEIVED BENEFITS AND PERCEIVED BARRIERS SHARPEN THE THEORY OF PLANNED BEHAVIOUR?"** was prepared by Julius Joseph Macha and submitted as partial fulfillment of the requirements for the degree of Doctor of Philosophy in Finance at Universiti Tunku Abdul Rahman.

Approved by:

_____

Asst. Prof. Dr. Chong Yee Lee Date: 05.06.2018

Supervisor

Department of Marketing

Faculty of Business and Finance

Universiti Tunku Abdul Rahman

_____

Asst. Prof. Dr. Chen I-Chi Date: 05.06.2018

Co-supervisor

Department of Marketing

Faculty of Business and Finance

Universiti Tunku Abdul Rahman

SUBMISSION SHEET

FACULTY OF BUSINESS AND FINANCE

UNIVERSITI TUNKU ABDUL RAHMAN

Date: 05.06.2018

SUBMISSION OF THESIS

It is hereby certified that Julius Joseph Macha (ID No: 15ABD01267) has completed this thesis entitled "INTENTION TO ADOPT MICROFINANCE SERVICES AMONG SMALLHOLDER FARMERS IN TANZANIA: CAN PERCEIVED BENEFITS AND PERCEIVED BARRIERS SHARPEN THE THEORY OF PLANNED BEHAVIOUR?" under the supervision of Asst. Prof. Dr. Chong Yee Lee Chong from the Department of Marketing, Faculty of Business and Finance and Asst. Prof. Dr. Chen I-Chi from the Department of Marketing, Faculty of Business and Finance.

I understand that the University will upload softcopy of my thesis in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,

_____

Julius Joseph Macha

DECLARATION

I, Julius Joseph Macha, hereby declare that the thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

_____

Julius Joseph Macha

Date 05.06.2018

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AMOS	Analysis of Moments Structures
ANOVA	Analysis of Variance
Att	Attitude
AVE	Average Variance Extracted
BI	Behavioral Intention
BOT	Bank of Tanzania
CFA	Confirmatory Factor Analysis
CGAP	Consultative Group to Assist the Poor
CI	Confidence Interval
CLF	Common Latent Factor
CMV	Common Method Variance
CR	Composite Reliability
CVI	Content Validity Index
DED	District Executive Officer
DMP	Debt Management Plan
DOPU	Drop-off and Pick-up
EFA	Exploratory Factor Analysis
EM	Expectation Maximization
FSDT	Financial Sector Deepening Trust
GDP	Gross Domestic Products
IDT	Innovation Diffusion of Theory
IFAD	International Fund for Agricultural Development
IMIM	Islamic Micro-Investment Model

IS	Information Systems
IT	Information Technology
MAR	Missing at Random
MCAR	Missing Completely at Random
MFIs	Microfinance Institutions
ML	Maximum Likelihood
NBS	National Bureau of Statistics
NGOs	Non-Government Organizations
NMCAR	Not Missing Completely at Random
NMP	National Microfinance Policy
NT	Normal Theory Approach
OLS	Ordinary Least Square
PB	Perceived Barriers
PBC	Perceived Behaviour Control
PBE	Perceived Benefits
PEOU	Perceived Ease of Use
PLS	Partial Least Square
PU	Perceived Usefulness
ROSCAs	Rotating Savings and Credit Associations
SACCOs	Savings and Credit Cooperative Societies
SEM	Structural Equation Modelling
SN	Subjective Norms
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model

TAMFI	Tanzania Association of Microfinance Institutions
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TV	Tolerance Value
URT	United Republic of Tanzania
USA	United States of America
UTAR	University Tunku Abdul Rahman
VICOBA	Village Community Banks
VIF	Variance inflation factor

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

There has been a remarkable improvement in the provision of financial services in Tanzania since 1990s following various government efforts to promote the use of formal financial services (Bank of Tanzania, 2011). Prior to the financial sector reforms that took place in 1990s, there were only state owned financial institutions that include: three commercial banks, one housing bank, and one development finance bank (African Development Fund, 2000). The financial reforms paved the way for private financial institutions to provide financial services in the country. The financial sector reforms among other issues; it aimed at increasing the access to financial services by the majority of Tanzanians especially in the rural areas. Nevertheless, until mid of 1990s few banks and microfinance institutions offered microfinance services.

Following the introduction of national microfinance policy (NMP) in the year 2000, more banks and other financial institutions began to provide microfinance services (URT, 2000). The banks offered microfinance services either directly to beneficiaries or indirectly through intermediary institutions like financial non-government organizations (NGOs) and savings and credit cooperative societies (SACCOs) (MFTransparency, 2011). According to Bank of Tanzania (BOT) (2014) the financial sector consisted of 53 regulated and supervised financial

institutions. Five of the financial institutions were state owned and 48 privately owned banking institutions. The number of SACCOs registered under the ministry of cooperatives and marketing for the year 2013 were 5,559 (URT, 2013).

Despite of the increased number of financial services providers yet the usage of formal financial institutions' services among Tanzanians is not encouraging (FinScope, 2013). The World Bank survey indicates about 50% of adults in the world and 24% of adults in the Sub-Saharan Africa had access to formal financial services compared to 22% in Tanzania (Bank of Tanzania, 2013; Demirg-Kunt & Klapper, 2012). Only 5% out of 22% of Tanzanians were using microfinance services (Tanzania National Council for Financial Inclusion, 2014). Some of the common reasons that contribute to low usage of formal financial services in Tanzania include low level of financial literacy, long travel distance to the nearest financial institutions and high bank charges (Bank of Tanzania, 2013, 2014a).

Various measures have been taken by the government to promote the provision of financial services that include enactment of various regulations for banks and microfinance institutions (MFIs). Nevertheless, the level of poverty is high (28.2%) in Tanzania compared to other African countries and most of the poor citizens are rural farmers (FinScope, 2013). To some people the lack of understanding of the benefits generated from the usage of formal financial services could affect their usage of financial services as well (FSDT, 2014). In

addition, some individuals do not use formal financial institutions loans for fear of the consequences of failure to repay the loans.

Microfinance services are useful to individuals who are not qualified to obtain the banks' and other financial institutions' services due to various reasons, such as lack of conventional collateral or could not meet the institution's stipulated saving requirements (Allen, Otchere, & Senbet, 2011; Mbawuni & Nimako, 2015). However, their financial needs could be met via microfinance services that employ innovative means to reduce the potential risks such as: (1) compulsory savings; (2) personal guarantee; (3) assets of less value than the loan; (4) group guarantee; and (4) lending based on individual character (Ledegerwood, Julie, & Candace, 2013).

Microfinance is defined as the provision of formal financial services, such as micro-loans, savings and micro-insurance to the poor and low-income people as well as others who are excluded from the formal financial system (Consultative Group to Assist the Poor, 2012). Microcredit differs from microfinance as the former refers to mere provision of micro-loans to poor and low income household while the microfinance includes wide range of financial services like savings, fund transfer and micro-loans. The main providers of microfinance services in Tanzania are licensed commercial banks, non-bank financial institutions, savings and credit cooperative societies (SACCOs) and financial non-government organizations (NGOs) (Triodos Facet, 2007).

Majority of Tanzanians live in rural areas (70.9%) (National Bureau of Statistics, 2013c) and about 90% of the poor Tanzanians live in the rural areas (IFAD, 2014). The poverty rate of 28.2% in Tanzania (FinScope, 2013) is higher than other African countries like Uganda (19.7%) (Ministry of Finance Planning and Economic Development, 2014) and Botswana (20.7%) (Republic of Botswana, 2012). The current level of poverty could be reduced with increased usage of microfinance services that would complement other government efforts to eradicate poverty as described below.

National Strategy for Growth and Reduction of Poverty was one of the medium term framework adopted by Tanzania to achieve development vision 2025 and millennium development goals that embrace poverty reduction. Another initiative was Kilimo Kwanza (Agriculture First); that aimed to transform agricultural sector into a modern and commercial sector. This is because majority of citizens' associate with agricultural sector (URT, 2010). Kilimo Kwanza is also in line with the objective of Maputo Declaration of 2003, that required each member of the African Union (AU) to increase the agricultural sector budget up to 10% of the national budget (African Union, 2003).

Majority of rural residents in Tanzania are smallholder farmers (IFAD, 2014). In the context of Tanzania, a smallholder farmer refers to an individual who engages in farming activities that is utilizing an average of 0.9 to 3 hectares of land (Rugumamu, 2014; Wolter, 2008). Most of the smallholders' farming activities depend on rain and involves mainly application of old farming methods. About 64% of farmers used hand hoe and only 6.8% of rural farmers

households used improved seeds, and this could limit their agricultural productivity (Bank of Tanzania, 2014b). In Tanzania, more than 80% of the agricultural output comes from farming (Oswald, Kim, Costa, & Maro, 2011). Agriculture sector was contributing 31% of GDP and employed over 70% of Tanzanians' manpower supply in 2013 (Ministry of Agriculture Food Security and Cooperatives, 2015; National Bureau of Statistics, 2013b).

Microfinance is useful for smallholder farmers because it would help them to employ modern farming methods that could increase their agricultural production (Mbawuni & Nimako, 2015; Zohir & Matin, 2004). It enables the smallholder farmers to smoothen monetary expenditure pattern over cyclical downturns or unexpected crises like sickness and famine (Chowdhury, 2009). According to Professor Yunus M, (Nobel prize winner of 2006 and pioneer of microfinance concept) microfinance could assist 5% of Grameen bank's poor customers in Bangladesh to exit the poverty level every year (Chowdhury, 2009).

On top of assisting smallholder farmers to increase their agricultural output, their additional income would generate positive spill over effect to local and adjacent communities (Khandker & Samad, 2013; (Mohamed & Ahmed, 2015) To elaborate, suppliers of inputs (materials and labour) for agricultural production located in local and adjacent areas would benefit additional income and more job opportunities as well. Past studies show that with 2% increase on the average household income, households' poverty would decrease by 4% (Ravallion, 2001). Khandker and Samad (2013) study supports that microfinance indeed assisted Bangladesh government to reduce the rate of poverty over a decade.

Studies on microfinance services in Tanzania were focusing on the following areas: (1) the effect of microfinance on agricultural productivity (Girabi, Mwakaje, & Elishadai, 2013); (2) women participation in MFIs (Maleko, Liheta, Aikaruwa, Lukas, & Sumari, 2013); (3) perception of the sources of finance (Lindvert, Yazdanfar, & Boter, 2015) (4) the impact of SACCOS and village community banks (VICOBA) on improving community's socioeconomic status (Churk, 2015; Joyce & Akaro, 2016; Kwai & Urassa, 2015; Lushakuzi, Killagane, & Lwayu, 2017; Magali, 2013); and (5) loan repayment behaviour (Tundui, 2013) which are discussed in Chapter 2 of this study, under section 2.2.

However, limited empirical studies have been conducted to find out possible behavioural factors that can influence smallholder farmers' intention to adopt microfinance in Tanzania. Behavioural study that can solve problems faced by smallholder farmers indeed is very useful to the private and public sectors in planning relevant policies that can encourage more smallholder farmers to use the microfinance services.

1.2 Reformation of Economic and Financial Policies in Tanzania

The Tanzania economy has been under socialist system from 1967 until mid of 1980s. During the socialist era, all the major means of production such as land, mining, industries and plantations were planned and controlled by the state (Ngowi, 2009). However, despite of good intention to adopt socialism, most of the economic sectors were poorly performing. Some of the reasons for poor performance of the government owned and managed institutions or economic

sectors include too much dependence on government subsidies, which was in some cases difficulty to get due to inability to collect taxes. Other factors include (1) Poor management due to lack of technical knowhow (2) overemployment; (3) Institutions' operations directed by politicians; (4) overburden with debts and (5) restrictions on imports and exports.

Therefore, government had decided to move away from socialist economy practices by reforming the nation's economic policies. In 1986, Tanzanian government introduced market oriented policies to restore economic growth and price stability, but financial sector did not perform well. This is because the financial sector was still controlled by the central government, despite of the reforms in other economic sectors.

Subsequently, in 1990s, the government enacted financial policies and reformed financial institution acts in response to recommendations given by presidential commission of enquiry (African Development Fund, 2000). Financial sector was revamped so that the sector become more sustainable, efficient and effective (Rubambey, 2005). For example, state owned banks were restructured or privatized, private banks were allowed to be established, and financial interest rates could be determined through the forces of demand and supply of financial services (Randhawa & Gallardo, 2003). The reformation of financial policy indeed has increased the number of private banks from zero in 1990s to 48 banks in 2014 (see Section 1.1). In the meantime, Cooperative Societies Act was enacted in 1991 to encourage the establishment and development of private and equity based cooperatives.

Although the reforms enhanced fair competition and efficiency among financial service providers, majority of Tanzanians especially low income individuals' financial welfare was not improving much because most of them could not access financial services. In regards to this, government initiated microfinance awareness campaign in 1996 that was encouraging more regulated and non-regulated financial institutions to offer financial services to low income individuals.

Avortri and Wereko (2016) assert the increase in number of microfinance providers to be associated with the success of Grameen bank that provides insights that MFIs could be operated profitably. According to Ledgerwood (1999), providers of microfinance services can be categorised as informal or formal institutions. The formal financial service providers include: (1) saving and credit associations; (2) credit unions; (3) government owned financial institutions; (3) commercial banks and non-banks financial institutions; and (4) financial NGOs. The providers of informal financial services may include moneylenders, pawnbrokers, rotating savings and credit associations (ROSCAs).

Despite the reformation of public policies that aimed at encouraging more regulated and non-regulated financial institutions to offer financial services to poor people, target users' response is still discouraging. Further discussion pertaining to problems that could discourage poor people, where majority are farmers to adopt the microfinance services is presented in sub-section 1.4, problem statement. In brief, problems related to smallholder farmers' behaviour is related to their behaviours. The purpose of present study is to investigate the

behavioral factors that influence smallholder farmers' intention to adopt formal microfinance services.

1.3 The structure of Microfinance Institutions in Tanzania

Although informal financial service providers offer microfinance services to the poor, this study does not account the informal financial services due to the absence of reliable data as most of the lending processes are informally executed. Furthermore, it is easier for policy makers and practitioners to use the recommendations of this study to formulate policies and strategies that promote the use of microfinance services among the majority of smallholder farmers. Formal financial institutions can serve many people and their services are sustainable (Li, Gan, & Hu, 2011). However, informal financial services lack sustainability. For instance informal lending known as ''UPATU''; it is a form of pyramid schemes where few benefits, but most of the participants may loose and its sustainability is always uncertain.

Therefore, this section presents a discussion of various formal microfinance service providers in Tanzania. Microfinance institutions provide different financial services to urban and rural clients. The common MFIs' lending methodology could be either individual based or solidarity group lending technique. Individual lending is commonly used when potential clients could provide credible assurance that they can repay the loan according to the stipulated agreement. Group lending on the other hand has been widely used in microfinance service because most of the poor and low income borrowers lack formal collaterals that disqualified them from getting commercial banks' loans.

In line to public policy that aimed to provide financial services to poor farmers and the need to assure lenders could repay the loan, MFIs developed group lending models. Under this type of lending, if one of the group members failed to repay his or her loan, other group members would be responsible to repay amount defaulted by the fellow group member. For further security, some MFIs require each group member to have non-movable or movable assets such as furniture, domestic utensils or other valuable items (Dimoso & Masanyiwa, 2008). If the defaulted and group members could not repay the loan in cash, their assets would then confiscated.

Currently, formal microfinance services providers in the Tanzania can be grouped into four categories: (1) banks and non-bank financial institutions; (2) member based institutions; (3) financial NGOs; and (4) government credit schemes. The number of bank branches for financial institutions regulated by BOT increased significantly from 253 in 2005 to 702 in 2014 (Bank of Tanzania, 2014a). Further, the agents of banking institutions rose from 591 to 1,652 from 2013 to 2014 respectively. Banks and non-bank financial institutions that are engaging microfinance services have designed individual and group lending schemes to cater the needs of target customers and are governed by the BOT Act (2006) and Banking and Financial Institutions Act (2006).

Member based institutions refer to savings and credit cooperative societies (SACCOs) that are registered, regulated, and supervised by cooperative societies act (2003). SACCOs is the main financial services providers in Tanzania rural areas (Triodos Facet, 2007) and the number of SACCOs have increase from

1,875 to 5,559 within year 2005 to 2013 (Mori, Nyantori, & Olomi, 2016; URT, 2013). Different from banks and non-bank financial institutions, SACCOs is owned and managed by members themselves who have the authority to decide the amount of loan that could be offered to certain members, repayment procedures, savings requirement and interest on loans (Kwai & Urassa, 2015; URT, 2013). The common sources of fund are member savings and share capital. To further support members' financial assistant, some SACCOs may choose to borrow from commercial banks and other financial institutions (Marwa & Aziakpono, 2016; Piprek, 2007).

Financial NGOs were among the first institutions that provide microfinance services in Tanzania, especially from the mid of 1990s. The organizations are governed by Tanzania company laws and are providing microfinance services under two schemes as well: individual lending or group lending. There is no uniform application requirements and process, depending on the institution's policy. The establishment of financial NGOs is widely spread in Tanzania but the company set-up location and provision of microfinance amount are strongly influenced by sponsoring donors.

For example, Promotion of Rural Initiative Development Enterprises (PRIDE) in Tanzania allowed group lenders to be formed by five self-selected members (Kessy & Urio, 2006). To be qualified for loan application, all members are required to attend four weeks pre-loan training after paying registration fees and loan insurance fund. Other MFIs require applicants to attend eight weeks training

and groups could be formed by more than five members (Maximambali, Lwoga, & Rutherford, 1999).

Government Credit Schemes comprises of various government funding mechanisms and schemes designed to overcome poverty and employment related issues in the country. The common Government microfinance schemes include: (1) Presidential Trust Fund (PTF); (2) National Entrepreneurship Development Fund (NEDF); (3) Youth Development Fund (YDF); (4) Small Industries Development Organisation; and (5) Small Entrepreneurs Loan Facility (SELF) (URT, 2003). For example, SIDO provides financial services to productive sectors such as small industries, agriculture and food processing. Meanwhile, SELF facilitate access to financial services especially the rural population through eligible microfinance intermediaries (Piprek, 2007). Different from other microfinance schemes, SELF is providing wholesale lending to eligible financial intermediaries for on-lending purposes in retail basis.

1.4 Problem Statement

Past studies have shown that, the following perceived barriers: perceived cost and inconveniences could discourage target users to adopt microfinance services (Chijoriga, 2011; Ifelunin & Elizabeth, 2013; Maximambali et al., 1999; N. Mori et al., 2016). In fact, such perceived barriers exist among smallholder farmers in Tanzania.

Tanzanian farmers are reluctant to use microfinance services as they are overshadowed by possible negative consequences such as (1) wasting time on attending frequent weekly meetings and searching partners for group based lending prior the approval of loans (Kessy & Urio, 2006; Maximambali et al., 1999; Wright & Rippey, 2003); (2) first time applicant may need to wait for more than a month to obtain the approved loan (Ayen, 2015; N. Mori, 2007); (3) performing follow-up actions for loan repayments (Kessy & Urio, 2006; Maximambali et al., 1999; Wright & Rippey, 2003); (4) farmers may face difficulties to acquire next loans (Kasoga, 2015; Maximambali et al., 1999; Musona & Coetzee, 2001) or losing their cash and assets (Dimoso & Masanyiwa, 2008; Musona & Coetzee, 2001) if any of their group members failed to settle their instalment; and (5) paying high interest rates that range from 12% to 36% per annum (Chijoriga, 2011; Moteleng, 2017; Yeboah, 2010) and other handling charges charged by in microfinance institutions in Tanzania. Furthermore, to some MFIs the effective interest rate range from 3% to 20% per month (URT, 2017).

As a result of such barrier perceptions, farmers' attitude may be affected which will in turn influence their intention to adopt microfinance services. For example, if farmers perceived the barriers (for example time wasted) is high, they may feel unfavourable towards microfinance services as they could use the wasted time to perform other beneficial activities (Karama, 2007) and because of that, their intention to adopt the services would decline. The following example further support the existent of mediating effect created by farmers' attitude. Certain agricultural crops or plants could be seasonally cultivated or harvested.

Therefore, delaying the disbursement of loan could hamper farmers purchasing the necessary inputs for farming purpose or delay of harvesting activities. Because of the possible losses which may be incurred as the results of asset confiscation associated with the failure to meet the loan instalments as required (Dupas, Green, Keats, & Robinson, 2012; Tundui, 2013), farmers 'unfavourable feeling (or attitude) towards microfinance services could increase. This would then reduce their intention to use microfinance services.

Benefits that could be generated by the use of microfinance could affect farmers' intention to use the service directly and indirectly (mediated by their own attitude). Perceived benefit reflects the probable positive outcomes such as flexibility of loan terms, wider range of financial services, speed of services and simpler collateral requirements involved in microfinance services. Smallholder farmers' intention to use microfinance services could be directly affected by their lack of understanding of the benefits that could be generated through the usage of microfinance services (Churk, 2015; Dupas et al., 2012; Maleko et al., 2013; Wright & Rippey, 2003). Literature also shows that an individual' attitude could mediate the influence of perceived benefits on that person's intention to perform certain behaviour (Lee, 2009a; Shanmugam, Savarimuthu, & Wen, 2014). For example, if farmers perceived that they would get certain benefits because of the usage of microfinance, they would form favourable attitude toward the service.

On top of acting as a mediating agent, the attitude could affect smallholder farmers' intentional to use microfinance services directly. Attitude reflects the extent to which smallholder farmers' could have favourable or unfavourable

evaluation or appraisal about the use of microfinance services (Ajzen, 1991). In Tanzania, bureaucratic procedures and embarrassment during loan recovery could lead to the formation of negative attitude towards the use of microfinance services (Dimoso & Masanyiwa, 2008; Kessy & Urio, 2006; Mnenwa & Maliti, 2009; Mori & Kimambo, 2017; Mwobobia, 2012). Smallholder farmers may shy away from using microfinance services because of the need to produce multiple documents for loan processing (Maximambali et al., 1999; Mosha & Liheta, 2014). On the other hand, the procedures involved to confiscate assets may cause the borrowers or the group members to feel embarrassed in their communities (Karnani, 2009; Mlowosa, Kalimangi'asi, & Mathias, 2014; Raphael & Mrema, 2017).

Subjective norms (SN) show the degree of social pressure that smallholder farmers need to confront if they engage in microfinance services. In rural area, some community members could serve as important influencers that could affect farmer's intention to adopt or continue to use the microfinance services (Chogo & Sedoyeka, 2015; Long, 2009; MFTransparency, 2011). Negative recommendations given by other people may cause the farmers to disengage themselves in using the services. Although Tanzania is not a socialist country now, the Tanzanians are still forming collectivist society. Therefore, opinions given by some people could still influence smallholder farmers' intention to use microfinance services (Maximambali et al., 1999).

Perceived behaviour control (PBC) could affect farmers' intention to adopt microfinance service directly. Target users' perception on how ease or difficulty

to use microfinance services given the presence or absence of requisite resources and opportunities could affect their intention to use microfinance services (Ajzen, 1991). Lack of knowledge about how microfinance services can help smallholder farmers to increase the agricultural production could limit their intention to use microfinance services (Ellis, Lemma, & Rud, 2010; Long, 2009; Maleko et al., 2013; The world bank, 2013). According to Finscope (2013), 65% of adults in Tanzania live in rural areas and about 77% of them have received the utmost primary level of education. Despite of that, only 43.3% of them have the basic knowledge of how to apply the microfinance services in enhancing their agricultural production. Consequently, most of them use informal ways, such as via rotating savings and credit associations (ROSCAs) and moneylenders to get financial services; which could be more costly and riskier. This could cause them to sell their agricultural products at prices higher than the market price.

The study adapted TPB as the fundamental theory to construct the present research model as the theory can address most of the problems highlighted above: attitude, subjective norm and perceived behavioural control. However, TPB current constructs could not address the issues of perceived barriers and perceived benefits. In this study, the issues that motivate or discourage smallholder farmers to participate in microfinance services could be explained more appropriately using perceived benefits and perceived barriers. Various studies examined the impact of perceived benefits and perceived barriers on individuals' intention to execute certain behaviours in diverse research discipline such as: (1) entrepreneurship behaviour (Chuah, Ting, de Run, & Cheah, 2016; Malebana, 2015); (2) adoption of health services (Huang, Kuo, Wang, Wang, &

Tsai, 2016; Salari & Filus, 2017); (3) consumption behaviour (Wu & Chen, 2014). Nevertheless, limited empirical studies have investigated simultaneously the influence of these constructs on smallholder farmers' intention to adopt microfinance services. Therefore, this study included the additional constructs: perceived barriers and perceived benefits into the TPB to solve the problems of this research more comprehensively.

1.5 Research Questions

a) What are the impacts of TPB's constructs (attitude, subjective norms and perceived behaviour control), perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services?
b) Does attitude mediate the relationship between perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services?

1.6 Research Objectives

In general, this study examines the structural relationship between perceived barriers, perceived benefits and TPB constructs. Specifically, the study intends:

a) To examine the direct impact of TPB's constructs (attitude, subjective norms and perceived behaviour control), perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services.

b) To evaluate the mediation effects of attitude created by perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services.

1.7 Significance of the Study

1.7.1 Significance to Policy Makers

This study is useful to policy makers to promote the use of financial services among the smallholder farmers in order to increase agricultural production. With microfinance services, smallholder farmers would become more self-sufficient, and thereby could reduce government burden such as distribution of subsidies to farmers. One of the sources of subsidies is by collecting more taxes. Increase in taxes might discourage local people to invest more time and energy on farming and foreign investment. As a result, productivity in agricultural sector may not grow and Tanzania's public vision of 2025: to become a middle income country such as Malaysia and Indonesia may not be able to materialised (The United Republic of Tanzania President's Office Planning Commission, 2009).

The current study result provides an in-depth insight to policy makers and practitioners in the microfinance industry about the key behavioural factors that could influence smallholder farmers' intention to use microfinance services. The studied behavioural variables could assist policy makers to formulate competitive and strong strategy. For example, to enhance the smallholder farmer's intention to adopt microfinance services; the policy makers should formulate policies and strategies that could provide insight of the benefits

generated from the use of microfinance, thus eliminating the misconception about the barriers perceived currently by farmers such as inconveniences and high costs.

1.7.2 Significance to Academics

This study contributes to the body of knowledge, as there are limited empirical evidence that can show the degree of effects that have been generated by behavioural variables on smallholder farmers' intention to use microfinance services. Most of the relevant past studies were focusing on the following research perspectives: (1) agricultural productivity (Girabi et al., 2013), (2) poverty reduction (Ihugba, Bankong, & Ebomuche, 2014; Morduch & Haley, 2002; Okibo & Makanga, 2014), and (3) micro-enterprises (Ssendi & Anderson, 2009; Wanambisi & Bwisa, 2013).

TPB has been widely used in various research disciplines: consumer behaviour, health issues, management, marketing and voting decisions. However, only few studies have used the theory in the financial services context (Amin, Rahma, & Razak, 2014; Jebarajakirthy & Lobo, 2014; Mbawuni & Nimako, 2015). The inclusion of perceived barriers and perceived benefits constructs into the TPB model could be considered as an added uniqueness for the context of this study as well.

Some of the previous studies used first generation methods like multiple regression for data analysis but due to their limitations, the present study will

employ second generation methods. The second generation method would be useful to overcome weaknesses of the first generation method such as handling measurement errors and analysis of multiple interrelated latent constructs simultaneously (Awang, 2015). Most of the past studies tended to use non-probability sampling without giving strong justifications. In this study, to ensure the representativeness of the data to the target population, probability sampling was used with credible justifications that enhanced the reliability and validity of the data.

1.8 Structure of the Thesis

In this study, chapter one provides the background information regarding microfinance services and smallholder farmers in Tanzania. It describes the overview of the Tanzania banking industry and different institutional providers of microfinance services in the country. It highlights the main problems that could influence the adoption intention of microfinance services among smallholder farmers. The objectives of the study, research questions that are developed to guide the study, as well as the significance of the study.

Chapter two presents a discussion of different studies about microfinance and various behavioural theories reviewed that could address the problems faced by smallholder farmers in Tanzania. Justifications are given to support the selection of TPB as the fundamental theory and the inclusion of additional variables in this study. The relevant past studies' research methodology and data analysis are critically reviewed in the chapter as well.

Chapter three presents the proposed conceptual framework and hypotheses development. It also describes the research methodology adopted to test the proposed conceptual model, target population and research design in order to address the problems of the present study specified above (section 1.4) to meet the research objectives. The stages for development of the research instrument are explained, that include items selection from previous studies, the expert review, pretest and pilot study to assess the instrument validity prior the main study. Furthermore, the chapter describes and justify diverse research methods adopted to collect and analyse the data used in this study. Finally, the chapter provides an account of the ethical issues considered in this study.

In chapter four the results and discussion of this study are presented, subsequently the data analysis using different research tools as described in chapter three. The chapter reports both descriptive and inferential statistics results. The hypotheses tested are presented and the possible reasons for observed relationship are discussed and justified as well.

Chapter five provides an overview about the accomplishment of the research objectives in relation to the tested hypothesis. The practical and theoretical implications of the present study results are discussed in this chapter as well. Finally, the limitations of the current study are presented in this chapter and the suggestions for future researches.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter provides an overview of microfinance studies that have been carried out in Tanzania and other countries. Furthermore, the chapter describes various behavioural theories: theory of reasoned action (TRA), theory of planned behaviour (TPB), and technology acceptance model (TAM) that could be used to solve the issues of this study. Relevant past studies' research methodology and data analysis were reviewed so that current author could inspect the applicability of past methodologies in current study. Then, amendments are suggested that map current research's time, financial resources and accessibility of data.

2.2 An Overview of Microfinance Literature

Several studies in the context of microfinance had been carried out in Tanzania that include the impact of microfinance to certain community, loan repayment behaviours, perception of risks and adoption of lending models, challenges of financial inclusion, and factors that could limit the growth of MFIs (Asare-Bediako & Frempong, 2016; Kato & Kratzer, 2013; Kessy & Urio, 2006; Kipesha, 2013; Moteleng, 2017; Salia, 2016). Meanwhile, Girabi et al's (2013) assert that microfinance services can help Tanzanian smallholder farmers to

improve agricultural productivity. Microfinance can as well facilitate accumulation of assets among the rural poor and low income individuals and improved women autonomy in the community (Asare-Bediako & Frempong, 2016; Jeje, 2015; Rakhal, 2015).

The approach adopted by particular microfinance institutions determine the kind of services provided such as: minimalist approach would be concerned mainly with the provision of financial intermediation services like microcredit, savings, micro-insurance and fund transfer. Secondly, the integrated approach would offer in addition to financial intermediation services the social intermediation services such as group formation, leadership and cooperative trainings (Ledegerwood et al., 2013). Mori and Kimambo (2017) demonstrates the key role played by microfinance in the rural areas through provision of assorted services that include savings, small loans and trainings to the rural residents. The provision of non-financial services could be useful to borrowers as they enable them to effectively manage their businesses and achieve higher returns that facilitate repayment of microloans.

However, not all respondents had adopted the financial services because they were not informed of the positive outcomes that could be generated by the services. High interest rates discouraged their intention to adopt the services too. Literature also supports the positive effect of microfinance on improving citizens' ability to meet consumption needs, increase investments, pay school fees, and living standard (Ahlen, 2012), and poverty reduction (Joseph et al., 2018; Mohamed & Ahmed, 2015; Morduch & Haley, 2002).

Mosha and Liheta (2014); Kessy and Urio (2006); investigated the contribution of microfinance services in reducing poverty in Tanzania. The studies used data from both MFIs and clients. The findings of the studies confirmed that microfinance services improved individuals' income, the amount of capital invested increased, businesses expanded and new businesses were established. Microfinance have proven to be useful source of financing for the majority of rural population for developing countries as poor infrastructure discourage conventional banks to operate in the remote areas (Dhakal & Nepal, 2016).

However, despite of the positive effects of microfinance, the studies highlighted some of the constraints encountered to obtain financial services such as high interest rate, unfavourable or lack of grace period for loans repayment and collateral requirements. Such constraints could contribute number of dropout or limit the number of new MFIs clients. According to Karama (2007), some of the issues that discouraged clients to continue with the services offered by SEDA and PTF include: (1) short repayment period, (2) cumbersome repayment procedures, (3) wastage of time in weekly meetings, and (4) loan disbursement delays. Furthermore, studies indicate women rely heavily on microfinance as the main source of external finance for their businesses but the difficulties associated with group loans disappoint them (Lindvert et al., 2015).

A study conducted by Jebarajakirthy and Lobo (2014) in Sri Lanka demonstrated factors that could limit youths to pursue credit facilities that include: risk perception, collateral, interest rates, multiple documentations, delays involved in microcredit, interest rate and other charges associated with microcredit. The

study used modified TPB to investigate the willingness of youths to use microcredit facilities in developing their entrepreneurial activities. According to the results, the behavioral factors investigated successfully predicted youths intention to purchase microcredit facilities. Thus, policy makers to foster the usage of financial services among the Youths in Sri Lanka who were highly in need of microcredit for entrepreneurial activities could adopt the results.

Furthermore, the study of Kajenthiran, Achchuthan, and Ajanthan (2017), similarly confirmed the strength of behavioral studies in addressing the problems encountered by youths in Sri Lanka to acquire microcredit facilities. The study indicated the following behavioral factors influenced youth intention to use microcredit: (1) perceived government support, (2) microcredit knowledge, (3) subjective norms, (4) risk tolerance, and (5) entrepreneurial desire. The study confirmed youths' intention to seek microcredit was influenced by personal demographic factors as well. Similarly, Magendans, Gutteling, and Zebel (2017) found out that psychological factors that include financial self-efficacy and specific attitude constructs (financial risk tolerance) influenced students' and working individuals' intention to participate in financial savings.

Chinese rural households' access to microcredit was confirmed to be influenced by their attitude toward microcredit (Li et al., 2011). According to the study, large number of rural households who were non-borrowers tended to avoid using formal microcredit; instead, they used other financing alternatives such as informal lenders. Despite that, the informal lending could be expensive but borrowers perceived it more flexible than formal ones. The results showed that

rural households had negative perception about debt hence the possibility of using formal microcredit from Rural Credit Cooperatives (RCC) among the rural households was low. Other factors that could discourage Chinese rural households' intention to use microcredit include the costs associated with loans, multiple documentations and loan processing period. The time between loan application and its disbursement could affect rural farmers' usage of microcredits productively as the majority engage in seasonal farming (Ayen, 2015).

In the study of Mwatsika (2015), using the TPB found that perceived desirability, attitude, and perceived self-efficacy were the key determinants of rural communities behavioral intention. Furthermore, the study found that the level of education and training had strong impact on rural community entrepreneurial intention; however, the availability of finance had no influence on rural communities' entrepreneurial intention. The findings of the study implied that rural communities could be aware of the existing formal financial institutions in their local areas, however they do not utilize the formal institutions' services (Mwatsika, 2015). The non-usage could possibly be due to rural community's low level of education, political interferences in the financial institutions, excessive charges by the MFIs and stringent requirements for collateral.

In brief, several studies about microfinance have been carried out to address behavioral issues that inhibit individuals to use microfinance services. However, the studies were mostly conducted in different context from Tanzania; in addition, the target respondents include Youths, women and rural households.

Nevertheless, limited empirical studies conducted in Tanzania that attempted to examine the behavioural factors that could influence smallholder farmers' intention to adopt microfinance services. The enhanced access to financial services among smallholder farmers in Tanzania through microfinance would lead to increased income, assets building and reduction of vulnerability against economic shocks.

Therefore, to fill the literature gap in microfinance studies, this study addresses behavioural issues that have been affecting smallholder farmers to use microfinance services in Tanzania. The next section present the theories that could address the behavioural issues of this study.

2.3 Overview of the Past Theoretical and Conceptual Frameworks in the Context of Behavioural Study

This section reviews several behavioural theories that could be used to address the issues of present study. After that, a behavioural theory that could be used as the basic theory of this study is selected. Justifications are given to support the decision. Subsequently, past studies' conceptual framework related to the chosen theory are examined to detect literature gap that could be filled by this study.

2.3.1 Theoretical Frameworks of the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB)

TRA was developed by Fishbein and Ajzen (1975) to explain individual's intention to engage in certain behaviour after considering the possible

implications of their behaviour. According to TRA, if an individual has an intention to perform certain act, that person would most likely perform the actual behaviour (Ajzen, 1991; Ajzen & Madden, 1986). Behavioural intention is determined by individual's attitude towards the behaviour and subjective norms (SN). Attitude is defined as an individual character to react favourably or unfavourably towards an event, institution, object or person (Ajzen, 1989). In addition, studies indicate attitude is composed of experiential and cognitive dimensions (Montaño & Kasprzyk, 2008). The experiential attitude demonstrate the positive or negative feelings and emotions such as excited, inspired and proud in performing particular behaviour. While cognitive attitude reflects individual perception of the outcomes such as benefits and deterrents of engaging in a target behaviour. SN shows the impact of an individual's social pressure that could be created by their family members, friends, and acquaintances on the person's intention to perform certain behaviour (Ajzen, 1991). Figure 2.1 indicates the theoretical framework of TRA.

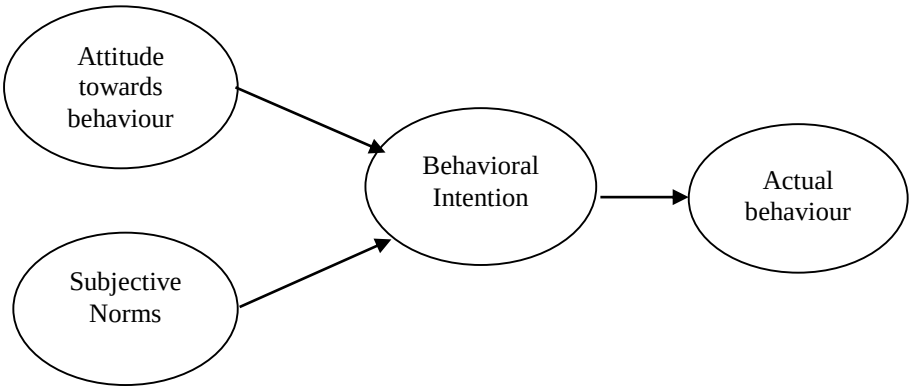


Figure 2.1: Theoretical Framework of the Theory of Reasoned Action
Source: Fishbein & Ajzen (1975)

TRA could address some of the present study's problems that are related to social factors and personal factors, but the theory cannot address issues that are not under volitional control such as lacking of knowledge about microfinance services among smallholder farmers. In brief, the theory assumes that individuals could have full control on various behaviours that they may encounter in their daily life. However, in real life the existence of uncontrollable factors could limit a person's engagement in certain behaviours such as lacking of skills, money, knowledge and cooperation from others. Therefore, TRA could be suitably applied to behaviours carried out at individual's will (Husin & Rahman, 2016).

Davis (1989) developed TAM by modifying TRA. In TAM, two specific beliefs: perceived usefulness (PU) and perceived ease of use (PEOU) are added to explain a person's attitude to engage certain behaviour (Taylor & Todd, 1995) (see Figure 2.2). PU shows the degree to which an individual believes that a person's job performance would improve after using certain information system (IS). PEOU refers to an individual belief that using a certain information system would be free of effort (Davis, 1989). Davis (1989) did not include SN in the TAM because the impact of SN is minimised when users are literate on information technology (IT) or information systems (IS) (Lee, Kozar, & Larsen, 2003; Taylor & Todd, 1995). TAM is not appropriate to be used as the fundamental theory of present study because the smallholder farmers are lack of IT or IS knowledge.

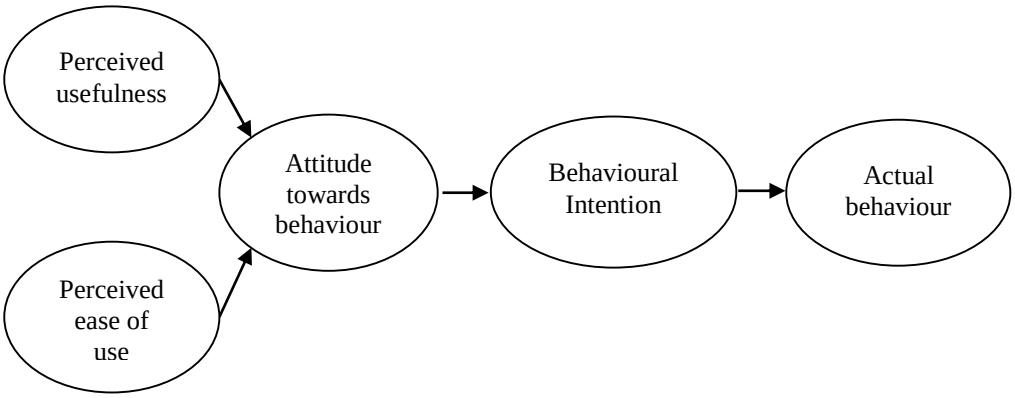


Figure 2.2: Theoretical Framework of Technology Acceptance Model
Source: Davis (1989)

TRA was further modified by Ajzen (1991) in developing a new theory: TPB. TPB is used to address the issue where people have incomplete volitional control and decisions are based on careful analysis of the available information (Miniard & Cohen, 1981). The main difference between TRA and TPB was the addition of perceived behaviour control (PBC).

PBC reflects an individual's perception of how easy or difficulty to perform a particular behaviour, provided that necessary resources and opportunities are available (Ajzen, 1991). TPB asserts that not all behaviours can be performed voluntarily; especially when the act need to be complemented by the present of certain skills, opportunities, resources or cooperation should exists. In the present study's context, smallholder farmers may not be able to perform the following act: intention to adopt microfinance services if the respondents lack knowledge about microfinance services. In other words, PBC would potentially affect farmers' intention to adopt microfinance (Long, 2009; Maleko et al., 2013; Mori & Kimambo, 2017; The world bank, 2013).

The extent that individuals have favourable or unfavourable perception about behavioural performance is known as attitude. Individuals' likelihood to engage in certain behaviours would be influenced by their evaluations or appraisal about the behavioural outcomes as whether they could be favourable or unfavourable (Ajzen, 1991; Tonglet, Phillips, & Read, 2004). This suggests that individuals with positive perception about performing particular behaviour are very likely to adopt it. Hence inculcating positive attitude among the individuals could enhance individuals' willingness to participate in a target behaviour. Accordingly, in the present study context, smallholder farmers' unfavourable attitude towards microfinance affect their intention to adopt microfinance services in Tanzania.

Subjective norms refer to individuals' belief on the social pressure to participate in a particular behaviour. The social pressure could arise from various groups in the individuals' community such as friends, siblings, family members or referent groups (Abdul-Jabbar, Intan, Awadh Bin-Nashwan, & Rahim Romle, 2016; Malebana, 2015). Thus, the referent groups could approve or disapprove individuals' likelihood to participate in a target behaviour. The greater the individuals' reliance on reference groups to perform the behaviour, the higher the intention to perform the intended behaviour.

Various past studies indicate social pressure to be strong among the societies that practice collectivist culture compare to individualistic ones (Amin et al., 2014; Mishra, 2014). In the context of smallholder farmers, the negative recommendations from community members about microfinance services could affect individuals' willingness to adopt microfinance. This is because of the

strong collectivist culture among the Tanzanians. Therefore, the smallholder farmers' willingness to adopt microfinance services could be influenced by social pressure from community members.

