**CONTRIBUTION OF CROWD FUNDING IN PROMOTING SMALLHOLDER FARMERS’ PERFORMANCE: A CASE STUDY OF MWANZA, TANZANIA**

**NELSON JASON MUSIKULA**

**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT MANAGEMENT OF THE OPEN UNIVERSITY OF TANZANIA**

**2022**

# CERTIFICATION

The undersigned certifies that he/she has read and hereby recommend for acceptance by the Open University of Tanzania a Thesis entitled: **“Contribution of Crowd Funding in Promoting Smallholder Farmers’ Performance: A Case Study of Mwanza, Tanzania”** in partial fulfilment of the requirements for the Degree of Master of Master of Project Management of the Open University of Tanzania.

……………………………………….

(Supervisor)

…………………………….........

Date

# COPYRIGHT

No part of this thesis may be reproduced, stored in any retrieval system, or transmitted in any form by any means: electronic, mechanical, photocopying, recording or otherwise without prior written permission of the author or The Open University of Tanzania in that behalf.

# DECLARATION

I, Nelson Jason Musikula, do hereby declare to the SENATE of The Open University of Tanzania that, this thesis is my own original work and that it has not been presented, and will not be presented to any other university, for a similar or any other degree award.

……………………….………..

Signature

…………………………

Date

# DEDICATION

This special work is kindly dedicated to my lovely belated father (Jason Nestor Musikula), my mother (Elizabeth Jason Musikula), my wife (Linda Charles Tongora) and daughters (Natalie, Elenor and Amy) and to my Supervisor Dr. Gwahula Raphael (PhD) for his guidance and my friends for their support and encouragement.

# ACKNOWLEDGEMENT

This research paper would not have been accessed for my only effort personally without contribution and high support from different groups of people.

Special thanks go to the Mwanza based Smallholder Farmers and Extension workers as well as the management of Tanzania Agricultural Development Bank (TADB), CRDB Bank, and NMB for providing me with the data I needed and the opportunity to carry out this research.

I express my feelings sincerely from my heart to my supervisor Dr Gwahula Raphael (PhD) for his support, challenges, criticism, guidance and tireless effort during this work preparation that helped me to come up with this comprehensive and ultimately successfully work.

Lastly, I acknowledge my mother (Elizabeth Musikula), wife (Linda Charles Tongora), and friend (Bakari Songwe), without forgetting my sister (Cecilia Musikula) and daughters (Natalie, Elenor and Amy) as they have all played a special part in supporting and encouraging me during my studies at Open University of Tanzania.

# ABSTRACT

This study was conducted to assess contribution of crowd funding on promoting performance in Mwanza region. The objectives of the study were threefold; to assess the factors influencing access to crowd funding among small holder farmers, to examine the setbacks facing small holder farmers in accessing crowd funding, to analyse the effects of crowd funding on performance of smallholder farmers. The study adopted cross-sectional design to collect data from 100 respondents. Questionnaire was used as data collection tool. The findings of the study revealed that, factors influencing access to crowd funding among smallholder farmers were; access to crowd funding platform account, availability of crowd funding infrastructure, ability to perform electronic transactions, intention to use crowd funding, and social influence. It was also found that, several setbacks hindered smallholder farmers’ access to crowd funding. These were poor market orientation mindset, overdependence on rain fed agriculture, poor value chain development, and poor knowledge on technology use. Crowd funding access has a significant positive effect on smallholder farmers’ performance; the regression model was found to explain 0.5% of variations. The study recommends that, the Tanzanian government must be persuaded directly from Ministerial levels to carry out crowd funding agricultural awareness programs to help smallholder farmers easy access to crowd funding platforms.

# TABLE OF CONTENTS

[CERTIFICATION ii](#_Toc101625861)

[COPYRIGHT iii](#_Toc101625862)

[DECLARATION iv](#_Toc101625863)

[DEDICATION v](#_Toc101625864)

[ACKNOWLEDGEMENT vi](#_Toc101625865)

[ABSTRACT vii](#_Toc101625866)

[TABLE OF CONTENTS viii](#_Toc101625867)

[LIST OF TABLES xiv](#_Toc101625868)

[LIST OF FIGURES xv](#_Toc101625869)

[LIST OF APPENDICES xvi](#_Toc101625870)

[ABBREVIATIONS AND ACRONYMS xvii](#_Toc101625871)

[CHAPTER ONE 1](#_Toc101625872)

[INTRODUCTION 1](#_Toc101625873)

[1.1 Background to the Study 1](#_Toc101625874)

[1.2 Statement of the Problem 6](#_Toc101625875)

[1.3 Research Objectives 8](#_Toc101625876)

[1.3.1 General Research Objective 8](#_Toc101625877)

[1.3.2 Specific research objectives 8](#_Toc101625878)

[1.4 Research Questions 8](#_Toc101625879)

[1.5 Significance of the study 8](#_Toc101625880)