In summary, TPB is an appropriate theory that could be used as the basic theory of this study. However, problems related to perceived benefits and perceived barriers exist in this study as well. Literature shows that past researchers have modified TPB by adding variables into TPB model so that research problems related to TPB constructs and non-TPB variables can be more comprehensively addressed (Chuah et al., 2016; Deng, Mo, & Liu, 2013; Khalid, Yusuf, Ph, & Muazu, 2015; M. Lee, 2009a). In fact, Ajzen (1991, 2011) encourages future researchers to modify TPB if the modification can enhance the explanation of behavioural intention. Therefore, current author includes the following variables: perceived benefits and perceived barriers into TPB model.

2.3.2 The Conceptual Framework of Theory of Planned Behaviour (TPB)

TPB explains that individual's intention to perform certain behaviours could be predicted by the person's perceived behaviour control, subjective norms and attitude toward behaviour (see Figure 2.3).

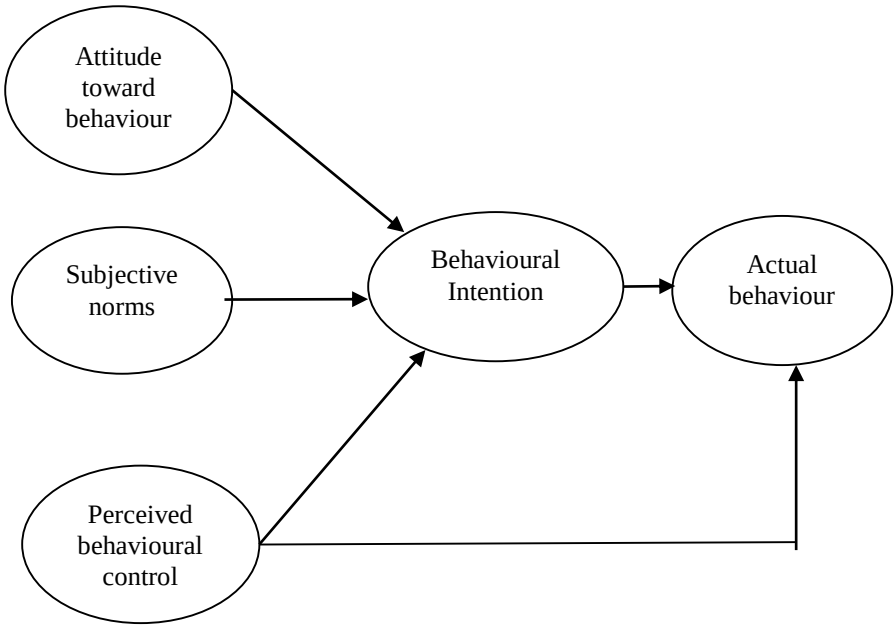


Figure 2.3: Conceptual Framework of the Theory of Planned Behaviour
Source: Ajzen (1991)

The definition of attitude construct in TPB is similar to TRA (Ajzen, 1991), it refers to the extent that individuals have favourable or unfavourable evaluation in response to studied subject. To elaborate, if respondents have a favourable attitude towards studied subject such as microfinance services, that person's intention to adopt the services would increase which will affect their actual behaviour: adopting the microfinance services.

Similar to the definition of SN presented in TRA, SN has direct impact on a person's intention to perform certain behaviour if that person can be influenced by other people (Venkatesh & Davis, 2000). The impact of SN is strong in collectivist societies. In this study, smallholder farmers who are lack of experience or knowledge of microfinance services have higher tendency to rely on others' opinions, who have better knowledge or experience (Mishra, 2014).

PBC refers to an individual's perception of how easy for that person to perform certain behaviour, given the presence or absence of necessary resources and opportunities (Ajzen, 1991). TPB asserts that individuals may not be able to perform certain behaviour directly or indirectly when they are lack of certain skills, opportunities, cooperation or resources (Ajzen & Madden, 1986). The lack of knowledge among the smallholder farmers about microfinance services could limit their self-confidence (self-efficacy) to participate in microfinance services because they might fear that certain task could not be performed successfully.

2.3.3 Theoretical Frameworks of Perceived Barriers and Perceived Benefits

Perceived barrier refers to individual's perception of the negative outcomes that he or she could experience if that person has performed certain behaviour (Nejad, 2005; Ozsoy & Erkin, 2012). Perceived barriers could reduce individual's tendency to adopt particular behaviour. For instance, an individual's intention to perform certain behaviour would diminish if that person perceived that it might be costly to do a related act or need to encounter negative experience such as inconveniences to perform an act (Iddris, 2013; Shariff;, Amran;, & Goh, 2012). In this study, if farmers perceived that it is costly and inconvenient to acquire microfinance services, their intention to use microfinance services would decrease (Kasoga, 2015; Kessy & Urio, 2006; Maximambali et al., 1999).

Perceived benefit refers to individuals' belief of the probable positive outcomes that person can get from the studied subject such as microfinance services (Erkin

& Ozsoy, 2012; Janz & Becker, 1984). The combination of the expected returns (outcomes) of particular behaviour that are valued by target users' would increase their perception about the benefits (Tanadi, Samadi, & Gharleghi, 2015). According to Forsythe, Liu, Shannon, and Gardner (2006), more people would adopt online shopping service when they perceive that they could receive certain benefits such as cost and time saving. On the other hand, if smallholder farmers perceive that they may not get much return from using microfinance services, their intention to adopt microfinance services would then decrease (FSDT, 2014; Maleko et al., 2013). In brief, both perceived barrier and perceived benefit concepts could influence present study respondents' intention to adopt microfinance services

2.3.4 The Conceptual Framework of Perceived Barriers and Perceived Benefits

Many researchers have measured the effects that can be generated by perceived barriers and perceived benefits of the study subject simultaneously. For example, in Claar and Johnson's (2010) study, they found that individuals would more likely engaged in computer security behaviour if perceived obstacles or barriers are less weighted compared to perceived benefits. On the other hand, Knowlden and Sharma (2012) assert that undergraduate students would less likely engage in reading or writing short messages (SMS) while driving when they believe that barriers of participating in SMS exceed the benefits.

If smallholder farmers feel that perceived barriers such as time wasted for attending meetings prior receiving loans were higher than the perceived benefits

such as possibility to purchase more inputs, their intention of adopting microfinance service would decrease. According to Lee (2009), perceived benefit could be categorized into direct advantages and indirect advantages. Direct benefits of microfinance depicts the immediate and tangible benefits that target users could enjoy such as low interest rates on loans, free services, high interest on deposits and lower transaction fee. Meanwhile, indirect benefits are intangible advantages and not easy to be measured such as agricultural news circulated by suppliers.

2.4 Overview of Relevant Past Studies' Research Models

Table 2.1 shows that TPB has been used to study individuals' behaviour in financial area, such as areas related to (1) credit facilities acquisition (Halim, Adiwijaya, & Haryanto, 2016; Johan et al., 2017; Mbawuni & Nimako, 2015); (2) Islamic banking products (Amin et al., 2014; Bodibe, Chiliya, & Chikandiwa, 2016; Lajuni et al., 2017); (3) Microfinance tourism (Nance, 2013); (4) Savings behaviour (Magendans et al., 2017; Satsios & Hadjidakis, 2018); (5) participation in MFIs (Ali, Jamaludin, & Othman, 2016; Ashraf, 2014a); (6) Insurance products adoption (Husin & Rahman, 2016; Kharde & Madan, 2018; Nasir, Roslin, & Chui, 2017; Shabiq & Hassan, 2016); and (7) Investment decisions (Alleyne & Broome, 2011; Cucinelli, Gandolfi, & Soana, 2016);

Table 2.1: Summary of Relevant Past Studies Research Models

Authors' name	Original theory	Additional variables to the original theory	Reasons for the modifications
Satsios and Hadjidakis (2018)	TPB (Saving Behaviour of Pomak Households)	Nil	To identify factors that influence the saving behaviour of Pomak households in Greece
Kharde and Madan, (2018)	TPB (Influence of Intentions on Buying Behaviour of Women towards Insurance Purchase)	Nil	To examine the influence of TPB constructs on the women buying behaviour of insurance policies
Magendans et al., (2017)	TPB (Psychological determinants of financial buffer saving: the influence of financial risk tolerance and regulatory focus)	Financial risk tolerance, regulatory focus, perceived savings behaviour	To investigate the psychological determinants of citizens' saving for financial resources buffer
Nasir et al., (2017)	DTPB (Incorporating Spiritual Intelligence to Further Understand Purchase Intention of Life Insurance and Takaful)	Media exposure, knowledge, friends references, family members persuasion, self-efficacy, resource facilitation, financial literacy and spiritual intelligence)	To enhance the TPB model via further decomposition of its predictors
Lajuni et al., (2017)	TRA (Intention to Use Islamic Banking Products and Its Determinants)	Government support, product pricing, religious obligation	To determine TRA constructs and additional constructs whether they have significant and substantial impact on individuals' intention to use Islamic financial products
Johan et al., (2017)	TPB (Customers' Intention towards Shariah Compliant Credit Cards)	Knowledge, religiosity, shariah compliance	To investigate the dimensions of TPB with the integration of Islamic world view
Shabiq and Hassan (2016)	TRA and IDT (Factors Affecting Adoption of Takaful (Islamic Insurance) in the Maldives)	Awareness, relative advantage, compatibility, social influence, attitude	To develop a compressive model that address the factors which predict individual behaviour to adopt Islamic insurance

Continued next page

Cucinelli et al., (2016)	TPB (Customer and Advisor Financial Decisions)	Past behaviour and financial literacy	To examine the role of TPB in predicting the intention of customers to seek for medium/high risk financial products and the advisors' intention to offer them
Chuchuen (2016)	TPB and TAM (The perception of mobile banking adoption: The study of behaviour, security and trust in Thailand)	security and trust	The inclusion of security and trust strengthens the model prediction
Halim et al., (2016)	DTPB (The Propensity of Young Consumers to Overspend on Credit Cards)	Nil	To determine young adults financial tendency towards adoption of credit cards. The decomposition of beliefs provide stable set of beliefs that be applied in various contexts. Also, it provide clarity of the beliefs involved
Bodibe et al., (2016)	TPB, TRA and SIT (The factors affecting customers' decisions to adopt Islamic banking)	Awareness, product knowledge, community influence, religious obligations	To investigate the factors that determine survival of Islamic banking
Ali et al., (2016)	TPB and IDT (Modelling Microfinance Acceptance among Social Network Women Entrepreneurs)	Exposure to authority, culture and religiosity, relative advantage, complexity, awareness, microfinance promotion, descriptive norms, size and age of business	To examine the determinants of the degree of awareness and readiness towards usage of microfinance among women entrepreneurs
Husin and Rahman (2016)	TPB (Do Muslims intend to participate in Islamic insurance)	Awareness, knowledge and exposure	To investigate the constructs impact on attitude and behavioral intention to participate in family takaful
Mbawuni and Nimako (2015)	TPB and TAM (Predicting client's intention to acquire credit facilities in the financial markets)	Trust, satisfaction, loan term/conditions	To provide understanding of the factors which are more likely to predict clients' intention for future loans

Continued next page

Tsordia and Papadimitriou (2015)	TPB (The role of TPB on entrepreneurial intention of Greek business students)	entrepreneurial curriculum and content	To encourage positive attitude and perceptions about entrepreneurial activities
Mwatsika (2015)	TPB & Shapero's model of entrepreneurial event (Entrepreneurship development and entrepreneurial orientation in rural areas in Malawi)	specific desirability's, expected values, normative beliefs, perceived self-efficacy, human capital, entrepreneurial benefits, family roles model, skills, education, age and gender	To provide insight of the antecedents of entrepreneurial intention for the rural population
Abdul-Jabbar, Intan, Awadh Bin-Nashwan, and Rahim Romle (2016)	TPB (The application of TPB on Business Zakah compliance in Yemen)	Nil	To determine behavioural intention of individuals
Putit and Johan (2015)	TPB	Religiosity, product knowledge	To examine the key behavioural factors that influence individuals to accept halal financial services
Mahlanza (2015)	TPB (Factors influencing retirement savings intentions in Botswana)	Financial literacy and materialism	To enhance understanding of the behavioural factors that encourage voluntary retirement contributions
Malebana (2015)	TPB (Perceived barriers influencing the formation of entrepreneurial intention)	Perceived barriers	To determine the way in which perceived barriers affect formation of entrepreneurial behaviour in South African Context
Makpotche, Logossah, Amewokunu, and Lawson-body (2015)	TPB (Impact of cultural beliefs on entrepreneurs' intention to use bank loans)	Cultural factors: secrecy, conservatism	To examine the entrepreneur culture and company financial decision.

Continued next page

Heikal and Khaddafi (2014)	TPB (The intention to pay Zakat commercial)	Past behaviour	To determine the effect on the intention of merchants to pay zakat of their trade. Based on previous studies that indicate the more often individuals donate in the past then greater intention to donate again in future.
Alsmady, Rahman and Muhammad, (2014)	TPB (Ethical responsibility and applicability of Islamic microfinance investment model)	Nil	The strength of TPB to study behaviour in various disciplines and the limited application of TPB in economics and finance
Jebarajakirthy and Lobo (2014)	TPB (War affected youth's purchase intention of microcredit)	Positive affect, perceived benefits, perceived deterrents, self-identity and default risk perception, entrepreneurial desire	Based on previous studies that modification improves the behavioural intention prediction.
Amin, Rahma and Razak (2014)	TPB (Willingness to be a partner in musharakah mutanaqisah home financing)	Nil	To reflect musharakah mutanaqisah home financing (Islamic financing). The choice based on previous studies strength that small number of variables is measured to obtain accurate prediction. It offers vivid guide on how to measure cognitions specified by the model.
Prabandari and Sholihah (2014)	TPB (The influence of TPB and entrepreneurship education towards entrepreneurial intention)	Entrepreneurship education	To determine the factors that induce entrepreneurial spirit of students
Sangkakoon, Ngarmyarn, and Panichpathom (2014)	TPB (The influence of group references in home purchase intention in Thailand)	Spouse, children and elderly parents' influences	To investigate the influence of reference groups on individual intention to buy house for family
Pascual-Ezama, Scandroglio, and Gil-Gomez de Liano (2014)	TPB (can we predict individual investors' behaviour in stock markets?)	Nil	To provide insight of the real individual investor in stock markets

Continued next page

Phan and Zhou (2014)	TPB (Factors influencing individual investors behaviour)	Overconfidence, excessive optimism, herd behaviour, psychology of risk	To determine the impact of psychological factors on individual's attitude toward investments
Ali, Zani, and Kasim (2014)	TPB (Factors influencing investor's behaviour in Islamic Unit Trust)	Nil	To find the predictors that drive investors to choose Islamic unit trust fund
Jaffar and Musa (2013)	TPB (Determinants of attitude towards Islamic financing among halal-certified micro and SMEs)	Awareness and knowledge, religion and obligation, cost benefits, business support and reputation	The conceptual framework formed integrated salient belief factors in order to provide understanding of the belief factors influencing formation of attitude toward Islamic financing before attitude is formed.
Ashraf and Ibrahim (2013)	TPB (The barriers to the rural poor participation in MFIs)	Fear of getting into risk of loans, individual preferences, religious leaders' lecture, spousal dislikes as female head of household, friends negative advice, insufficiency of resources, lack of knowledge and ill health or vulnerability to crisis	Modification permitted inclusion of variables that explain the barriers to individual participation in MFIs – Bangladesh. The addition of variables improves prediction of microfinance participation intention.
Kennedy (2013)	TPB(TPB model and financial literacy)	Financial literacy	To measure specifically the financial knowledge
Echchabi and Aziz (2012)	TPB, IDT and TAM (Customers perception and adoption towards Islamic banking services in Morocco)	Uncertainty, complexity, relative advantage, compatibility, awareness, normative belief, self-efficacy, facilitating conditions	TPB belief structures are decomposed for better understanding of the relationship among belief structures and antecedents of behavioural intention. To reflect true influence of belief structures
K. Davis and Hustvedt (2012)	TPB (It is a matter of control: Saving for retirement)	Nil	To investigate the model constructs the way they can be used to understand how individuals make financial decisions.

Continued next page

Alam, Janor, Zanariah, Wel, and Ahsan (2012)	TPB (Is religiosity an important factor in influencing the intention to undertake Islamic home financing in Klang valley)	religiosity	To determine if religiosity is key factor to influence Islamic home financing in Malaysia
Alleyne and Broome (2011)	TPB (Risk propensity to measure investment intentions among future investors)	Risk propensity	To determine its influence or relationship on future investment decisions
Xiao and Wu (2008)	TPB (completing debt management plans in credit counselling)	Satisfaction	Satisfaction is a key factor for consumer to decide to continue with the service and to complete the use of the service. Researchers normally add relevant variables to TPB that may influence the target behaviour.

Past researchers modified TPB model by adding variable or integrating with other models like TAM (see Table 2.1) so that their research problems could be comprehensively addressed. Ajzen (1991) welcomes such action because TPB would become more effective and efficient in explaining respondents' behaviour if other variables could be added without affecting the credibility of original constructs.

Many studies support TPB's propositions; attitude, SN and PBC significantly affect studied respondents' behavioural intention (Alleyne & Broome, 2011; Amin et al., 2014; Ashraf, 2014a; Cucinelli et al., 2016; Heikal & Khaddafi, 2014; Satsios & Hadjidakis, 2018). Nevertheless, some studies found that SN had less or no significant impact on behavioural intention (Abdullah & Wahab, 2015; Ali et al., 2014; Husin & Rahman, 2016; Ibrahim, Fisol, & Haji, 2017;

Xiao & Wu, 2008) . Perhaps this could be explained as follows: Investors of Islamic unit trust fund (IUTF) could have adequate knowledge about the fund and therefore, discretion about investment based on their own experience and less influenced by people who are important to the investors (Ali et al., 2014). Therefore, individuals with less knowledge regarding the target behaviour would more likely be influenced by the opinion from others to make decision (Husin & Rahman, 2016; Johan et al., 2017).

Some studies found that SN and PBC were non-statistically significant related to behavioural intention (Alsmady et al., 2014; Ashraf & Ibrahim, 2013). For example, if respondents perceived that their community members would shy away when they know the respondents would perform certain act such as using a credit facility to settle their debt, the respondents would have less tendency to disclose their debt management plan (Xiao & Wu, 2008). As a result, SN had no significant impact on the respondents' behavioural intention to use data management plan. In another study carried out by Teo and Pok (2003) found PBC had no significant influence on internet users' behavioural intention to adopt WAP-enabled mobile phones because such act was considered personal among the internet users.

Studies in various areas that examined effect generated by perceived benefits and perceived barriers constructs include computer security (Claar & Johnson, 2010), entrepreneurship behaviours (Chuah et al., 2016; Malebana, 2015), financial services (Jebarajakirthy & Lobo, 2014; Shanmugam et al., 2014), reading and writing SMS driving behaviour (Knowlden & Sharma, 2012), water

saving behaviour (Morowatisharifabad, Momayyezi, & Ghaneian, 2012), bicycle helmet use (Ross, Ross, Rahman, & Cataldo, 2010), and internet usage (Porter & Donthu, 2006).

Many studies found that respondents did evaluate the barriers that they might confront versus the benefits that could gain before reaching the final decision. The study conducted by Murphy et al. (2014), found that perceived barriers significantly influenced women intention to participate in mammography. However, perceived benefits had no significant impact on women behavioural intention to engage in screening behaviour. Tanakinjal, Andrias, Sondoh, and Ibrahim (2012), examined the influence of perceived benefits on students' self-disclosure intention in Web 2.0 and the relationship was found not significant. Despite the usefulness of the technological innovations, yet students believed it was not relevant to disclose their private information to service providers as it could be used for unknown purposes. This could the possible reason for non-significant impact of perceived benefits on students' self-disclosure intention in Web 2.0.

The review, in fact is very useful to the present author. Although smallholder farmers are expected to adopt microfinance services when the perceived barriers are low or perceived benefits are high, it is also possible that one or both variables have low or non-significant effect on their behavioural intention. As the present author cannot confirm whether the variables of perceived barriers and perceived benefits could affect farmers' intention to use microfinance significantly, it would be wise to test the relationships between each variable

with behavioural intention. Current results shall then be used to counter check relevant policies introduced by public policy makers and undertaken by financial institutions. More appropriate planning strategies would be suggested for their considerations.

In summary, TPB could be adopted in this study to solve the problems related to attitude, SN and PBC. On top of that, this study shall extend TPB by adding two variables: perceived benefits and perceived barriers. Current study conceptual framework is presented on Figure 3.1 (See Chapter 3) under sub-section 3.2.

2.5 Overview of Relevant Past Studies' Measurements of Constructs

Most of the reviewed studies have adapted the measurement items from other previous studies but the items were modified to suit the context of their studies (see Appendix A). In addition, few studies had added new items to measure the constructs. Past researchers could add new items that reflect the study domain, as similar studies of the same domain were lacking.

To improve the validity and reliability of the measurements, most researchers carried out pre-test and pilot studies to ensure that their respondents could respond to the modified questionnaires' statements more accurately (Lee, 2009). Overall, confirmatory factor analysis (CFA) was carried out in the pilot study stage to discard those items with low factor loadings. Experts were requested to evaluate the modified statements as well. Past studies suggest the use of CFA in pilot study for instrument development if a study used measurement items based

on the knowledge of established theory or items that have been confirmed empirically by several studies in different contexts (Brown, 2006; Dardas & Ahmad, 2014; Russell, 2002; Suhr, 2006). Therefore, the present study could use CFA as well during the pilot study because TPB framework is well established model that have been empirically tested by many researchers. The next chapter discusses the application of CFA in this study.

The items that have been used by past studies to measure the current studied variables are shown in Appendix A. In selecting appropriate items that should be tested in this study, the following suggestion was considered: the chosen items should have a minimum factor loading score of 0.5 (Fornell & Larcker, 1981). However, if certain past studies' items were newly recommended, lower factor loading score could be acceptable (Abdul et al., 2015; Awang, 2015; Erkin & Ozsoy, 2012; Guadagnoli & Velicer, 1988; Kothari, 2004). Current author retains those items with factor loading score higher than 0.5 because the items that are tested in this study have been used in many past studies. The modified items for this study are presented in the chapter three (see Table 3.3, under section 3.5.1).

2.6 Overview of Past Studies' Research Methodology

Probability sampling and non-probability sampling technique had been used in past studies (see Table 2.2). Limited studies were carried out to use probability sampling technique in selecting the respondents even though this method can reduce the chances of getting bias results and thereby could enhance the representation of the studies' results of the targeted population (Heikal &

Khaddafi, 2014; Jebarajakirthy & Lobo, 2014; Lajuni et al., 2017; Satsios & Hadjidakis, 2018). Plausibly this is because sampling frame cannot be obtained due to various reasons such as: financial constraints and time consuming to construct accurate list of respondents, especially for large target population (Alallwan, Dwivedi, & Rana, 2017; Kisaka, 2014).

Table 2.2: Summary of Past Studies' Research Methodology

Authors' name	Research Approach	Study Location & data collection Period	Sample Size & sampling technique	Respondents
Satsios and Hadjidakis (2018)	Quantitative approach	April to October, 2016 Greece	600 Snowball sampling	Pomak Households
Kharde and Madan, (2018)	Quantitative approach	Maharashtra State India	200 Simple random sampling	Womens' insurance customers
Magendans et al., (2017)	Quantitative approach	Netherlands	272 Convenience and snowball sampling	Students and working individuals
Lajuni et al., (2017)	Quantitative approach	2016 Malaysia	131 Non-probability technique	Patronizing customers of convetional banking
Johan et al., (2017)	Quantitative approach	Klang Valley Malaysia	76 Purposive sampling	Individuals
Shabiq and Hassan (2016)	Quantitative approach	Maldives	340 Convenience sampling	Individuals
Cucinelli et al., (2016)	Quantitative approach	July, 2015 Italy	636 and 1,807	invetors and consultants respectively
Husin and Rahman (2016)	Quantitative approach	Klang Valley Malaysia	384 Convenience sampling	Muslims
Mbawuni and Nimako (2015)	Quantitative approach	Kumas -Ghana in August 2014	371 Convenience sampling	Loan customers of Financial institutions
Malebana (2015)	Quantitative approach	Limpopo University South Africa	329 Convenience sampling	Commerce students
Tsordia and Papadimitriou (2015)	Quantitative approach	Patras University (Greece) 2013 – 2014	186 Convenience sampling	undergraduate University students
Mwatsika (2015)	Quantitative approach	Malawi	162 Non-probability technique	Rural population
Mahlanza (2015)	Quantitative approach	University of Botswana	226 Random selection	University employees

Continued next page

Makpotche, Logossah, Amewokunu, and Lawson-body (2015)	Quantitative approach	Benin & Mauritania	124 Probability sampling	Entrepreneurs from Non-financial enterprises
Putit and Johan (2015)	Quantitative approach	Malaysia	220 Purposive sampling	Bank customers
Ashraf (2014a)	Quantitative approach	Moulavibazar, Satkhira, Shariatpur, Kishoreganj, Nilphamary and Bogra – Bangladesh May, June & July, 2011	280 Snowball sampling	MFIs-Non-participating rural villagers
Ali, Zani, and Kasim (2014)	Quantitative approach	January – March, 2014 Kedah – Malaysia	172 Random selection	Academic staff of Universiti Teknologi MARA – Kedah
Heikal and Khaddafi (2014)	Quantitative approach	Lhokseumawe-Indonesia	150 Purposive sampling	All merchants/traders in the city of Lhokseumawe
Jebarajakirthy and Lobo (2014)	Quantitative approach	North and Eastern provinces -Sri Lanka March –April, 2013	1603 Convenience sampling	Youth from higher learning institution, vocational training & youth member institutions.
Alsmady, Rahman and Muhammad, (2014)	Quantitative approach	Jordan	180	Islamic bank Managers
Amin, Rahma and Razak (2014)	Quantitative approach	December, 2011 Malaysia	168 Snowball sampling	Islamic bank customers who uses Islamic bank products
Sangkakoon, Ngarmyarn, and Panichpathom (2014)	Quantitative approach	Thailand	180	Individuals
Pascual-Ezama, Scandroglio, and Gil-Gomez de Liano (2014)	Quantitative approach	Spanish stock exchange	127 Snowball sampling	Individual stock investors

Continued next page

Prabandari and Sholihah (2014)	Quantitative approach	Brawijaya University Indonesia	165 Accidental sampling technique	Postgraduate students
Phan and Zhou (2014)	Quantitative approach	Vietnamese Stock Market May – Nov, 2013.	472 Non-probability technique	Individual stock investors
Ashraf and Ibrahim (2013)	Quantitative approach	Moulavibazar, Satkhira,Shariatpur, Kishoreganj, Nilphamary and Bogra-Bangladesh May, June & July, 2011	280 Snowballing and cluster sampling	People who are not participating in MFIs from six districts
Kennedy (2013)	Quantitative approach	Public University West Virginia USA	143	Undergraduate University students
Echchabi and Aziz (2012)	Quantitative approach	Morocco	146 Probability sampling	Moroccan bank customers
Davis and Hustvedt (2012)	Quantitative approach	Academic year 2009/2010. USA	328 Convenience sampling	Alumni of Texas State University-San Marcos, completed consumer economic or finance 1982-2007
Alam, Janor, Zanariah, Wel, and Ahsan (2012)	Quantitative approach	Klang Valley in Malaysia	300 Convenience sampling	Muslim customers
Alleyne and Broome (2011)	Quantitative approach	2010 University of West Indies - Barbados	104 Purposive sampling	Final year undergraduate University students (financial management students)
Xiao and Wu (2008)	Quantitative approach	November, 2005 to February, 2006	190 Non-probability technique	Clients enrolled in a debt management plan (DMP)

As smallholder farmers are geographically scattered in Tanzania. Stratified sampling can be used in present study because the respondents can be grouped into a few geographical zones where each unit sample in each respective zone

share similar characteristics. For example, the northern part of Tanzania respondents share several characteristics such as language, crops cultivated and other economic activities.

As most of past studies were using quantitative approach, questionnaire was used as the main research tool (Husin & Rahman, 2016; Kharde & Madan, 2018; Magendans et al., 2017; Mbawuni & Nimako, 2015) and was distributed via email, post and by hand (face to face contact). Questionnaires is useful to collect large quantity of data from many rural smallholder farmers living in scattered areas and it involves less administrative costs, require minimal resources compared to interview, and offer broader access to widely dispersed samples (Ali et al., 2014).

Nevertheless, questionnaire which was distributed through email or postage (Ali et al., 2016; Amin et al., 2014; K. Davis & Hustvedt, 2012; Magendans et al., 2017) is prone to some limitations: (1) the questionnaires may be completed by non-targeted respondent; and (2) some questionnaires could be lost or not returned and sometimes returned incomplete. To minimize such problems, distribution of self-administered questionnaires by hand is recommended (Ali et al., 2014; Alleyne & Broome, 2011; Ashraf & Ibrahim, 2013; Mbawuni & Nimako, 2015). Therefore, to minimise nonresponse bias and achieve high response rate: the use of drop-off and pick-up (DOPU) method would be suitable method to collect data from smallholder farmers in the rural areas who might be busy with farming activities (Allred & Ross-Davis, 2011).

Most of the studies did not provide information regarding the suitability of their data facilitators. The optimum number of data facilitators and how trainings were carried out to equip data facilitators', were not discussed. As a result, questionnaires in some past studies were partially filled (Abdullah & Wahab, 2015; Amin et al., 2014; Ibrahim et al., 2017) and could not be used for data analysis. To ensure accurate and reliable data can be collected in this study; graduates were recruited as they can be relatively ease to train and could facilitate the farmers to provide more truthful answers.

Sample size in past studies were ranging from 104 to 200 respondents (Echchabi & Aziz, 2012; Kharde & Madan, 2018; Lajuni et al., 2017). In addition, academic staff, bank managers and students were chosen as targeted respondents. The use of small sample size (less than 200) is not suitable for present study as it could limit the application of some statistical analysis tools (Awang, 2015). For example, SEM requires larger sample size for the computation of reliable estimates and thereby could represent the population's behaviour more accurately (Chandio, 2011; Lee & Yom, 2013). From the review, present author would then find ways to determine a suitable sample size, which is larger than 200.

2.7 Overview of Relevant Past Studies' Data Analysis

Most of the past studies were using first generation technique such as analysis of variance (ANOVA) and multiple regression for data analysis in relation to second generation methods (Alsmady et al., 2014; Cucinelli et al., 2016; Davis

& Hustvedt, 2012; Magendans et al., 2017; Shabiq & Hassan, 2016) . SEM is the second generation multivariate technique that address most of the weaknesses of the first generation methods (Karimimalayer & Anuar, 2012) (see Table 2.3).

The use of first generation methods suffer several limitations such as: (1) difficullty to model and analyse latent constructs in the model, (2) it is not possible to analyse multilple interelated constructs in the model simultaneously, and (3) inability to handle measurement errors. Therefore, current author decided to use SEM because the system can handle problems faced in first generation methods and hypothesis that involve mediators can be more accurately tested.

Table 2.3: Summary of Past Studies' Data analysis

Authors' name	Data analysis technique	Purpose of analysis
Satsios and Hadjidakis (2018)	SEM	To confirm the proposed research model and test the study's hypotheses
Kharde and Madan, (2018)	PLS-SEM	To determine the causal relationship between the endogenous and exogenou latent variables
Magendans et al., (2017)	Hierarchical multiple regression analysis	To test the proposed hypothesis and mediation analysis
Lajuni et al., (2017)	PLS-SEM	To analyse the data and testing the study hypotheses
Johan et al., (2017)	PLS-SEM	To test concurrently the measurement model and the structural model
Shabiq and Hassan (2016)	Multiple regression analysis	To examine the relationship between the independent constructs studied and adoption of Takaful
Cucinelli et al., (2016)	OLS step-wise multiple regression	To determine specific contribution made by the studied constructs to predict customers intention
Husin and Rahman (2016)	PLS-SEM	To assess the measurement modent and structural model of the study
Mbawuni and Nimako (2015)	PLS-SEM	To examine the relationship among the constructs in the proposed model. It involves two steps – estimation of measurement model and structural model PLS was appropriate for the study due to its distribution free assumption. Also was chosen as it met the predictive purpose of the study.
Malebana (2015)	Hierarchical multiple regression analysis Mann-Whitney U-test	To examine the relationship between perceived barriers and dependent variables To determine the differences in perceived barriers for among respondents about the TPB independent constructs
Tsordia and Papadimitriou (2015)	Multiple regression analysis t-tests	To determine the extent in which attitude, perceived behaviour control, subjective norms, and entrepreneurial curriculum and content account for the variance of entrepreneurial intention. To determine the difference in entrepreneurial intention between first and fourth year students
Mwatsika (2015)	Correlation analysis	To investigate the relationship between the factors that influence participant's desire for entrepreneurship and entrepreneurial intention.

Continued next page

Mahlanza (2015)	SEM	To examine the nature of relationship among the following constructs: attitude, subjective norms, financial literacy, materialism and behavioural intention. To test mediation effects as well.
	Poisson regression	To investigate the possibility of significant differences among the employees with retirement plan
Putit and Johan (2015)	Multiple regression analysis	To measure the relationship among religiosity and product knowledge on attitude. Also to examine the relationships between TPB's constructs on individual behaviour to adopt halal credit cards.
Makpotche, Logossah, Amewokunu, and Lawson-body (2015)	Multiple regression analysis	Testing the mediation effects of TPB variables, using Barron and Kenny approach
Sangkakoon, Ngarmyarn, and Panichpathom (2014)	Simple regression analysis	To determine the relationship between the independent constructs studied and home purchase intention
Pascual-Ezama, Scandroglio, and Gil-Gomez de Liano (2014)	SEM	To examine the causal relationship between exogenous and endogenous constructs studied.
Phan and Zhou (2014)	SEM	To determine the behavioural factors that influence individual investors' behavioural intention.
Prabandari and Sholihah (2014)	SEM	To examine the direct and indirect causal relationship among the variables studied
Ashraf (2014a)	SEM	To assess statistical significance for the size of each theoretical relation the model and overall model fit
Ali, Zani, and Kasim (2014)	SEM	To investigate statistical relationship between the measuring item of each construct and also between the constructs
Heikal and Khaddafi (2014)	Multiple linear regression analysis	To provide the extent of influence of each independent variable on the dependent variable
Amin, Rahma and Razak (2014)	SEM	Used SEM due to its ability to: (1) handle abnormal data, (2) test overall model instead of individual coefficients (3) to deal with latent variables with several indicators (4) separates measurement errors from specification errors
Jebarajakirthy and Lobo (2014)	Hierarchy regression analysis	To test interaction effects of entrepreneurial desire
Alsmady, Rahman and Muhammad, (2014)	Multiple regression analysis	To determine key predictors of behavioral intention to apply Islamic micro-investment

Continued next page

Kennedy (2013)	Hierarchical regression analysis	To measure the predictive strength of TPB constructs and financial literacy. Barron and Kenny procedures were used to test mediation of behavioural intention
	Correlation analysis	To examine the relationship between the constructs under the study.
Ashraf and Ibrahim (2013)	SEM	To examine the causal relationship among the predictors- attitude, PBC, subjective norms and the 8 external variables.
Echchabi and Aziz (2012)	Multiple regression analysis	To predict the factors that influence customers to adopt Islamic banking services in Morocco
Davis and Hustvedt (2012)	Multiple regression analysis	To confirm the ability of attitude, subjective norms and perceived behaviour control to predict behaviour intention. Also to determine ability of TPB model to predict savings for retirement.
	Backward stepwise regression	To deal with all variables in the model by removing weak variables and rerun the model until improvement is achieved. It is not good for explanatory study, since the possible explanatory variable are unnecessarily deleted
	ANOVA	To establish the statistical difference between two groups i.e. PBC low and PBC high
Alam, Janor, Zanariah, Wel, and Ahsan (2012)	Multiple regression analysis	To examine the strength of the relationship among the variables
Alleyne and Broome (2011)	Hierarchical regression analysis	To examine the extent TPB is capable to predict the intention to invest
Xiao and Wu (2008)	Multivariate analysis	To examine whether the actual behaviour was determined by multiple independent and mediator variables. Also to determine specifically if client intention was the mediating variable.
	Chi-square test	To assess demographic differences among the respondents who participated via postal mail and online

2.8 Summary of Literature Review

The reviewed theories have been used in various research disciplines but with limited use in the study of behavioural factors that affect the intention to adopt microfinance services among the smallholder farmers. TRA could be proposed

for the present study but it addresses the issues that are under volitional control only. As such it limits the model predictive utility of various categories of behaviours because in practice most of the behaviours are not under complete volitional control (Kiriakidis, 2015). Hence, the lack of knowledge in this study cannot be handled by TRA.

TAM is criticised on the grounds that: (1) it cannot address the social factor problems in the present study because of the lack of subjective norm construct; and (2) the TAM constructs are more suitable to addressing innovation aspects rather than microfinance issues. Compare to other theories, TPB is recommended in this study because the theory can solve most of the study's problems. Additional constructs: perceived barriers and perceived benefits are added into the TPB to solve the remaining problems.

Limited studies that focus on microfinance services usage from users' perspective were carried out and thus, their results could not be generalized to Tanzanian context (Ashraf, 2014a; Jebarajakirthy & Lobo, 2014; Mbawuni & Nimako, 2015). Most of the studies focused on the institutional sustainability, performance or impact of microfinance to the poor (Afrane, 2002; Godquin, 2004; Ihugba et al., 2014; Kheder, Mustafa, Saat, Management, & Skudai, 2013; Morduch & Haley, 2002; Okibo & Makanga, 2014). Modifications of TPB by adding the constructs of perceived barriers and perceived benefit were limited in literature as well.

The weakness of the previous studies methodology include the poor selection of target respondents as some studies used students to represent the population. The

survey instruments that were emailed or posted to respondents could affect the response rate or instruments completed by unintended person. Most of the studies: (1) used non-probability sampling techniques that could limit the representativeness of the sample to population; and (2) did not disclose the qualities of the research assistants which are important for ensuring reliability and validity of the data collected. The use of first generation techniques like multiple regressions were common in relevant literature. Nevertheless, SEM is more suitable for this study because it may overcome the weakness of the first generation method such as simultaneous analysis of model constructs and handling of measurement errors.

The weaknesses observed in the literature review section were important because they were useful for improving the present study as discussed in chapter three. The next chapter provides an account of the conceptual framework of a modified TPB, improved research methodology and data analysis techniques for the present study.

CHAPTER 3

RESEARCH METHODOLOGY AND CONCEPTUAL FRAMEWORK

3.1 Introduction

This chapter describes and justifies: (1) present research model, operational framework, and development of present study's hypothesis; (2) direct and indirect factors that could influence smallholder farmers' intention to use microfinance services; (3) research design, sampling design, instrument development and data collection approaches; (4) appropriate statistical techniques and tools adopted for data analysis and testing the hypothesis developed in this study.

3.2 Present Study's Research Model

According to TPB, an individual's intention to perform certain behaviour [or termed as behavioural intention (BI)], is influenced by the person's attitude towards behaviour (Att), subjective norms (SN), and perceived behaviour control (PBC) (Ajzen, 1991; Conner & Armitage, 1998). The theory has been widely used in various discipline such as to test the: (1) adoption of electronic banking (Lee, 2009; Shanmugam, Savarimuthu, & Wen, 2014); (2) acquisition of credit facilities (Mbawuni & Nimako, 2015); (3) performance of entrepreneurial business (Krueger Jr., Reilly, & Carsrud, 2000); and (4) adoption of mobile healthcare services (Deng et al., 2013).

TPB is used as the fundamental theory of this study because the constructs can address the following problems that have been faced by smallholder farmers (see Figure 3.1): (1) as smallholder farmers are lacking knowledge about microfinance services, their self-efficacy skills in using the services to enhance agricultural production could be limited (Long, 2009; Maleko et al., 2013; The world bank, 2013); (2) negative recommendations given by farmers' community could influence their intention to use microfinance services (Chogo & Sedoyeka, 2015; Long, 2009); and (3) farmers do not have favourable attitude towards the use of microfinance services (Maximambali et al., 1999; Mnenwa & Maliti, 2009).

Nevertheless, the following problems could not be solved by using TPB framework alone. Benefits and barriers that could be generated and arise from the use of microfinance services were not well-disseminated (Chijoriga, 2011; Churk, 2015; FSDT, 2014; Maleko et al., 2013; Maximambali et al., 1999; Mori et al., 2016; Tundui, 2013). To solve the problems mentioned above, this study extends the TPB model by adding two constructs: perceived benefits and perceived barriers (see Figure 3.1).

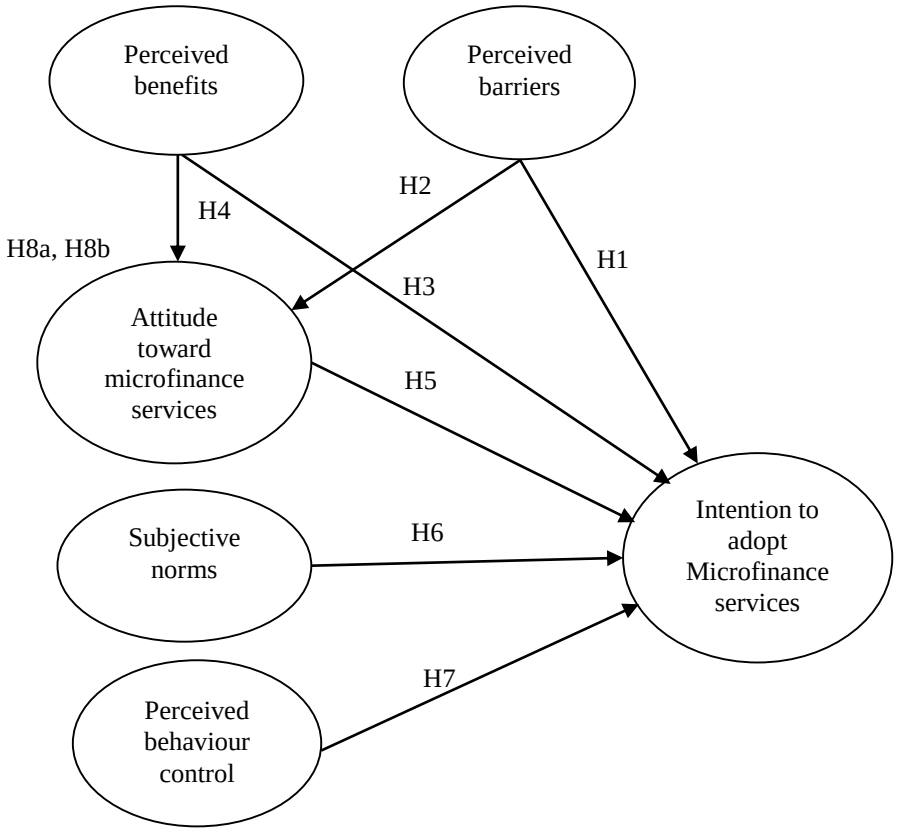


Figure 3.1: The Proposed Research Model
Note: H1-7: hypotheses (Direct relationships); H8a-8b: Hypotheses (Mediation)

3.3 Development of Present Research's Hypotheses

To achieve the first research objective of the present study, the following hypotheses were developed: H1, H3, H5, H6 and H7. On top of that, hypotheses H8a and H8b are tested to determine the mediation impact of perceived barriers and perceived benefits respectively on intention via attitude. In other words, the second objective could be met through testing hypothesis H8a and H8b (See Figure 3.1). The following sub-topics would describe and justify the causal relationship between the constructs of TPB, perceived benefits, and perceived barriers.

3.3.1 The Direct and Indirect Impacts of Perceived Barriers on Intention to Adopt Microfinance Services via the Influence of Attitude

In this study, perceived barrier refers to smallholder farmers' perception of the possible negative outcomes that could arise from their participation in microfinance services. The barriers can arise as the result of the perceived inconveniences. Individuals might have perception that it would be time consuming to obtain microfinance services as the application process involves several procedures and takes long-time, which would affect their attitude and intention to use the services (Ifelunin & Elizabeth, 2013). In addition, farmers' perceived that they could be paying high interest on loans and other charges, which will in turn affect their attitude toward microfinance and intention to adopt the service.

Past studies found that perceived barriers could produce direct and negative effect on behavioural intention. For example; Youths and University students may unlikely participate in entrepreneurial activities if they perceive that they need to sacrifice so much time and invest lots of efforts (Arnaut, 2015; Cacciotti & Hayton, 2014; Leung, Lo, Sun, & Wong, 2012; Malebana, 2015; Shinnar, Giacomin, & Janssen, 2012). In another study, Sri Lanka youths' behavioural intention to use microcredit facilities could be minimized because of perceived deterrents such as collateral conditions, microcredit charges, multiple documents and long delays (Jebarajakirthy & Lobo, 2014). Similarly, Shariff; et al., (2012) found that low income individuals in Penang (Malaysia) have less tendency towards sustainable food consumption because of inconveniences, price and unavailability of sustainable food.

Literature also shows that perceived barrier could affect respondents' attitude towards the studied subject. For example, potential users may build favourable attitude toward internet usage if the perceived barriers that could arise in using internet are low (Porter & Donthu, 2006). If the perceived barriers associated with entrepreneurship are high, students attitude toward entrepreneurship would be reduced (Chuah et al., 2016; Malebana, 2015).

As smallholder farmers' belief that the costs of using microfinance are high and they may need to face some inconveniences such as time consuming, their attitude and intention to adopt microfinance services could be affected. The following show the direct and indirect propositions of present study.

H1: Perceived barriers will have significant and negative impact on smallholder farmer's intention to use microfinance services

H2: Perceived barriers will have significant and negative effect on the smallholder farmer's attitude to use microfinance services

H8a: Smallholder farmers' attitude toward microfinance services mediates their perceived barriers with behavioural intention to use microfinance services

3.3.2 The Direct and Indirect Impacts of Perceived Benefits on Intention to Adopt Microfinance Services via the Influence of Attitude

Perceived benefits show the possible positive outcomes that could be earned by smallholder farmers if they adopt the microfinance services. If respondents do not know much about the benefits that could be derived from the usage of certain products or services, their behavioural intention tends to diminish (Shanmugam et al., 2014). The proposition is supported by the following studies: (1) financial services (Shanmugam et al., 2014); (2) technology adoption (Tanadi et al.,

2015); (3) computer security behaviour (Ng, Kankanhalli, & Xu, 2009); and (4) encouraging students to use bicycle helmet (Ross et al., 2010).

Literature also supports that perceived benefits could affect respondents' attitude toward the studied subject. For example, students' and staffs' attitude to adopt mobile banking would enhance if they could grasp the benefits of using mobile banking (Shanmugam et al., 2014). Potential users will favour online payments when they believe that such act is time and cost saving (Lin, Hsu, & Chen, 2013).

On top of that, past studies have found that the respondents' attitude would mediate the impact of perceived benefits on their intention to perform certain behaviour. For example, (1) if the internet bank users believe that online banking transaction is genuine and can be done anytime, anywhere at low cost, they would develop favourable attitude towards internet bank and eventually increase their tendency to adopt internet banking (Lee, 2009a; Shanmugam et al., 2014); (2) perceived tangible benefits (cognitive belief) like low interest of co-branded cards may enhance cardholders' favourable attitude and consequently increase their intention to adopt them (Tingchi Liu et al., 2012); and (3) perceived time saving, unlimited range of products, and less efforts required on online shopping would increase e-shoppers' favourable attitude towards e-shopping and e-adoption intention (Forsythe et al., 2006; Hsu & Bayarsaikhan, 2012; Kim, Ferrin, & Rao, 2008; Wani & Malik, 2013).

In line with past studies' results, the current study tests and compares direct and indirect impact caused by perceived benefits on smallholder farmers' intention

to use the microfinance services via their attitude. The propositions of the direct and indirect impact of perceived benefits on behavioural intention are as follows:

H3: Perceived benefits have significant positive influence on smallholder farmer's intention to use microfinance services

H4: Perceived benefits have significant positive influence on smallholder farmer's attitude to use microfinance services

H8b: Attitude mediates the smallholder farmer's perceived benefits and intention to use microfinance services

3.3.3 The Direct Impact of Attitude on Smallholder Farmers' Intention to Adopt Microfinance Services

In this study, attitude is defined as the extent to which smallholder farmers' have favourable evaluation or appraisal about the use of microfinance services. Acceptance and usage of microfinance services depends mostly on smallholder farmers' attitude. If they perceive the repayment of microfinance is simple and less harassing compared to other financial services, it would become more favourable for them to use microfinance services. In other words, farmers' attitude toward microfinance services is believed to have direct effect on behavioural intention (Ashraf & Ibrahim, 2013).

The impact of attitude on users' behavioural intention is supported by the following empirical studies: (1) merchants' attitude towards payment of zakat would increase if they favour the practice of zakat (Heikal & Khaddafi, 2014); (2) customers' attitude would become favourable if the proposed Islamic banking services procedures are compatible with their daily life and this will eventually increase their intention to adopt the service (Echchabi & Aziz, 2012; Echchabi & Echchabi, 2013); (3) if students favour risk investment, their

intention on investment decisions would be positively related (Alleyne & Broome, 2011); (4) customers' intention to adopt Islamic home financing would increase if favourable perceptions about Islamic products could be inculcated in the customers' mind (Amin et al., 2014); (5) Islamic bank managers' intention to adopt Islamic micro-investment model (IMIM) could be influenced by their positive perception about usage of IMIM (Alsmady et al., 2014); (6) bank customers begin to form favourable attitude towards the use of internet banking because of the increased transparency and swift transactions (Lee, 2009a); (7) individuals' intention to participate in internet stock trading might be affected by their attitude. When the respondents favour e-trading, their adoption intention would eventually increase (Ramayah, Rouibah, Gopi, & Rangel, 2009); and (8) If students have positive perception towards entrepreneurship studies, they may pursue self-employment jobs (Tsordia & Papadimitriou, 2015).

In this study, present author argues that personal factors: attitude indeed could influence smallholder farmers' intention to use microfinance services in Tanzania. Microfinance services are useful for the poor and low-income people, and those who are not qualified to apply for conventional banking services. With such credit facility, farmers can enhance agricultural productivity (Consultative Group to Assist the Poor, 2012). Therefore, if the smallholder farmers could form favourable attitude towards the use of microfinance services, their intention to utilise the service will increase and vice versa if unfavourable attitude is formed. Therefore, this study predicts that:

H5: Smallholder farmer's attitude towards microfinance services will have positive and significant effect on behavioural intention to use microfinance services

3.3.4 The Direct Impact of Subjective Norms on Smallholder Farmers' Intention to Adopt Microfinance Services

Subjective norms refer to smallholder farmer's perception of social pressure that they would need to endure if they adopt microfinance services. The social pressure could come from people who are important to them, such as family members, siblings, acquaintance, and influencers (Ajzen, 1991). The following studies supported TPB's original proposition that SN and BI are positively related: (1) People who are important to undergraduate students could affect the students' intention to make invest decisions (Alleyne & Broome, 2011); (2) Islamic bank customers adopt Islamic home financing services after receiving positive recommendations from their referents (Amin et al., 2014); (3) The beliefs conveyed by people who are perceived as important to merchants could potentially affect merchants' intention to pay commercial zakat (Heikal & Khaddafi, 2014); (4) Respondents' intention to adopt internet banking was strongly influenced by their peers, friends and family members (Rouibah, Ramayah, & May, 2011); and (5) internet users' intention to adopt WAP-enabled mobile phones depended on referent groups' (trusted sources) advice because the respondents had limited knowledge about e-services (Teo & Pok, 2003).

Nevertheless, the following studies found that SN and BI were not significantly related: (1) managers of Islamic banks and academic staffs' intention to participate in IMIM and Islamic Unit trust respectively were not influenced by social pressure as they were knowledgeable of the studied subject (Syukriah Ali et al., 2014; Alsmady et al., 2014); (2) recommendations given by rural people's

referents did not influence their intention to participate in MFIs (Ashraf & Ibrahim, 2013); (3) intention to participate in debt management plan by clients in credit counselling was personally treated (Xiao & Wu, 2008); (4) advice from community members did not create any significant impact on respondents' intention to adopt mobile commerce in India (Mishra, 2014); and (5) internet banking usage is private activity that does not attract public or third parties for recommendations, hence less impact on internet banking users intention (Nikita, 2015; Shih & Fang, 2004).

The possible reasons that could cause non-significant impact of SN on BI are: (1) individuals who had prior experience with the studied subject may have lower tendency to rely on their referents' advice; and (2) In studying the role that could be played by family members in encouraging other member to participate in debt management plan, Xiao and Wu (2008) assert that the impact of SN was minimal. Culturally, not many people would like to disclose their financial difficulties to other people, including their family members. Therefore, strategy to encourage the Chinese to involve in the debt management plan via their family members' advice become immaterial.

In this study, the author projects a direct positive impact of SN on BI because according to Taylor and Todd (1995), the impact of SN tends to be strong among people who have less experience or knowledge of the studied subject. Therefore, the following hypothesis is proposed;

H6: Subjective norms will have positive and significant influence on the smallholder farmers' intention to use microfinance services.

3.3.5 The Direct Impacts of Perceived Behaviour Control on Smallholder Farmers' Intention to Adopt Microfinance Services

PBC reflects smallholder farmers' perception of how ease or difficult to use microfinance services given the presence or absence of requisite resources and opportunities. In practice, many behaviours cannot be performed voluntarily due to the lack of required resources such as time, skills, knowledge, money and cooperation of others (Ajzen, 1991; Ajzen & Madden, 1986). If smallholder farmers are knowledgeable about microfinance services and own the necessary resources, they would have high confidence to use microfinance services (Ajzen & Madden, 1986). This implies that PBC has direct impact on intention to use microfinance services (Ajzen, 1991; Armitage & Conner, 2001).

Past studies that had supported TPB's proposition include: (1) customers who know about Islamic bank products and services would be more likely to adopt Islamic banking services (Amin et al., 2014; Echchabi & Aziz, 2012); (2) merchants who are concerned about their obligation to help the needy by using zakat would use the commercial zakat service (Heikal & Khaddafi, 2014); (3) students who have the ability to asses level of risk would have the tendency to make their own decision in investment matters (Alleyne & Broome, 2011); (4) empowering messages via advertisement and step by step tutorials could enhance users confidence to adopt internet banking (Maditinos, Tsairidis, & Grigoriadis, 2009; Nikita, 2015; Rouibah et al., 2011); (5) Muslims' willingness to put considerable efforts to acquire Islamic home financing would enhance their intention to adopt it (Shah Alam & Mohamed Sayuti, 2011); (6) experienced stock investors may have higher intention to adopt Internet stock

broking (Gopi & Ramayah, 2007); and (7) If students think that they can participate in entrepreneurial activities without much problems, their intention to become self-employed would increase (Tsordia & Papadimitriou, 2015).

As most of the smallholder farmers lack the necessary education that is related to microfinance services in Tanzania, they would less likely adopt microfinance services. Thus, this study hypothesized that:

H7: Perceived behavioural control of smallholder farmers will have positive and significant effect on behavioural intention to use microfinance services

3.4 Present Study's Research Design

This section presents the designs of a research methodology framework which is in line with the present study's research objectives. This study employed quantitative approach because the proposed research's hypotheses could be tested by using inferential statistics and the data findings could be generalised to smallholder farmers in Tanzania (Hair, Money, & Samuoule, 2007). Therefore, the quantitative approach adopted in this study is appropriately planned to determine representative sample size of smallholder farmers and selection of suitable sampling techniques.

3.4.1 The Present Study Location

This study is conducted in rural areas of Tanzania. The country is divided into six geographical zones and every zone has different number of regions (National Bureau of Statistics, 2013a). The researcher collected the data in five zones: (1)

Coastal zone, (2) Central zone, (3) Lake Zone, (4) Southern highland, (5) North zone. The sixth zone was not included because the proportion of smallholder farmers in this zone is minimal: about 1%. Ninety nine percent of the smallholder farmers are living in the five mentioned zones (National Bureau of Statistics, 2014).

3.4.2 The Present Research's Target Population

The target population for this study is smallholder farmers living in the rural areas that make up majority of the rural population in Tanzania. The smallholder farmers refer to individuals who participate in farming activities that utilize 0.9 to 3 hectares of land (see Chapter 1, Section 1.1). According to National Bureau of Statistics (NBS) (2013) report, a large proportion of Tanzanians (70.9) lives in the rural areas and they mainly engage in agricultural activities.

In addition, the agricultural sector in Tanzania contributes a large share of GDP, national food security, employment (formal and Informal), and raw materials for industries (Ministry of Agriculture Food Security and Cooperatives, 2015). The farming activities accounts for about 80% of the agricultural output and the rest by fishing, forestry and hunting (Oswald et al., 2011). About 95% of the food consumed in the country is produced by smallholder farmers as well (Severine et al., 2014).

The respondents of this study possess the following characteristics: (1) aged at least 18 years, because this is the minimum legal requirements to enter into

contracts such as opening bank accounts and endorsing loan agreements (2) They are literate in either Swahili or English so that they can comprehend the questionnaire clearly and respond truthfully; and (3) they have not used the microfinance services at the time when the data collection is conducted. The current users are not considered in this study because their behavioural experience could be different from the non-users, which in turn can limit the generalization of the sample results to study how to increase individuals' intention to adopt microfinance services in the country.

According to International Fund for Agricultural Development (2014), about 90% of poor Tanzanians live in the rural areas, and the majority of rural residents engage in farming activities. This study intends to provide useful indications to the decision makers in planning appropriate policy that can enhance the poor residents' intention to use the microfinance service. Such financial services are useful to reduce the poverty ratio in Tanzania.

3.4.3 Sample Size

The following assumptions are made in this study regarding to the following determination of sample size. Smallholder farmers' agricultural productivity in regards to their age is normally distributed. Younger farmer's productivity is expected to increase as they are more energetic and learn to improve better as time goes on. However, when they are reaching the old age, they become less energetic and may become less interested to use credits facilities to improve agricultural output.

Secondly, present author estimates 5% sampling error as human's opinion or feelings may not be consistent all the times. Nevertheless, the sampling process is carefully designed so that answers given by selected respondents are close to the truth (after being facilitated by trained questionnaire distributors) and can represent the population's response.

Yamane (1967) formulation is used to determine current study's sample size as the formula's assumptions can be fulfilled. The assumptions are: (1) certain population's characteristics are normally distributed; (2) sample should be selected by using probability techniques; and (3) population's elements are basically homogeneous. Equation (3.1) reflects Yamane's (1967) formulation.

$$n = \frac{N}{1 + N(e^2)} \tag{3.1}$$

Where, n represents sample size
N stands for population size, and
e stands for level of precision.

The total number of population count for smallholder farmers in Tanzania rural areas who are aged 18 years and above is 8,788,143 (National Bureau of Statistics, 2014). By inputting the population count in equation (3.2), the total number of sample size is:

$$n = \frac{8{,}788{,}143}{1 + 8{,}788{,}143(0.05^2)} \tag{3.2}$$

$$399.981$$

$$\approx 400 \text{ Smallholder farmers}$$

In summary, the estimated minimum sample size for this study is 400 smallholder farmers drawn using probability technique from five zones: coastal, central, lake, southern highland, and north zones.

3.4.4 Sampling Design

It is not practicable to survey all smallholder farmers who are living in each region of each zone because of various constraints such as time and financial resources. Nonetheless, appropriate sampling technique is employed so that the data findings could represent the population responses. Probability sampling design is chosen so that smallholder farmers living in the five zones have equal chance to be selected and thus, bias results can be minimised. There are different types of probability techniques (Sekaran, 2003) and this study is using stratified sampling technique (one of the probability sampling techniques) because it ensures smallholder farmers in each of the five zones (strata) are fairly selected to be the respondents.

The strata for this study are the five zones made up by regions, districts, wards and villages consecutively. Proportionate sample size is obtained from each stratum. The researcher computes the percentage of smallholder farmers from each stratum based on the total smallholder farmers for selected representative regions in each stratum as shown on the table 3.1. Therefore, the samples of smallholder farmers selected in this study are drawn proportionally from each stratum.

Table 3.1: Proportionate Sample Size

Zones	Regions	Smallholder farmers *	Proportion of smallholder farmers
Lake Zone	Shinyanga	271,506	14%
Southern Highlands Zone	Mbeya	522,864	27%
Coast Zone	Coast	221,671	12%
Central Zone	Dodoma	509,529	27%
Northern Zone	Kilimanjaro	384,812	20%
Total		**1,910,382**	**100%**

Source: *National Bureau of Statistics (2014)

Nevertheless, the number of population count in each stratum is high and furthermore constructing sampling frame for each stratum could be challenging as a lot of resources need to be employed such as funds and time. Therefore, multistage sampling is employed for each stratum to select primary units progressively (Teddlie & Yu, 2007). To elaborate, present researcher selected primary units in each zone starting from region level to village where the individual respondents are drawn to complete the survey instrument. A single region is randomly selected from each stratum and this is possible because the regions located in a stratum are homogeneous and the sample units' characteristics are quite similar towards village level (see Figure, 3.2). The similar characteristics of representative units include type of crops cultivated, type of economic activities and culture practiced by smallholder farmers in the respective areas.

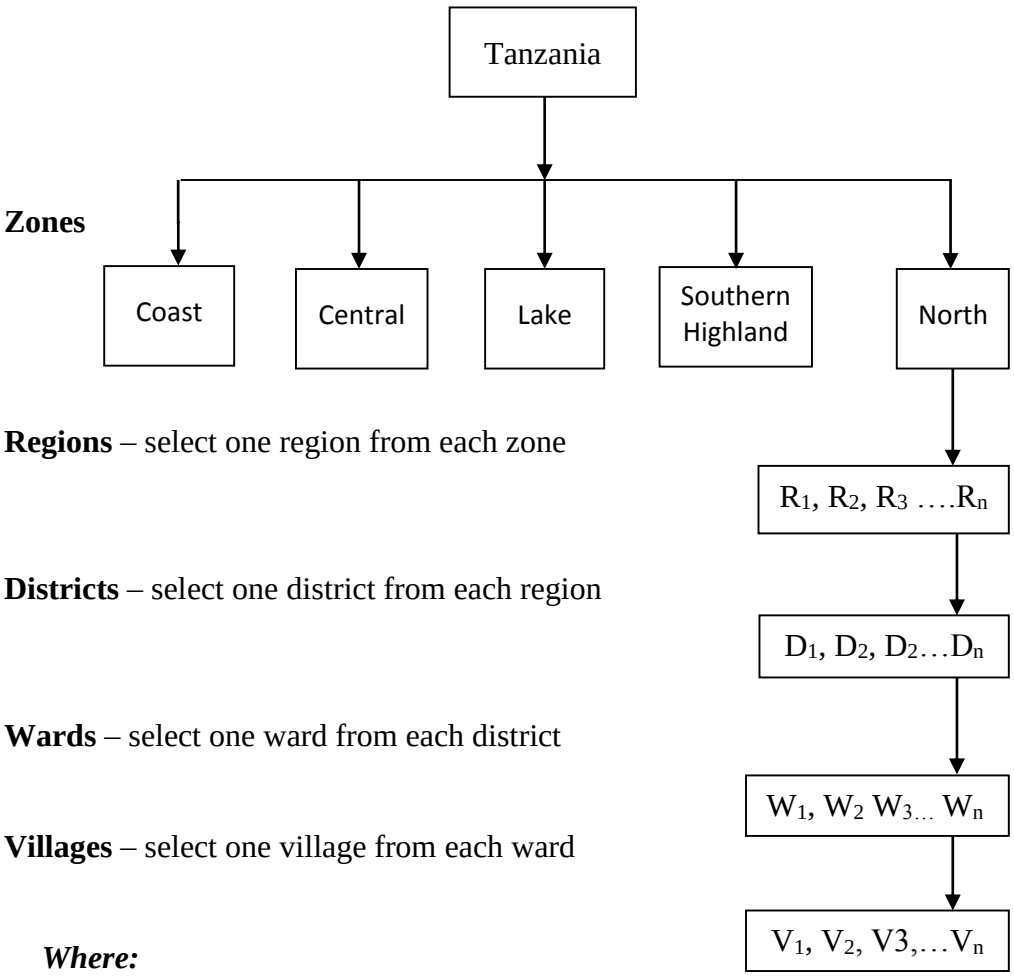


Figure 3.2: Simplified Sampling Procedure of Present Research

The sampling frame of household was developed in partial units (village level) with the assistant of village leaders (local government secretary). The household list was used as current study's reference because official records pertaining to local residents' involvement in financial services are not available. The selected village leaders had given the list of households in the village, verifying smallholder farmers' names and their contacts or physical address. The verification was imperative to have a list of households that qualified for participating in the survey.

In addition, verification helped to ensure the correct and updated contacts were available such that the questionnaire distribution process and time could be minimised. In brief, data facilitators were able to make appointment with each respondent prior actual visit. According to the list, on average the household size in Tanzania is 5 persons (National Bureau of Statistics, 2013b). The head of the household completed the survey instrument. Table 3.2 indicates the specific units selected from each zone. The next section provides an account of the survey instrument used to collect data from selected respondents.

Table 3.2: Units Selected from each Zone

Zones	Region	District	Ward	Village
Lake Zone	Shinyanga	Msalala	Busangi	Nyamigege
Southern Highlands Zone	Mbeya	Mbeya Rural	Inyala	Inyala
Coast Zone	Coast	Kibaha	Ruvu	Minazi Mikinda
Central Zone	Dodoma	Chamwino	Buigili	Chinangali
Northern Zone	Kilimanjaro	Rombo	Makiidi	Maharo

3.4.5 Data Collection Method

A quantitative approach using questionnaire survey was adopted in this study to obtain the sample data from the smallholder farmers in Tanzania's rural areas. The survey method is commonly used in social sciences research. It is appropriate in this study because it provides quick response and possible to collect data from large number of smallholder farmers in Tanzania (Ali et al., 2014; Sekaran, 2003).

Different methods could be employed to distribute questionnaires: (1) face to face questionnaire distribution; (2) drop-off and pick-up surveys; (3) mailed and telephone surveys; and (4) web based survey. Methods such as mailed surveys have been criticised on the grounds of low response rate and large number of incomplete surveys returned.

To minimise the weaknesses that is prevalent in other methods this study adopted drop-off and pick-up (DOPU) self-administered survey questionnaire method. The method is appropriate in minimizing the possible nonresponse bias and enhancing response rate (Allred & Ross-Davis, 2011; Douglas, Westley, & Chaffee, 1970). The method is suitable for the rural areas where infrastructure is relatively poor and other methods like mail or telephone could result less responses (Trentelman, Irwin, Petersen, Ruiz, & Szalay, 2016). In addition, DOPU method permits the researcher to determine the eligibility of the survey respondents. To ensure the instrument used in this study is valid and reliable for data collection, the following section describes different approaches involved to develop research instrument.

3.5 The Present Research Instrument Development

This section provides details about the development of the survey questionnaire used for collecting quantitative data from smallholders in Tanzania. The development involved selection of appropriate items, expert review, pretesting and pilot testing of the survey instrument.

3.5.1 Development of Measurement Items

Items used to measure each construct of present study's research model were adapted from previous related studies (Ajzen, 1991). The statements' wordings were modified without distorting the initial measurement meaning for each item. Recycling past studies statement's wordings may not be suitable for respondents originated from different studies locations. Respondents may interpret a statement's meaning differently and therefore current study variables' items were carefully modified so that the original meanings could be maintained.

The developed research instrument used 5-points likert scale to measure the items of each construct, that were anchored by strongly disagree (1) to strongly agree (5). This study selected the 5-point likert scale because they permit the smallholder farmers to express the direction and strength of their opinion regarding their intention to use microfinance services (Garland, 1991). The use of scale that was greater than 5-point could be too complicated for smallholder farmers to comprehend since most of them had moderate education (primary or secondary). The questionnaire was structured into two major sections: (1) to collate fundamental information about the smallholder farmer that include age, marital status, gender and education; and (2) the smallholder farmers' opinion about their intention to use microfinance services. Table 3.3 shows 36 modified statements that were used in this study.

Table 3.3: The Constructs and Measurements of Present Study

Constructs		Items
Perceived barrier	PB1	I may lose some of my personal time to service the loan due to short repayment period in microfinance[n3]
	PB2	It may take me too much time to learn how to use microfinance services [1,n]
	PB3	The time taken to apply the service and adhere to the procedures while using the loans could be used on other beneficial farming activities [n3]
	PB4	I may lose my money or belongings if one of the group members failed to settle his/her micro loan [a]
	PB5	Using formal microfinance services could be costly to me because of charges such as interest rates and service charges [n4, v]
	PB6	I am not sure whether I could receive the microfinance loans at the time that I need it most [v]
Perceived benefit	PBE1	Using microfinance services would enable me to accomplish my financial needs quickly without producing formal documents like financial statements and valuation reports [a]
	PBE2	Microfinance services may offer me the best alternative source of financing that could unleash my financial problems [n]
	PBE3	Microfinance services could offer me a wider range of financial services such as micro-loans, micro-insurance and savings [a]
	PBE4	Microfinance services could increase the farming's productivity and sustainability [r]
	PBE5	Conventional collateral for the application of microfinance services may not be required [r]
Attitude	Att1	I believe using microfinance services to meet my financial transaction needs is a wise idea [a, f, g, h,]
	Att2	I think the procedures in getting microfinance services are simple [f, g,]
	Att3	The loan recovery process in microfinance services would be less harassing to me compared to other alternatives [a, g, h]
	Att4	I think only few procedures are required to obtain the microfinance services [a, h]
	Att5	Microfinance services would allow me to manage my financial affairs better [p]
	Att6	Using microfinance services to enhance the agricultural productivity is a good idea [a, f, g, h,]
	Att7	In my opinion, it is desirable to use microfinance services to meet financial transaction needs [a, h]
Subjective norms	SN1	People who are important to me feel that I should use microfinance services [a, f, g, I]
	SN2	People whose opinions are valued to me feel that I should use microfinance services [a, g, i]

Continued next page

	SN3	I may use microfinance services if my friends and loved ones encouraged me to use it [a]
	SN4	People who could influence my decision think that I should use microfinance services [a]
	SN5	I may use microfinance services if my friends and loved ones encouraged me to use it [b]
	SN6	Most members of my family think I should use microfinance services [n2]
Perceived behaviour control	PBC1	I think that I have the basic knowledge on how to use microfinance services to improve my agricultural business [f, p]
	PBC2	I think that I would be able to learn on how to make use of the microfinance services in developing my agricultural business [p]
	PBC3	I think that I have the basic resources (such as land) and ability to utilise the loans [g]
	PBC4	I think it is within my control on whether to use or not to use microfinance services to improve farming productivity [a, g]
	PBC5	I may feel comfortable during the tenure of microfinance services [y]
	PBC6	I would be able to use microfinance services to improve farming activities [a, f, g,]
Behavioural intention	BI1	I would use microfinance to meet my financial needs [a, h, i]
	BI2	I plan to use microfinance services in the future as the best alternative source of financing farming activities [j, p]
	BI3	I believe it is worthwhile for me to use microfinance services [j]
	BI4	In the near future, I may apply the microfinance services [b, j]
	BI5	I would prefer to use formal microfinance services rather than informal ones to meet my financial needs [b, i, h]
	BI6	I intend to learn more about microfinance services [p]

Source:

[a] Lee (2009)
[b] Mbawuni & Nimako (2015)
[c] Laroche, McDougall, Bergeron, & Yang (2004)
[d] Forsythe, Liu, Shannon, & Gardner (2006)
[e] Abzakh, Ling, & Alkilani (2013)
[f] Rouibah, Ramayah & May (2011)
[g] Wu, Li & Fu (2011)
[h] Nasri & Charfeddine (2012)
[i] Yu (2011)
[j] Siddik, Sun, Yanjuan & Kabiraj (2014)
[k] Teo & Pok (2003)
[l] Hassan, Kunz, Pearson & Mohamed (2006)
[m] Ibrahim, Suki & Harun, (2014)
[n] (Leung et al., 2012)
[n2] (Xiao & Wu, 2008)
[n3] (Humaidi & Balakrishnan, 2015)
[n4] (Porter & Donthu, 2006)
[o] Yang, Pang, Liu, Yen & Michael Tarn (2015)
[p] Deng, Mo & Liu (2013)
[q] Al-smadi (2012)
[r] Kim, Ferrin, & Rao (2008)
[s] Aboelmaged & Gebba (2013)
[t] Zhang, Tan, Xu, & Tan (2012)
[u] Alsmady, Rahman and Muhammad (2014)
[v] Jebarajakirthy and Lobo (2014)
[w] Oliveira, Faria, and Abraham (2014)
[x] (Lu, Huang, & Lo, 2010)
[y] (H.-F. Lin, 2007)
[z] (Masoud, 2013)
[z1] (Patel, Schofield, Kolt, & Keogh, 2012)
[z1] Malebana (2015)

3.5.2 The Experts' Review

The initial research instrument was given to experts from the banking industry and academics to assess the content validity and face validity of the items used to measure each studied variable in this study's instrument. Content validity demonstrates the extent to which the measurement items for a particular construct adequately represent the domain of interest (Polit & Beck, 2006). The content validity is measured by using the content validity index (CVI) that is computed as an average of experts' opinion ratings on the relevance of each item to measure a construct. The content validity was necessary to be examined because the adapted items were used in a different context. Thus, this study used content validity index to measure the degree of relevance for each item so as to determine content validity (Parsian & Dunning, 2009).

The consulted experts involved three academicians and three experienced experts from banking industry. They were requested to evaluate each measurement item by determining its content validity and to provide appropriate recommendations. Based on CVI, a total of 36 items were assessed but seven items were removed because they did not achieve the required threshold of 0.8 (Ozsoy & Erkin, 2012). Subsequently, 29 items that adequately satisfied the CVI criteria were retained for this study (See Appendix B4).

3.5.3 Research Instrument Translation

After getting experts' review, the measurement items were translated by linguistic experts from English to Tanzanian national language (Swahili). The translation was necessary because smallholder farmers' proficiency in English is low as most of them only received primary education. Although both Swahili and English are used as official languages in Tanzania; majority of rural people can mainly write and speak the national language (Swahili).

Two experts from the local universities in Tanzania were involved to translate the instrument from English to Swahili independently. Because two distinct experts did the translation, hence the present researcher synchronized the Swahili version from the linguist's experts. After that, the Swahili version was given back to each translator to confirm whether the synchronised version was in a good order. Few improvements were made based on each translator's suggestions.

In addition, one expert from a local university in Tanzania was requested to do back translation (Swahili to English). Back translation was imperative to confirm the quality and accuracy of the original questionnaire's language was maintained (Bulmer & Warwick, 1993). The results indicated that translation matched the original version. Therefore, the Swahili version was adopted for the purpose of the present study.

3.5.4 The Pretest of the Research Instrument

Pretest was conducted to improve the questionnaire's wordings, tenses and to determine the time required for the completion of one questionnaire (Rouibah et al., 2011; Sekaran, 2003). Another purpose of carrying out the pretest was to ensure respondents in the main study could interpret the questionnaire's statements indifferently (Rouibah et al., 2011; Sekaran, 2003).

The questionnaires were distributed to 50 smallholder farmers for pretesting purpose. Responses received from such sample size was sufficient for the purpose of refining the questionnaire's statements for each item (Hair et al., 2007; Presser et al., 2004). The selected farmers were noted for the purpose of pretest and they were requested to write their suggestions on ways to improve the statements.

The pretest was carried out at Ruvu-station in Kibaha district, which is located in one of the studied regions (Coast region). The survey questionnaire was administered using drop-off and pick-up survey where 42 out of 50 questionnaires were returned. The results indeed were useful for present author to improve the questionnaire statements' wordings, format and tenses.

Majority of the respondents were satisfied with the length of the questionnaire, clarity and its layout. However, abbreviations regarding the extent of agree or disagree which was shown in the pretest questionnaire were suggested to be rewritten by using full term. The pretest results indicated the participants could

complete the research instrument within 20 minutes. Following the pretest, the pilot study was carried out using the improved questionnaire (see Appendix B4).

3.5.5 Pilot Study

Pilot study is used to test the validity and reliability of the measurement items used in this study and to identify any potential problem. It enabled the present author to become more familiar to studied respondents' culture.

3.5.5.1 Pilot Study Data Collection

To carry out a pilot study, a minimum sample size of 200 smallholder farmers was required for statistical analysis (Kline, 2011). Responses received from such sample size were adequate for current researcher to further understand the studied respondents' behaviour and to measure the reliability of questionnaire (Bartlett, Kotrlik, & Higgins, 2001; Gie Yong & Pearce, 2013).

Data for pilot study was collected from smallholder farmers at Ubetu village in Rombo district (Kilimanjaro). The ward (Ubetu/Kahe) in which Ubetu village is located was only used for pilot and was excluded in the main survey. As the pilot study was carried out to validate each measurement items, only one region (Kilimanjaro) was randomly selected from one of the five zones that were selected in this study.

The researcher obtained the list of smallholder farmers' household from the village leader (local government secretary) in which, 225 household were randomly selected. Multi-stage random sampling was employed to select respondents (see Section 3.4). In each of the selected household, the head of the family was requested to complete the questionnaire.

3.5.5.2 Pilot Study Results

A total of 151 out of 225 (or 67%) distributed questionnaires were returned. Out of 151 questionnaires, seven responses did not answer all the statements that were used to measure the studied variables' item. Seventy four questionnaires were not returned and the reasons given include busy with farming or domestic activities.

The identified missing values were imputed using expectation maximization (EM) method (Newman, 2014). The imputations were performed after establishing the values were missing completely at random (MCAR). MCAR little test was used to determine missing values pattern in which the value of chi-square was 162.364 (df =168, $p>0.05$). Thus, MCAR was confirmed to be missing completely at random because chi-square test results were non-significant at 5% level of significance.

3.5.5.3 Multicollinearity Assessment

Variance inflation factor (VIF) and tolerance value (TV) were employed to examine the correlation among the constructs. A high level of correlation is not acceptable because it affects statistical estimates such as standard errors. Following the assessment, the values for VIF and TV for each studied variable was less than 10 and exceeded 0.1 respectively (see Table 3.4) (Hair, Babin, Money, & Samouel, 2003). To illustrate, if the correlation between two latent variables exceed 0.9, it signifies presence of multicollinearity. Thus, TV is computed by subtracting 0.9 from a unit that results a value 0.1. Hence, the findings show that there was no evidence about the presence of multicollinearity in the pilot study.

Table 3.4: Tolerance Value and Variance Inflation Results

Variables	Tolerance	VIF
Perceived barriers	0.973	1.028
Perceived benefits	0.943	1.061
Attitude	0.967	1.034
Subjective norms	0.948	1.054
Perceived behaviour control	0.976	1.024

3.5.5.4 Normality Assessment

Normality on data distribution is a pre-requisite for the conduct of maximum likelihood estimation method in AMOS (see Section 3.7.7). Table 3.5 indicates that the highest absolute value for Skewness and Kurtosis of each measurement item is 1.63 and 3.7 respectively, which are within the threshold values of 3 and 10 (Kline, 2011). This confirms that the pilot data was normally distributed.

Table 3.5: Normality Assessment

Variable	min	max	skew	c.r	kurtosis	c.r
PBC4	1	5	-1.49	-7.47	2.26	5.68
PBC3	1	5	-1.60	-8.03	2.80	7.03
PBC2	1	5	-1.29	-6.48	1.10	2.75
PBC1	1	5	-1.63	-8.18	2.30	5.77
BI3	1	5	-1.36	-6.80	1.76	4.42
BI2	1	5	-1.39	-6.97	1.15	2.89
BI1	1	5	-1.60	-8.03	3.72	9.34
SN4	1	5	-1.27	-6.37	0.31	0.76
SN3	1	5	-1.01	-5.08	-0.11	-0.26
SN2	1	5	-1.02	-5.11	-0.09	-0.22
SN1	1	5	-0.84	-4.20	-0.44	-1.09
ATT5	1	5	-1.25	-6.25	0.75	1.88
ATT4	1	5	-1.50	-7.53	1.55	3.88
ATT3	1	5	-1.10	-5.51	0.09	0.22
ATT2	1	5	-0.92	-4.60	-0.33	-0.84
ATT1	1	5	-0.49	-2.43	-1.05	-2.62
BE5	1	5	-1.47	-7.39	1.66	4.16
BE4	1	5	-1.51	-7.58	1.94	4.87
BE3	1	5	-1.30	-6.52	1.06	2.66
BE2	1	5	-1.63	-8.18	2.03	5.08
BE1	1	5	-1.15	-5.75	0.23	0.59
PB5	1	5	-0.86	-4.32	-0.50	-1.26
PB4	1	5	-0.94	-4.73	-0.12	-0.29
PB3	1	5	-0.76	-3.79	-0.85	-2.13
PB2	1	5	-0.86	-4.30	-0.60	-1.50
PB1	1	5	-0.78	-3.89	-0.65	-1.63

Note: c.r = critical region; Att: Attitude; SN: Subjective norms; PBE: Perceived benefits; BI: Behavioural intention; PB: Perceived barriers; PBC: perceived behaviour control

3.5.5.5 Validity and Reliability of the Research Instrument

The framework of TPB is a long established model that has been modified by many studies so that the constructs' items could better reflect the context of different studies and understood by different respondents. As past studies instrument's statements that were used to measure each construct's items had been adapted in this study by academic and industrial experts, CFA is used to assess their validity and reliability.

Table 3.6 shows the validity and reliability results of current research instrument. Three items used to measure different construct were omitted from the model because the factor loading values were below 0.5 (see Table 3.6) (Hair et al., 2003). The items are: (1) I may feel comfortable during the tenure of microfinance services; (2) People whom I loved could influence me to use microfinance if the service had proved to be useful in meeting their financial needs; and (3) I would prefer to use formal microfinance services rather than informal ones to meet my financial needs. Despite the measurement items being used in previous studies yet in this study, they had low factor loading possibly due to context difference from the past studies. Thus, the omitted items could not represent clearly the content domain of their respective constructs (Hinkin, Tracey, & Enz, 1997). Current researcher made only minor changes about statement wordings and tenses for some items after the pilot study.

After omitting the items, 26 items were retained for the main study and unidimensionality was achieved as the factor loading values for other items ranged from 0.6 to 0.91 as shown in table 3.6. Convergent validity was achieved as well because the average variance (AVE) and composite reliability (CR) scores were above 0.5 and 0.7 respectively (Fornell & Larcker, 1981; Malhotra, 2012). The results imply that current items could provide sufficient account of the represented construct. The results confirmed satisfactory internal consistency of measurement items because of the acceptable level of AVE and CR (Liu et al., 2014). The findings support the consistency of answers provided by the respondents for each item in the questionnaire.

Table 3.6: Unidimensionality, Convergent Validity and Reliability

Construct	Item	Factor loading	CR	AVE
Perceived barrier	PB1	0.70	0.86	0.55
	PB2	0.80		
	PB3	0.73		
	PB4	0.71		
	PB5	0.76		
Perceived benefit	BE1	0.62	0.87	0.57
	BE2	0.82		
	BE3	0.75		
	BE4	0.83		
	BE5	0.74		
Perceived behaviour control	PBC1	0.70	0.81	0.51
	PBC2	0.63		
	PBC3	0.79		
	PBC4	0.74		
	PBC5	0.47*		
Attitude	ATT1	0.63	0.86	0.56
	ATT2	0.88		
	ATT3	0.69		
	ATT4	0.73		
	ATT5	0.79		
Subjective norms	SN1	0.76	0.86	0.61
	SN2	0.91		
	SN3	0.74		
	SN4	0.70		
	SN5	0.33*		
Behavioral Intention	BI1	0.60	0.75	0.51
	BI2	0.66		
	BI3	0.86		
	BI4	0.41*		

Note: *: Deleted AVE: Average variance extracted CR: composite reliability

In addition, the finding also indicates that the square root of AVE was higher than the correlation between any two constructs (see Table 3.7). This confirmed that the measurement items of particular construct were different from the measures of other constructs of this study.

Table 3.7: Discriminant Validity

Construct	BI	PB	PBE	Att	SN	PBC
BI	**0.714**					
PB	-0.017	**0.740**				
PBE	0.289	0.043	**0.758**			
Att	0.173	0.128	0.180	**0.747**		
SN	0.235	0.113	0.209	0.011	**0.780**	
PBC	0.298	0.011	0.154	0.086	0.159	**0.717**

Note: Att: Attitude; SN: Subjective norms; PBE: Perceived benefits; BI: Behavioural intention; PB: Perceived barriers; PBC: perceived behaviour control

In summary, the findings indicate that validity and reliability of items that have been used to measure each construct were satisfactorily achieved. The next section presents details of the data collection methodology that used the final questionnaire with 26 measurement items (see Appendix B5-6).

3.6 Data Collection Methodology

Data for the main study was collected from mid of August to October, 2016 for a period of 8 weeks because it coincided with dry season in most parts of Tanzania (Abass et al., 2014). This made possible for data facilitators to reach the residential areas of the smallholder farmers easier than rainy seasons as the road infrastructure is poorly constructed in rural areas.

The data collection exercise involved three research assistants who were fresh bachelor degree graduates. The number of facilitators was adequate as the data collection time period in each study location was not overlapping. Fresh graduates were selected because they can be trained within short period. Their main duties involved (1) clarify the questionnaire's statements or areas that required further explanation; and (2) facilitate the respondents to provide true

answers without delivering bias gestures or guidelines that could mislead the respondents in completing the questionnaire.

Laptops and mobile phones were given to facilitators for data recording and communication respectively. Respondents were provided with pencils by the facilitators to fill up the questionnaires as the survey was administered by using drop-off and pick-up (DOPU) method. Some farmers could not complete the questionnaire immediately because they were busy during daytime and only willing to complete at their free time. Therefore, current researcher and assistants had to collect the answered questionnaire at farmers' convenience.

To reduce non sampling error, the questionnaires were distributed by meeting the selected farmers physically. Thus, it was possible for research facilitators to determine the eligibility of the respondents. In addition, the respondents could get verbally the details about the research purpose and significance of their participation in the survey. Although the cover letter was attached, verbal communication enhanced the participants' interest in filling the questionnaire.

A total of 600 questionnaires (See Equation 3.4) were distributed to randomly selected smallholder farmers from villages located in each zone (see Section 3.4.4 that has described in detail of the sampling design). Equation (3.3) shows that the total number of distributed questionnaires was determined based on minimum sample size required in relation to pilot study response rate (Dwivedi, 2005).

$$Total\ sample\ size = \frac{Estimated\ sample\ size\ for\ the\ present\ study}{Pilot\ study\ response\ rate} \quad (3.3)$$

$$n = \frac{400 * 100}{67} \quad (3.4)$$

$$\approx 600 \text{ smallholder farmers}$$

Following the distribution of the 600 questionnaires, a total of 536 survey questionnaires were returned. The detailed analysis about the responses is given in chapter 4. Table 3.8 shows the number of distributed and collected questionnaires from each village.

Table 3.8: Response Pattern

Zones	Regions	Villages	SMF*	PSMF	QSD	QSC
Lake Zone	Shinyanga	Nyamigege	271,506	14%	84	76
Southern Highlands Zone	Mbeya	Inyala	522,864	27%	162	155
Coast Zone	Coast	Minazi Mikinda	221,671	12%	72	63
Central Zone	Dodoma	Chinangali	509,529	27%	162	137
Northern Zone	Kilimanjaro	Maharo	384,812	20%	120	105
Total			**1,910,382**	**100%**	**600**	**536**

Source: *National Bureau of Statistics (2014)
Note: QSD: Questionnaires distributed QSC: Questionnaires collected
SMF: Smallholder farmers PSMF: Proportion of smallholder farmers

3.7 Data Analysis Tools and Methods

Statistical package for social sciences (SPSS) is adopted to conduct data screening and various descriptive analyses such as data coding, identifying outliers, crosstabulation, and handling of missing data. SPSS is the common statistical software for data analysis used in different research disciplines

including information systems and social science studies (Zikmund, Babin, & Carr, 2013).

Structural equation modelling (SEM) is the key statistical techniques adopted in this study. SEM is used to test the hypotheses developed in this study based on TPB framework because: (1) it can estimate the inter-relationships among the latent variables simultaneously compared to first generation methods like ordinary least square (OLS) (Awang, 2015); (2) the measurement errors in SEM are not accumulated in a residual error term as it is for multiple regression (Karimimalayer & Anuar, 2012); (3) the mediation effects could be analysed more accurately with SEM compared to other statistical tools (4) the present study could analyse latent variables with multiple indicators (Cheung & Lau, 2008).

To achieve the present study objectives, the main statistical software used for data analysis and testing the present study hypothesis is analysis of moments structures (AMOS). AMOS is suitable for this study because it permits the conversion of the theoretical research model into AMOS graphic to facilitate the analysis and it does not require the author to write instructions using computer program (Awang, 2015). The software can model and analyse the relationship between the model latent constructs of the present study in an accurate, effective and efficient manner.

The maximum likelihood estimation (ML) method offered in AMOS software is chosen to estimate the parameters and testing the current hypotheses because

ML method can minimize the deviation between covariance and observed matrices, which will eventually improve the estimates of different parameters.

The sample size used in present study is 489 (more than 400) which is considered adequate if the observed variables are not normally distributed (Lei & Wu, 2007). ML method assumes no excessive kurtosis of the observed variables or they are normally distributed and adequate sample size (Reinartz, Haenlein, & Henseler, 2009). The extreme values of Kurtosis such as 20 are the ones that can affect the ML estimates.

Khine (2013) suggested that ML is an appropriate method to analyse non-normality data. If data is not normally distributed, researcher can further reconfirm the ML results by using bootstrapping method (Awang, 2015). If bootstrap results differ from ML results, bootstrap results should be used because the bootstrapped results would be more accurate as the method does not rely on the normality assumptions. The following sections discuss different statistical procedures conducted in order to achieve the present study objective.

3.7.1 Missing Values

Most survey based researches are likely to encounter incomplete data as either one or more respondents fail to respond about one or more survey items (Newman, 2014). Therefore, it is imperative to employ appropriate statistical techniques to identify and rectify the missing values. Present author handled the missing data based on the pattern of missing values.

Missing data could occur in three different patterns: (1) missing at random (MAR); (2) missing completely at random MCAR and (3) not missing completely at random (NMCAR) (Acock, 2005). In this study, the missing value analysis tool is used to identify the observed variables with missing data. Following that, little's MCAR test is used to determine the mechanism of missing data. If the result obtained from little's MCAR test yield a non-significant Chi-square at 5%; that would mean the data missing pattern is under MCAR.

3.7.2 Missing Values Estimation Methods

Different methods are proposed by researchers to alleviate problems of missing data. Although there is no specific guide for the amount of missing data but many researchers agree most of the statistical approaches would produce reliable results provided the missing data is less than 10% of all data (Chandio, 2011; Schlomer, Bauman, & Card, 2010). Hair Jr, Hult, Ringle, and Sarstedt (2014) suggested deletion of the observations from data set if the missing values are more than 15%. In this study, missing data are appropriately treated because they might lead to bias parameter estimates (Newman, 2014). Further, the meaning of the results obtained could be affected in case respondents with missing data are eliminated from the analysis without justification.

Many approaches have been suggested to deal with missing data. Conventional statistical methods such as list-wise deletion, mean substitution and regression based method would eliminate missing cases completely and this could

contribute to substantial loss of information. Other methods could be the application of model based methods such as maximum likelihood (ML) that uses expectation maximization (EM) algorithm and multiple imputations (Chen & Little, 1988).

Modern methods such as model based and multiple imputation methods were recommended because the methods could minimise the loss of data and thus, the results should be more reliable (King, Honaker, Joseph, & Scheve, 2001; Pampaka, Hutcheson, & Williams, 2016). A model based approach is appropriate in this study as imputation of missing data takes into account all data given by a specific respondent.

In summary, missing values in present study would be handled using expectation maximization method (EM) which uses the maximum likelihood (ML) approach. This is because the methods minimise the loss of data that could affect the estimation of parameters.

3.7.3 Data Screening for Outliers

Present author found that some observations in the current data set are distinctly different from other observations. Outliers are appropriately handled in this study because their presence could influence the validity of the research results (Hair et al., 2003). As this study is using SEM, the outliers may affect the parameter estimates and achieving model fit analysis. There are various causes of outliers where the typical ones include data collection or data entry errors.

Two types of outliers could occur in this study: (1) univariate outlier where a case has extreme value on a single variable; (2) multivariate outlier which results from a case having outlier in two or more variables (Kline, 2011). The univariate outliers can be identified using different diagnostic tools such as frequency distributions; box and whisker plots.

According to Kline (2011) there is no agreed standard of extreme values, but a rule of thumb suggests a score of three standard deviation from the mean indicates it is an outlier. In this study, a likert scale of 5-points is used that range from strongly disagree (1) to strongly agree (5). For this kind of scale the responses might appear as outliers because they are extreme values in the scale. Thus, for the cases having such scenario in this study, they are not considered as univariate outlier.

This study employs squared Mahalanobis distance (D2) test to investigate the presence or absence of multivariate outlier. The test measures how far in terms of standard deviation units among each observation in relation to mean of all observations. The decision criterion depends on the value of D2 or the associated probability (P) generated by AMOS, statistical software used in this study. If D2 is large in one or more variables, outlier would be considered exist. If the associated probability is less than 0.001 ($p<0.001$), outlier would be considered exist as well.

In order to determine whether the outliers have influence in this study analysis, the cooks distance test is used. Outliers might have adverse effect in the analysis

only if the cooks distance exceeds 1.0 (Gaikar & Marakarkandy, 2015; Hjerpe, Hussain, & Phillips, 2015).

3.7.4 Data Distribution Assessment

In this study, normality of the data distribution is assessed because SEM assumes data is normally distributed. The non-normal data might yield false significant estimates as well (DeCarlo, 1997).. Normality reflects the shape of data distribution. The statistical estimates could be violated with the presence of outliers in the data set. Thus, outliers should be handled beforehand during data analysis because they could lead to false estimates and incorrect statistical inferences (Mahlanza, 2015).

Non-normality can be determined by inspecting the Skewness and Kurtosis of the data distribution. Skewness indicates the symmetry of the distribution while Kurtosis measures the flatness of the data. Thus, the coefficients of both Skewness and Kurtosis portrays the shape of distribution (Hair et al., 2003). The absolute values for Skewness and Kurtosis is zero for normally distributed data but rarely occurs in social science (Pallant, 2010). The values above or below zero indicates deviation from normality. However, previous studies suggest that if the highest absolute value of Skewness is 3.0 and kurtosis is 10.0, may not affect statistical results (Chandio, 2011; Mahlanza, 2015). To summarise, Skewness that exceeds 3.0 and kurtosis of more than 10.0 would signify the presence of non-normality in the data distribution (Chan & Bishop, 2013; Kline, 2011; Lee & Yom, 2013).

3.7.5 Multivariate Collinearity

Multicollinearity is investigated in this study because its presence could influence statistical significance and consequently validity of the prediction. High level of multicollinearity among the variables contribute to difficulties in assessing the unique contribution of each variable used in this study (Saunders, Lewis, & Thornhill Adrian, 2009). To assess effect of multicollinearity, this study examines variance inflation factor (VIF) and tolerance value (TV) among the variables. According to Samouel et al., (2003) the variables could be highly collinear if tolerance value is less than 0.1 or their respective variance inflation factor is greater than 10.

3.7.6 Method Variance

The method variance in this study is examined to ensure that the validity of the relationships between measures are not affected by measurement errors. The common method variance (CMV) refers to variance as the result of measurement methods rather than the constructs that measures represent (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The method variances are the main sources of measurement error in survey based studies.

The measurement error could be systematic measurement error or random measurement error (Meade, Watson, & Kroustalis, 2007). Both systematic and random errors could affect the conclusion regarding relationship about the measures and construct. But systematic measurement error which is associated

with method variance is more serious as it provides different account from the hypothesized relationships.

Previous studies indicate various sources of measurement errors which include measurement methods (Podsakoff et al., 2003). Furthermore, the studies showed that CMV could be the result of different factors which might include: (1) the use of same respondent for independent and dependent variable; and (2) characteristics of items used in a study (Meade et al., 2007).

To address CMV issue in present study, both procedural and statistical measures were considered. The procedural design involved the use of improved scale items and protecting anonymity of respondents. Respondents were assured that no right or wrong answers so as to minimize social desirability perception. In addition, the instrument was evaluated by experts, pretested and pilot study conducted to validate the instrument prior the main study. Although various measures were taken into account, still it was not ease to have one that met all the study requirements such as the use of different respondents for predictors and criterion variables (Meade et al., 2007).

Different statistical remedies are suggested to control CMV issues in survey based studies. Harman's single factor test is one of the commonly used methods in previous studies which tested whether the largest proportion of the variance can be accounted for by one factor (Krishnaveni & Deepa, 2013). The method involves the loading of studied variables into exploratory factor analysis (EFA).

The results would indicate the presence of CMV concern if a one factor explains more than 50% of the variance (Eichhorn, 2014).

Although Harman single factor was commonly used by many past studies, it is an insensitive test and does not provide statistical remedies, hence not adequate method to proof absence of CMV (Krishnaveni & Deepa, 2013). In this study, sophisticated common latent factor (CLF) method was used as it can provide suitable remedy for CMV. The method involves comparing the results produced in AMOS when the model has CLF and without CLF. According to Shu and Quynh (2015) the CMV could be a matter of concern if the difference of values for the variables in the model with and without CLF is more than 0.2.

3.7.7 Measurement Model

Confirmatory factor analysis (CFA) is a special statistical tool to validate the relationship between measurement items and latent variables. To run SEM analysis, CFA must be carried out to validate the measurement models prior building up the structural model (Awang, 2015). According to Kline (2011), CFA is an important tool to confirm the hypothesised relationships between measurement items and respective latent variables. To be more specific, CFA is carried out in present study to assess the unidimensionality, validity and reliability of the latent variables (Awang, 2015). The next section presents the discussion about the statistical procedures involved in assessing the measurement model.

3.7.7.1 Unidimensionality

In this study, unidimensionality is examined prior the estimation of reliability and validity of each item. Unidimensionality test involves the computation of factor loading value. If an item is introduced recently to measure certain construct, that item can be still considered as a reliable and valid item even though the factor loading value is below 0.5 (Awang, 2015; Kothari, 2004). For established items, the minimum acceptable threshold value is 0.6 to 0.99 (Awang, 2015). Kline (2011); Gie Yong and Pearce (2013) suggested that at least two items are required to measure a latent variable.

Although established items were used in this study, most of the items were modified to suit current research context and settings. Therefore, based on Awang's (2015) suggestion, current author maintained those items with factor loading value 0.5 and above. In addition, Awang's (2015) also suggested that the number of deleted items should be less than 20% of the total number of items that are used to measure the latent variables in a study. The latent variable shall be considered invalid if more than 20% of the items are deleted (Awang, 2015).

The assessment of unidimensionality involves a series rounds of processes. In the first round, those items that scored factor loading below 0.5 will be deleted. The process start with the lowest factor loading among the items assessed and re-run the model in every stage. The remaining items shall be tested in the second round to compute its factor loading values. Similarly, those items with factor

loading values less than 0.5 will be deleted. The process would continue until factor loading for each item achieves at least a value of 0.5 and above.

3.7.7.2 Convergent Validity

Convergent validity is used to determine the extent to which the measurement items that are meant to measure the same latent variable are correlated with each other. Convergent validity can be measured by running the following tests: average variance extracted (AVE), composite reliability (CR) and statistical significance of the measurement items (Hair et al., 2003). If the minimum AVE is 0.5 and the value of CR is at least 0.7, convergent validity thereby is achieved (Fornell & Larcker, 1981; Hair, Gabriel, & Patel, 2014). To illustrate, AVE with a minimum value of 0.5 implies that 50% of observed variable is accounted for by the underlying latent variable (Hair, Hult, et al., 2014). In addition all measurement items used in the present study should be statistically significant.

3.7.7.3 Discriminant Validity

In this study, the discriminant validity is investigated to establish the extent the measurement items of one concept differ from the measures of other constructs used in a study (Malhotra, 2012). To determine satisfactory discriminant validity is achieved in this study the values of AVE are considered. The square root of AVE values are normally compared with the correlation between the latent variables (Hair, Hult, et al., 2014). According to Fornell and Larcker (1981) the

square root of AVE should be higher than the correlation between each pair of constructs involved in the study.

3.7.7.4 Reliability

Reliability assessment is useful to test the consistency of present research findings (Hair et al., 2007). In detail, if a respondent is giving consistent responses towards all items that are used to measure a variable, internal consistency of the scale is thereby considered as satisfactory. This study adopts AVE and CR, which are commonly used to measure the reliability of the measurement items (Awang, 2015).

Because this study intends to generalise the result for rural smallholder farmers in Tanzania, reliability test is necessary. Similar to convergent validity practice, present study employs the minimum cut-off coefficient of 0.5 and 0.7 for AVE and CR respectively. In summary, both AVE and CR can be used to test the reliability and validity of studied items.

3.7.7.5 Model Fitness Indices

To determine how well the proposed model fits the sample data, different fitness indices are employed in this study. Absolute fit, parsimonious fit and incremental fit are the key categories of fit indices that can be used to assess model fitness (Hooper, Mullen, Hooper, Coughlan, & Mullen, 2008; Kline, 2011). To achieve model fitness for present study, all redundant items in the model are dropped.

After that, the modification indices and standardized residual covariance could further be examined to ensure model fit achieved. The modification indices and standardized residual covariance are normally investigated if after omission of the items, model fit could not be achieved. Thus, modification index helps to determine whether the items should be set as free parameters in case items indicate high modification index so as to improve model fitness.

Past studies recommended the use of at least one index from each category to measure model fit (Byrne, 2008; Hoe, 2008). Hooper et al., (2008) suggested that to minimize type 1 and type 2 errors, combination of indices from the three categories should be used. The following sections discus different indices adopted in each category and table 3.10 indicates the threshold for each index.

3.7.7.5.1 Absolute fit indices

To determine the overall model fit, the following absolute fit indices are examined in this study: (1) Chi-square; (2) goodness of fit index (GFI); (3) root mean square of error approximation (RMSEA); (4) standardized root mean square residual (SRMR); and (5) root mean square residual (RMR). Although chi-square is criticised by some authors due to various reasons such as sensitivity to sample size, the chi-square result needs to be reported in data findings because it is the base for most of other fit indices. It is also the only inferential statistic that assess the discrepancy between sample data and fitted covariance matrix while other indices are descriptive (Iacobucci, 2010).

As the current study's sample size (of 489) is large (more than 200), the chi-square test would likely indicate poor model fit even if model fits the sample data well (Hoe, 2008). Normally, model fit is achieved when the chi-square results are not significant and p-value exceeds 0.05. This is because chi-square reflects the absence of significant deviation between predicted and actual matrices. Therefore, because of the Chi-square shortcomings like sensitivity to sample size in evaluating the model other indices are usually considered along with it such as chi-square to degree of freedom (Hoe, 2008).

The study is assessing RMSEA because of its strength that confidence interval is computed around its value. RMSEA also adjusts the chi-square inclination to small sample size that leads to rejection of model that is using large sample (Teo, Tsai, & Yang, 2013). The model fit is achieved given the value of RMSEA is less than 0.08 (Schumacker & Loamx, 2010). Furthermore, GFI is evaluated as it provides information on how close the estimated population model reflects observed covariance matrix. Thus, GFI is considered to achieve the acceptable threshold if the minimum fit index score is 0.9 (Schermelleh-Engel, Moosbrugger, & Müller, 2003).

The model fit is determined based on the difference between the residuals of actual and predicted covariance. Ideally, satisfactory model is achieved when the difference is zero. According to Kline (2011), RMR with a value close to zero provides an indication of a good model fit. RMR usage may be limited because it is determined by using unstandardized variables that could be difficult to interpret if scales of observed variables are different. However, SRMR can

resolve such limitation and provides more meaningful interpretation. In addition, SRMR is useful to evaluate model fit due to its insensitivity to sample size relative to other indices under absolute fit (Hu & Bentler, 1998; Kline, 2011). Hooper et al., (2008); Kline (2011) have suggested the value less than 0.08 for either RMR or SRMR reflect satisfactory model fit achieved.

3.7.7.5.2 Relative fit indices

The following relative fit indices are usually estimated, based on the comparison of chi-square of the tested model and baseline model: (1) non-normed fit index (NNFI); (2) normed fit index (NFI); (3) adjusted goodness of fit index (AGFI); and (4) comparative fit index (CFI). CFI and NNFI are appropriate in this study because they are less sensitive to sample size compared to other indices like normed fit index (NFI) (Bentler, 1990; Hooper et al., 2008). Although AGFI is sensitive to sample size, but because of its historical significance in covariance structure analyses it is reported together with other indices.

3.7.7.5.3 Parsimonious fit index

The ratio of chi-square to degree of freedom provides useful information regarding the fit between data and model because its value does not depend on other indices. In this study, a chi-square to degree of freedom less than 3 is an acceptable indicator for model fit (Cangur & Ercan, 2015). Most of the fit indices suggested in this study are less sensitive to sample size, model misspecification and parameter estimates. In addition, the suggested indices are commonly used

and reported by most of the previous studies to examine model fitness (Saleh, 2006).

3.7.8 Structural Equation Modelling

As highlighted at the beginning of section 3.7, two steps approach are adopted for SEM analysis. The first step of SEM is considered achieved if assessments criteria for unidimensionality, validity and reliability of the measurement model are fulfilled. Subsequently, present researcher tests the structural model to evaluate the hypothesised relationships among the studied latent variables (Kline, 2011; Malhotra, 2012). The model fit indices (see Table 3.9) are evaluated as well to determine whether the hypothesised model fits research's sample data. In brief, direct and indirect relationship among the structural model constructs are examined only when the model fit has been achieved. Current results of the structural model testing are presented and discussed in the next chapter.

Table 3.9: Model Fit Index and Respective Level of Acceptance

Name of Index category	Index full name	Index name	Recommended criteria
Absolute fit	Chi-square	Chi-square	Chi-sq., df, P-value >0.05
	Goodness of fit index	GFI	>0.90
	Root mean square of error approximation	RMSEA	<0.08
	Root mean square residual	RMR	<0.08
	Standardized root mean square residual	SRMR	<0.08
Incremental fit	Adjusted goodness of fit index	AGFI	>0.90
	Comparative fit index	CFI	>0.90
	Normed fit index	NFI	>0.90
	Non-normed fit index	NNFI	>0.90
Parsimonious fit	Chi-square/degree of freedom	Chi-square/df	<3

3.7.9 Mediation Effects

The bias corrected bootstrapped test of significance is used to assess the mediation effects of perceived barrier and perceived benefits on behavioral intention through attitude towards use of microfinance services. Other methods that could be used to test for mediation effects include Sobel test and causal steps method (Baron & Kenny, 1986; Sobel, 1982). However, bias corrected bootstrapped test is more suitable for this study because it is less sensitive to sample size and has stronger statistical power to examine the mediation effects compared to other methods (Mallinckrodt, Abraham, Wei, & Russell, 2006; Shrout & Bolger, 2002). Furthermore, the method is widely used by researchers due to its accuracy and not much assumptions are needed which is applied in other approach like normal theory approach (Hayes, 2009).

Normal theory approach (NT) assumes that standard errors are symmetrically distributed around the estimated mediation impacts. However, NT approaches lack power to detect the real impact of mediation (true nonzero effect). In addition, some of the conditions for testing indirect effects in this theory have been criticised by previous researchers (Hayes, 2009). For example, contrary to Baron and Kenny (1986), mediation effect could exist even though there is no statistically significant direct relationship between predictor and dependent variable. Some studies chose to report partial or full mediation; however it is rare for the variables used in social sciences to be measured without errors.

Therefore, this study adopted bias corrected bootstrapping to minimise the problems of statistical power which is common in other methods such as normal theory approaches. The bootstrap method involves resampling over a number of times such as 1,000 times in which the research sample is used as a reservoir for drawing different samples with replacement (Hayes, 2009; Mallinckrodt et al., 2006). Bootstrapped sample forms the bootstrapped sample distribution that is used to estimate the confidence interval for a given population parameter.

The bias corrected bootstrapping allows the computation of lower and upper boundary and this could help researchers to ensure that the confidence interval does not contain zero, or become statistically significant (Fritz, Taylor, & Mackinnon, 2012). In summary, mediation effect is determined provided the indirect effect is statistically significant and the confidence interval (95%) does not include zero (Schleider, Patel, Krumholz, Chorpita, & Weisz, 2015).

3.8 Research Ethics

The data for present study was collected using survey questionnaire in which a number of ethical issues such as volunteerism and privacy had to be taken into account. Ethical issues are usually considered in different stages including research design stage, reporting and storage of the collected data (Saunders et al., 2009). Probability sampling technique was used to select the respondents of this study that ensured data was objectively obtained.

In accordance to Tunku Abdul Rahman Universiti (UTAR) procedures, the researcher had to obtain an ethical approval prior conducting field work because the research involved human subjects (see Appendix C1). Prior actual collection of the data in the selected rural areas in Tanzania, the researcher obtained data collection permit from the district executive officer (DED) (see Appendix C2).

The survey was accompanied with a covering letter that showed the study's objectives, voluntary participation mode and confidential treatment of the responses (see Appendix B1). In addition, respondents were required to endorse a consent form that stated their rights such as withdrawal from the survey any time without restrictions and confidentiality issues.

3.9 Summary of Research Methodology and Conceptual Framework

The main purpose of this chapter was to describe and justify the present research model, hypothesis development and research methodology used. Different

theories were reviewed (see Chapter 2) and present study has extended TPB framework so that the issues and research problem can be addressed comprehensively. To answer the present study's research questions, relevant hypotheses were developed. Quantitative approach was adopted because its procedure satisfies the need to generalise the results contrary to qualitative methods in which generalisation is not the main concern.

In developing appropriate measurement items that could map current study's context, present author requested relevant academic and industrial experts to assess the content and face validity in the preliminary stage. After amendments of the questionnaire's statements for each item according to the experts' advices, the research instrument was translated from English to Tanzanian national language (Swahili) so that rural farmers could understand the statements better and provide actual response. After the pre-test, pilot test was undertaken to ensure the items could be fully understood and answered by respondents of main study.

In the main survey, drop-off and pick-up (DOPU) self-administered method was adopted to distribute questionnaires to respective respondents, selected by using probability sampling technique. This method was adopted because the respondents of this study are living in rural areas where the infrastructure and communication channels are not properly developed. Present author managed to collect 489 (82%) completed questionnaires that were used for data analysis.

Present study involved descriptive and inferential statistical analysis. Descriptive statistics such as crosstabulation, frequencies and mean were examined by using SPSS software. Meanwhile, AMOS software was adopted to run the SEM analysis that is broken down into two approaches: measurement model analysis and structural model analysis. In addition, AMOS also allows researchers to convert theoretical model into AMOS graphics that could be easier for readers to view the strength of each structural relationship. Before running the SEM analysis, confirmatory factor analysis (CFA) was carried out to validate the measurement model prior modelling the studied constructs into a structural model. Upon getting a validated measurement model, SEM was employed to test the hypothesized relationship among the latent variables of present study's proposed model. SEM is used because of its ability to examine (1) multiple inter-relationship between the latent variables and their respective measurement items simultaneously; and (2) the mediation effects.

The ethical issues considered in this study were discussed in this chapter as well. The next chapter presents the findings and discussion of the main present study results.

CHAPTER 4

FINDINGS AND DISCUSSION

4.1 Introduction

This chapter reports and interprets the descriptive and inferential results. The chapter also provides the discussion of various statistical tests results that had been undertaken before building up the final measurement model and structural equation model (SEM) to confirm the hypothesized relationships of this study.

4.2 Survey Response Analysis

This study used drop-off and pick-up (DOPU) method to collect 536 out of 600 distributed questionnaires. Busy with farming or other activities was one of the main cause for not returning some of the distributed questionnaires. About 7.8% of the returned questionnaires were not suitable for statistical analysis. This is because, 36 respondents did not provide their perception for all studied variables and/or their demographic profiles. On top of that, 11 questionnaires were not answered at all and some of the respondents refused to answer the questionnaire if reward was not given to appreciate their co-operation.

Present author did not provide any gratuity to the respondents as this could entice them to provide unfaithful response. Facilitators tried to contact the respective respondents and request them to complete the questionnaire. Nevertheless, not

all respondents could be facilitated again because the questionnaire was handed over by another person, such as family members or friends. In summary, 489 answered questionnaires are statistically analysed in the present study.

4.3 Missing Data Analysis

In survey that involves large number of respondents, missing data is unavoidable as there are several possible sources of missing data (Allison, 2003). Incomplete data might cause bias to the estimation of population parameters (Allison, 2003; Newman, 2014). To solve this problem, the missing data analysis was carried out. Table 4.1 shows that 33 values were missing in 13 different identified variables which were equivalent to 0.26% of all values involved in the study. According to Chandio (2011); Schlomer, Bauman, and Card (2010), it is possible that most of the statistical analyses could still produce reliable results if the total missing values are less than 10%.

Table 4.1: Missing Values

S/no.	Result Variable	No. of Missing Values
1	PB1	1
2	PB3	1
3	PB5	7
4	BE2	1
5	BE4	3
6	BE5	4
7	Att2	2
8	Att4	2
9	SN2	1
10	SN4	2
11	PBC2	6
12	BI1	1
13	BI3	2
Total		33

4.3.1 Randomness of Missing Data

To evaluate the pattern of the missing data, little's Missing Completely at Random Test (or termed as little's MCAR test) was carried out. According to Pigott (2001), if the significant level of chi-square is greater than 0.05, the missing data can be considered as randomly distributed. The following results were generated after running MCAR little test: chi-square was 394.213 (df = 396, $p>0.05$). These results imply that the likelihood of the missing values on one variable is unrelated to either variable itself or other variables. In other words, the missing data pattern is confirmed completely random distributed. After establishing the pattern of missing data comply with MCAR Little's test, this study employed expectation maximization (EM) method to impute the missing values.

EM method is an appropriate remedy for missing data imputation because it could avoid substantial loss of information in computing the missing values (Pampaka et al., 2016). Thus, EM method is used to replace the missing data by using the imputed values. The result shows that the respective missing value of the means and respective standard deviation of the 13 variables had been assigned or imputed. For example, the missing value of variable PBE2 is now filled up and the current mean value for the variable is: 4.33 (see Table 4.2).

Table 4.2: EM Estimate Statistics

Variable	No. of items	Mean	Std. Deviation	Missing -Count
PB1	488	4.08	1.17	1
PB3	488	3.99	1.25	1
PB5	482	4.00	1.10	7
PBE2	488	4.33	0.81	1
PBE4	486	4.33	0.88	3
PBE5	485	2.99	1.43	4
Att2	487	4.14	1.04	2
Att4	487	4.18	1.03	2
SN2	488	3.73	1.17	1
SN4	487	3.76	1.25	2
PBC2	483	4.31	0.86	6
BI1	488	4.33	0.80	1
BI3	487	4.38	0.95	2
Total				33

Note: Att: Attitude; SN: Subjective norms; PBE: Perceived benefits; BI: Behavioural intention; PB: Perceived barriers; PBC: perceived behaviour control

4.4 Demographic Characteristics of Present Study's Respondent

Almost 56.9% of the respondents were primary educated (see Table 4.3) and this is consistent with the nation's statistical result: most of the rural residents in Tanzania managed to obtain primary school education. Relatively, more female respondents (59%) had returned the questionnaire compared to male (41%).

A large number of respondents were aged 18 to 34 (50%) and 35 to 64 (48%). Only 2% were aged above 65 years. This is consistent with United Republic of Tanzania (2013) report that most of the workers in Tanzania were aged within 15 to 64 years. The high percentage of productive workers in rural areas implies that by encouraging more rural farmers to adopt microfinance services, their living standard can be improved by helping them to produce more farming outputs; even though a large number of them were only receiving primary education. Furthermore, majority of the respondents were married (68%).

Therefore, the increased usage of financial services to rural farmers is imperative as the married farmers need to meet their family's financial commitment (Kasoga, 2015) for survival and able to support their children's education expenses.

Table 4.3: Demographic Profile of Smallholder Farmer Respondents

Variable	Category	Frequency	Percentage
Age	18-34	244	49.9
	35-64	234	47.85
	65 or more	11	2.25
Gender	Female	288	58.90
	Male	201	41.10
Marital status	Single	158	32.31
	Married	331	67.69
Education	Primary	278	56.85
	Secondary	155	31.70
	Certificate	39	7.98
	Diploma	11	2.25
	graduate and above	6	1.23

4.5 Descriptive Statistics Results

Crosstabulation test was employed to examine the relationship between categorical data of the studied variables. The chi-square and correlation tests were used to investigate the statistical significance of the association among variables. To determine the strength of relationship among the nominal variables, Cramer's V in Chi-square statistics was evaluated. Cramer's V is appropriate in this study because it takes into account the dimension of tables used (Pallant, 2010). On the other hand, correlation between ordinal variables were examined by using Kendall's tau-c, which is appropriate for rectangular tables used in this study.

Items of the present study were measured by 5-points Likert scales, ranging from strongly disagree (1) to strongly agree (5). The mean score of each investigated variable is computed by averaging the scores of its respective items, which range from 1 to 5. However, in running the crosstabulation analysis, the mean scores or ratio data are transformed into three meaningful categories: disagree, neutral and agree, instead of using the original five categories. In addition, the three categories ensure all observations are included in the analysis following the computation of mean scores (Michael, 2001). The mean scores are re-categorised as follows: (i) 1-2.49 (disagree); (ii) 2.5-3.49 (neutral); and 3.5-5 (agree) (Ababneh, 2008; Al-Sharairi & Alsharayri, 2012; Mahasneh, 2016; Rajab & Nimehchisalem, 2016).

In this sub-topic, not all variables that are significantly associated are discussed in-depth. In other words, only those variables in which their categories are behaving differently towards another variable are discussed. For example, from the cross tabulation results shown in appendix D17, both males and females agreed that the items used to measure perceived barriers are their main concern. Therefore, planning a standard strategy can be adequate to reduce the effect of perceived barriers among the males and females farmers, instead of customizing certain strategy to suit certain gender.

On the other hand, if the examined categorical groups are behaving differently towards a variable (such as gender and PBC, in table 4.4), then a customized strategy may be needed to encourage certain category to behave positively toward PBC. The following sub-sections discuss the variables that are

significantly associated and the categories of the variables are behaving differently on another variable.

4.5.1 Association between Perceived Behaviour Control and Gender

Crosstabulation result shown in Table 4.4 demonstrates that 61% of the females agreed PBC is an important factor that can influence their usage of microfinance services compared to the males. Possibly, this might be due to level of education possessed by the female respondents in Tanzania (Magali, 2013; N. Mori et al., 2016). Being less educated, their basic knowledge on how to utilise the microfinance services in developing their agricultural business could be limited.

Table 4.4: Association between Perceived Behaviour Control and Gender

Gender	Details	Perceived behaviour control (PBC)			Total
		Disagree	Neutral	Agree	
Female	Count	8	19	261	288
	% within PBC	67%	37%	61%	59%
Male	Count	4	33	164	201
	% within PBC	33%	63%	39%	41%
Total	Count	12	52	425	489
	% within PBC	100%	100%	100%	100%
	Symmetric measure				
	Cramer's V				0.158
	Approx. sign				0.002

4.5.2 Association between Subjective Norms, Perceived Behaviour Control and Marital Status

Married respondents (71%) are relatively more sensitive towards the perceived social pressure that they could be facing if they use microfinance services (see Table 4.5). Possibly, this is because married farmers may need to consider

opinions given by their spouse, relatives (extended family) or family members before they can perform certain behaviour or act. In Tanzania, culturally a married woman must seek approval from husband or certain family members before committing herself for loans (Gobezie, 2011; Wachira, 2012).

Table 4.5: Association between Subjective Norms and Marital Status

Marital status	Details	Subjective norms			Total
		Disagree	Neutral	Agree	
Single	Count	26	34	98	158
	% within Subjective norms	46%	38%	29%	32%
Married	Count	31	56	243	330
	% within Subjective norms	54%	62%	71%	68%
Total	Count	57	90	341	488
	% within Subjective norms	100%	100%	100%	100%
		Symmetric measure			
	Cramer's V				0.13
	Approx. sign				0.02

Table 4.6 shows that married farmers (70%) are concerned with the effect that could be generated by perceived behaviour control. Generally, married farmers have more family commitments to be met such as household daily needs, family medical bills and payment of school fees for children relative to single farmers. Thus, compared to the single farmers, married farmers perceive that they are lacking adequate basic knowledge on how microfinance services can be used to improve their farming productivity.

Table 4.6: Association between Perceived Behaviour Control and Marital Status

Marital status	Details	Perceived behaviour control (PBC)			Total
		Disagree	Neutral	Agree	
Single	Count	6	26	126	158
	% within PBC	50%	50%	30%	32%
Married	Count	6	26	299	331
	% within PBC	50%	50%	70%	68%
Total	Count	12	52	425	489
	% within PBC	100%	100%	100%	100%
		Symmetric measure			
	Cramer's V				0.15
	Approx. sign				0.005

4.5.3 Association between Behavioural Intention, Perceived Behaviour Control and Education

Table 4.7 indicates that, if the highest education level attained by the farmers is primary or secondary levels, their intention to use microfinance is higher than those who are highly educated. Possibly, people with high level of education are more qualified to secure alternative sources of financial services on top of microfinance (Dimoso & Masanyiwa, 2008; N. Mori et al., 2016). On top of that, some of the graduate respondents may feel that microfinance services are established to serve those who are unqualified for conventional banking services such as low income and unemployed ones (Mlowosa et al., 2014).

Table 4.7: Association between Behavioural Intention and Education

Education	Details	Behavioural intention			Total
		Disagree	Neutral	Agree	
Primary	Count	3	13	262	278
	% within behavioural intention	25%	43%	59%	57%
Secondary	Count	8	12	135	155
	% within behavioural intention	67%	40%	30%	32%
Certificate	Count	0	2	37	39
	% within behavioural intention	0%	7%	8%	8%
Diploma	Count	1	1	9	11
	% within behavioural intention	8%	3%	2%	2%
Graduate and above	Count	0	2	4	6
	% within behavioural intention	0%	7%	1%	1%
Total	Count	12	30	447	489
	% within behavioural intention	100%	100%	100%	100%
		Symmetric measure			
	Kendal's tau-c				-0.048
	Approx. sign				0.018

Comparatively, tertiary educated respondents are less concerned about the influence generated by perceived behaviour control (see table 4.8). Possibly, the graduates might possess the essential financial knowledge and have more resources as compared to individuals with low level of education (Dimoso & Masanyiwa, 2008).

Table 4.8: Association between Perceived Behaviour Control and Education

Education	Details	Perceived behaviour control (PBC)			Total
		Disagree	Neutral	Agree	
Primary	Count	4	20	254	278
	% within PBC	33%	38%	60%	57%
Secondary	Count	4	23	128	155
	% within PBC	33%	44%	30%	32%
Certificate	Count	3	5	31	39
	% within PBC	25%	10%	7%	8%
Diploma	Count	1	1	9	11
	% within PBC	8%	2%	2%	2%
Graduate and above	Count	0	3	3	6
	% within PBC	0%	6%	1%	1%
Total	Count	12	52	425	489
	% within PBC	100%	100%	100%	100%
		Symmetric measure			
	Kendall's tau-c				-0.084
	Approx. sign				0.001

4.6 Assessment of Multicollinearity

Multicollinearity test was carried out to ensure that the studied independent variables are not highly correlated. According to Kline (2011) multicollinearity would affect the statistical results such as inflating the standard errors if the tolerance values (TV) are less than 0.1 and variance inflation factor values exceed 10. The inflated standard errors could trigger type II error (Hair, Sarstedt, Pieper, & Ringle, 2012). Table 4.9 shows the TV is greater than 0.1 and VIF is less than 10 for each variable. The result shows that the variables used in this study are not highly correlated.

Table 4.9: Tolerance Value and Variance Inflation Factor

Variables	Tolerance	VIF
Perceived barriers	0.947	1.056
Perceived benefits	0.820	1.219
Attitude	0.950	1.052
Subjective norms	0.896	1.116
Perceived behaviour control	0.821	1.217

4.7 Normality and Outliers Assessment

The score values for Skewness and Kurtosis were examined to check whether the data is normally distributed. Table 4.10 shows that the absolute values for Skewness and Kurtosis for each studied variable were 1.801 and 4.178 respectively. The results show that current study's Skewness and Kurtosis values were within the required threshold of less than 3.0 and 10.0 respectively (Kline, 2011). In summary, data for present study is normally distributed.

Table 4.10: Assessment of Normality

Variable	min	max	skew	c.r.	kurtosis	c.r.
PB1	1	5	-1.444	-13.040	1.137	5.130
PB2	1	5	-1.299	-11.725	0.744	3.356
PB3	1	5	-1.230	-11.101	0.359	1.619
PB4	1	5	-0.996	-8.995	-0.009	-0.039
PBE1	1	5	-1.828	-16.500	3.716	16.775
PBE2	1	5	-1.754	-15.838	4.178	18.860
PBE3	1	5	-1.801	-16.262	4.035	18.213
PBC1	1	5	-1.274	-11.499	0.983	4.438
PBC3	1	5	-1.252	-11.299	0.914	4.127
PBC4	1	5	-1.333	-12.033	1.224	5.524
Att1	1	5	-1.632	-14.733	2.594	11.711
Att2	1	5	-1.644	-14.839	2.396	10.816
Att3	1	5	-1.550	-13.995	2.281	10.294
Att4	1	5	-1.685	-15.208	2.544	11.483
Att5	1	5	-1.707	-15.410	2.803	12.654
SN1	1	5	-0.702	-6.336	-0.750	-3.387
SN2	1	5	-0.812	-7.330	-0.387	-1.748
SN3	1	5	-1.230	-11.108	0.510	2.301
SN4	1	5	-0.813	-7.342	-0.541	-2.444
BI1	1	5	-1.674	-15.115	3.690	16.656
BI2	1	5	-1.652	-14.914	3.883	17.529

Note: c.r = critical region; Att: Attitude; SN: Subjective norms; PBE: Perceived benefits; BI: Behavioural intention; PB: Perceived barriers; PBC: perceived behaviour control

Outliers were investigated in this study as their presence could affect the parameter estimates and achieving model fit as well. Therefore, Mahalanobis distance test indicated that 20 cases were outliers because the variable associated probability (P1) was less than 0.001 (see Table 4.11). In addressing the issue of outliers, the researcher employed Cooks test to determine leverage of the outliers on the statistical analysis (See Table 4.12).

Table 4.11: Observations Farthest from the Centroid (Mahalanobis Distance)

Observation number	Mahalanobis d-squared	p1
396	66.675	0.000
189	65.202	0.000
329	59.549	0.000
364	59.327	0.000
304	58.481	0.000
64	57.640	0.000
178	56.069	0.000
176	56.045	0.000
43	54.725	0.000
379	54.183	0.000
135	53.645	0.000
323	53.395	0.000
144	52.933	0.000
251	52.925	0.000
281	52.390	0.000
343	51.313	0.000
218	50.268	0.000
252	50.234	0.000
137	50.171	0.000
439	49.363	0.000

Note: P: Probability

Table 4.12 indicates the lowest and highest values for cooks test were less than 1.0, thus no case needs to be deleted because none of the 489 observations were outliers or had high leverage (Hjerpe et al., 2015). In summary, outliers have no effect in this study's statistical analysis.

Table 4.12: Cooks Distance Results

particulars	observations	minimum	maximum	mean	standard deviation
Cooks distance	489	0.001	0.078	0.003	0.007
Leverage values	489	0.001	0.061	0.010	0.009

4.8 Common Method Variance (CMV)

Measurement method variances can be the source of measurement errors for the present study because of the use of single informant and self-reported data. Hence, CMV test was conducted to ensure that the validity of the relationships between measures are not affected by measurement errors.

Although procedural design such as the use of improved scale items and protecting anonymity of the respondents were taken into account, still it was not ease to have one that met all the study requirements such as the use of different respondents for predictors and criterion variables. Therefore, the common latent factor, a statistical method is employed to control the common method variance as discussed below.

4.8.1 Common Latent Factor Method (CLF)

CLF method in the Confirmatory factor analysis (CFA) is an appropriate remedy for common method variance (CMV) (Bagozzi, 2011). The measurement model is run with and without CLF in the process of assessing and controlling the CMV effect. After obtaining the results, researcher compares the standardized regression weights obtained from measurement model with and without CLF. Table 4.13 indicates the difference obtained in the analysis is less than 0.2 which confirms the absence of common method variance in this study (Shu & Quynh, 2015).

Table 4.13: Standardized Regression Weights for Common Latent Factor

Variable	Estimates without CLF	Estimates with CLF	Delta
PB1	0.727	0.715	0.012
PB2	0.743	0.731	0.012
PB3	0.780	0.808	-0.028
PB4	0.571	0.578	-0.007
PBE1	0.763	0.740	0.023
PBE2	0.777	0.761	0.016
PBE3	0.698	0.671	0.027
Att1	0.762	0.757	0.005
Att2	0.814	0.803	0.011
Att3	0.769	0.778	-0.009
Att4	0.741	0.740	0.001
Att5	0.761	0.751	0.010
SN1	0.715	0.531	0.184
SN2	0.776	0.610	0.166
SN3	0.635	0.710	-0.075
SN4	0.710	0.762	-0.052
BI1	0.800	0.819	-0.019
BI2	0.716	0.691	0.025
PBC1	0.644	0.647	-0.003
PBC3	0.704	0.672	0.032
PBC4	0.784	0.773	0.011

Note: CLF: Common latent factor; Att: Attitude; SN: Subjective norms; PBE: Perceived benefits; BI: Behavioural intention; PB: Perceived barriers; PBC: perceived behaviour control

4.9 Assessment of Measurement Model

CFA is used in this study to validate the measurement model. The initial measurement model (see Figure 4.1) indicates that most of the model fit indices have not achieved the required threshold. Therefore, the validation process is undertaken to evaluate the unidimensionality, validity and reliability of the latent variables before modelling them in structural equation model (SEM). The details for the validation process are given after the following initial measurement model.

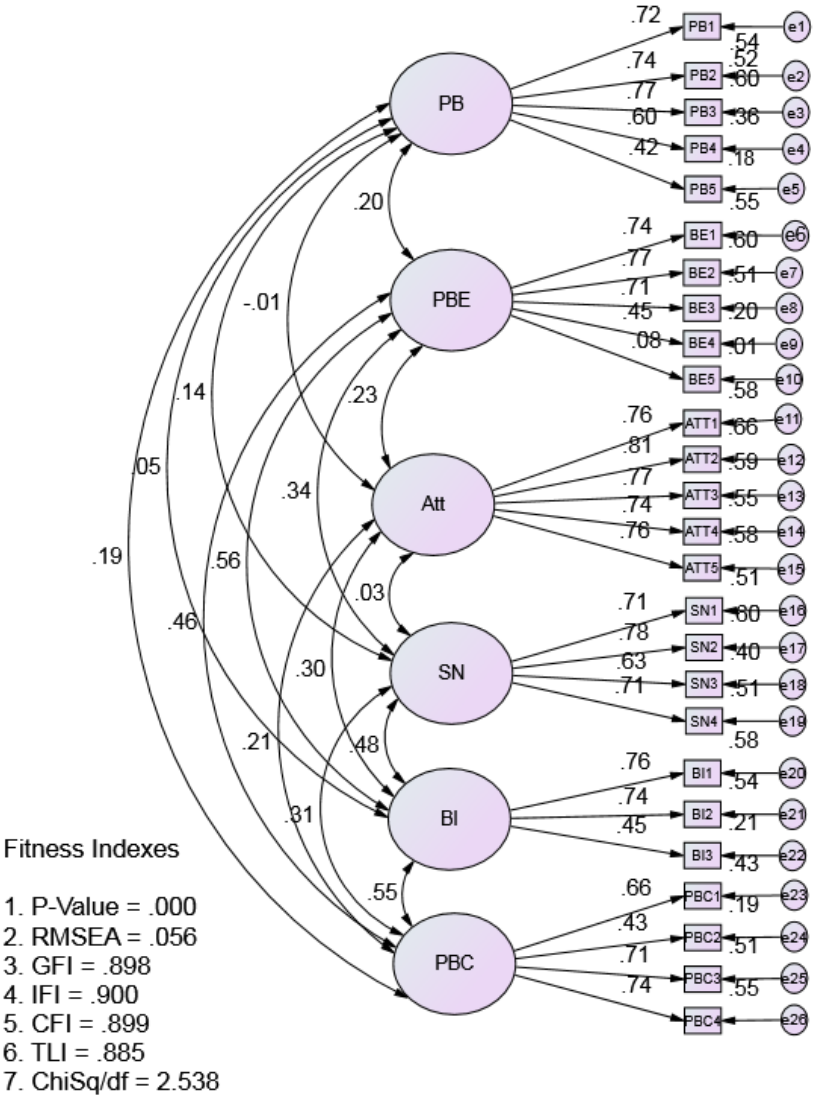


Figure 4.1: Initial Measurement Model

4.9.1 Unidimensionality Assessment

To achieve unidimensionality in this study, each item with low factor loading is removed from the measurement model and the CFA would be re-run until all items' new factor loading values are above the required threshold of 0.5 (Fornell & Larcker, 1981; Hair et al., 2007). Following that, five measurement items are

deleted from the model because of low factor loading scores (see Table 4.14). In addition, the minimum requirement of 2 measurement items for each latent variable was fulfilled (Kline, 2011; Makpotche et al., 2015; Porter & Donthu, 2006). Figure 4.2 indicates the final measurement model generated after addressing the issue of items having low factor loading.

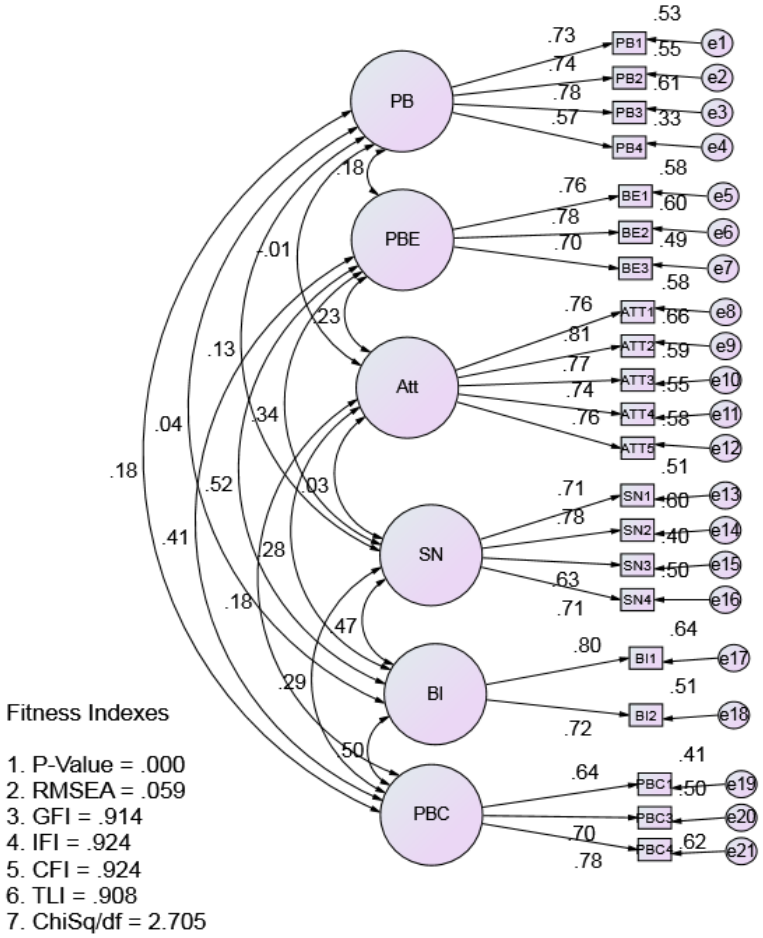


Figure 4.2: Final Measurement Model

Table 4.14 indicates that the following items were deleted because they failed to meet unidimensionality criteria: (1) I am not sure whether I could receive the microfinance loans at the time that I need it most, used to measure perceived barriers (PB5); (2) I think that I would be able to learn on how to make use of the microfinance services in developing my agricultural business , for measuring

perceived behaviour control (PBC2); (3) I believe it is worthwhile for me to use microfinance services, to measure behavioral intention (BI3); and (4) Microfinance services could increase the farming's productivity and sustainability (PBE4); and Conventional collateral for the application of microfinance services may not be required, to measure perceived benefits (PBE5).

Table 4.14: Measurement Items Loadings

Construct	Item	Factor loading
Perceived barrier	PB1	0.727
	PB2	0.743
	PB3	0.780
	PB4	0.571
	PB5	0.421*
Perceived benefit	BE1	0.763
	BE2	0.777
	BE3	0.698
	BE4	0.447*
	BE5	0.076*
Attitude	ATT1	0.762
	ATT2	0.814
	ATT3	0.769
	ATT4	0.741
	ATT5	0.761
Subjective norms	SN1	0.715
	SN2	0.776
	SN3	0.635
	SN4	0.710
Perceived behaviour control	PBC1	0.644
	PBC2	0.432*
	PBC3	0.704
	PBC4	0.784
Behavioral Intention	BI1	0.800
	BI2	0.716
	BI3	0.454*

Note: *: deleted item CR: Composite reliability AVE: Average variance extracted

4.9.2 Reliability Assessment

The internal consistency of the measurements used in this study is evaluated by assessing the composite reliability (CR) and average variance extracted (AVE). Table 4.15 shows that the study's CR score is more than 0.7, therefore the measurements have achieved the internal consistency requirements (Awang, 2015; Liu et al., 2014). Furthermore, the AVE scores that are greater than the minimum score of 0.5 (see Table 4.15) (Bagozzi, Baumgartner, & Yi, 1992; Fornell & Larcker, 1981) has supported the achievement of internal consistency. In summary, the CR and AVE results have shown that the respondents had provided consistent responses on the studied measurement items.

Table 4.15: Construct Reliability and Validity Indices

Construct	Composite reliability (CR)	Average variance extracted (AVE)
Perceived barriers	0.800	0.504
Perceived benefits	0.791	0.558
Attitude	0.879	0.593
Subjective norms	0.803	0.505
Perceived behaviour control	0.755	0.508
Behavioral Intention	0.731	0.576

4.9.3 Validity Assessment

Data's validity is examined by conducting the convergent, construct and discriminant validity tests. Validity is required to ensure that the measurements accurately measured the respective constructs (Sekaran, 2003). The discussion below reflects how good the theoretical latent variables fit to the observed variables.

4.9.3.1 Convergent Validity

Convergent validity needs to be examined so that items in the respective constructs share high proportion of variance in common. Convergent validity is achieved in this study because the AVE and CR scores for all constructs have exceeded the acceptable threshold of 0.5 and 0.7 respectively (see Table 4.15) (Awang, 2015; Fornell & Larcker, 1981; Malhotra, 2012). In addition, the measurement items are statistically significant at 5% level of significance that confirm convergent validity was achieved (see Appendix E).

4.9.3.2 Construct Validity

Fitness indices are examined to determine the construct validity in this study. Three categories of fit indices which include absolute, incremental and parsimonious fit indices are evaluated. In order to minimise type 1 and type 2 errors, this study report at least one index from each category to measure model fit (Byrne, 2008; Hooper et al., 2008). Model fitness indices help to determine the extent the items fit in measuring respective latent constructs before modelling them in the structural model.

The results in table 4.16 indicate fit index for each of the following indices were: comparative fit index (CFI), goodness of fit index (GFI), and non-normed fit index (NNFI) values exceeded 0.9 (Kline, 2011). In addition, both standardized root mean square residual (SRMR), root mean square residual (RMR), and root mean square of error approximation (RMSEA) were less than 0.08; and chi-

square to degree of freedom was less than 3 (Hoe, 2008; Schumacker & Loamx, 2010). Overall, the results confirm that the studied constructs' validity were achieved because the fitness indices examined in this study achieved the acceptable threshold.

Table 4.16: Fitness Indices for the Measurement Model

Name of Index category	Index	Index value	Recommended criteria	Remark
Absolute fit	GFI	0.914	>0.90	Achieved required level
	RMSEA	0.056	<0.08	Achieved required level
	RMR	0.047	<0.08	Achieved required level
	SRMR	0.0417	<0.08	Achieved required level
Incremental fit	CFI	0.924	>0.90	Achieved required level
	NNFI	0.908	>0.90	Achieved required level
parsimonious fit	Chi-square/df	2.705	<3	Achieved required level

Note: GFI: Goodness of fit index; SRMR: Standardized root mean square residual; RMSEA: Root mean square of error approximation; RMR: Root mean square residual; CFI: comparative fit index; NNFI: Non-normed fit index

4.9.3.3 Discriminant Validity

Discriminant analysis is useful to determine the degree in which measurement items for one construct differ from the measurements of other constructs under the study. Table 4.17 shows that the square root for each construct's AVE is higher than the inter-constructs correlation that confirms discriminant validity is not an issue in this study (Bagozzi et al., 1992; Fornell & Larcker, 1981; Liu et al., 2014). In other words, item that has been used to measure a specific variable indeed is different from items that were used to measure other variables.

Table 4.17: Statistics for Discriminant Validity

Construct	PB	Att	SN	PBC	PBE	BI
PB	**0.710**					
Att	-0.007	**0.770**				
SN	0.126	0.029	**0.711**			
PBC	0.178	0.185	0.286	**0.713**		
PBE	0.185	0.226	0.335	0.414	**0.747**	
BI	0.040	0.278	0.465	0.500	0.523	**0.759**

Note: Att: Attitude; SN: Subjective norms; PBE: Perceived benefits; BI: Behavioural intention; PB: Perceived barriers; PBC: perceived behaviour control

4.10 Structural Model Evaluation and Hypothesis Testing

After conducting CFA test to validate the measurement model, structural equation model (SEM) was modelled to analyse the inter-relationship between the studied variables and thereby to confirm the hypotheses testing of this study (see Figure 4.3).

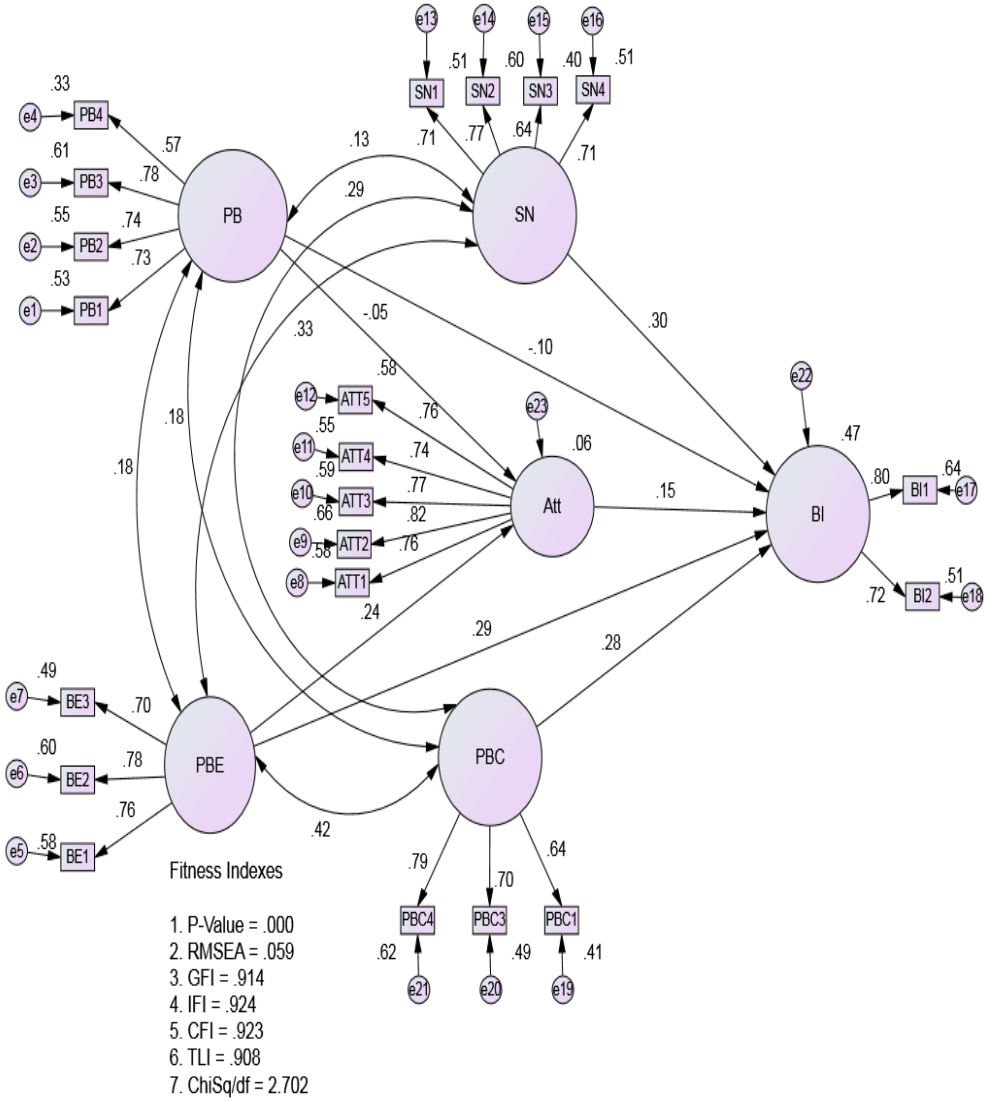


Figure 4.3: Final Structural Model

4.10.1 Structural Model Analysis

Table 4.18 presents the results of various indices that can be used to determine how well the hypothesized model fits to the sample data. Overall, all absolute fit indices have achieved the acceptable level for model fitness (Byrne, 2008; Schumacker & Loamx, 2010). The model also showed that the incremental and parsimonious indices values demonstrate adequate model fit. In summary, the

structural model analysis of this study indicates that the observed data and the model are reasonably fit because the indices employed for the analysis have achieved the acceptable threshold.

Table 4.18: Fitness Indices for the Structural Model

Name of Index category	Index	Index value	Recommended criteria	Comment
Absolute fit	GFI	0.914	>0.90	Achieved required level
	RMSEA	0.059	<0.08	Achieved required level
	RMR	0.050	<0.08	Achieved required level
	SRMR	0.0445	<0.08	Achieved required level
Incremental fit	CFI	0.923	>0.90	Achieved required level
	NNFI	0.908	>0.90	Achieved required level
parsimonious fit	Chi-square/df	2.702	<3	Achieved required level

Note: GFI: Goodness of fit index; SRMR: Standardized root mean square residual; RMSEA: Root mean square of error approximation; RMR: Root mean square residual; CFI: comparative fit index; NNFI: Non-normed fit index

4.10.2 Statistical Testing for Present Research's Hypotheses

Different hypotheses are tested in this study to achieve the stated objectives in chapter one (see Section 1.6). The direct relationships between the variables are tested based on 7 hypotheses represented by causal paths (H1, H2, H3, H4, H5, H6 and H7) (see Table 4.19). The mediation effects of perceived barriers and perceived benefits on behavioural intention through attitude are also analysed (H8a and H8b) (see Table 4.20 and 4.21).

In this study, perceived barriers (PB), perceived benefits (PBE), subjective norms (SN) and perceived behaviour control (PBC) are exogenous while,

behavioural intention (BI) and attitude (Att) are the endogenous constructs. The exogenous concept refers to variables which are not predicted by other variables in the model and have arrows pointing towards the endogenous variables only in the schematic diagram (Kline, 2011; Lo, 2007). Endogenous variable on the other hand is predicted by one or more variables and may predict other variables in the model as well.

Table 4.19 shows that the structural model of present study is supporting six hypotheses: H1, H3, H4, H5, H6 and H7 while hypothesis H2 is not supported. The mediation test is confirming two results: (1) the strength of perceived benefits in influencing smallholder farmers' behavioral intention to adopt microfinance services is mediated by the farmers' attitude (H8b); and (2) perceived barriers could produce direct effect on the respondents' intention to adopt microfinance services but is not mediated by the farmers' attitude (H8a) (see Table 4.20 & 4.21). The details are discussed in the following sub-topics.

The coefficient of determination (R^2) produced by the model (see Figure 4.3) suggests that 47% of the factors which influence smallholder farmer's intention to use microfinance services could be accounted by the study's model. The coefficient's score is consistent with studies conducted by Kennedy (2013); Davis, Bagozzi, and Warshaw (1989) and Mathieson (1991).

Figure 4.3 also shows that perceived benefits and perceived barriers could explain 6% (R^2) of the variance in attitude of smallholder farmers to use

microfinance services. The table below provides summary of the estimates and discussion of each hypothesis in relation to the estimates.

Table 4.19: Results of Hypothesis Testing

H	IV	Path	DV	Estimate	Estimate (Std)	S.E.	C.R	P-value	Remarks
H1	PB	---->	BI	-0.058	-0.101	0.029	-1.964	0.049*	Supported
H2	PB	---->	Att	-0.039	-0.050	0.042	-0.934	0.350	Not Supported
H3	PBE	---->	BI	0.233	0.291	0.052	4.467	***	Supported
H4	PBE	---->	Att	0.265	0.240	0.062	4.286	***	Supported
H5	Att	---->	BI	0.112	0.154	0.037	3.066	0.002**	Supported
H6	SN	---->	BI	0.185	0.296	0.037	5.048	***	Supported
H7	PBC	---->	BI	0.241	0.285	0.054	4.455	***	Supported

Note: Level of Significance: ***p<0.001, **p<0.01, and *p<0.05 C.R: Critical ratio
H: Hypothesis; S.E: standard error; std: standardized; IV: independent variable; DV: dependent variable; Att: Attitude; SN: Subjective norms; PBE: Perceived benefits; BI: Behavioural intention; PB: Perceived barriers; PBC: perceived behaviour control

4.10.3 Significant Relationship between Studied Variables that are reflected by Hypotheses: H1, H3, H4, H5, H6 and H7

4.10.3.1 Relationship between perceived barriers and behavioral intention (H1)

Hypothesis H1 that predicts the negative relationship between perceived barriers and smallholder farmer's intention to use microfinance services is supported ($\beta = -0.101, P < 0.05$) (see Table 4.19). The findings are consistent with other studies such as Jebarajakirthy and Lobo (2014); Leung et al. (2012).

The result suggests that smallholder farmer's intention to use microfinance services could be enhanced if they believe the perceived barriers that could be encountered by them in getting the microfinance services are minimal. For example, if smallholder farmers perceived that they might not receive the micro-

loans at the time that the farmer needs it most, the smallholder farmers' intention to use the services would decrease. These results are consistent to studies carried out by Ifelunin and Elizabeth (2013) and, Jebarajakirthy and Lobo, (2014). Consistent with Arnaut (2015), Ashraf (2014), and Yeboah's (2010) studies, the smallholder farmer's intention to use microfinance services could be affected by their fear of losing money or assets as a result of inappropriate or unethical moves that is done by their group members.

Even though H1 is supported, the direct impact generated by perceived barriers on behavioural intention (H1) is very minimal compared to other exogenous variables. As this study's respondents are those smallholder farmers who have not used the microfinance services, their perceptions of the potential risks or barriers that they may need to face upon getting the microfinance may be underestimated. Probably, this is because the information was not disclosed in the promotional tools.

Another possible explanation of the minimal impact is related to the respondent's willingness in taking the risk (Kasoga, 2015). Young and non-tertiary educated farmers could be more willing to take risk. Young farmers may feel that it is all right to start over again if the obtained microfinance funds failed to improve their farming activities or living standard. Furthermore, they may perceive that their lives may not improve if they do not utilise the microfinance services. As the result, despite of the potential barriers that the farmers may need to undertake, their desire to improve their standard of living has minimised the effect of perceived barriers.

4.10.3.2 Relationship between perceived benefits and behavioral intention (H3)

The findings shown in Table 4.19 supports hypothesis H3 which predicts that the respondent's intention to use microfinance services could be enhanced if they appreciate the microfinance perceived benefits ($\beta = 0.291, P < 0.001$). The results are consistent with past studies (Syahrul Ali & Yaacob, 2018; Lee, 2009b; Tingchi Liu et al., 2012).

Smallholder farmers' understanding of the usefulness of using microfinance services could be the key determinant of their intention to adopt microfinance services. The perceived benefit is found to be the second most influencing factor among the examined variables in this study. The finding is consistent to studies conducted by Maleko et al (2013) and Maximambali et al (1999) where the farmers believed that microfinance services could be useful to support their farming activities and improve their living standards.

4.10.3.3 Relationship between perceived benefits and attitude (H4)

Table 4.19 indicates that perceived benefit and smallholder farmers' attitude toward microfinance services have significant and positive relationship ($\beta = 0.24, P < 0.001$); hence H4 supported. This finding supports other studies carried out by Shanmugam et al. (2014); and Tingchi Liu et al. (2012).

In this study, perceived benefit is one of the most significant predictor of smallholder farmers' attitude toward microfinance services. The findings suggest that if farmers believe they could receive certain benefits from the usage

of microfinance services such as availability of a wide range of financial services and advisory services, their attitude toward microfinance services could become favourable (Maximambali et al., 1999).

4.10.3.4 Relationship between attitude and behavioral intention (H5)

Smallholder farmers' attitude toward microfinance services and behavioural intention have significant and positive relationship ($\beta = 0.154, P < 0.01$); hence, H5 is supported (See Table 4.19). The relationship is supporting the studies carried out by Abdallah and Wahab (2015); Putro and Haryanto (2015); Takele and Sira (2013). The significant relationship could possibly result from smallholder farmers' strong perception about the attractiveness and usefulness of microfinance services in managing their financial needs for farming activities. Moreover, the positive belief could be probably prompted by the difficulties that they are currently facing: acquiring funds from informal financial sources that involves very high interest rates.

4.10.3.5 Relationship between subjective norms and behavioral intention (H6)

Table 4.19 also shows hypothesis H6 is supported: smallholder farmer's intention to use microfinance services is significantly and positively influenced by subjective norms (SN) ($\beta = 0.296, P < 0.001$) and is consistent with the following past studies: Amin, Rahma, and Razak (2014); Heikal and Khaddafi (2014); Ibrahim, Fisol, and Haji (2017). This indicates that the collectivist culture is still practiced by Tanzanians in which social pressure from the community such as family members, friends or peers could be considered an

important factor in influencing smallholder farmer's intention to use microfinance services.

4.10.3.6 Relationship between perceived behaviour control and behavioral intention (H7)

Hypothesis H7 that predicts the positive relationship between perceived behaviour control (PBC) and smallholder farmers' intention to adopt microfinance services ($\beta = 0.285$, $P < 0.001$) is supported. The findings of this study concur with studies carried out by Amin et al (2014); Echchabi and Aziz (2012); Ibrahim, Fisol, and Haji (2017). Individuals' intention to engage in a particular behaviour would be increased if they believe to have confidence in accessing and managing the financial resources.

Plausibly, this is because most of the smallholder farmers in the rural areas have low level of education (see section 4.4). As a result, the lack of other necessary resources and knowledge that could ease the access and usage of other conventional financial services (Dimoso & Masanyiwa, 2008; Kessy & Urio, 2006). Therefore, they have strong perception that the increase of their knowledge about the microfinance services in relation to farming activities would influence the intention to adopt microfinance services.

4.10.4 Non-Significant Relationship between Perceived Barriers and Attitude (H2)

The results in table 4.19 demonstrate that perceived barrier is statistically nonsignificant negative related to the farmers' attitude ($\beta = -0.05$, $P > 0.05$).

Thus, hypotheses H2 is not supported. As this study's respondents have not yet used microfinance services, their understanding of the barriers such as actual interest and other charges that could be incurred are limited. Thus, they cannot form a favourable or unfavourable attitude towards the possible barriers that they may face in the future. Previous studies demonstrate individuals' lack of experience affect their participation in certain behaviours (Jebarajakirthy & Lobo, 2014). In addition, smallholder farmers possibly give more weight to the perceived benefits and less on the probable barriers that they would need to encounter in using microfinance.

The finding is consistent to Mujeri's (2015) study: rural people in Bangladesh were unaware of the effective interest rate charged by some microfinance service institutions (MFIs). Chijoriga (2011) claimed that some of the microfinance service providers in Tanzania were charging an interest rate of 1% to 3% per month, or ranged from 12% to 36% annually, which is absolutely too costly for rural people. Other costs that could be overlooked by the rural people include loan processing fees, compulsory savings, or follow up costs.

4.10.5 Mediation Analysis

This section examines the mediating effect of perceived barriers and perceived benefits on smallholder farmers' behavioural intention to use microfinance services as the result of respondents' attitude.

In order to determine the significance of mediation effect; this study used bias corrected bootstrap method (Fritz et al., 2012; Preacher & Hayes, 2008). A bootstrap sample of 1,000 is constructed and resampling is done with replacement (Preacher & Hayes, 2008). Hence, the resampling of the data a thousand times permit the empirical estimation of the indirect effect in each step that is used to construct the confidence interval. The bootstrapped sample in the data set is analysed using the analysis of moments structure (AMOS) and estimation of the confidence intervals. The discussion of mediation results generated by using the bootstrap method is as discussed below.

4.10.5.1 Indirect relationship between perceived barrier and behavioral intention via attitude (H8a)

Table 4.20 shows the indirect relationship between smallholder farmers' perceived barriers and behavioural intention through the effect of attitude is not statistically significant at the confidence interval (CI) of 95%. Therefore, the hypothesized indirect relationship is not supported. According to Wu and Wang (2005), it is also possible that a potential user of microfinance gives less weight on the barriers if they perceived that the positive outcomes from the usage of microfinance could offset its barriers. Microfinance providers play a key role in the microfinance industry that support government intention to improve the economic status of the poor citizens. However, they inclined on promoting the benefits of microfinance visibly and aggressively. Therefore, such tendency could be the possible reason for non-significant relationship as the provider's main objective is to increase the rural farmer's adoption rate; the barriers that would possibly face by farmers were less publicized.

In summary, the well publicize benefits has caused the farmers to form favorable attitude and thereby increase their intention to adopt microfinance. On the other hand, as the respondents are not well aware of the possible barriers that they may need to face, the relationship between perceived barriers and behavioral intention thereby become non-significant.

Table 4.20: The Relationship between Perceived Barriers and Behavioral Intention

Path	Effects	Estimate	C.R	BC-LB	BC-UB	Remark
PB ---> Att---> BI	Indirect	-0.008	-0.889	-0.029	0.008	Not supported
PB ---> BI	Direct	-0.101	1.942	-0.205	-0.001	Not Supported

Note: BC: bias correction LB: lower boundary PB: Perceived barriers
UB: upper boundary C.R: Critical ratio BI: Behavioural intention
Att: Attitude

4.10.5.2 Indirect relationship between perceived benefit and behavioural intention via attitude (H8b)

The bootstrapping result (see Table 4.21) indicates that the indirect effect of perceived benefit on behavioural intention through the attitude is statistically significant at the confidence interval (CI) of 95%. The result is confirming the study carried out by Lin, Hsu, and Chen (2013); Mallinckrodt, Abraham, Wei, and Russell (2006); Shaffer, Vogel, and Wei (2006); Shanmugam et al., (2014).

The generation of such significant indirect effect could be due to the provision of sufficient promotional tools that is meant to enhance the smallholder farmers' understanding of how microfinance services can improve their farming activities. In other words, the promotional tools had influenced the respondents to form favourable attitude towards microfinance services.

In summary, the policy makers were doing well in promoting the service's benefits to smallholder farmers in which the perceived benefit has been able to generate direct and indirect effect on farmers' intention to use microfinance services.

Table 4.21: The Relationship between Perceived Benefits and Behavioral Intention

Path	Effects	Estimate	C.R	BC-LB	BC-UB	Remark
PBE ---> Att---> BI	Indirect	0.037	2.056	0.012	0.089	Supported
PBE ---> BI	Direct	0.291	3.129	0.111	0.478	Supported

Note: BC: bias correction LB: lower boundary PBE: perceived benefits
UB: upper boundary C.R: Critical ratio BI: Behavioural intention
Att: Attitude

4.11 Summary of the Findings and Discussion

The SEM result shows that six hypotheses (H1, H3, H4, H5, H6 and H7) are supported and one hypothesis (H2) is not supported. Overall, 47% (R^2) of the variation in intention to adopt microfinance services is accounted by the variables used in this study. Among the exogenous variables, three of them: subjective norms, perceived behaviour control and perceived benefits have more influence on smallholder farmers' intention to adopt microfinance services.

The strong influence of subjective norms on smallholder farmers' behavioural intention results from collectivist culture practiced by Tanzanians, especially those who are living in rural areas. Such communal life has strengthened the effect of social influence from community members such as leaders, friends and relatives on smallholder farmer's behavioural intention. The strong effect of

perceived benefits on smallholder farmers behavioural intention could be due to current microfinance providers' efforts in promoting the usefulness of microfinance services aggressively (see Appendix F) (FINCA, 2017; TAMFI, 2012). On the other hand, low level of financial knowledge possessed by rural smallholder farmers has affected their intention to adopt microfinance services.

The mediation analysis confirms that the smallholder farmers' attitude could mediate the impact created by perceived benefits on their intention to adopt microfinance services (H8b). Nevertheless, the farmers did not form unfavourable perception about the perceived barrier (H8a); probably due to two reasons: (1) not all the barriers were exhibited in the promotional tools, and (2) the perceived outcome after the use of microfinance could compensate the barriers.

The next chapter shall present the theoretical implication and discussion of how the results can guide the policy makers in planning the microfinance policies that could encourage the smallholder farmers to adopt microfinance services based on the results of the present study.

Table 4.22: Summary of the Study Findings

Research objectives	Hypotheses	Remarks
RO1: To examine the direct impact of TPB's constructs (attitude, subjective norms and perceived behaviour control), perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services.	H1; H3; H5; H6 and H7	All hypotheses Supported
RO2: To evaluate the mediation effects of attitude created by perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services.	H8a	Not supported
	H8b	Supported

Note: RO: research objective

CHAPTER 5

CONCLUSION

5.1 Introduction

This chapter presents a summary of the study, policy and theoretical implications. It further discusses the limitations of the present study and suggested areas for future studies.

5.2 Accomplishment of Research Objectives

This study explores the behavioral factors that could influence smallholder farmers' intention to adopt microfinance services in the rural areas of Tanzania. Various studies confirm the strength of microfinance to alleviate poverty in the community that include access to financial services to the poor, low income, and others excluded by the mainstream financial sector (Consultative Group to Assist the Poor, 2012; Kajenthiran et al., 2017). As the result of accessing microfinance among the smallholder farmers, their agricultural productivity could be improved through application of modern farming tools and high yield seeds that boost their income and standard of living. Nevertheless, the response rate towards the use of microfinance services among the smallholder farmers is relatively low. Subsequently, this study investigated the impact of perceived benefits, perceived barriers, TPB constructs (attitude, subjective norms and

perceived behaviour control) on smallholder farmers intention to adopt microfinance.

Therefore, to address the issues that contribute to low usage of microfinance such as: lack of basic knowledge about microfinance, unfavourable attitude towards microfinance, perceived cost and possible inconveniences; this study plans to solve the following questions: (1) What are the impacts of TPB's constructs (attitude, subjective norms and perceived behaviour control), perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services? and (2) Does attitude mediate the relationship between perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services?

The researcher developed two objectives to answer the research questions. The first objective involved the measurement of the direct impact generated by perceived benefits, perceived barriers, and TPB's constructs (attitude, subjective norms and perceived behaviour control) on smallholder farmers' intention to use microfinance services. To achieve the first objective, five hypotheses (H1, H3, H5, H6, and H7) were tested (see Table 4.19 for details). Overall, the results suggest that: (1) Perceived benefit, perceived barriers and TPB's constructs (attitude, subjective norms and perceived behaviour control) could influence smallholder farmers' intention to adopt microfinance services directly.

The findings indicate significant negative relationship between perceived barriers and smallholder farmers' intention to adopt microfinance services.

While attitude towards microfinance, subjective norms, perceived behaviour control and perceived benefits had positive significant impact on intention to adopt microfinance. Subjective norm had the most significant impact on behavioural intention to adopt microfinance that denote subjective norm is the strongest predictor of smallholder farmers' intention to adopt microfinance in the context of this study. The constructs that had strong impact after subjective norms were perceived benefits, perceived behaviour control, attitude, and perceived barriers consecutively (Table 4.19).

The second objective meant to evaluate the mediation effects of attitude created by perceived benefits and perceived barriers on smallholder farmers' intention to use microfinance services. This objective was achieved by testing two hypotheses H8a-b (See Tables 4.20 and 4.21). This test intended to answer the second question of this study. The results show that farmers' attitude can mediate the impact created by perceived benefit but failed to mediate the impact of perceived barriers on their intention to use microfinance services. Probably, the farmers were less alert of the possible barriers that they need to bear as the promotional materials were highly biased on reflecting only the benefits of microfinance. In general, the empirical results confirm the smallholder farmers' intention to adopt microfinance services is appropriately predicted through the modified TPB framework.

5.3 Theoretical Implications

In the preliminary study, the current author noted that the main problems that are causing the rural farmers to behave passively on the adoption of microfinance are related to the perceived barriers and perceived benefits. Literature shows that the constructs could affect the farmers' attitude (Porter and Donthu, 2006; Lee, 2009; Shanmugam, Savarimuthu and Wen, 2014). In addition to that, living in a collectivist culture, it is inevitable that the pressure given by people who are important to the farmers would affect the farmers' adoption decision (Heikal and Khaddafi, 2014; Mishra, 2014). The farmers' resources, self-efficacy, and confidence in using the financial services to develop their agricultural business play an important roles as well (Husin and Rahman, 2016; Ibrahim, Fisol and Haji, 2017).

Hence, this study modifies the TPB by adding two variables: perceived barriers and perceived benefits, which is limitedly done in microfinance literature. Most of the past studies were focusing on how issues such as loan repayment behaviours, psychological factors and risk perceptions could affect individuals' participation in microfinance (Kasoga, 2015; Moteleng, 2017). Therefore, this study could enrich the literature related to financial adoption issues and the study results could be used by future scholars to suggest ways to tackle the target's behavioural problems by modifying the current research framework. To ensure the items used to measure the perceived benefits and perceived barriers constructs; and the TPB constructs (attitude, subjective norm and perceived behaviour control) are not overlapping, the construct validity is of main concern.

Literature that have measured the perceived benefits and perceived barriers constructs were examined carefully and thorough rigorous statistical tests were carried out.

Furthermore, this study expands the behavioural research knowledge in the area of financial services through the application of the theory of planned behaviour (TPB) framework in rural settings. Limited studies have used TPB to solve the problems that are currently faced by many rural smallholder farmers in the developing countries. Hence, its application in this study provides a better knowledge to academics of how to tackle the problems that are quite prevalent in developing countries.

Present study employs sophisticated second generation method to examine the proposed hypotheses. Compared to previous studies that had employed the use of multiple regression, binary logistic regression, ANOVA, and correlation analyses, SEM-AMOS is relatively more powerful statistical analysis. In this study, prior modelling the constructs in the structural model to test the hypotheses, pooled CFA was carried out for all studied latent and observed variables simultaneously to validate the measurement model. The validation process ascertained the unidimensionality, validity, and reliability of the current study variables. Therefore, the current study's SEM results provide more information to researchers about perceived barriers, perceived benefits, attitude, subjective norm, perceived behaviour control and behavioural intention inter-relationships that other data analyses techniques may fail.

This study contributes to the body of knowledge as limited studies had tested simultaneously the mediation effects of attitude created by perceived barriers and perceived benefits on smallholder farmers' behavioural intention. Compared to most of previous studies that examined the relationship between exogenous and endogenous variables by using normal theory approaches (NT) (Baron & Kenny, 1986; Hayes, 2009; Sobel, 1982); this study tested the mediation effects by using bias corrected bootstrap techniques. The later technique could be more useful because the assumption where mediation effects are normally distributed (which is assumed in the NT) may not be practical, as in reality mediation effects are asymmetrical (Cheung & Lau, 2008). Therefore, using bias corrected technique is useful to establish accurate confidence interval that led to determination of the true mediation effects in this study.

5.4 Managerial Implications

Present study's findings confirm that the following variables: (1) perceived barriers; (2) perceived benefits; (3) attitude; (4) subjective norms; and (5) perceived behaviour control, could influence smallholder farmers' intention to adopt microfinance services (see Table 4.19). In addition, the findings support that attitude can mediate the relationship between perceived benefit and behavioural intention (see Table 4.21). The results can provide useful indications to policy makers and practitioners to improve their strategies and policies planning that aimed at increasing smallholder farmers' intention to adopt microfinance services.

To reduce the effect of perceived barriers on farmers' intention to use microfinance services, the public and private policy makers should revise the financial policies so that the microfinance services application and approval processes could be expedited. This can be done by reducing the red tapes involved in loan application processing by utilising the information communication technology (ICT) system and educate the farmers to use the system. Policy makers should create conducive environment that facilitates the application of ICT system that can streamline the application and loan repayment processes. For example, when the ICT system can connect the employees and decision makers of related divisions, and the applicant; the loan application will be processed at a faster speed. In this way, the farmers' perceived barriers of long waiting queue and time could be reduced (Kessy and Urio, 2006; Kasoga, 2015).

In addition, the financial policy should be revised so that the microfinance service providers need to be transparent in disclosing the interest rates and other charges that users need to bear during the tenure of microfinance contract. Financial advisors should be assigned to educate micro-loan applicants how to determine the immediate, short-term, and long-term financial cost. In this way, the farmers could learn how to manage their income and settle the loan more effectively. The policy makers and practitioners should as well increase the investments in product development that include time for loan application, flexible terms and additional products. As a result, product development could bring down lending rates and enhance demand for microfinance services.

Confiscation of any group members' cash or assets as the result of other members' foul play or inability to repay their own debt could be too harsh. Such practice is actually contradicting to the government's intention to improve the economic well-being of poor farmers. Revising the group lending model is strongly encouraged to reduce the direct and indirect effects created by the perceived barrier on adoption intention and via the change of the farmers' attitude. Instead of confiscating the group's insurance fund or compulsory savings contributed by group members to settle another group member's loan, priority should be given to collateral pledged (Musona and Coetzee, 2001). In addition, microfinance providers could consider relying on group lending initially for few cycles for guarantee purpose to determine clients' credit history, thereafter could issue individualised loans.

As perceived benefit is one of the most influential factors in the study context, policy makers and practitioners need to ensure the microfinance benefits are well disseminated and could reach the target market effectively. To support the government's manifesto that aimed to help the poor farmers, other micro-loans such as micro-housing and seasonal loans, which can benefit the farmers, should be explored. The availability of storage facilities using the micro-housing finance can help farmers to sell their agricultural output at appropriate time and get favourable price, hence increase the farming productivity and income. Micro-insurance that can protect the farmers from suffering unexpected loss should be considered as well. As shown in current study's result, better understanding of the perceived benefits can cause the farmers to develop favourable attitude towards the adoption of microfinance services.

In a society where collectivist culture is dominant, social pressure or the effect of subjective norm could influence the smallholder farmers' intention to use the microfinance services. In this matter, policy makers can collaborate with people who are important to the farmers such as community's leaders or village officials to spread positive word of mouth of the microfinance services and to disseminate the awareness campaign. Awareness campaigns can be carried out during village assemblies and by co-operating with mosques and churches, and local associations' members (such as agricultural cooperative societies; self-help groups (SHG); rotating and savings associations (ROSCAS) to disclose the benefits of microfinance and barriers that need to borne by farmers. Locally recruited staffs and trained agents should be engaged in rural areas to explain in detail the benefits and barriers, and what could be done by the farmers to overcome the barriers.

As farmer's attitude could affect their intention to adopt microfinance services, several measures that could increase their favourable feelings toward microfinance can be developed. For example, the application process should be simplified so that the farmers can produce the required documents without much difficulty. Special customer service centre should be set-up to educate and consult the farmers on matters related to microfinance applications, loan repayment, and fund management. On top of that, smallholder farmers could channel their grievances to responsible authorities that can be taken into consideration when refining current microfinance policy. In brief, the centre needs to inform the potential applicants clearly of what users could expect from the service providers and vice-versa; and how complaints would be handled.

When the farmers are well-informed of the benefits and barriers; and a platform is available for them to seek consultation, farmers would form favourable attitude towards the adoption of microfinance services.

Providing financial services to the poor farmers is not sufficient. The government should take further initiative to enhance the farmers' self-efficacy in managing the fund for their business sustainability. More training sessions should be organised by the service providers or customer service centre. Information of fund management can be distributed through village meetings, seminars, short messages (SMS), and any other easy means of communication such as radios, flyers, calendars, leaflets and newspapers. The government should as well introduce curriculum that inculcate the basic financial knowledge to its citizens at different levels of education in the country. For instance, the primary and secondary education is free of charge that would allow majority to acquire the basic financial knowledge even if they fail to participate in tertiary education. Trainings about microfinance could also be provided to few local people who are fast learners and use them to train other community members.

In summary, the current microfinance policy should be refined so that the potential users could be well alert of the benefits of microfinance and barriers that they need to bear if they engaged in microfinance. For example, ICT system that could connect the employees, decision makers, and users more effectively should be used. In this way, microfinance information can be channelled efficiently; application to approval processes could be expedited; and consultation can be done quickly. Service providers need to be more transparent

in disseminating the financial cost such as interest rates to current and potential users. Harsh penalty such as confiscating other members' asset to compensate a member who failed to repay the loan instalment should be relaxed. Special customer service centre should be established and engage people who are important to the farmers so that applicants can seek consultation and assistance. Training session and basic financial knowledge should be provided to increase the farmers' self-efficacy level in finance management.

5.5 Research Limitations

In collecting the response from the rural farmers, present author had faced many obstacles. For instance, the timing for data collection was a great challenge in the rural areas as not every respondent could complete the questionnaire on the spot. In most cases, respondents gave excuses such as they need to complete their daily activities (domestic chores and farming) before they can respond to the questionnaire items. In addition, some of the received answered questionnaires were not completely filled.

Nevertheless, present researcher and other facilitators had tried to facilitate the respondents to complete the missing areas and clear their doubts or inquiries when the questionnaire was received. Some respondents had responded accordingly but in some cases, the respondents could not be reachable, as they had requested other people to hand over the answered questionnaire. As a result, only 82% of the collected answered questionnaire was used for analyses. However, despite of the obstacles, sufficient number of completed

questionnaires has been collected and the results are credible at the precision level of 5%.

The master copy of the study questionnaire was developed by using English language. As the majority of smallholder farmers in the rural areas of Tanzania can write and speak national language (Swahili), linguists were employed to translate the English version master copy into Tanzanians' national language. Nevertheless, limitations still exist: there are respondents who are using other than Tanzanian's national language in their daily communication. As a result, they could possibly interpret the meaning of certain items differently.

As the data for this study was collected from smallholder farmers in Tanzania, the data findings of this study may not be able to represent the respective farmers' behaviour in other countries that are practicing different cultures. The regulatory framework and policies to protect the users of financial services are also different among the countries. Thus, individuals with different cultures might have diverse opinions about the relationships of the studied variables. For instance, individuals living in a secular state, their perceptions about interest rate on loans could be different from those of religious state.

The findings of the present study are reflecting the perceptions of smallholder farmers in rural areas. As smallholder farmers' perceptions in urban areas might differ from those of rural farmers, present study results may not be able to generalise smallholder farmers' perceptions in urban areas.

Findings of present study are statistically precise at the level of 5%, and this indicates that results are useful in providing important indications to policy makers and academics. Nevertheless, current result cannot be used for longitudinal planning if certain criteria or exogenous factors have changed. At the time when this study was carried out, most of the rural smallholder farmers in Tanzania seem to be less educated and have very limited access to financial services information and other associated facilities. If the education system and communication services would be improved in future, it is likely that the result of this study may not be applicable anymore or other problems may arise.

5.6 Recommendations for Future Research

Although the present research's response rate is sufficient for data analysis, further research can improve the response rate by tackling the problems that the authors had faced in this study. Future studies should allocate more resources and time for data collection such that research facilitators could have multiple revisit to find participants at their residences for collection and getting questionnaires completed. As practiced by present author, data collection in future studies should be carried out when there is less farming activities among majority of the smallholder farmers. On top of that, future researchers should investigate the common language used by local community and this is to ensure that the respondents could interpret the intended meaning of each measured item correctly. This study is carried out in a secular state in which the local community is practicing collectivist culture. Therefore, present study's research model could be used for further research that involves collectivist society.

A cross sectional research design was used in this study where the data was collected over a single period. It is very likely that smallholder farmers' behaviour might change over a given time. Hence, future researchers should conduct more researches in future if certain criteria and exogenous environments have changed.

The present study examined the behavioural factors that influence smallholder farmers to adopt microfinance services in the rural areas. Future studies can extend present research model to investigate factors that can determine the adoption of micro-insurance and micro-pension services as these services are aimed to improve the smallholder farmers' financial wellbeing as well. Future research to examine the urban smallholder farmers' perceptions about microfinance services should be done, because such financial services are useful to improve poor people's financial status.

The crosstabulation results confirm that, smallholder farmers' education level; perceived benefits and perceive behavioural control are related. Hence, future study can be carried out to investigate how education could moderate the impact created by perceived benefits and perceived behaviour control on respondent's behavioural intention.

LIST OF REFERENCES

Ababneh, R. (2008). A Comprehensive Performance Evaluation of the Jordanian Customs Department Using the Balanced Scorecard. *Jordan Journal of Business Administration*, *4*(4), 463–484.

Abass, A. B., Ndunguru, G., Mamiro, P., Alenkhe, B., Mlingi, N., & Bekunda, M. (2014). Post-harvest food losses in a maize-based farming system of semi-arid savannah area of Tanzania. *Journal of Stored Products Research*, *57*, 49–57.

Abdul-Jabbar, H., Intan, T. P., Awadh Bin-Nashwan, S., & Rahim Romle, A. (2016). The Application of Theory of Planned Behaviour on Business Zakah Compliance in Yemen: A Proposed Framework. *Middle-East Journal of Scientific Research*, *24*(6), 2052–2057.

Abdul, A., Ing, G., Osman, Z., Razli, I., Pang, Y. X., Sondoh, S., & Abdul, M. (2015). Mediation Role of Attitude towards Product Placement in Social Media. *Journal of Sustainable Development*, *8*(3), 79–88.

Abdullah, N., & Wahab, N. (2015). Investigating factors affecting the intention to use islamic personal financing. *International Journal of Management Studies*, *60*(47), 47–60.

Aboelmaged, M. G., & Gebba, T. R. (2013). Mobile Banking Adoption : An Examination of Technology Acceptance Model and Theory of Planned Behavior. *International Journal of Business Research and Development*, *2*(1), 35–50.

Abzakh, A. A., Ling, K. C., & Alkilani, K. (2013). The Impact of Perceived Risks on the Consumer Resistance towards Generic Drugs in the Malaysia Pharmaceutical Industry. *International Journal of Business and Management*, *8*(3), 42–51.

Acock, A. C. (2005). Working with missing values. *Journal of Marriage and Family*, *67*(4), 1012–1028.

Afrane, S. (2002). Microfinance Interventions in Ghana and South Africa A Synthesis of Major Impacts and Lessons. *Journal of Microfinance/ESR Review*, *4*(1), 37–58.

African Development Fund. (2000). *African Development Fund- Financial Sector Adjustment Programme Completion Report*. Dar es salaam. Retrieved from www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/ADF-BD-IF-2000-204-EN-TANZANIA

African Union. (2003). *Report of the ministers of agriculture*. mozambique. Retrieved from http://www.diplomatie.gouv.fr/IMG/pdf/04_Maputo-Declaration-2003.pdf

Ahlen, M. (2012). *Rural Member-Based Microfinance Institutions –A field study assessing the impacts of SACCOS and VICOBA in Babati district, Tanzania*. Soderton University. Retrieved from www.diva-portal.org/smash/get/diva2:544512/FULLTEXT01.pdf

Ajzen, I. (1989). Attitude structure and behavior. In *Attitude structure and function* (pp. 241–274). New Jersey: lawrence Erlbaum Associates.

Ajzen, I. (1991). The theory of planned behavior. *Orgnizational Behavior and Human Decision Processes, 50*, 179–211.

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitude, intention and perceived behavioral control. *Journal of Experimental Social Psychology*, *22*, 453–474.

Al-Sharairi, J., & Alsharayri, M. (2012). The Operating Islamic Banks in Jordan Applying the International Internal Auditing Standards (IIA's). *International Journal of Economics and Finance*, *4*(2), 232–242.

Al-smadi, M. O. (2012). Factors Affecting Adoption of Electronic Banking: An Analysis of the Perspectives of Banks' Customers. *International Journal of Business and Social Science*, *3*(17), 294–309.

Alallwan, A., Dwivedi, Y., & Rana, N. (2017). International Journal of Information Management Factors influencing adoption of mobile banking by Jordanian bank customers : Extending UTAUT2 with trust. *International Journal of Information Management*, *37*, 99–110.

Alam, S., Janor, H., Zanariah, Wel, C., & Ahsan, M. (2012). Is Religiosity an important factor in influencing the intention to undertake Islamic home financing in Klang Valley? *World Applied Sciences Journal*, *19*(7), 1030–1041.

Ali, A., Jamaludin, N., & Othman, Z. H. (2016). Modeling Microfinance Acceptance among Social Network Women Entrepreneurs. *International Journal of Economics and Financial*, *6*(4s), 72–77.

Ali, S., & Yaacob, S. (2018). The Influence of Perceived Benefit towards the Attitude and Intention to Subscribe to Islamic Microcredit in the Agricultural Sector. *Journal of Islamic, Social, Economics and Development*, *3*(8), 98–111.

Ali, S., Zani, R. M., & Kasim, K. (2014). Factors Influencing Investors ' Behavior in Islamic Unit Trust : An Application of Theory of Planned Behavior. *Journal of Islamic Economics, Banking and Finance*, *10*(2), 183–201.

Allen, F., Otchere, I., & Senbet, L. W. (2011). African financial systems : A review. *Journal of Advanced Research*, *1*(2), 79–113.

Alleyne, P., & Broome, T. (2011). Using the theory of planned behaviour and risk propensity to measure investment intentions among future investors. *Journal of Eastern Caribbean Studies*, *36*(1), 1–20.

Allison, P. D. (2003). Missing data techniques for structural equation modeling. *Journal of Abnormal Psychology; Journal of Abnormal Psychology*, *112*(4), 545–557.

Allred, S. B., & Ross-Davis, A. (2011). The drop-off and pick-up method: An approach to reduce nonresponse bias in natural resource surveys. *Small-Scale Forestry*, *10*(3), 305–318.

Alsmady, A. A., Rahman, R. A., & Muhammad, A. D. (2014). Ethical Responsibility and Applicability of Islamic Micro-Investment Model (IMIM) in Jordan. *Middle-East Journal of Scientific Research*, *22*(5), 743–751.

Amin, H., Rahma, A. R. A., & Razak, D. A. (2014). Willingness to Be a Partner in Musharakah Mutanaqisah Home Financing : Empirical Investigation of Psychological Factors. *Jurnal Pengurusan*, *40*, 69–81.

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *British Journal of Social Psychology*, *40*, 471–499.

Arnaut, D. (2015). Analysis of Fear as Barrier to Entrepreneurship. *International Journal of Economics, Commerce and Management*, *III*(5), 854–861.

Asare-Bediako, M., & Frempong, M. (2016). The impact of microfinance in rural households in the Western Region of Ghana. *American Scientific Research Journal for Engineering, Technology, and Sciences*, *20*(1), 9–20.

Ashraf, M. A. (2014a). Demystifying Nonparticipation of the Rural Poor in MFIs in Bangladesh : An Empirical Evidence. *Journal of Economics and Sustainable Development*, *5*(9), 140–149.

Ashraf, M. A. (2014b). Willingness behavior of the rural poor to participate in MFIs : Evidence from Bangladesh. *European Journal of Business and Management*, *6*(23), 103–115.

Ashraf, M. A., & Ibrahim, Y. B. (2013). An Investigation Into The Barrier To The Rural Poor Participation In MFIs: The Case Of Bangladesh. *International Journal of Research In Social Sciences*, *1*(2), 1–17.

Awang, Z. (2015). *SEM Made Simple: A Gentle Approach to Learning Structural Equation Modeling*. Selangor: MPWS Rich Publication Sdn. Bhd.

Ayen, Y. W. (2015). Factors Affecting Women's Effectiveness in use of Microfinance and Microcredit Services; Jimma Zone, Southwest Ethiopia. *Global Journal of Management And Business Research*, *15*(10), 30–38.

Bagozzi, R. P. (2011). Measurement and Meaning in Information Systems and Organizational Research: Methodological and Philosophical Foundation. *MIS Quarterly*, *35*(2), 261–292.

Bagozzi, R. P., Baumgartner, H., & Yi, Y. (1992). State versus action orientation on the TRA action: An application of coupon usage. *Journal of Consumer Research*, *18*(4), 505–518.

Bank of Tanzania. (2011). *A Review of the Role and Functions of the Bank of Tanzania (1961—2011)*. Dar es salaam: United Republic of Tanzania. Retrieved from http://www.bot.go.tz/Adverts/PressRelease/2011-Nov-04-PressRelease.pdf

Bank of Tanzania. (2013). *Addressing the challenges of financial inclusion in Tanzania*. Dar es salaam: BIS Central Bankers' Speeches. Retrieved from http://www.bis.org/review/r131217f.pdf

Bank of Tanzania. (2014a). *Directorate of Banking Supervision Annual Report*. Dar es salaam. Retrieved from http://www.bot.go.tz/BankingSupervision/Reports/DBS ANNUAL REPOR 2014.pdf

Bank of Tanzania. (2014b). *Financing Agriculture and Agribusiness in Tanzania: Challenges and Opportunities*. Dar es salaam. Retrieved from http://www.bot.go.tz

Baron, R. M., & Kenny, D. a. (1986). The Moderator-Mediator Variable Distinction in Social The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182.

Bartlett, J. E., Kotrlik, J. W. K. J. W., & Higgins, C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, *19*(1), 43–50.

Bentler, P. M. (1990). Comparative Fit Indices in Structural Models. *Psychological Bulletin*, *107*(2), 238–246.

Bodibe, S., Chiliya, N., & Chikandiwa, C. (2016). The factors affecting customers ' decisions to adopt Islamic banking. *Banks and Bank Systems*, *11*(4), 144–151.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York: Guilford Publications.

Bulmer, M., & Warwick, D. P. (1993). *Social research in developing countries: Surveys and censuses in the Third World*. West Sussex: Selwood Printing Ltd.

Byrne, B. M. (2008). Testing for multigroup equivalence of a measuring instrument: A walk through the process. *Psicothema*, *20*(4), 872–882.

Cacciotti, G., & Hayton, J. C. (2014). Fear of failure and entrepreneurship: a review and direction for future research. *Enterprise Research Centre*, (24), 1–62.

Cangur, S., & Ercan, I. (2015). Journal of Modern Applied Statistical Methods Comparison of Model Fit Indices Used in Structural Equation Modeling Under Multivariate Normality. *Journal of Modern Applied Statistical Methods*, *14*(1), 151–167.

Chan, L., & Bishop, B. (2013). A moral basis for recycling: Extending the theory of planned behaviour. *Journal of Environmental Psychology*, *36*(1), 96–102.

Chandio, F. (2011). *Studying Acceptance of Online Banking Information System: A Structural Equation Model. PhD Thesis*. London, UK.

Chen, H. Y., & Little, R. (1988). A Test of Missing Completely at Random for Generalised Estimating Equations with Missing Data. *Journal of the American Statistical Association*, *86*(404), 1198–1202.

Cheung, G. W., & Lau, R. S. (2008). Testing Mediation and Suppression Effects of Latent Variables: Bootstrapping With Structural Equation Models. *Organizational Research Methods*, *11*(2), 296–325.

Chijoriga, M. (2011). Transformation of Non-Governmental Micro Finance Institutions (Mfis) in Tanzania. *Business Management Review*, *15*(1), 64–86.

Chogo, P. J., & Sedoyeka, E. (2015). Exploring Factors Affecting Mobile Money Adoption in Tanzania. *International Journal of Computing and ICT Research*, *8*(2), 53–64.

Chowdhury, A. (2009). *Microfinance as a Poverty Reduction Tool — A Critical Assessment* (No. ST/ESA/2009/DWP/89). New York. Retrieved from http://www.un.org/esa/desa/papers/2009/wp89_2009.pdf

Chuah, F., Ting, H., de Run, E., & Cheah, J.-H. (2016). Reconsidering What Entrepreneurial Intention Implies: The Evidence from Malaysian University Students. *International Journal of Business and Social Science*, *7*(9), 85–98.

Chuchuen, C. (2016). The Perception of Mobile Banking Adoption: The Study of Behavioral, Security, and Trust in Thailand. *International Journal of Social Science and Humanity*, *6*(7), 547–550.

Churk, J. P. (2015). Contributions of Savings and Credit Cooperative Society on Improving Rural Livelihood in Makungu ward Iringa , Tanzania. In *Proceedings of the Second European Academic Research Conference on Global Business, Economics, Finance and Banking* (pp. 1–14). Zurich-Switzerland.

Claar, C. L., & Johnson, J. (2010). Analyzing the adoption of computer security utilizing the health belief model. *Issues in Information Systems*, *11*(1), 286–291.

Conner, M., & Armitage, C. J. (1998). Extending the Theory of Planned Behavior: A Review and Avenues for Further Research. *Journal of Applied Social Psychology*, *28*(15), 1429–1464.

Consultative Group to Assist the Poor. (2012). *A Guide to - Regulation and Supervision of - Microfinance; Consensus Guidlines*. Washington D.C. Retrieved from www.cgap.org/sites/default/files/Consensus-Guideline-A-Guide-to-Regulation-and-Supervision-of-Microfinance-Oct-2012_0.pdf

Cucinelli, D., Gandolfi, G., & Soana, M. (2016). Customer and Advisor Financial Decisions : the Theory of Planned Behavior. *International Journal of Business and Social Science*, *7*(12), 80–92.

Dardas, L. A., & Ahmad, M. M. (2014). Psychometric properties of the Parenting Stress Index with parents of children with autistic disorder. *Journal of Intellectual Disability Research*, *58*(6), 560–571.

Davis, F. D. (1989). Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340.

Davis, F. D., Bagozzi, R., & Warshaw, P. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management Science*, *35*(8), 982–1003.

Davis, K., & Hustvedt, G. (2012). It's a Matter of Control: Saving for Retirement. *International Review of Social Sciences and Humanities*, *3*(2), 248–261.

DeCarlo, L. T. (1997). On the meaning and use of kurtosis. *Psychological Methods*, *2*(3), 292–307.

Demirg-Kunt, A., & Klapper, L. F. (2012). *Measuring financial inclusion: The global findex database*. *World Bank Policy Research Working Paper*. Retrieved from www.fdic.gov/news/conferences/ consumersymposium/2012/Measuring Financial Inclusion, The Global Findex Database2.pdf

Deng, Z., Mo, X., & Liu, S. (2013). Comparison of the middle-aged and older users ' adoption of mobile health services in China. *International Journal of Medical Informatics*, *83*(3), 210–224.

Dhakal, C., & Nepal, G. (2016). Contribution of Micro-Finance on Socio-Economic Development of Rural Community. *Journal of Advanced Academic Research*, *3*(I), 134–141.

Dimoso, P. J., & Masanyiwa, Z. S. (2008). *A critical look at the role of micro finance banks in poverty reduction in Tanzania: A case of Akiba Commercial Bank Limited*. Dar es salaam: University of Sussex. Institute of development studies (IDS). Retrieved from http://www.eldis.org/vfile/upload/1/document/0811/MICRO-FINACE PAPER.pdf

Douglas, D. F., Westley, B. H., & Chaffee, S. H. (1970). An information campaign that changed community attitudes. *Journalism and Mass Communication Quarterly*, *47*(3), 479.

Dupas, P., Green, S., Keats, A., & Robinson, J. (2012). *Challenges in Banking the Rural Poor: Evidence from Kenya's Western Province*. *NBER Working Paper No. 17851*. Retrieved from http://www.nber.org/papers/w17851

Dwivedi, Y. K. (2005). Investigating Consumer Adoption, Usage and Impact of Broadband: UK Households. Retrieved December 9, 2016, from brunel.ac.uk/handle/2438/5335

Echchabi, A., & Aziz, H. A. (2012). Empirical Investigation of Customers ' Perception and Adoption Towards Islamic Banking Services in Morocco. *Middle-East Journal of Scientific Research*, *12*(6), 849–858.

Echchabi, A., & Echchabi, F. (2013). Islamic insurance in the European countries: Insights from French Muslims perspective. *WSEAS Transactions on Business and Economics*, *10*(3), 125–132.

Eichhorn, B. R. (2014). *Common Method Variance Techniques*. *Cleveland State University, Department of Operations & Supply Chain Management. Cleveland, OH: SAS Institute Inc*. Retrieved from http://www.mwsug.org/proceedings/2014/AA/MWSUG-2014-AA11.pdf

Ellis, K., Lemma, A., & Rud, J.-P. (2010). *Investigating the impact of access to financial services on household investment*. London. Retrieved from http://www.tzdpg.or.tz/fileadmin/_migrated/content_uploads/Impact_financial_service_on_investment_2010_02.pdf

Erkin, O., & Ozsoy, S. (2012). Validity and reliability of health belief model applied to influenza. *Academic Research International*, *2*(3), 31–40.

FINCA. (2017). Small Group Loan: Building a Better Life Together. Retrieved February 3, 2017, from http://www.finca.co.tz/products/small-group-loan-2/

FinScope. (2013). *A Survey of the Demand for financial Services in Tanzania*. Dar es salaam. Retrieved from http://www.fsdt.or.tz/wp-content/uploads/2016/05/FinScope-Brochure-2013-Summary-2.pdf

Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behaviour: An Introduction to theory and Reseach*. Amherst: Addison- Wesley. Retrieved from philpapers.org/rec/FISBAI

Fornell, C., & Larcker, F. D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50.

Forsythe, S., Liu, C., Shannon, D., & Gardner, L. I. U. C. (2006). Development of a scale to measure the perceived benefits and risks of online shopping. *Journal of Interactive Marketing*, *20*(2), 55–75.

Fritz, M. S., Taylor, A. B., & Mackinnon, D. P. (2012). Explanation of Two Anomalous Results in Statistical Mediation Analysis. *Multivariate Behavioral Research*, *47*(1), 61–87.

FSDT. (2014). *Promoting financial inclusion in Tanzania*. Dar es salaam. Retrieved from http://www.fsdt.or.tz/wp-content/uploads/2016/05/FSDT-Our-Work-2013-2014-Full-Report.pdf

Gaikar, D., & Marakarkandy, B. (2015). Product Sales Prediction Based on Sentiment Analysis Using Twitter Data. *International Journal of Computer Science and Information Technologies*, *6*(3), 2303–2313.

Garland, R. (1991). The mid-point on a rating scale: Is it desirable? *Marketing Bulletin*, *2*, 66–70.

Gie Yong, A., & Pearce, S. (2013). A Beginner's Guide to Factor Analysis: Focusing on Exploratory Factor Analysis. *Tutorials in Quantitative Methods for Psychology*, *9*(2), 79–94.

Girabi, F., Mwakaje, G., & Elishadai, A. (2013). Impact Of Microfinance On Smallholder Farm Productivity In Tanzania : The Case Of Iramba District. *Asian Economic and Financial Review*, *3*(2), 227–242.

Gobezie, G. (2011). Empowerment of Women and Gender Mainstreaming in Rural Microfinance. In *Enabling rural women's economic empowerment: institutions, opportunities and participation* (pp. 1–17). Acra: UN Women, In cooperation with FAO, IFAD and WFP.

Godquin, M. (2004). Microfinance repayment performance in Bangladesh: How to improve the allocation of loans by MFIs. *World Development*, *32*(11), 1909–1926.

Gopi, M., & Ramayah, T. (2007). Applicability of theory of planned behavior in predicting intention to trade online. *International Journal of Emerging Markets*, *2*(4), 348–360.

Guadagnoli, E., & Velicer, W. F. (1988). Relation to sample size to the stability of component patterns. *Psychological Bulletin*, *103*(2), 265–275.

Hair, J., Babin, B., Money, A., & Samouel, P. (2003). *Essentials of Business Research Methods* (1st ed.). Texas: Leyh Publishing.

Hair, J., Gabriel, M. L. D. da S., & Patel, V. (2014). AMOS Covariance-Based Structural Equation Modeling (CB-SEM): Guidelines on its Application as a Marketing Research Tool. *Revista Brasileira de Marketing*, *13*(2), 44–55.

Hair, J., Hult, T., Ringle, C., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. London: Sage Publications.

Hair, J., Money, A., & Samuoule, P. (2007). *Research Methods for Business* (1st ed.). New York: John Wiley & Sons Inc.

Hair, J., Sarstedt, M., Pieper, T., & Ringle, C. (2012). The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications. *Long Range Planning*, *45*(5), 320–340.

Halim, R., Adiwijaya, K., & Haryanto, J. (2016). The Propensity of Young Consumers to Overspend on Credit Cards : Decomposition Effect in the Theory of Planned Behavior. *Journal of Economics, Business and Management*,*4*(10),599–605. ttps://doi.org/10.18178/joebm.2016.4.10.459

Hassan, A. M., Kunz, M. B., Pearson, A. W., & Mohamed, F. A. (2006). Conceptualization And Measurement Of Perceived Risk In Online Shopping. *The Marketing Management Journal*, *16*(1), 138–147.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*(4), 408–420.

Heikal, M., & Khaddafi, M. (2014). The Intention to Pay Zakat Commercial: An Application of Revised Theory of Planned Behavior. *Journal of Economics and Behavioral Studies*, *6*(9), 727–734.

Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research*, *21*(1), 100–120.

Hjerpe, E., Hussain, A., & Phillips, S. (2015). Valuing type and scope of ecosystem conservation: A meta-analysis. *Journal of Forest Economics*, *21*(1), 32–50.

Hoe, S. L. (2008). Issues and procedures in adopting structural equation modeling technique. *Journal of Applied Quantitative Methods*, *3*(1), 76–83.

Hooper, D., Mullen, J., Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural Equation Modelling: Guidelines for Determining Model Fit. *The Electronic Journal of Business Research Methods*, *6*(1), 53–60.

Hsu, S., & Bayarsaikhan, B.-E. (2012). Factors influencing on online shopping attitude and intention of Mongolian consumers. *The Journal of International Management Studies*, *7*(2), 167–177.

Hu, L., & Bentler, P. M. (1998). Fit Indices in Covariance Structure Modeling : Sensitivity to Underparameterized Model Misspecification. *Psychological Methods*, *3*(4), 424–453.

Huang, H.-T., Kuo, Y.-M., Wang, S.-R., Wang, C.-F., & Tsai, C.-H. (2016). Structural Factors Affecting Health Examination Behavioral Intention. *International Journal of Environmental Research and Public Health*, *13*(4), 395.

Humaidi, N., & Balakrishnan, V. (2015). Leadership Styles and Information Security Compliance Behavior: The Mediator Effect of Information Security Awareness. *International Journal of Information and Education Technology*, *5*(4), 311–318.

Husin, M., & Rahman, A. (2016). Do Muslims intend to participate in Islamic insurance? Analysis from theory of planned behaviour. *Journal of Islamic Accounting and Business Research*, *7*(1), 42–58.

Iacobucci, D. (2010). Structural equations modeling: Fit Indices, sample size, and advanced topics. *Journal of Consumer Psychology*, *20*(1), 90–98.

Ibrahim, M., Fisol, W., & Haji, Y. (2017). Customer Intention on Islamic Home Financing Products : An Application of Theory of Planned Behavior (TPB). *Mediterranean Journal of Social Sciences*, *8*(2), 77–86. https://doi.org/10.5901/mjss.2017.v8n2p77

Iddris, F. (2013). Barriers to Adoption of Mobile banking: Evidence from Ghana. *International Journal of Academic Research in Business and Social Sciences*, *3*(7), 356–370.

IFAD. (2014). *Investing in rural people in the United Republic of Tanzania*. Dar es salaam. Retrieved from www.ifad.org/documents/10180/feb514f1-a0d2-4111-8d98-50be8ddd0184

Ifelunin, C., & Elizabeth, W. (2013). Constraints to Women Entrepreneurs ' Access to Microfinance in Bayelsa state, Nigeria. *Research Journal of Finance and Accounting*, *4*(6), 6–13.

Ihugba, O. a, Bankong, B., & Ebomuche, N. C. (2014). The Impact of Nigeria Microfinance Banks on Poverty Reduction : Imo State Experience. *International Letters of Social and Humanistic Sciences*, *5*, 92–113.

Jaffar, M. A., & Musa, R. (2013). Determinants of attitude towards Islamic financing among halal-certified micro and SMEs: A proposed conceptual framework. *International Journal of Education and Research*, *1*(8), 1–10.

Janz, N. K., & Becker, M. H. (1984). The Health Belief Model: a decade later. *Health Education Quarterly*, *11*(1), 1–47.

Jebarajakirthy, C., & Lobo, A. C. (2014). War affected youth as consumers of microcredit: An application and extension of the Theory of Planned Behaviour. *Journal of Retailing and Consumer Services*, *21*(3), 239–248.

Jeje, K. (2015). Intensive Growth Strategies and Outreach Performance of Tanzania-Based Savings and Credit Cooperative Societies. *International Journal of Business and Management*, *10*(1), 124–135.

Johan, Z., Ridzwan, N., Mohd, S., Suki, A., Intan, N., & Hafit, A. (2017). Customers' Intention towards Shariah Compliant Credit Cards : A Pilot Study. *International Journal of Academic Research in Business and Social Sciences*, *7*(4), 772–799.

Joseph, N., Mtindya, J., Mwasebya, B., Ngoboka, M., Ndekwa, A., & John, K. (2018). Micro Credit as a Strategy for Poverty Reduction and Empowerment of Women Entrepreneurs '. *The International Journal Of Business & Management*, *6*(1), 329–333.

Joyce, L., & Akaro, R. (2016). Some Factors Associated with Operations of Village Community Banks (VICOBAs) for Poverty Alleviation in Tanzania. *International Journal of Management and Economics Invention*, *2*(9), 748–758.

Kajenthiran, K., Achchuthan, S., & Ajanthan, A. (2017). A Quest for Seeking Microcredit among Youth : Evidence from an Emerging Nation in South Asian Region. *Advances in Management & Applied Economics*, *7*(2), 159–180.

Karama, G. B. (2007). *Examining factors promoting microfinance clients dropout*. Agder University College. Retrieved from brage.bibsys.no/xmlui/bitstream/handle/11250/135121/master_devl_2007_karama.pdf?sequence=1

Karimimalayer, M., & Anuar, K. (2012). Structural equation modeling VS multiple regression. *An International Journal*, *2*(2), 326–329.

Karnani, A. G. (2009). *Regulate Microcredit to Protect Borrowers* (No. 1133). *Ross School of Business Paper*. Michigan. Retrieved from http://www.microfinancegateway.org/sites/default/files/mfg-en-paper-regulate-microcredit-to-protect-borrowers-sep-2009_0.pdf

Kasoga, P. N. S. (2015). Risk Perception and Adoption of Joint Versus Individual Liability: The Case of Selected Tribes in Tanzania. *Global Journal of Management and Business Research*, *15*(10), 38–54.

Kato, M. P., & Kratzer, J. (2013). Empowering Women through Microfinance : Evidence from Tanzania. *Journal of Entrepreneurship*, *2*(1), 31–59.

Kennedy, B. P. (2013). *The Theory of Planned Behavior and Financial Literacy: A Predictive Model for Credit Card Debt?* Marshall University. Retrieved from http://mds.marshall.edu/cgi/viewcontent.cgi?article=1480&context=etd

Kessy, S. S. ., & Urio, F. M. (2006). *The Contribution of Microfinance Institutions to Poverty Reduction in Tanzania*. Dar es salaam. Retrieved from http://www.academia.edu/6391328/The_Contribution_of_Microfinance_Institutions_to_Poverty_Reduction_in_Tanzania

Khalid, H. M., Yusuf, A., Ph, D., & Muazu, U. A. (2015). Technological Innovation and Small Business Performance: An Empirical Analysis Based on Technology-Organisation-Environment Model. In *Proceedings of the 1st Management, Technology, and Development Conference* (p. 17). Bauchi: ATB University Bauchi.

Khandker, S. R., & Samad, H. a. (2013). *Microfinance Growth and Poverty Reduction in Bangladesh : What Does the Longitudinal Data Say ?* Bangladesh. Retrieved from inm.org.bd/publication/workingpaper/workingpaper16.pdf

Kharde, Y., & Madan, P. (2018). Influence of Intentions on Buying Behaviour of Women towards Insurance Purchase : An Empirical Study. *International Journal of Business and Management Invention*, *7*(2), 19–27.

Kheder, A., Mustafa, A., Saat, M. M., Management, F., & Skudai, U. T. M. (2013). Microfinance Institutions Performance Measurement : Introducing a New Performance Measurement Framework. *Middle-East Journal of Scientific Research*, *15*(11), 1618–1628.

Khine, S. M. (2013). *Application of structural equation modeling in educational research and practice*. Rotterdam: Sense.

Kim, D. J., Ferrin, D. L., & Rao, R. H. (2008). A Trust-Based Consumer Decision Model in Electronic Commerce : The Role of Trust , Risk , and Their Antecedents. *Decision Support Systems*, *44*(2), 544–564.

King, G., Honaker, J., Joseph, A., & Scheve, K. (2001). Analyzing Incomplete Political Science Data. *American Political Science Review*, *85*(1269), 49–69.

Kipesha, E. F. (2013). Performance of Microfinance Institutions in Tanzania : Integrating Financial and Non financial Metrics. *European Journal of Business and Management*, *5*(4), 94–105.

Kiriakidis, S. (2015). Theory of Planned Behaviour : the Intention-Behaviour Relationship and the Perceived Behavioural Control (PBC) Relationship with Intention and Behaviour. *International Journal of Strategic Innovative Marketing*, *3*, 40–51.

Kisaka, S. E. (2014). The Impact of Attitudes towards Saving , Borrowing and Investment on the Capital Accumulation Process in Kenya : An Application of the Theory of Planned Behavior. *Research Journal of Finance and Accounting*, *5*(9), 140–152.

Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling*. (D. T. Little, Ed.) (3rd ed.). New York: The Guilford Press.

Knowlden, A. p, & Sharma, M. (2012). Health Belief Model Predictors Of Undergraduate Students' Engagement In Short Messaging Services While Operating A Motor Vehicle. *Safety Science Monitor*, *16*(1), 1–10.

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Delhi: New Age International.

Krishnaveni, R., & Deepa, R. (2013). Controlling Common Method Variance while Measuring the Impact of Emotional Intelligence on Well-being. *Vikalpa*, *38*(1), 41–47.

Krueger Jr., N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing Models of Entrepreneurial Intentions. *Journal of Business Venturing*, *15*(5), 411–432.

Kwai, M. D., & Urassa, J. K. (2015). The contribution of savings and credit cooperative societies to income poverty reduction : A case study of Mbozi District , Tanzania. *Journal of African Studies and Development*, *7*(4), 99–111.

Lajuni, N., Wong, W., Ming, P., Yacob, Y., Ting, H., & Jausin, A. (2017). Intention to Use Islamic Banking Products and Its Determinants. *International Journal of Economics and Financial*, *7*(1), 329–333.

Laroche, M., McDougall, G. H. G., Bergeron, J., & Yang, Z. (2004). Exploring How Intangibility Affects Perceived Risk. *Journal of Service Research*, *6*(4), 373–389.

Ledegerwood, J., Julie, E., & Candace, N. (2013). *The New Microfinance Handbook: A Financial Market System Perspective*. (J. Ledegerwood, E. Julie, & N. Candace, Eds.). Washington D.C.: World Bank. Retrieved from openknowledge.worldbank.org/bitstream/handle/10986/12272/9780821389270.pdf

Ledgerwood, J. (1999). *Sustainable banking with the poor microfinance handbook*. Washington D.C.: The World Bank. Retrieved from http://dspace.khazar.org/jspui/handle/123456789/2831

Lee, G. S., & Yom, Y. (2013). Structural Equation Modeling on Life-world Integration in People with Severe Burns. *Asian Nursing Research*, *7*(3), 112–119.

Lee, M. (2009a). Electronic Commerce Research and Applications Factors influencing the adoption of internet banking : An integration of TAM and TPB with perceived risk and perceived benefit. *Electronic Commerce Research and Applications*, *8*(3), 130–141.

Lee, M. (2009b). Predicting and explaining the adoption of online trading : An empirical study in Taiwan. *Decision Support Systems*, *47*(2), 133–142.

Lee, Y., Kozar, a. K., & Larsen, K. R. T. (2003). The technology acceptance model: Past, present, and future. *The Communications of the Association for Information Systems*, *12*(1), 752–780.

Lei, P., & Wu, Q. (2007). Introduction to structural equation modeling: Issues and practical considerations. *Educational Measurement: Issues and Practice*, *26*(3), 33–43.

Leung, K.-Y., Lo, C.-T., Sun, H., & Wong, K.-F. (2012). Factors Influencing Engineering Students' intention to Participate in On-Campus Entrepreneurial Activities. *Journal of Entrepreneurship Education*, *15*, 1–20.

LHRC. (2015). *Tanzania Human Rights Report: Tanzania Mainland*. Dar es salaam: Legal and Human Rights Centre. Retrieved from http://www.humanrights.or.tz/userfiles/file/TANZANIA HUMAN RIGHTS 2015.pdf

Li, X., Gan, C., & Hu, B. (2011). Accessibility to microcredit by Chinese rural households. *Journal of Asian Economics*, *22*(3), 235–246.

Lin, H.-F. (2007). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications*, *6*(4), 433–442.

Lin, T.-C., Hsu, J. S. C., & Chen, H. C. (2013). Customer Willingness to Pay for Online Music: The Role of Free Mentality. *Journal of Electronic Commerce Research*, *104*(4), 315–333.

Lindvert, M., Yazdanfar, D., & Boter, H. (2015). Perceptions of financial sources among women entrepreneurs in Tanzania. *African Journal of Economic and Management Studies*, *6*(2), 197–218.

Liu, Y., Li, H., Kostakos, V., Goncalves, J., Hosio, S., & Hu, F. (2014). An empirical investigation of mobile government adoption in rural China: A case study in Zhejiang province. *Government Information Quarterly*, *31*(3), 432–442.

Lo, A. S.-Y. (2007). *Study on the Impact of a Bundle of Determinants on the Shopping and Visiting Intentions of Tourists: an Extension of the Theory of Reasoned Action*. Oklahoma State University. Retrieved from http://digital.library.okstate.edu/etd/umi-okstate-2184.pdf

Long, I. (2009). *Perceptions of Microfinance in Cameroon : A Case Study of UNICS , Yaoundé*. Yaounde. Retrieved from http://digitalcollections.sit.edu/cgi/viewcontent.cgi?article=1731&context=isp_collection

Lu, C., Huang, S., & Lo, P. (2010). An empirical study of on-line tax filing acceptance model : Integrating TAM and TPB. *African Journal of Business Management*, *4*(5), 800–810.

Lushakuzi, S., Killagane, K., & Lwayu, G. (2017). Village Community Banks (VICOBA) and Members ' Business Sustainability : Case study of Kunduchi Ward at Kinondoni District in Dar es Salaam. *International Journal of Business Marketing and Management*, *2*(3), 60–70.

Maditinos, D., Tsairidis, C., & Grigoriadis, C. (2009). Internet Banking user acceptance: Evidence from Greece and Bulgaria. In *5 th HSSS Conference*. Xanthi: Democritus University of Thrace.

Magali, J. J. (2013). Factors Affecting Credit Default Risks For Rural Savings and Credits Cooperative Societies (SACCOS) in Tanzania. *European Journal of Business and Management*, *5*(32), 60–74.

Magendans, J., Gutteling, J., & Zebel, S. (2017). Psychological determinants of financial buffer saving : the influence of financial risk tolerance and regulatory focus. *Journal of Risk Research*, *20*(8), 1076–1093. https://doi.org/10.1080/13669877.2016.1147491

Mahasneh, M. (2016). The Role of Empowerment Strategy on Achieving the Organizational Competencies through Organizational Learning of Directors in Jordanian Public Organizations Department of Public Administration. *International Journal of Humanities and Social Science*, *6*(7), 71–80.

Mahlanza, T. J. (2015). *Factors influencing retirement savings intentions in Botswana*. Deakin Univeristy. Retrieved from http://dro.deakin.edu.au/eserv/DU:30080443/mahlanza-factorsinfluencing-2015A.pdf

Makpotche, M., Logossah, K., Amewokunu, Y., Lawson-Body, A., & Sedzro, K. (2015). Impact of Cultural Beliefs on Entrepreneurs' Intention to use Bank Loans. *Journal of Applied Finance and Banking*, *5*(4), 11–32.

Malebana, M. J. (2015). Perceived barriers influencing the formation of entrepreneurial intention. *Journal of Contemporary Management*, *12*(1), 881–905.

Maleko, G. N., Liheta, B. S. A., Aikaruwa, D., Lukas, A., & Sumari, G. A. (2013). Women Participation in Microfinance Institutions of Tanzania: The Case of Savings and Credit Co-operative Societies (SACCOS). *Journal of Business Administration and Education*, *4*(2), 139–175.

Malhotra, N. K. (2012). One , few or many ? An integrated framework for identifying the items in measurement scales. *International Journal of Market Research*, *54*(6), 835–863.

Mallinckrodt, B., Abraham, W. T., Wei, M., & Russell, D. (2006). Advances in testing the statistical significance of mediation effects. *Journal of Counseling Psychology*, *53*(3), 372–378.

Marwa, N., & Aziakpono, M. (2016). Technical and scale efficiency of Tanzanian saving and credit cooperatives. *The Journal of Developing Areas*, *50*(1), 29–46.

Masoud, E. Y. (2013). The Effect of Perceived Risk on Online Shopping in Jordan. *European Journal of Business and Management*, *5*(6), 76–88.

Mathieson. (1991). Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior. *Information Systems Research*, *2*(3), 173–191.

Maximambali, F., Lwoga, C., & Rutherford, S. (1999). *Client Exits (Drop-outs) Amongst Tanzanian Microfinance Institutions*. Dar es salaam. Retrieved from http://www.microsave.net/files/pdf/Client_Exits_Drop_outs_Amongst_Tanzanian_Microfinance_Institutions.pdf

Mbawuni, J., & Nimako, S. G. (2015). Predicting Clients' Intentions to Acquire Credit Facilities in Ghanaian Financial Market. *International Journal of Economics and Finance*, *7*(2), 63–77.

Meade, A. W., Watson, A. M., & Kroustalis, C. M. (2007). Assessing common methods bias in organizational research. In *22nd annual meeting of the society for industrial and organizational psychology, New York* (pp. 1–10). New York.

MFTransparency. (2011). *Promoting Transparent Pricing in the Microfinance Industry, Country Survey: Tanzania*. Retrieved from www.mftransparency.org/wp-content/uploads/2012/05/MFT-RPT-106-EN-Country-Survey-Tanzania.pdf

Michael, R. S. (2001). *Crosstabulation & chi square*. Indiana: Indiana University Bloomington. Retrieved from https://scholar.google.com/scholar?hl=en&q=Crosstabulation+%26+Chi+Square+&btnG=&as_sdt=1%2C5&as_sdtp=

Miniard, P. W., & Cohen, J. B. (1981). An examination of the Fishbein-Ajzen behavioral-intentions model's concepts and measures. *Journal of Experimental Social Psychology*, *17*(3), 309–339.

Ministry of Agriculture Food Security and Cooperatives. (2015). *Statement by Minister of Agriculture Food Security and Cooperatives Hon. Stephen M. Wasira (MP) During the IFAD Roundtable Workshop-Tanzania Country Programme Evaluation (CPE)*. Dar es salaam: United Republic of Tanzania. Retrieved from www.ifad.org/documents/10180/45751371-af2d-4196-96d4-0f8753b044b6

Ministry of Finance Planning and Economic Development. (2014). *Structural Change and Poverty Reduction in Uganda*. Kampala. Retrieved from http://www.undp.org/content/dam/uganda/docs/UNDPUg2014 - poverty status report 2014.compressed.pdf

Mishra, S. (2014). Adoption of M-commerce in India: Applying Theory of Planned Behaviour Model. *Journal of Internet Banking and Commerce*, *19*(1), 1–17.

Mlowosa, T. P., Kalimangi'asi, N., & Mathias, B. D. (2014). The role of Microfinance Institutions in Improving the Economic Status of Women in Tanzania : *International Journal of Scientific and Research Publications*, *4*(11), 1–8.

Mnenwa, R., & Maliti, E. (2009). *Assessing the institutional framework for promoting the growth of MSEs in Tanzania: the case of Dar es Salaam*. Dar es salaam: Research on poverty alleviation (REPOA). Retrieved from http://www.repoa.or.tz/documents/Research_Report_08.6_LR_.pdf

Mohamed, A., & Ahmed, D. (2015). The Challenges Facing Microfinance Institutions in Poverty Eradication : A Case Study in Mogadishu. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, *2*(2), 56–62.

Montaño, D., & Kasprzyk, D. (2008). Theory of reasoned action, theory of planned behaviour, and the integrated behavioral model. In K. Glanz, B. Rimer, & K. Viswanath (Eds.), *Health Behaviour and Health Education:Theory, Research, and Practice* (4th ed., pp. 67–96). San Francisco: Jossey-Bass.

Morduch, J., & Haley, B. (2002). Analysis of the Effects of Microfinance on Poverty Reduction Analysis of the Effects of Microfinance on Poverty Reduction. *NYU Wagner - Working Papers Series*, 1–163.

Mori, G., & Kimambo, J. (2017). Prevailing Gaps in the Functioning of Microfinance Institutions in Rural Areas ; the Case Study of Lokingamma SACCOS at Mwika in Moshi Rural District , Tanzania Abstract : *The International Journal of Business & Management*, *5*(2), 79–84.

Mori, N. (2007). *Downscaling of commercial banks and its impact on their performance: A case study of Akiba Commercial Bank (ACB) in Tanzania*. Dar es salaam. Retrieved from https://scholar.google.com/scholar?hl=en&q=downscaling+of+commercial+banks+and+its+impact+on+their+performance&btng=&as_sdt=1%2c5&as_sdtp=

Mori, N., Nyantori, T., & Olomi, D. (2016). Effects of Clients' Literacy on Default and Delinquency of Savings and Credit Co-Operative Societies in Tanzania. *Business Management Review*, *19*(2), 1–12.

Morowatisharifabad, M. A., Momayyezi, M., & Ghaneian, M. . (2012). Health Belief Model and Reasoned Action Theory in Predicting Water Saving Behaviors in Yazd , Iran. *Health Promotion Perspectives*, *2*(2), 136–144.

Mosha, P. E., & Liheta, S. a. B. (2014). Impact of Microfinance on Households' Welfare: The Case of Dodoma Region, Tanzania. In *The African Economic Research Consortium (AERC), Bi-Annual Research Workshop, November 30- December 4, 2014* (p. 39). Dodoma: African Economic Research Consortium (AERC).

Moteleng, B. (2017). *A psychological study of the relationship between micro-finance self-esteem and self-efficacy of the poor in South Africa, PhD Thesis*. University of Pretoria, Pretoria. Retrieved from https://repository.up.ac.za/handle/2263/60398

Murphy, C. C., Vernon, S. W., Ph, D., Diamond, P. M., Ph, D., Tiro, J. A., & Ph, D. (2014). Competitive Testing of Health Behavior Theories : How Do Benefits , Barriers , Subjective Norm , and Intention Influence Mammography Behavior ? *Ann. Behav. Med.*, *47*, 120–129.

Musona, D., & Coetzee, G. (2001). *Dropouts among selected Zambian microfinance institutions: causes and potential impact on product design*. *MicroSave-Africa working paper*. Lusaka. Retrieved from http://www.microsave.net/files/pdf/Drop_outs_Among_Selected_Zambian_Microfinance_Institutions_Causes_And_Potential_Impact_On_Product_Design.pdf

Mwatsika, C. (2015). Entrepreneurship development and entrepreneurial orientation in rural areas in Malawi. *African Journal of Business Management*, *9*(9), 425–436.

Mwobobia, F. M. (2012). The Challenges Facing Small-Scale Women Entrepreneurs: A Case of Kenya. *International Journal of Business Administration*, *3*(2), 112–121.

Nance, M. (2013). *Tourist Intentions to Continue Poverty Alleviation Actions After Participating in Microfinance Tourism*. Clemson University. Retrieved from http://tigerprints.clemson.edu/cgi/viewcontent.cgi?article=2633&context=all_theses

Nasir, F., Roslin, M., & Chui, B. (2017). Decomposing the Theory of Planned Behaviour and Incorporating Spiritual Intelligence to Further Understand Purchase Intention of Life Insurance and Takaful. *International Journal of Economic Research*, *14*(16), 241–252.

Nasri, W., & Charfeddine, L. (2012). Factors affecting the adoption of Internet banking in Tunisia : An integration theory of acceptance model and theory of planned behavior. *Journal of High Technology Management Research*, *23*(1), 1–14.

National Bureau of Statistics. (2013a). *Basic Facts and Figures on Human Settlement, 2012*. Dar es salaam. Retrieved from http://nbs.go.tz/nbs/takwimu/references/Facts_and_Figures_on_Human_Settlements_2012.pdf

National Bureau of Statistics. (2013b). *Statistical abstract 2013*. Dar es salaam. Retrieved from http://www.nbs.go.tz/nbs/Stastical Abstract/Statistical Abstract Report 2013.pdf

National Bureau of Statistics. (2013c). *Tanzania in figures 2012*. Dar es salaam. Retrieved from www.nbs.go.tz

National Bureau of Statistics. (2014). *Basic Demographic and Socio-Economic Profile*. Dar es salaam. Retrieved from http://www.tanzania.go.tz/egov_uploads/documents/Descriptive_tables_Tanzania_Mainland_sw.pdf

Nejad, L. M. (2005). Comparison of the Health Belief Model and the Theory of Planned Behaviour in the Prediction of Dieting and Fasting Behaviour . *E-Journal of Applied Psychology*, *1*(1), 63–74.

Newman, D. A. (2014). Missing Data: Five Practical Guidelines. *Organizational Research Methods*, *17*(4), 372–411.

Ng, B. Y., Kankanhalli, A., & Xu, Y. (Calvin). (2009). Studying users' computer security behavior: A health belief perspective. *Decision Support Systems*, *46*(4), 815–825.

Ngowi, H. (2009). Economic development and change in Tanzania since independence : The political leadership factor. *African Journal of Political Science and International Relations*, *3*(4), 259–267.

Nikita. (2015). The Impact of Attitude , Subjective Norm , Perceived Behavioral Control , Trust , Perceived Benefit and Perceived Risk toward KlikBCA Usage Intention in Surabaya. *iBuss Management*, *3*(2), 295–303.

Okibo, B. W., & Makanga, N. (2014). Effects of micro finance institutions on poverty reduction in Kenya. *International Journal of Current Research and Academic Review*, *2*(2), 76–95.

Oliveira, T., Faria, M., & Abraham, M. (2014). Extending the understanding of mobile banking adoption : When UTAUT meets TTF and ITM. *International Journal of Information Management*, *34*(5), 689–703.

Oswald, M., Kim, K., Costa, L. da, & Maro, F. (2011). *Agricultural growth and poverty reduction in Tanzania 2000-2010: where has agriculture worked for the poor and what can we learn from this?* Dar es salaam. Retrieved from http://www.chronicpoverty.org/uploads/publication_files/WP208 Mashindano et al.pdf

Ozsoy, S., & Erkin, O. (2012). Validity and reliability of health belief model applied to influenza. *Academic Research International*, *2*(3), 31–40.

Pallant, J. (2010). *SPSS survival manual* (4th ed.). London: McGraw-Hill Education (UK).

Pampaka, M., Hutcheson, G., & Williams, J. (2016). Handling missing data : analysis of a challenging data set using multiple imputation. *International Journal of Research & Method in Education*, *39*(1), 19–37.

Parsian, N., & Dunning, T. A. M. (2009). Developing and validating a questionnaire to measure spirituality: A psychometric process. *Global Journal of Health Science*, *1*(1), 2–11.

Pascual-Ezama, D., Scandroglio, B., & Gil-Gomez de Liano, B. (2014). Can we predict individual investors' behavior in stock markets? A psychological approach. *Universitas Psychologica*, *13*(1), 25–35.

Patel, A., Schofield, G. M., Kolt, G. S., & Keogh, J. W. (2012). Perceived Barriers, Benefits and Motives for Physical Activity: An Examination of Older Adults from Two Primary Care Physical Activity Prescription Programs. *Journal of Aging and Physical Activity*, *21*(1), 85–99.

Phan, K. C., & Zhou, J. (2014). Factors Influencing Individual Investors' Behavior: An Empirical Study of the Vietnamese Stock Market. *American Journal of Business and Management*, *3*(2), 77–94.

Pigott, T. D. (2001). A Review of Methods for Missing Data. *Educational Research and Evaluation*, *7*(4), 353–383.

Piprek, G. (2007). *Linking with Saving and Credits Cooperative (SACCoS) to expand Financial Access in Rural Areas: A case study of CRDB Bank in Tanzania*. *Rural Finance Group of the Food and Agriculture Organization (FAO) of the United Nations*. Dar es salaam. Retrieved from http://www.ruralfinanceandinvestment.org/sites/default/files/1188984200 805_CRDB_Tanzania.pdf

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, *88*(5), 879–903.

Polit, D., & Beck, C. (2006). The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*, *29*(5), 489–497.

Porter, C. E., & Donthu, N. (2006). Using the technology acceptance model to explain how attitudes determine Internet usage: The role of perceived access barriers and demographics. *Journal of Business Research*, *59*(9), 999–1007.

Prabandari, S. P., & Sholihah, P. I. (2014). The influence of theory of planned behavior and entrepreneurship education towards entrepreneurial intention. *Journal of Economics, Business & Accountancy Ventura*, *17*(3), 385–392.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*(3), 879–891.

Presser, S., Couper, M., Lessler, J., Martin, E., Rothgeb, J., Jean, M., & Singer, E. (2004). Methods for Testing and Evaluating Survey Questions, *68*(1), 109–130.

Putit, L., & Johan, Z. J. (2015). C onsumers ‟ Acceptance of Halal'' Credit Card Services : An Empirical Analysis. *Journal of Emerging Economies and Islamic Research*, *3*(1), 1–9.

Putro, H., & Haryanto, B. (2015). Factors Affecting Purchase Intention of Online Shopping in Zalora Indonesia. *British Journal of Economics, Management & Trade*, *9*(1), 1–12.

Rajab, S. Y., & Nimehchisalem, V. (2016). Listening Comprehension Problems and Strategies among Kurdish EFL Learners. *The Iranian EFL Journal*, *12*(4), 6–27.

Rakhal, D. (2015). Entrepreneurship , Microfinance and Social Relation : An Empirical Analysis of Women â€™ s Perceptions. *The Journal of Nepalese Bussiness Studies*, *9*(1), 116–125.

Ramayah, T., Rouibah, K., Gopi, M., & Rangel, G. J. (2009). A decomposed theory of reasoned action to explain intention to use Internet stock trading among Malaysian investors. *Computers in Human Behavior*, *25*(6), 1222–1230.

Randhawa, B., & Gallardo, J. (2003). *Microfinance Regulation in Tanzania : Implications for Development*. *Africa Region Working Paper*. Washington D.C. Retrieved from http://www.worldbank.org

Raphael, G., & Mrema, G. (2017). Assessing the Role of Microfinance on Women Empowerment : A case of PRIDE (T) -Shinyanga. *Business and Economic Research*, *7*(2), 35–54. https://doi.org/10.5296/ber.v7i2.10238

Ravallion, M. (2001). Growth, inequality and poverty: Looking beyond averages. *World Development*, *29*(11), 1803–1815.

Reinartz, W., Haenlein, M., & Henseler, J. (2009). An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, *26*(4), 332–344.

Republic of Botswana. (2012). *Poverty Eradication Guidelines Implementation of Packages*. Gaborone, Botswana. Retrieved from http://www.gov.bw/globalassets/op-ministry/poverty-eradication-guidelines.pdf

Ross, T. P., Ross, L. T., Rahman, A., & Cataldo, S. (2010). The Bicycle Helmet Attitudes Scale : Using Among Undergraduates. *Journal of American College Health*, *59*(1), 29–36.

Rouibah, K., Ramayah, T., & May, O. S. (2011). Modeling User Acceptance of Internet Banking in Malaysia : a Partial Least Square (Pls) Approach. In *E-adoption and socio-economic impacts: Emerging infrastructural effects* (pp. 1–23). Pennsylvania, USA: IGI Global.

Rubambey, G. C. (2005). *Policy, Regulatory and Supervisory Environment for Microfinance in Tanzania*. *Bank of Tanzania*. Dar es salaam. Retrieved from http://www.arabic.microfinancegateway.org/sites/default/files/mfg-en-paper-policy-regulatory-and-supervisory-environment-for-microfinance-in-tanzania-2005.pdf

Rugumamu, C. (2014). Empowering smallholder rice farmers in Tanzania to increase productivity for promoting food security in Eastern and Southern Africa. *Agriculture & Food Security*, *3*(1), 7.

Russell, D. (2002). Personality and Social Psychology Bulletin In Search of Underlying Dimensions : The Use (and Abuse) of Factor Analysis in Personality and Social Psychology Bulletin. *Personality and Social Pschology Bulletin*, *28*(12), 1629–1646.

Salari, R., & Filus, A. (2017). Using the Health Belief Model to explain mothers' and fathers' intention to participate in universal parenting programs. *Prevention Science*, *18*(1), 83–94.

Saleh, A. (2006). *Antecedents of Commitment to an Import Supplier, PhD Thesis*. Queens Land University of Technology, Australia. Retrieved from http://eprints.qut.edu.au/16327/1/Md._Abu_Saleh_Thesis.pdf

Salia, P. J. (2016). *Effects of microcredit on performance of women owned microenterprises and household welfare in Arusha, Dar-Es Salaam and Mwanza Cities in Tanzania*. Sokoine University of Agriculture.

Sangkakoon, P., Ngarmyarn, A., & Panichpathom, S. (2014). The influence of group references in home purchase intention in Thailand. In *21st Annual European Real Estate Society Conference in Bucharest, Romania*. Romania. Retrieved from http://eres.scix.net

Satsios, N., & Hadjidakis, S. (2018). Applying the Theory of Planned Behaviour (TPB) in Saving Behaviour of Pomak Households. *International Journal of Financial Research*, *9*(2), 122–133. https://doi.org/10.5430/ijfr.v9n2p122

Saunders, M., Lewis, P., & Thornhill Adrian. (2009). *Research methods for business students* (5th ed.). Pearson Education Limited.

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the Fit of Structural Equation Models:Tests of Significance andDescriptive Goodness-of-Fit Measures. *Methods of Psychological Research Online*, *8*(2), 23–74.

Schleider, J., Patel, A., Krumholz, L., Chorpita, B., & Weisz, J. (2015). Relation between parent symptomatology and youth problems: multiple mediation through family income and parent-youth stress. *Child Psychiatry and Human Development*, *46*(1), 1–9.

Schlomer, G. L., Bauman, S., & Card, N. a. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology*, *57*(1), 1–10.

Schumacker, R. E., & Loamx, R. G. (2010). *A Beginners Guide to Structural Equation Modeling* (3rd ed.). New York: Taylor & Francis Group.

Sekaran, U. (2003). *Research Methods for Business* (4th ed.). New York: John Wiley & Sons Inc.

Severine, D., Lazaro, E., Kledal, P. R., Karantininis, K., Sibuga, K., & Mbapila, S. (2014). Why Transaction Costs Impede Smallholder Farmers' Participation into Export Organic Markets. *Building Organic Bridges*, *4*, 1077–1080.

Shabiq, A., & Hassan, Z. (2016). Factors Affecting Adoption of Takaful (Islamic Insurance) in the Maldives Factors Affecting Adoption of Takaful (Islamic Insurance) in the Maldives. *International Journal of Accounting & Business Management*, *4*(1), 86–97. https://doi.org/10.24924/ijabm/2016.04/v4.iss1/86.97

Shah Alam, S., & Mohamed Sayuti, N. (2011). Applying the Theory of Planned Behavior (TPB) in halal food purchasing. *International Journal of Commerce and Management*, *21*(1), 8–20.

Shanmugam, A., Savarimuthu, M., & Wen, T. (2014). Factors Affecting Malaysian Behavioral Intention to Use Mobile Banking With Mediating Effects of Attitude. *Academic Research International*, *5*(2), 236–253.

Shariff;, A. H. M., Amran;, A., & Goh, Y. N. (2012). Determinants of Behavioural Intention on Sustainable Food Consumption Among Consumers ' of Low Income Group : Empirical Evidence From Malaysia. *Journal of WEI Business and Economics*, *1*(1), 29–38.

Shih, Y.-Y., & Fang, K. (2004). The use of a decomposed theory of planned behavior to study Internet banking in Taiwan. *Internet Research*, *14*(3), 213–223.

Shinnar, R. S., Giacomin, O., & Janssen, F. (2012). Entrepreneurial Perceptions and Intentions: The Role of Gender and Culture. *Entrepreneurship Theory and Practice*, *36*(3), 465–493.

Shrout, P. E., & Bolger, N. (2002). Mediation in Experimental and Nonexperimental Studies : New Procedures and Recommendations. *Psychological Methods*, *7*(4), 422–445.

Shu, C.-Y., & Quynh, N. T. N. (2015). Guan-Xi, Loyalty, Contribution And 'Speak-Up Behavior: The Role of Leader-Member Exchange (LMX) as Mediator and Political Skill as Moderator. *Eurasian Journal of Business and Management*, *3*(2), 54–73.

Siddik, N. A., Sun, G., Yanjuan, C. U. I., & Kabiraj, S. (2014). Financial Inclusion through Mobile Banking : A Case of. *Journal of Applied Finance & Banking*, *4*(6), 109–136.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, *13*, 290–312.

Ssendi, L., & Anderson, A. R. (2009). Tanzanian Micro Enterprises and Micro Finance: The Role and Impact for Poor Rural Women. *Journal of Entrepreneurship*, *18*(1), 1–19.

Suhr, D. D. (2006). *Exploratory or confirmatory factor analysis?* SAS Institute Cary. Retrieved from http://www2.sas.com/proceedings/sugi31/200-31.pdf

Takele, Y., & Sira, Z. (2013). Analysis of factors influencing customers' intention to the adoption of e-banking service channels in Bahir Dar City : an integration of TAM , TPB AND PR. *European Scientific Journal*, *9*(13), 402–417.

TAMFI. (2012). *Tanzania Association of Microfinance Institutions: Members Directory*. Dar es salaam. Retrieved from http://www.tamfi.co.tz/uploads/Tamfi_Directory_2011_2012.pdf

Tanadi, T., Samadi, B., & Gharleghi, B. (2015). The Impact of Perceived Risks and Perceived Benefits to Improve an Online Intention among Generation-Y in Malaysia. *Asian Social Science*, *11*(26), 226–238.

Tanakinjal, G., Andrias, R. M., Sondoh, S. L., & Ibrahim, A. A. (2012). Relationship between perceived benefits and social influence towards self-disclosure and behavioral intention in web 2.0. *European Journal of Business and Social Sciences*, *1*(4), 63–75.

Tanzania National Council for Financial Inclusion. (2014). *Tanzania National Financial Inclusion framework*. Dar es salaam. Retrieved from http://www.afi-global.org/sites/default/files/publications/tanzania-national-financial-inclusion-framework-2014-2016.pdf

Taylor, S., & Todd, P. a. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, *6*(2), 144–176.

Teddlie, C., & Yu, F. (2007). Mixed Methods Sampling: A Typology With Examples. *Journal of Mixed Methods Research*, *1*(1), 77–100.

Teo, T. S., & Pok, S. H. (2003). Adoption of WAP-enabled mobile phones among Internet users. *The International Journal of Management Science*, *31*, 483–498.

Teo, T., Tsai, L. T., & Yang, C.-C. (2013). Applying Structural Equation Modeling (SEM) in Educational Research. In *Application of structural equation modeling in educational research and practice* (pp. 3–21). Sense.

The United Republic of Tanzania President ' s Office Planning Commission. (2009). *A study on tranforming agriculture in Tanzania*. Retrieved from www.mipango.go.tz

The world bank. (2013). *Diagnostic Review of Consumer Protection and Financial Literacy Key Findings and Recommendations*. Washington D.C. Retrieved from http://responsiblefinance.worldbank.org/~/media/giawb/fl/documents/diagnostic-reviews/tanzania-cpfl-diagreview-vol-i-final.pdf

Tingchi Liu, M., Chu, R., Wong, I. A., Angel Zúñiga, M., Meng, Y., & Pang, C. (2012). Exploring the relationship among affective loyalty, perceived benefits, attitude, and intention to use co-branded products. *Asia Pacific Journal of Marketing and Logistics*, *24*(4), 561–582.

Tonglet, M., Phillips, P. S., & Read, A. D. (2004). Using the Theory of Planned Behaviour to investigate the determinants of recycling behaviour: A case study from Brixworth, UK. *Resources, Conservation and Recycling*, *41*(3), 191–214. https://doi.org/10.1016/j.resconrec.2003.11.001

Trentelman, C. K., Irwin, J., Petersen, K. A., Ruiz, N., & Szalay, C. S. (2016). the Case for Personal Interaction: Drop-Off/Pick-Up Methodology for Survey Research. *Journal of Rural Social Sciences*, *31*(3), 68–104.

Triodos Facet. (2007). *Tanzania Country Scan Microfinance*. AB Zeist. Retrieved from www.microfinancegateway.org/sites/default/files/mfg-en-paper-tanzania-country-scan-microfinance-2009.pdf

Tsordia, C., & Papadimitriou, D. (2015). The Role of Theory of Planned Behavior on Entrepreneurial Intention of Greek Business Students. *International Journal of Synergy and Research*, *4*(1), 23–37.

Tundui, H. (2013). Microcredit , Micro Enterprising and Repayment Myth : The Case of Micro and Small Women Business Entrepreneurs in Tanzania. *American Journal of Business and Management*, *2*(1), 20–30.

URT. (2000). National Micro-Finance Policy. Dar es salaam: United Republic of Tanzania. Retrieved from http://extwprlegs1.fao.org/docs/pdf/tan169574.pdf

URT. (2003). *Small and Medium Enterprise Development Policy*. Dar es salaam. Retrieved from www.mit.go.tz/uploads/documents/sw/1455890063-SME-Development-Policy.pdf

URT. (2010). *National Strategy for Growth and Reduction of Poverty II (NSGRP II)*. Dar es salaam: Ministry of Finance and Economic Affairs. Retrieved from http://www.international.gc.ca/development-developpement/assets/pdfs/countries-pays/ National-Strategy-for-Growth-and-Reduction-of-Poverty-Tanzania.Pdf

URT. (2013). *Speech by the Minister for Finance Hon. Dr. William Augustao Mgimwa (MP) Introducing to the National Assembly, The Estimates of Government Revenue and Expenditure for Fiscal Year 2013/2014*. Dar es salaam. Retrieved from www.mof.go.tz/mofdocs/msemaji/Budget english 2013.pdf

URT. (2017). *National Microfinance Policy*. Dar es salaam. Retrieved from http://www.mof.go.tz/docs/Policy - Fedha English 3 (2).pdf

Venkatesh, V., & Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, *46*(2), 186–204.

Wachira, M. I. (2012). Impact of Financial Literacy on Access to Financial Services in Kenya. *International Journal of Business and Social Science*, *3*(19), 42–50.

Wanambisi, A. N., & Bwisa, P. H. M. (2013). Effects of Microfinance Lending on Business Performance: A Survey of Micro and Small Enterprises in Kitale Municipality, Kenya. *International Journal of Academic Research in Business and Social Sciences*, *3*(7), 56–67.

Wani, S. N., & Malik, S. (2013). A Comparative Study of Online Shopping Behaviour : Effects of Perceived Risks and Benefits. *International Journal of Marketing and Business Communication*, *2*(4), 41–55.

Wolter, D. (2008). *Tanzania - Why a Potential Food Exporter is still Importing Food. OECD Development Centre, Paris. www. oecd. org. Site visited on*. Retrieved from www.oecd.org/dev/41302291.pdf

Wright, G. A. N., & Rippey, P. (2003). *The Competitive Environment in Uganda : Implications for Microfinance Institutions and their Clients*. Kampala. Retrieved from http://www.microsave.net/files/pdf/The_Competitive_Environment_in_Uganda_Implications_for_Microfinance_Institutions_and_their_Clients.pdf

Wu, I., Li, J., & Fu, C. (2011). The adoption of mobile healthcare by hospital's professionals : An integrative perspective. *Decision Support Systems*, *51*(3), 587–596.

Wu, S., & Chen, J. (2014). A Model of Green Consumption Behavior Constructed by the Theory of Planned Behavior. *International Journal of Marketing Studies*, *6*(5), 119–132. https://doi.org/10.5539/ijms.v6n5p119

Xiao, J. J., & Wu, J. (2008). Completing Debt Management Plans in Credit Counseling : An Application of the Theory of Planned Behavior. *Journal of Financial Counseling and Planning*, *19*(2), 29–45.

Yang, Q., Pang, C., Liu, L., Yen, D. C., & Michael Tarn, J. (2015). Exploring consumer perceived risk and trust for online payments: An empirical study in China's younger generation. *Computers in Human Behavior*, *50*, 9–24.

Yeboah, E. H. (2010). Microfinance in rural Ghana: A view from below, PhD Thesis. University of Birmingham, UK.

Yu, C. (2012). Factors affecting individuals to adopt mobile banking: empirical evidence from the UTAUT model. *Journal of Electronic Commerce Research*, *13*(2), 104–122.

Zhang, L., Tan, W., Xu, Y., & Tan, G. (2012). Dimensions of Consumers ' Perceived Risk and Their Influences on Online Consumers ' Purchasing Behavior. *Communications in Information Science and Management Engineering*, *2*, 8–14.

Zikmund, W. G., Babin, B. J., & Carr, J. C. (2013). *Business Research Methods*. (M. Roche, E. Lowry, & M. Fisher, Eds.) (9th ed.). Cengage Learning.

Zohir, S., & Matin, I. (2004). Wider impacts of microfinance institutions: Issues and concepts. *Journal of International Development*, *16*(3), 301–330.

APPENDICES

Appendix A: Summary of Relevant Past Studies Constructs Measurements

Constructs	Author	Code	Items	Factor loading	Cronbach's alpha
Attitude	(M. Lee, 2009a)	ATT1	I think that using online banking is a good idea	0.858	0.91
		ATT2	I think that using online banking for financial transactions would be a wise idea	0.851	
		ATT3	I think that using online banking is pleasant	0.846	
		ATT4	In my opinion, it is desirable to use online banking	0.849	
	(Rouibah et al., 2011)	ATT1	I feel using internet banking is a wise idea	0.820	0.761
		ATT2	I feel using internet banking is a good idea	0.927	
		ATT3	I like to use internet banking	0.866	
	(I. Wu et al., 2011)	ATT1	Using mobile devices for wireless healthcare would be a good idea	0.86-0.88	0.89
		ATT2	Using mobile devices for wireless healthcare would be a wise idea		
		ATT3	I like the idea of using mobile devices for wireless healthcare		
		ATT4	Using mobile devices for wireless healthcare would be a pleasant experience		
	(Nasri & Charfeddine, 2012)	ATT1	I think that using online banking is a good idea	0.71	0.838
		ATT2	I think that using online banking for financial transactions would be a wise idea	0.85	
		ATT3	I think that using online banking is pleasant	0.79	
		ATT4	In my opinion, it is desirable to use online banking	0.82	
	(Deng et al., 2013)	ATT1	Using mobile health services is a good idea	0.6	0.81
		ATT2	Using mobile health services will promote me to manage health more actively	0.86	

Continued next page

Constructs	Author	Code	Items	Factor loading	Cronbach's alpha
		ATT3	I like the idea of using mobile health services	0.83	
	(Mbawuni & Nimako, 2015)	ATT1	Taking loan from a financial institution is a wise decision	0.987	0.99
		ATT2	Taking loan from a financial institution is a good behaviour	0.989	
		ATT3	I have positive attitude towards taking loans from banks	0.995	
Behavioral intention	(M. Lee, 2009a)	BI1	I would use online banking for my banking needs	0.917	0.92
		BI2	Using online banking for handling my banking transactions is something I would do	0.907	
		BI3	I would see myself using online banking for handling my banking transactions	0.902	
	(Nasri & Charfeddine, 2012)	BI1	I would use the online banking for my banking needs	0.90	0.856
		BI2	Using the online banking for handling my banking transactions is something I would do	0.83	
		BI3	I would see myself using the online banking for handling my banking transactions	0.81	
	(Yu, 2012)	BI1	I prefer to using mobile banking	0.793	0.841
		BI2	I intend to use mobile banking	0.793	
		BI3	I would use mobile banking	0.789	
	(Mbawuni & Nimako, 2015)	BI1	I will go to the bank for loans in the future	0.882	0.688
		BI2	I will rather go to another bank for loan instead of this financial institution	0.795	
	(Siddik et al., 2014)	BI1	I am very likely to adopt mobile banking in the future	0.75	0.839
		BI2	I plan to adopt mobile banking in the future	0.865	

Continued next page

Constructs	Author	Code	Items	Factor loading	Cronbach's alpha
		BI3	I believe it is worthwhile for me to adopt mobile banking	0.804	
	(Deng et al., 2013)	BI1	I have a high intention to use mobile health services	0.83	0.89
		BI2	I intend to learn about using mobile health services	0.83	
		BI3	I plan to use mobile health services to manage my health	0.82	
		BI4	Compare to other healthcare management, I prefer mobile health services	0.76	
Subjective norms	(M. Lee, 2009a)	SN1	People who are important to me would think that I should use online banking	0.847	0.88
		SN2	People who influence me would think that I should use online banking	0.862	
		SN3	People whose opinions are valued to me would prefer that I should use online banking	0.860	
	(Rouibah et al., 2011)	SN1	Most people who are important to me would think I should use Internet banking	0.866	0.795
		SN2	My family who are important to me would think I should use Internet banking	0.87	
		SN3	My relatives who are important to me would think I should use Internet banking	0.919	
		SN4	My friends who are important to me would think I should use Internet banking	0.908	
		SN5	My superiors who are important to me would think I should use Internet banking	0.892	
		SN6	My co-workers who are important to me would think I should use Internet banking	0.892	
	(I. Wu et al., 2011)	SN1	People who are important to me would think that I should use mobile devices for wireless healthcare.	0.85-0.92	0.88

Continued next page

Constructs	Author	Code	Items	Factor loading	Cronbach's alpha
		SN2	People who influence me would think that I should use mobile devices for wireless healthcare		
		SN3	People whose opinions are valued to me would prefer that I should use mobile devices for wireless healthcare		
		SN1	People who are important to me think that I should use mobile banking	0.733	Nil
	(Yu, 2012)	SN2	People who are familiar with me think that I should use mobile banking	0.829	
		SN3	People who influence my behavior think that I should use mobile banking	0.714	
		SN4	Most people surrounding with me use mobile banking	0.784	
	(Mbawuni & Nimako, 2015)	SN1	I took the loan because my friends and loved ones encouraged me to do so	0.889	0.698
		SN2	I took the loan because some of my loved ones had once taken loan from that financial institution	0.727	
Perceived behaviour control	(M. Lee, 2009a)	PBC1	I think that I would be able to use the online banking well for financial transactions	0.907	0.89
		PBC2	I think that using online banking would be entirely within my control	0.861	
		PBC3	I think that I have the resources, knowledge, and ability to use online banking	0.870	
	(Rouibah et al., 2011)	PBC1	I would be able to operate Internet banking	0.91	0.852
		PBC2	I have the resources to use Internet banking	0.916	
		PBC3	I have the resources to use Internet banking	0.936	
		PBC4	I have the ability to use Internet banking	0.929	

Continued next page

Constructs	Author	Code	Items	Factor loading	Cronbach's alpha
	(I. Wu et al., 2011)	PBC1	I would be able to use mobile devices for wireless healthcare well for my job	0.84-0.89	0.87
		PBC2	Using mobile devices for wireless healthcare are entirely within my control		
		PBC3	I had the resources, knowledge and ability to use mobile devices for wireless healthcare		
	(Deng et al., 2013)	PBC1	I believe I can learn to use mobile health services	0.74	0.88
		PBC2	I believe I can use mobile health services by myself	0.83	
		PBC3	I believe I can use mobile health services to manage my health	0.82	
		PBC4	I have relative necessary knowledge to use mobile health services	0.69	
	(H.-F. Lin, 2007)	PBC1	I feel comfortable using online shopping on my own	0.71	0.83
		PBC2	I can use online shopping even if no one is around to help me	0.83	
Perceived benefit	(M. Lee, 2009a)	PBE1	I think that using online banking can save my time in performing banking transaction	0.84	0.89
		PBE2	I think that using online banking can offer me a wider range of banking products, services and investment opportunities.	0.85	
		PBE3	I think that using online banking can save the transaction handling fees in performing banking transaction	0.84	
	(Kim et al., 2008)	PBE1	I think using this Website is convenient	0.79	Nil
		PBE2	I can save money by using this Website	0.63	
		PBE3	I can save time by using this Website	0.87	

Continued next page

Constructs	Author	Code	Items	Factor loading	Cronbach's alpha
		PBE4	Using this Website enables me to accomplish a shopping task more quickly than using traditional Stores	0.83	
		PBE5	Using this Website increases my productivity in shopping (e.g., make purchase decisions or find product information within the shortest time frame)	0.82	
Perceived barrier	(Humaidi & Balakrishnan, 2015)	PB1	Implementing information security behaviour such as scanning files is a waste of time	0.84	0.783
		PB2	Adopting information security behaviour is inconvenient.	0.96	
	(Jebarajakirthy & Lobo, 2014)	PB1	Collateral requirements or need for security affects my usage of microcredits	0.54	0.73
		PB2	I need to incur service charges when obtaining microcredits	0.50	
		PB3	There is a lot of paper work and documentation prior to obtaining microcredits	0.78	
		PB4	Institutions providing microcredits generally take a long time to approve the loan	0.69	
	(Porter & Donthu, 2006)	PB1	I do not have the money to get Internet access for personal use	1.00	0.93
		PB2	I cannot afford the Internet for personal use	0.88	

Appendix B: Questionnaire

Appendix B 1: Questionnaires' Cover Letter

UNIVERSITI TUNKU ABDUL RAHMAN

Dear Sir/Madam

I am currently pursuing PhD studies at Tunku Abdul Rahman Universiti (UTAR) in Malaysia. The study involves ***an assessment of the behavioral factors that could influence smallholder farmers' intention to adopt microfinance services*.** The research is invaluable in enhancing access to financial services by smallholder farmers in Tanzania rural areas. Your participation in the survey by completing sections ***''A and B''*** of the attached questionnaire could be of valuable significance in achieving the objectives of the study.

The value of your time and effort is highly appreciated in accomplishing the attached questionnaire. The information provided will be treated strictly confidential and for the purpose of the current study only.

Yours sincerely,

Julius J. Macha
PhD Candidate – UTAR
Faculty of Business and Finance
Contact: +255 752 372631

Appendix B 2: Pretest Sample Questionnaire in Swahili

Sehemu A: Taarifa binafsi za mtafitiwa

Katika sehemu hii weka alama ya vema (√) katika kisanduku husika kuonesha taarifa zako binafsi

1. Umri

☐ Miaka -18-34

☐ Miaka - 35-64

☐ Miaka 65 au zaidi

2. Jinsia

☐ M/ke

☐ M/me

3. Hali ya Ndoa

☐ Sijaoa

☐ Nimeoa

4. Kiwango cha Elimu

☐ Shule ya Msingi

☐ Shule ya Sekondari

☐ Stashahada

☐ Shahada au zaidi

☐ Bila Elimu Rasmi

Sehemu B: Maoni ya Mtafitiwa Kuhusu nia ya Kutumia Huduma Ndogo Ndogo za Kifedha

Tafadhali onesha kiwango chako cha kukubali au kukataa kwa kila kauli ifuatayo kwa kuzungushia duara (O) katika sehemu husika. Tumia ufunguo huu: Kutokubali kabisa (**KTK**); Kutokubali (**KT**); Bila uelekeo (**BU**); Kukubali (**KB**); na Kukubali kabisa (**KBK**).

SN	**Kipengele**	**Kiwango cha kukubali au kukataa**				
	Mtazamo wa kizuizi dhahiri katika matumizi ya huduma ndogo ndogo za Kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
5	Naweza kupoteza muda wangu katika huduma ndogondogo za kifedha kutokana na muda mfupi wa marejesho ya mikopo	1	2	3	4	5
6	Muda nitakaotumia kuomba na kutimiza taratibu za mikopo katika huduma ndogo ndogo za kifedha unaweza kutumika katika shughuli za kilimo zenye faida zaidi	1	2	3	4	5
7	Naweza kupoteza fedha au mali zangu ikiwa mmoja wa wanakikundi atashindwa kurudisha kiasi chake cha mkopo	1	2	3	4	5
8	Matumizi ya huduma ndogondogo za kifedha yanaweza kunigharimu kutokana na vitu kama vile gharama za huduma na riba	1	2	3	4	5
9	Sina uhakika ikiwa nitapata mkopo mdogo wa fedha kwa muda halisi ninaotaka	1	2	3	4	5
	Mtazamo wa Faida za kutumia huduma ndogo ndogo za kifedha					
10	Matumizi ya huduma ndogo ndogo za kifedha yanaweza kunisaidia kukamilisha mahitaji yangu ya kifedha kwa haraka	1	2	3	4	5
11	Huduma ndogo ndogo za kifedha zinaweza kuwa chanzo mbadala cha fedha kukidhi matatizo yangu ya kifedha	1	2	3	4	5
12	Huduma ndogo ndogo za kifedha zaweza kunipa uwanja mpana wa huduma ya mkopo mdogo, bima ndogo na akiba	1	2	3	4	5
13	Huduma ndogo ndogo za kifedha zaweza ongeza uzalishaji wa kilimo na uendelevu	1	2	3	4	5
14	Sihitaji kuwa na dhamana inayotambulika kisheria kukidhi vigezo vya kupatiwa huduma ndogondogo za kifedha	1	2	3	4	5

SN	Kipengele	Kiwango cha kukubali au kukataa				
	Mtazamo juu ya matumizi ya huduma ndogo ndogo za kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
15	Nadhani taratibu za kupata huduma ndogo ndogo za kifedha ni rahisi	1	2	3	4	5
16	Utaratibu wa urejeshaji wa mkopo katika huduma ndogo ndogo za kifedha hauna bugudha kwangu ukilinganisha na huduma mbadala	1	2	3	4	5
17	Huduma ndogo ndogo za kifedha zitaniwezesha kusimamia mambo yangu ya kifedha vizuri zaidi	1	2	3	4	5
18	Utumiaji wa huduma ndogo ndogo za kifedha katika kuongeza uzalishaji wangu wa kilimo ni wazo zuri	1	2	3	4	5
19	Kwa maoni yangu nahamasika kutumia huduma ndogo ndogo za kifedha ili kukidhi mahitaji yangu ya kifedha	1	2	3	4	5
	Mtazamo wa msukumo wa kijamii katika utumiaji wa huduma ndogo ndogo za kifedha					
20	Watu muhimu kwangu wanadhani kwamba ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
21	Watu ninaothamini maoni yao wanafikiri ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
22	Naweza kutumia huduma ndogo ndogo za kifedha endapo marafiki zangu watanitia moyo	1	2	3	4	5
23	Watu wengi wa familia yangu wanadhani ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
24	Watu ninaowapenda wanaweza kunishawishi kutumia huduma ndogo ndogo za kifedha ikiwa huduma imethibitika kuwa muhimu katika mahitaji yao ya kifedha	1	2	3	4	5

SN	Kipengele	Kiwango cha kukubali au kukataa				
	Mwenendo mtazamo dhibiti unaoongoza matumizi ya huduma ndogo ndogo za kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
25	Nadhani nitatumia huduma ndogondogo za kifedha nikiwa na uelewa wa namna ya kutumia huduma ndogondogo za kifedha kwa ajili ya shughuli za kilimo	1	2	3	4	5
26	Nitaweza kujifunza kutumia huduma ndogo ndogo za kifedha katika kuendeleza shughuli zangu za kilimo	1	2	3	4	5
27	Nadhan ninazo rasilimali za msingi (kama vile ardhi) na uwezo wa kutumia mkopo	1	2	3	4	5
28	Nadhani matumizi ya huduma ndogo ndogo za kifedha katika kuboresha uzalishaji wa kilimo ni jambo lililo ndani ya udhibiti wangu	1	2	3	4	5
29	Naweza kujisikia huru katika kipindi cha utumiaji wa huduma ndogo ndogo za kifedha	1	2	3	4	5
	Mwenendo nia wa kutumia huduma ndogo ndogo za kifedha					
30	Nitatumia huduma ndogo ndogo za kifedha kujipatia mahitaji yangu ya kifedha	1	2	3	4	5
31	Nina mpango wa kutumia huduma ndogo ndogo za kifedha baadae kama mbadala halisi wa chanzo cha fedha katika shughuli za kilimo	1	2	3	4	5
32	Naamini ni jambo la thamani kwangu kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
33	Nitapendelea zaidi kutumia huduma ndogo ndogo za kifedha rasmi kuliko huduma zisizorasmi katika kupata mahitaji yangu ya kifedha	1	2	3	4	5

Asante kwa Muda wako na kwa kushiriki

Appendix B 3: Pretest Sample Questionnaire in English

Section A: Respondents' demographic profile

In this section please tick the appropriate box regarding your personal profile

1. Age

☐ 18-34

☐ 35-64

☐ 65 or more

2. Gender

☐ Female

☐ Male

3. Marital Status

☐ Single

☐ Married

4. Education level

☐ Primary school

☐ Secondary school

☐ Diploma

☐ Graduate and above

☐ None

Section B: Respondent's opinion about the intention to use microfinance services

Please indicate the extent to which you agree or disagree with each of the statements below. Circle the appropriate figure that represents your level of agreement with the statement: Strongly disagree (SDA); Disagree (DA); Neutral (N); Agree (A); and strongly agree (SA).

SN	Items	SDA	DA	N	A	SA
	Perceived barrier to use microfinance services					
5	I may lose some of my personal time to service the loan due to short repayment period in microfinance	1	2	3	4	5
6	The time taken to apply the service and adhere to the procedures while using the loans could be used on other beneficial farming activities	1	2	3	4	5
7	I may lose my money or belongings if one of the group members failed to settle his/her micro loan	1	2	3	4	5
8	Using formal microfinance services could be costly to me because of charges such as interest rates and service charges	1	2	3	4	5
9	I am not sure whether I could receive the microfinance loans at the time that I need it most	1	2	3	4	5
	Perceived benefit to use microfinance services					
10	Using microfinance services would enable me to accomplish my financial needs quickly without producing formal documents like financial statements and valuation reports	1	2	3	4	5
11	Microfinance services may offer me the best alternative source of financing that could unleash my financial problems	1	2	3	4	5
12	Microfinance services could offer me a wider range of financial services such as micro-loans, micro-insurance and savings	1	2	3	4	5
13	Microfinance services could increase the farming's productivity and sustainability	1	2	3	4	5
14	Conventional collateral for the application of microfinance services may not be required	1	2	3	4	5
	Attitude toward usage of microfinance services					
15	I think the procedures for microfinance services are simple	1	2	3	4	5
16	The loan recovery process in microfinance services would be less harassing to me compared to other alternatives	1	2	3	4	5
17	Microfinance services would allow me to manage my financial affairs better	1	2	3	4	5
18	Using microfinance services to enhance my agricultural productivity would be a good idea	1	2	3	4	5
19	In my opinion, it is desirable to use microfinance services to meet financial transaction needs	1	2	3	4	5

SN	Items	SDA	DA	N	A	SA
	Subjective norms to use microfinance services					
20	People who are important to me feel that I should use microfinance services	1	2	3	4	5
21	People whose opinions are valued to me feel that I should use microfinance services	1	2	3	4	5
22	I may use microfinance services if my friends and loved ones encouraged me to use it	1	2	3	4	5
23	Most members of my family think I should use microfinance services	1	2	3	4	5
24	People whom I loved could influence me to use microfinance if the service had proved to be useful in meeting their financial needs	1	2	3	4	5
	Perceived behaviour control to use microfinance services					
25	I think that I have the basic knowledge on how to use microfinance services to improve my agricultural business	1	2	3	4	5
26	I think that I would be able to learn on how to make use of the microfinance services in developing my agricultural business	1	2	3	4	5
27	I think that I have the basic resources and ability to utilise the loans	1	2	3	4	5
28	I think it is within my control on whether to use or not to use microfinance services to improve farming productivity	1	2	3	4	5
29	I may feel comfortable during the tenure of microfinance services	1	2	3	4	5
	Behavioural intention to use microfinance services					
30	I would use microfinance to meet my financial needs	1	2	3	4	5
31	I plan to use microfinance services in the future as the best alternative source of financing farming activities	1	2	3	4	5
32	It is worthwhile for me to use microfinance services	1	2	3	4	5
33	I would prefer to use formal microfinance services rather than informal ones to meet my financial needs	1	2	3	4	5

Thank you for your time and participation

Appendix B 4: Pilot Study Sample Questionnaire in Swahili

Sehemu A: Taarifa binafsi za mtafitiwa

Katika sehemu hii weka alama ya vema (√) katika kisanduku husika kuonesha taarifa zako binafsi

5. Umri

☐ Miaka -18-34

☐ Miaka - 35-64

☐ Miaka - 65 au zaidi

6. Jinsia

☐ M/ke

☐ M/me

7. Hali ya Ndoa

☐ Sijaoa/Sijaolewa

☐ Nimeoa/Nimeolewa

8. Kiwango cha Elimu

☐ Shule ya Msingi

☐ Shule ya Sekondari

☐ Astashahada

☐ Stashahada

☐ Shahada au zaidi

☐ Bila Elimu Rasmi

Sehemu B: Maoni ya Mtafitiwa kuhusu nia ya kutumia Huduma ndogo ndogo za Kifedha

Tafadhali zungushia duara [O] sehemu sahihi yenye namba kati ya 1 mpaka 5 kulingana na kiwango chako cha kukubaliana ama kutokubaliana na maelezo husika yaliyoko upande wa kushoto mwa jedwali. Tumia ufunguo huu: Kutokubali kabisa (**KTK**); Kutokubali (**KT**); Bila uelekeo (**BU**); Kukubali (**KB**); na Kukubali kabisa (**KBK**).

SN	**Kipengele**	**Kiwango cha kukubali au kukataa**				
	Mtazamo wa kizuizi katika matumizi ya huduma ndogo ndogo za Kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
5	Naweza kupoteza muda wangu katika huduma ndogondogo za kifedha kutokana na muda mfupi wa marejesho ya mikopo	1	2	3	4	5
6	Muda nitakaotumia kuomba na kutimiza taratibu za mikopo katika huduma ndogo ndogo za kifedha unaweza kutumika katika shughuli za kilimo zenye faida zaidi	1	2	3	4	5
7	Naweza kupoteza fedha au mali zangu ikiwa mmoja wa wanakikundi atashindwa kurudisha kiasi chake cha mkopo	1	2	3	4	5
8	Matumizi ya huduma ndogondogo za kifedha yanaweza kunigharimu kutokana na vitu kama vile gharama za huduma na riba	1	2	3	4	5
9	Sina uhakika ikiwa nitapata mkopo mdogo wa fedha kwa muda halisi ninaotaka	1	2	3	4	5
	Mtazamo wa Faida za kutumia huduma ndogo ndogo za kifedha					
10	Matumizi ya huduma ndogo ndogo za kifedha yanaweza kunisaidia kukamilisha mahitaji yangu ya kifedha kwa haraka	1	2	3	4	5
11	Huduma ndogo ndogo za kifedha zinaweza kuwa chanzo mbadala cha fedha kukidhi matatizo yangu ya kifedha	1	2	3	4	5
12	Huduma ndogo ndogo za kifedha zaweza kunipa uwanja mpana wa huduma ya mkopo mdogo, bima ndogo na akiba	1	2	3	4	5
13	Huduma ndogo ndogo za kifedha zaweza ongeza uzalishaji wa kilimo na uendelevu	1	2	3	4	5
14	Sihitaji kuwa na dhamana inayotambulika kisheria kukidhi vigezo vya kupatiwa huduma ndogondogo za kifedha	1	2	3	4	5

SN	Kipengele	Kiwango cha kukubali au kukataa				
	Mtazamo juu ya matumizi ya huduma ndogo ndogo za kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
15	Nadhani taratibu za kupata huduma ndogo ndogo za kifedha ni rahisi	1	2	3	4	5
16	Utaratibu wa urejeshaji wa mkopo katika huduma ndogo ndogo za kifedha hauna bugudha kwangu ukilinganisha na huduma mbadala	1	2	3	4	5
17	Huduma ndogo ndogo za kifedha zitaniwezesha kusimamia mambo yangu ya kifedha vizuri zaidi	1	2	3	4	5
18	Utumiaji wa huduma ndogo ndogo za kifedha katika kuongeza uzalishaji wangu wa kilimo ni wazo zuri	1	2	3	4	5
19	Kwa maoni yangu nahamasika kutumia huduma ndogo ndogo za kifedha ili kukidhi mahitaji yangu ya kifedha	1	2	3	4	5
	Mtazamo wa msukumo wa kijamii katika utumiaji wa huduma ndogo ndogo za kifedha					
20	Watu muhimu kwangu wanadhani kwamba ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
21	Watu ninaothamini maoni yao wanafikiri ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
22	Naweza kutumia huduma ndogo ndogo za kifedha endapo marafiki zangu watanitia moyo	1	2	3	4	5
23	Watu wengi wa familia yangu wanadhani ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
24	Watu ninaowapenda wanaweza kunishawishi kutumia huduma ndogo ndogo za kifedha ikiwa huduma imethibitika kuwa muhimu katika mahitaji yao ya kifedha	1	2	3	4	5

SN	Kipengele	Kiwango cha kukubali au kukataa				
	Mwenendo mtazamo dhibiti unaoongoza matumizi ya huduma ndogo ndogo za kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
25	Nadhani nitatumia huduma ndogondogo za kifedha nikiwa na uelewa wa namna ya kutumia huduma ndogondogo za kifedha kwa ajili ya shughuli za kilimo	1	2	3	4	5
26	Nitaweza kujifunza kutumia huduma ndogo ndogo za kifedha katika kuendeleza shughuli zangu za kilimo	1	2	3	4	5
27	Nadhan ninazo rasilimali za msingi (kama vile ardhi) na uwezo wa kutumia mkopo	1	2	3	4	5
28	Nadhani matumizi ya huduma ndogo ndogo za kifedha katika kuboresha uzalishaji wa kilimo ni jambo lililo ndani ya udhibiti wangu	1	2	3	4	5
29	Naweza kujisikia huru katika kipindi cha utumiaji wa huduma ndogo ndogo za kifedha	1	2	3	4	5
	Nia ya kutumia huduma ndogo ndogo za kifedha					
30	Nitatumia huduma ndogo ndogo za kifedha kujipatia mahitaji yangu ya kifedha	1	2	3	4	5
31	Nina mpango wa kutumia huduma ndogo ndogo za kifedha baadae kama mbadala halisi wa chanzo cha fedha katika shughuli za kilimo	1	2	3	4	5
32	Naamini ni jambo la thamani kwangu kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
33	Nitapendelea zaidi kutumia huduma ndogo ndogo za kifedha rasmi kuliko huduma zisizorasmi katika kupata mahitaji yangu ya kifedha	1	2	3	4	5

Asante kwa Muda wako na kwa kushiriki

Appendix B 5: Main Study Sample Questionnaire in Swahili

Sehemu A: Taarifa Binafsi za Mshiriki

Tafadhali weka alama ya vema [√] kwenye kisanduku kuthibitisha taarifa zako binafsi.

1. Umri

☐ Miaka 18 hadi 34

☐ Miaka 35 hadi 64

☐ Miaka 65 au zaidi

2. Jinsia

☐ Mwanamke

☐ Mwanaume

3. Hali ya Ndoa

☐ Sijaoa/Sijaolewa

☐ Nimeoa/Nimeolewa

4. Kiwango cha Elimu

☐ Shule ya Msingi

☐ Shule ya Sekondari

☐ Cheti

☐ Stashahada

☐ Shahada au zaidi

☐ Bila Elimu Rasmi

Sehemu B: Maoni ya Mshiriki juu ya Kusudio la kutumia Huduma Ndogondogo za Kifedha

Tafadhali zungushia duara [O] sehemu sahihi yenye namba kati ya 1 mpaka 5 kulingana na kiwango chako cha kukubaliana ama kutokubaliana na maelezo husika yaliyoko upande wa kushoto mwa jedwali. Tumia ufunguo huu: Kutokubali kabisa (**KTK**); Kutokubali (**KT**); Bila uelekeo (**BU**); Kukubali (**KB**); na Kukubali kabisa (**KBK**).

SN	Kipengele	Kiwango cha kukubali au kukataa				
	Mtazamo uliopo juu ya Vikwazo katika kutumia huduma ndogondogo za kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
5	Naweza kupoteza muda wangu katika huduma ndogondogo za kifedha kutokana na muda mfupi wa marejesho ya mikopo	1	2	3	4	5
6	Muda mwingi nitakaotumia kuomba na kutimiza taratibu za mikopo katika huduma ndogo ndogo za kifedha unaweza kutumika katika shughuli za kilimo zenye faida zaidi	1	2	3	4	5
7	Mali au fedha zangu zinaweza kuchukuliwa endapo itatokea mmoja wa wanakikundi ameshindwa kurejesha mkopo wake	1	2	3	4	5
8	Matumizi ya huduma ndogondogo za kifedha zilizosajiliwa yanaweza kunigharimu sana kwa sababu ya riba na tozo nyinginezo	1	2	3	4	5
9	Sina uhakika kama naweza kupata mikopo midogomidogo ndani ya muda ambao nitakuwa nahitaji.	1	2	3	4	5
	Mtazamo uliopo juu ya Faida za kutumia Huduma Ndogondogo za Kifedha					
10	Matumizi ya huduma ndogo ndogo za kifedha yanaweza kunisaidia kukamilisha mahitaji yangu ya kifedha kwa haraka	1	2	3	4	5
11	Huduma ndogo ndogo za kifedha hunipa chanzo mbadala cha fedha kukidhi matatizo yangu ya kifedha	1	2	3	4	5
12	Huduma ndogondogo za kifedha zitaweza kutoa fursa pana ya kupata mikopo midogomidogo, bima ndogondogo na fursa ya kuweka akiba	1	2	3	4	5
13	Huduma ndogo ndogo za kifedha zinaweza kusaidia kuongeza uzalishaji katika Kilimo	1	2	3	4	5
14	Sihitaji kuwa na dhamana inayotambulika kisheria kukidhi vigezo vya kupatiwa huduma ndogondogo za kifedha	1	2	3	4	5

SN	Kipengele	Kiwango cha kukubali au kukataa				
	Mtazamo juu ya Kutumia Huduma Ndogondogo za Kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
15	Nadhani taratibu za kupata huduma ndogo ndogo za kifedha ni rahisi	1	2	3	4	5
16	Utaratibu wa urejeshaji mikopo katika huduma ndogondogo za kifedha hautakuwa na usumbufu mkubwa kwangu kulinganisha na njia nyinginezo	1	2	3	4	5
17	Huduma ndogo ndogo za kifedha zitaniwezesha kusimamia mambo yangu ya kifedha vizuri zaidi	1	2	3	4	5
18	Kutumia huduma ndogondogo za kifedha ili kuongeza uzalishaji katika shughuli zangu za kilimo ni wazo zuri	1	2	3	4	5
19	Kwa mtazamo wangu, ni vizuri kutumia huduma ndogondogo za kifedha kwa ajili ya kukidhi mahitaji ya kifedha	1	2	3	4	5
	Mtazamo wa msukumo wa kijamii katika utumiaji wa huduma ndogo ndogo za kifedha					
20	Watu muhimu kwangu wanadhani kwamba ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
21	Watu ninaothamini maoni yao wanafikiri ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
22	Naweza kutumia huduma ndogo ndogo za kifedha endapo marafiki zangu watanitia moyo	1	2	3	4	5
23	Watu wengi wa familia yangu wanadhani ninapaswa kutumia huduma ndogo ndogo za kifedha	1	2	3	4	5
	Mtazamo juu ya mwenendo dhibiti katika utumiaji wa Huduma ndogondogo za Kifedha					
24	Nadhani nitatumia huduma ndogondogo za kifedha nikiwa na uelewa wa namna ya kutumia huduma ndogondogo za kifedha kwa ajili ya shughuli za kilimo	1	2	3	4	5
25	Nadhani nitaweza kujifunza kutumia huduma ndogo ndogo za kifedha katika kuendeleza shughuli zangu za kilimo	1	2	3	4	5
26	Nadhani ninazo rasilimali za msingi (kama vile ardhi) na uwezo wa kutumia mikopo	1	2	3	4	5
27	Matumizi ya huduma ndogondogo za kifedha kuboresha uzalishaji katika Kilimo, nadhani ni jambo ambalo limo ndani ya uwezo wangu	1	2	3	4	5

SN	Kipengele	Kiwango cha kukubali au kukataa				
	Kusudio la Kitabia katika kutumia Huduma ndogondogo za Kifedha	**KTK**	**KT**	**BU**	**KB**	**KBK**
28	Nitatumia huduma ndogo ndogo za kifedha kujipatia mahitaji yangu ya kifedha	1	2	3	4	5
29	Ninakusudia kutumia huduma ndogondogo za kifedha kama njia nyingine ya upatikanaji wa fedha kwa ajili ya shughuli zangu za kilimo	1	2	3	4	5
30	Nina amini kutumia huduma ndogondogo za kifedha ni jambo la manufaa sana kwangu	1	2	3	4	5

Asante kwa Muda wako na kwa kushiriki

Appendix B 6: Main Study Sample Questionnaire in English

Section A: Respondents' demographic profile

In this section please tick the appropriate box regarding your personal profile

1. Age

☐ 18-34

☐ 35-64

☐ 65 and above

2. Gender

☐ Female

☐ Male

3. Marital Status

☐ Single

☐ Married

4. Education level

☐ Primary school

☐ Secondary school

☐ Certificate

☐ Diploma

☐ Graduate and above

☐ None

Section B: Respondent's opinion about the intention to use microfinance services

Please select and circle the most appropriate score [ranging from strongly disagree (SDA), disagree (DA), neutral (N), agree (A) to strongly agree (SA)] for each criterion that can best represent your perceptions

SN	Item	Extent of agree or disagree				
	Perceived barrier to use microfinance services	**SDA**	**DA**	**N**	**A**	**SA**
5	I may lose some of my personal time to service the loan due to short repayment period in microfinance	1	2	3	4	5
6	The time taken to apply the service and adhere to the procedures while using the loans could be used on other beneficial farming activities	1	2	3	4	5
7	I may lose my money or belongings if one of the group members failed to settle his/her micro loan	1	2	3	4	5
8	Using formal microfinance services could be costly to me because of charges such as interest rates and service charges	1	2	3	4	5
9	I am not sure whether I could receive the microfinance loans at the time that I need it most	1	2	3	4	5
	Perceived benefit to use microfinance services					
10	Microfinance services may assist me to accomplish my financial needs quickly without producing formal documents like financial statements and valuation reports	1	2	3	4	5
11	Microfinance services may offer me the best alternative source of financing that could unleash my financial problems	1	2	3	4	5
12	Microfinance services could offer me a wider range of financial services such as micro-loans, micro-insurance and savings	1	2	3	4	5
13	Microfinance services could increase the farming's productivity and sustainability	1	2	3	4	5
14	Conventional collateral for the application of microfinance services may not be required	1	2	3	4	5
	Attitude toward usage of microfinance services					
15	I think the procedures in getting the microfinance services are simple	1	2	3	4	5
16	The loan recovery process in microfinance services would be less harassing to me compared to other alternatives	1	2	3	4	5
17	Microfinance services would allow me to manage my financial affairs better	1	2	3	4	5
18	Using microfinance services to enhance my agricultural productivity would be a good idea	1	2	3	4	5
19	In my opinion, it is desirable to use microfinance services to meet financial transaction needs	1	2	3	4	5

SN	Item	Extent of agree or disagree				
	Subjective norms to use microfinance services	**SDA**	**DA**	**N**	**A**	**SA**
20	People who are important to me feel that I should use microfinance services	1	2	3	4	5
21	People whose opinions are valued to me feel that I should use microfinance services	1	2	3	4	5
22	I may use microfinance services if my friends and loved ones encouraged me to use it	1	2	3	4	5
23	Most members of my family think I should use microfinance services	1	2	3	4	5
	Perceived behaviour control to use microfinance services					
24	I think that I have the basic knowledge on how to use microfinance services to improve my agricultural business	1	2	3	4	5
25	I think that I would be able to learn on how to make use of the microfinance services in developing my agricultural business	1	2	3	4	5
26	I think that I have the basic resources (such as land) and ability to utilise the loans	1	2	3	4	5
27	I think it is within my control on whether to use or not to use microfinance services to improve farming productivity	1	2	3	4	5
	Behavioural intention to use microfinance services					
28	I would use microfinance to meet my financial needs	1	2	3	4	5
29	I plan to use microfinance services in the future as the best alternative source of financing farming activities	1	2	3	4	5
30	I believe it is worthwhile for me to use microfinance services	1	2	3	4	5

Thank you for your time and participation

Appendix C: Approval Letters for Research

Appendix C 1: Ethical Approval: Universiti Tunku Abdul Rahman

UNIVERSITI TUNKU ABDUL RAHMAN
Wholly Owned by UTAR Education Foundation (Company No. 578227-M)

Re: U/SERC/53/2016

21 July 2016

Dr Chong Yee Lee
Department of Marketing
Faculty of Business and Finance
Universiti Tunku Abdul Rahman
Jalan Universiti, Bandar Baru Barat
31900 Kampar
Perak

Dear Dr Chong,

Ethical Approval For Research Project/Protocol

We refer to your application dated 7 June 2016 for ethical approval for your research project (PhD candidate's project) and are pleased to inform you that your application has been approved under expedited review.

The details of your research project are as follows:

Research Title	Intention to Adopt Microfinance Services Among Smallholder Farmers in Tanzania, using the Theory of Planned Behaviour (TPB), Perceived Benefits and Perceived Barriers
Investigator(s)	Dr Chong Yee Lee (PI) Mr Julius Joseph Macha (UTAR Postgraduate Student)
Research Area	Social Sciences
Research Location	Tanzania
No of Participants	400 participants (Age: 18 and above)
Research Costs	Self-funded
Approval Validity	21 July 2016 - 20 July 2017

The conduct of this research is subject to the following:

(1) The participants' informed consent be obtained prior to the commencement of the research,

(2) Confidentiality of participants' personal data must be maintained; and

(3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.

Address: Jalan Sg. Long, Bandar Sg. Long, Cheras, 43000 Kajang, Selangor D.E. **Postal Address:** P O Box 11384, 50744 Kuala Lumpur, Malaysia
Tel: (603) 9086 0288 **Fax:** (603) 9019 8868 **Homepage:** http://www.utar.edu.my

Should you collect personal data of participants in your study, please have the participants sign the attached Personal Data Protection Statement for your records.

The University wishes you all the best in your research.

Thank you.

Yours sincerely,

Professor Ir Dr Lee Sze Wei
Chairman
UTAR Scientific and Ethical Review Committee

c.c Dean, Faculty of Business and Finance
Director, Institute of Postgraduate Studies and Research

Appendix C 2: Data collection Permit

HALMASHAURI YA WILAYA YA MBEYA

SIMU: 025 - 2502260
Fax: 025 - 2500128
MKURUGENZI MTENDAJI:

OFISI YA HALMASHAURI
S.L.P. 599
MBEYA.
TANZANIA.

Barua pepe: mbeyaded@yahoo.com

Kumb. Na. MDC/S. 10/8/VOL. IV/20 Tarehe 04.07.2016

Mtendaji wa Kata,
Kata ya Inyala,
Halmashauri ya Wilaya Mbeya.

YAH: KIBALI CHA KUFANYA UTAFITI MR. JULIUS J. MACHA

Tafadhali husika na kichwa cha habari hapo juu.

Napenda kumtambulisha Mwanafunzi **Mr. Julius J. Macha,** kutoka Chuo Kikuu cha Tunku Abdul Rahman University, kwa ajili ya kufanya utafiti kuanzia tarehe 05.07.2016 hadi 30.09.2016.

Case study **"Tathmini ya sababu za kimwenendo zinazowakatisha tamaa wakulima wadogowadogo kutumia huduma ndogo ndogo za kifedha".**

Tafadhali mpeni Ushirikiano.

Tinjis A kusipa
Kny: MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA YA MBEYA

Kny MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA
MBEYA

Nakala:
Mr. Julius J. Macha
Mwanafunzi wa Shahada ya Uzamivu -UTAR
Kitivo cha Biashara na Fedha
S.L.P 3918,
DAR ES SALAAM.

Appendix D: Statistical Results of Crosstabulation

Appendix D 1: Relationship between Attitude and age

Age	Details	Attitude			Total
		disagree	neutral	agree	
18-34	Count	17	15	212	244
	% within Age	7%	6%	87%	100%
	% within Attitude	47%	48%	50%	50%
35-64	Count	18	14	202	234
	% within Age	8%	6%	86%	100%
	% within Attitude	50%	45%	48%	48%
65 or more	Count	1	2	8	11
	% within Age	9%	18%	73%	100%
	% within Attitude	3%	6%	2%	2%
Total	Count	36	31	422	489
	% within Age	7%	6%	86%	100%
	% within Attitude	100%	100%	100%	100%
	% of Total	7%	6%	86%	100%
		Symmetric measure			
	Kendall's tau-c				-0.013
	Approx. sign				0.588

Appendix D 2: Relationship between attitude and education

Education	Details	Attitude			Total
		disagree	neutral	agree	
Primary	Count	19	18	241	278
	% within Education	7%	6%	87%	100%
	% within Attitude	53%	58%	57%	57%
Secondary	Count	14	9	132	155
	% within Education	9%	6%	85%	100%
	% within Attitude	39%	29%	31%	32%
Certificate	Count	2	4	33	39
	% within Education	5%	10%	85%	100%
	% within Attitude	6%	13%	8%	8%
Diploma	Count	0	0	11	11
	% within Education	0%	0%	100%	100%
	% within Attitude	0%	0%	3%	2%
Graduate and above	Count	1	0	5	6
	% within Education	17%	0%	83%	100%
	% within Attitude	3%	0%	1%	1%
Total	Count	36	31	422	489
	% within Education	7%	6%	86%	100%
	% within Attitude	100%	100%	100%	100%
	% of Total	7%	6%	86%	100%
		Symmetric measure			
	Kendall's tau-c				-0.04
	Approx. sign				0.87

Appendix D 3: Relationship between attitude and gender

Gender	Details	Attitude			Total
		disagree	neutral	agree	
Female	Count	20	22	246	288
	% within Gender	7%	8%	85%	100%
	% within Attitude	56%	71%	58%	59%
Male	Count	16	9	176	201
	% within Gender	8%	4%	88%	100%
	% within Attitude	44%	29%	42%	41%
Total	Count	36	31	422	489
	% within Gender	7%	6%	86%	100%
	% within Attitude	100%	100%	100%	100%
	% of Total	7%	6%	86%	100%
		Symmetric measure			
	Cramer's V				0.07
	Approx. sign				0.35

Appendix D 4: Relationship between attitude and marital status

Marital status	Details	Attitude			Total
		disagree	neutral	agree	
Single	Count	11	7	140	158
	% within Marital status	7%	4%	89%	100%
	% within Attitude	31%	23%	33%	32%
Married	Count	25	24	282	331
	% within Marital status	8%	7%	85%	100%
	% within Attitude	69%	77%	67%	68%
Total	Count	36	31	422	489
	% within Marital status	7%	6%	86%	100%
	% within Attitude	100%	100%	100%	100%
	% of Total	7%	6%	86%	100%
		Symmetric measure			
	Cramer's V				0.056
	Approx. sign				0.464

Appendix D 5: Relationship between behavioural intention and marital status

Marital status	Details	Behavioural intention			Total
		disagree	neutral	agree	
Single	Count	6	9	143	158
	% within Marital status	4%	6%	91%	100%
	% within behavioural intention	50%	30%	32%	32%
Married	Count	6	21	304	331
	% within Marital status	2%	6%	92%	100%
	% within behavioural intention	50%	70%	68%	68%
Total	Count	12	30	447	489
	% within Marital status	2%	6%	91%	100%
	% within behavioural intention	100%	100%	100%	100%
	% of Total	2%	6%	91%	100%
		Symmetric measure			
	Cramer's V				0.061
	Approx. sign				0.404

Appendix D 6: Relationship between behavioural intention and gender

Gender	Details	Behavioural intention			Total
		disagree	neutral	agree	
Female	Count	6	18	264	288
	% within Gender	2%	6%	92%	100%
	% within behavioural intention	50%	60%	59%	59%
Male	Count	6	12	183	201
	% within Gender	3%	6%	91%	100%
	% within behavioural intention	50%	40%	41%	41%
Total	Count	12	30	447	489
	% within Gender	2%	6%	91%	100%
	% within behavioural intention	100%	100%	100%	100%
	% of Total	2%	6%	91%	100%
		Symmetric measure			
	Cramer's V				0.029
	Approx. sign				0.814

Appendix D 7: Relationship between perceived barriers and education

Education	Details	Perceived barriers			Total
		disagree	**neutral**	**agree**	
Primary	Count	27	46	204	277
	% within Education	10%	17%	74%	100%
	% within perceived barriers	59%	69%	54%	57%
Secondary	Count	15	15	125	155
	% within Education	10%	10%	81%	100%
	% within perceived barriers	33%	22%	33%	32%
Certificate	Count	2	4	33	39
	% within Education	5%	10%	85%	100%
	% within perceived barriers	4%	6%	9%	8%
Diploma	Count	2	1	8	11
	% within Education	18%	9%	73%	100%
	% within perceived barriers	4%	1%	2%	2%
Graduate and above	Count	0	1	5	6
	% within Education	0%	17%	83%	100%
	% within perceived barriers	0%	1%	1%	1%
Total	Count	46	67	375	488
	% within Education	9%	14%	77%	100%
	% within perceived barriers	100%	100%	100%	100%
	% of Total	9%	14%	77%	100%
		Symmetric measure			
	Kendall's tau-c				0.05
	Approx. sign				0.07

Appendix D 8: Relationship between perceived barriers and age

Age	Details	Perceived barriers			Total
		disagree	neutral	agree	
18-34	Count	16	28	200	244
	% within Age	7%	11%	82%	100%
	% within Perceived barriers	35%	42%	53%	50%
35-64	Count	29	37	167	233
	% within Age	12%	16%	72%	100%
	% within Perceived barriers	63%	55%	45%	48%
65 or more	Count	1	2	8	11
	% within Age	9%	18%	73%	100%
	% within Perceived barriers	2%	3%	2%	2%
Total	Count	46	67	375	488
	% within Age	9%	14%	77%	100%
	% within Perceived barriers	100%	100%	100%	100%
	% of Total	9%	14%	77%	100%
		Symmetric measure			
	Kendall's tau-c				-0.079
	Approx. sign				0.06

Appendix D 9: Relationship between perceived barriers and marital status

Marital status	Details	Perceived barriers			Total
		disagree	neutral	agree	
Single	Count	19	20	119	158
	% within Marital status	12%	13%	75%	100%
	% within perceived barriers	41%	30%	32%	32%
Married	Count	27	47	256	330
	% within Marital status	8%	14%	78%	100%
	% within perceived barriers	59%	70%	68%	68%
Total	Count	46	67	375	488
	% within Marital status	9%	14%	77%	100%
	% within perceived barriers	100%	100%	100%	100%
	% of Total	9%	14%	77%	100%
		Symmetric measure			
	Cramer's V				0.063
	Approx. sign				0.379

Appendix D 10: Relationship between perceived behaviour control and age

Age	Details	Perceived behaviour control			Total
		disagree	neutral	agree	
18-34	Count	6	31	207	244
	% within Age	2%	13%	85%	100%
	% within perceived behaviour control	50%	60%	49%	50%
35-64	Count	6	21	207	234
	% within Age	3%	9%	88%	100%
	% within perceived behaviour control	50%	40%	49%	48%
65 or more	Count	0	0	11	11
	% within Age	0%	0%	100%	100%
	% within perceived behaviour control	0%	0%	3%	2%
Total	Count	12	52	425	489
	% within Age	2%	11%	87%	100%
	% within perceived behaviour control	100%	100%	100%	100%
	% of Total	2%	11%	87%	100%
		Symmetric measure			
	Kendall's tau-c				0.034
	Approx. sign				0.131

Appendix D 11: Relationship between perceived benefits and marital status

Marital status	Details	Perceived benefits			Total
		disagree	neutral	agree	
Single	Count	6	17	135	158
	% within Marital status	4%	11%	85%	100%
	% within perceived benefits	46%	34%	32%	32%
Married	Count	7	33	291	331
	% within Marital status	2%	10%	88%	100%
	% within perceived benefits	54%	66%	68%	68%
Total	Count	13	50	426	489
	% within Marital status	3%	10%	87%	100%
	% within perceived benefits	100%	100%	100%	100%
	% of Total	3%	10%	87%	100%
		Symmetric measure			
	Cramer's V				0.051
	Approx. sign				0.521

Appendix D 12: Relationship between perceived benefits and gender

Gender	Details	Perceived benefits			Total
		disagree	**neutral**	**agree**	
Female	Count	4	27	257	288
	% within Gender	1%	9%	89%	100%
	% within perceived benefits	31%	54%	60%	59%
Male	Count	9	23	169	201
	% within Gender	4%	11%	84%	100%
	% within perceived benefits	69%	46%	40%	41%
Total	Count	13	50	426	489
	% within Gender	3%	10%	87%	100%
	% within perceived benefits	100%	100%	100%	100%
	% of Total	3%	10%	87%	100%
		Symmetric measure			
	Cramer's V				0.102
	Approx. sign				0.078

Appendix D 13: Relationship between perceived benefits and age

Age	Details	Perceived benefits			Total
		disagree	neutral	agree	
18-34	Count	9	26	209	244
	% within Age	4%	11%	86%	100%
	% within perceived benefits	69%	52%	49%	50%
35-64	Count	4	24	206	234
	% within Age	2%	10%	88%	100%
	% within perceived benefits	31%	48%	48%	48%
65 or more	Count	0	0	11	11
	% within Age	0%	0%	100%	100%
	% within perceived benefits	0%	0%	3%	2%
Total	Count	13	50	426	489
	% within Age	3%	10%	87%	100%
	% within perceived benefits	100%	100%	100%	100%
	% of Total	3%	10%	87%	100%
		Symmetric measure			
	Kendall's tau-c				0.027
	Approx. sign				0.225

Appendix D 14: Relationship between subjective norm and age

Age	Details	Subjective norm			Total
		disagree	neutral	agree	
18-34	Count	30	52	162	244
	% within Age	12%	21%	66%	100%
	% within subjective norm	53%	58%	48%	50%
35-64	Count	24	38	171	233
	% within Age	10%	16%	73%	100%
	% within subjective norm	42%	42%	50%	48%
65 or more	Count	3	0	8	11
	% within Age	27%	0%	73%	100%
	% within subjective norm	5%	0%	2%	2%
Total	Count	57	90	341	488
	% within Age	12%	18%	70%	100%
	% within subjective norm	100%	100%	100%	100%
	% of Total	12%	18%	70%	100%
		Symmetric measure			
	Kendall's tau-c				0.047
	Approx. sign				0.144

Appendix D 15: Relationship between subjective norm and gender

Gender	Details	Subjective norm			Total
		disagree	neutral	agree	
Female	Count	31	54	203	288
	% within Gender	11%	19%	70%	100%
	% within subjective norm	54%	60%	60%	59%
Male	Count	26	36	138	200
	% within Gender	13%	18%	69%	100%
	% within subjective norm	46%	40%	40%	41%
Total	Count	57	90	341	488
	% within Gender	12%	18%	70%	100%
	% within subjective norm	100%	100%	100%	100%
	% of Total	12%	18%	70%	100%
		Symmetric measure			
	Cramer's V				0.034
	Approx. sign				0.749

Appendix D 16: Relationship between subjective norm and education

Education	Details	Subjective norm			Total
		disagree	neutral	agree	
Primary	Count	30	46	201	277
	% within Education	11%	17%	73%	100%
	% within subjective norm	53%	51%	59%	57%
Secondary	Count	18	28	109	155
	% within Education	12%	18%	70%	100%
	% within subjective norm	32%	31%	32%	32%
Certificate	Count	6	11	22	39
	% within Education	15%	28%	56%	100%
	% within subjective norm	11%	12%	6%	8%
Diploma	Count	2	4	5	11
	% within Education	18%	36%	45%	100%
	% within subjective norm	4%	4%	1%	2%
Graduate and above	Count	1	1	4	6
	% within Education	17%	17%	67%	100%
	% within subjective norm	2%	1%	1%	1%
Total	Count	57	90	341	488
	% within Education	12%	18%	70%	100%
	% within subjective norm	100%	100%	100%	100%
	% of Total	12%	18%	70%	100%
		Symmetric measure			
	Kendall's tau-c				-0.061
	Approx. sign				0.067

Appendix D 17: Relationship between perceived barriers and gender

Gender	Details	Perceived barriers			Total
		Disagree	Neutral	Agree	
Female	Count	33	46	208	287
	% within perceived barriers	72%	69%	55%	59%
Male	Count	13	21	167	201
	% within perceived barriers	28%	31%	45%	41%
Total	Count	46	67	375	488
	% within perceived barriers	100%	100%	100%	100%
		Symmetric measure			
	Cramer's V				0.12
	Approx. sign				0.02

Appendix D 18: Association between behavioural intention and age

Age	Details	Behavioural intention			Total
		Disagree	Neutral	Agree	
18-34	Count	9	18	217	244
	% within behavioural intention	75%	60%	49%	50%
35-64	Count	3	12	219	234
	% within behavioural intention	25%	40%	49%	48%
65 or more	Count	0	0	11	11
	% within behavioural intention	0%	0%	2%	2%
Total	Count	12	30	447	489
	% within behavioural intention	100%	100%	100%	100%
	% of Total	2%	6%	91%	100%
		Symmetric measure			
	Kendall's tau-c				0.040
	Approx. sign				0.033

Appendix D 19: Association between perceived benefits and education

Education	Details	Perceived benefits			Total
		disagree	neutral	agree	
Primary	Count	6	21	251	278
	% within Education	2%	8%	90%	100%
Secondary	Count	7	20	128	155
	% within Education	5%	13%	83%	100%
Certificate	Count	0	5	34	39
	% within Education	0%	13%	87%	100%
Diploma	Count	0	2	9	11
	% within Education	0%	18%	82%	100%
Graduate and above	Count	0	2	4	6
	% within Education	0%	33%	67%	100%
Total	Count	13	50	426	489
	% within Education	3%	10%	87%	100%
	% of Total	3%	10%	87%	100%
		Symmetric measure			
	Kendall's tau-c				-0.053
	Approx. sign				0.027

Appendix E: Unstandardized regression weights for observed variables

Variable	Path	Variable	Estimate	S.E.	C.R.	P-value
PB1	<---	perceived barrier	1			
PB2	<---	perceived barrier	1.019	0.073	13.921	***
PB3	<---	perceived barrier	1.14	0.08	14.266	***
PB4	<---	perceived barrier	0.802	0.072	11.112	***
BE1	<---	perceived benefits	1			
BE2	<---	perceived benefits	0.904	0.063	14.315	***
BE3	<---	perceived benefits	0.851	0.063	13.51	***
ATT1	<---	Attitude	0.87	0.049	17.895	***
ATT2	<---	Attitude	1			
ATT3	<---	Attitude	0.897	0.05	18.071	***
ATT4	<---	Attitude	0.901	0.052	17.28	***
ATT5	<---	Attitude	0.897	0.05	17.842	***
SN1	<---	subjective norm	1.043	0.078	13.347	***
SN2	<---	subjective norm	1.029	0.073	14.051	***
SN3	<---	subjective norm	0.844	0.07	12.095	***
SN4	<---	subjective norm	1			
BI1	<---	behavioural intention	1			
BI2	<---	behavioural intention	0.87	0.076	11.474	***
PBC1	<---	perceived behaviour control	1			
PBC3	<---	perceived behaviour control	1.088	0.094	11.531	***
PBC4	<---	perceived behaviour control	1.199	0.102	11.786	***

Note: Level of Significance: ***p<0.001, S.E: standard error, C.R. = critical ratio

Appendix F: Promotional tool for microfinance services

Appendix F 1: Sample extract of promotional tool for microfinance services

FINCA TANZANIA

WHO WE ARE WHAT WE OFFER WHERE WE WORK

BUSINESS LOAN > SMALL GROUP LOAN

Share 1

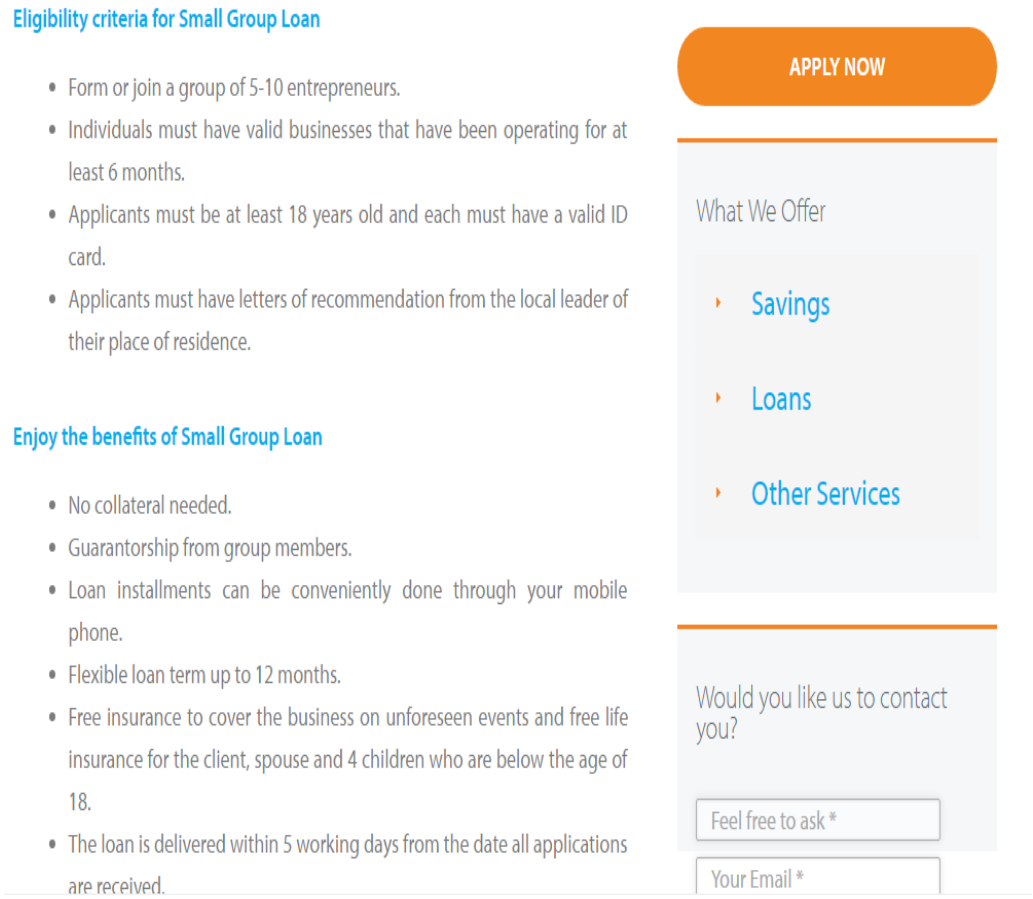
Small Group Loan

BUILDING A BETTER LIFE TOGETHER

The small group loan is a business credit facility that is designed to finance groups of 5 to 10 entrepreneurs. This loan is provided to groups of entrepreneurs with valid individual businesses.

Why should you apply for this loan?

- Facilitate business performance and growth.
- Flexible loan term repayment plan.
- This loan falls within the range of TZS 250,000 up to TZS 5,000,000.



Appendix F 2: Sample extract of promotional tool for microfinance services

Name of Institution	PRIDE
Address	P.O.BOX 13900, Arusha AICC, 420 Ngorongoro Wing Tel +255 27 250 2945/7638
Contact person address	JAMES OBAMA, MANAGING DIRECTOR-NGO jobama@pride-tz.org
Main Service/Products offered	Micro credit for working capital, wholesale loans to rural based SACCOS, agribusiness value chain financing, agricultural loans, housing loans to rural clients, micro leas-
Target Clients/Client Type	Small and micro entrepreneurs in both urban and rural areas, low income farmers, agribusiness value chain actors, rural based SACCOS
Geographical Coverage	Countrywide covering all regions and a number of districts in both Tanzania mainland and the Isles.


PRIDE
Tanzania
PROMOTION OF RURAL INITIATIVES AND DEVELOPMENT ENTERPRISES LIMITED
(PRIDE Tanzania)
HUDUMA ZA KIFEDHA KWA WENYE VIPATO VIDOGO KOTE NCHINI * FINANCIAL SERVCES TO THE LOW INCOME COUNTRYWIDE
Mikopo ya Ujasiriamli
Mikopo ya Kilimo na Ufugaji wa Kibiashara (Agribusiness Value Chain Financing)
Mikopo kwa Vikundi na kwa Mtu mmoja mmoja
Mikopo ya Jumla kwa asasi za Ushirika – (Wholesale Credit to SACCOS)
TUNAKUWEZESHA KUKUZA KIPATO CHAKO KWA MAISHA BORA YA FAMILIA YAKO
WE FACILITATE INCOME GROWTH FOR BETTERMENT OF YOUR FAMILY LIVELIHOOD
HUDUMA BORA MASHARTI NAFUU DAIMA
WASILIANA NASI KUPITIA TAWI LA PRIDE TANZANIA LILILO JIRANI

.