[CHAPTER TWO 10](#_Toc101625881)

[LITERATURE REVIEW 10](#_Toc101625882)

[2.1 Introduction 10](#_Toc101625883)

[2.2 Concepts Definitions 10](#_Toc101625884)

[2.2.1 Crowd funding 10](#_Toc101625885)

[2.2.2 Smallholder farmers 11](#_Toc101625886)

[2.2.3 Crowd funding capital providers 11](#_Toc101625887)

[2.2.4 Crowd funding intermediaries 11](#_Toc101625888)

[2.2.5 Peer-to-peer lending crowd funding 12](#_Toc101625889)

[2.2.6 Crowd funding Platform 12](#_Toc101625890)

[2.2.7 Smallholder farmers’ performance 12](#_Toc101625891)

[2.3 Theoretical Framework 12](#_Toc101625892)

[2.3.1 Social Exchange Theory 12](#_Toc101625893)

[2.3.2 Adaptive Structuration Theory 14](#_Toc101625894)

[2.4 Empirical Literature Review 15](#_Toc101625895)

[2.4.1 Factors Influencing Access to Crowd Funding 15](#_Toc101625896)

[2.4.2 Setbacks Facing Smallholders’ Farmers 18](#_Toc101625897)

[2.4.3 Effects of Crowd Funding on Smallholder Farmers’ Performance 20](#_Toc101625898)

[2.5 Research Gap 21](#_Toc101625899)

[2.6 Conceptual Framework 22](#_Toc101625900)

[CHAPTER THREE 24](#_Toc101625901)

[3.1 Introduction 24](#_Toc101625902)

[3.2 Research design 24](#_Toc101625903)

[3.3 Research Philosophy 24](#_Toc101625904)

[3.4 Research Strategies 25](#_Toc101625905)

[3.5 Study Area 25](#_Toc101625906)

[3.6 Survey Population 26](#_Toc101625907)

[3.7 Sampling Design and Procedures 26](#_Toc101625908)

[3.7.1 Sample size 26](#_Toc101625909)

[3.7.2 Simple random Sampling Technique 27](#_Toc101625910)

[3.7.3 Purposive Sampling Technique 27](#_Toc101625911)

[3.8 Methods of Data Collection 28](#_Toc101625912)

[3.8.1 Primary Data Collection Methods 28](#_Toc101625913)

[3.8.2 Questionnaires 29](#_Toc101625914)

[3.8.3 Interview Guide 29](#_Toc101625915)

[3.9 Data Processing and Analysis 29](#_Toc101625916)

[3.10 Unit of Analysis 30](#_Toc101625917)

[3.11 Reliability and validity 31](#_Toc101625918)

[3.11.1 Validity analysis 31](#_Toc101625919)

[3.11.2 Reliability analysis 31](#_Toc101625920)

[CHAPTER FOUR 33](#_Toc101625921)

[4.1 Introduction 33](#_Toc101625922)

[4.2 Socio-Demographic Characteristics 33](#_Toc101625923)

[4.2.1 Sex of the respondents 34](#_Toc101625924)

[4.2.2 Age of the respondents 35](#_Toc101625925)

[4.2.3 Education level 35](#_Toc101625926)

[4.2.4 Status on receiving crowd funding 35](#_Toc101625927)

[4.2.5 Farming experience 35](#_Toc101625928)

[4.3 Factors influencing access to crowd funding among small holder farmers 36](#_Toc101625929)

[4.3.1 Access to crowd funding platform account 36](#_Toc101625930)

[4.3.2 Availability of crowd funding infrastructure 37](#_Toc101625931)

[4.3.3 Ability to perform electronic transactions 37](#_Toc101625932)

[4.3.4 Behavioural Intention to use crowd funding 37](#_Toc101625933)

[4.3.5 Social influence 37](#_Toc101625934)

[4.4 Setback facing small holder farmers in accessing crowd funding 38](#_Toc101625935)

[4.4.1 Poor market orientation mindset 38](#_Toc101625936)

[4.4.2 Overdependence on rain fed agriculture 39](#_Toc101625937)

[4.4.3 Poor value chain development 39](#_Toc101625938)

[4.4.4 Poor knowledge on technology use 39](#_Toc101625939)

[4.5 Effects of crowd funding on performance of smallholder farmers 40](#_Toc101625940)

[4.5.1 Linearity assumption 40](#_Toc101625941)

[4.5.2 Normality assumption 41](#_Toc101625942)

[4.5.3 Homoscedasticity assumption 42](#_Toc101625943)

[4.5.4 Autocorrelations assumption 43](#_Toc101625944)

[4.5.5 Multicollinearity Assumption 44](#_Toc101625945)

[4.6 Multiple regression analysis 44](#_Toc101625946)

[CHAPTER FIVE 47](#_Toc101625947)

[5.1 Introduction 47](#_Toc101625948)

[5.2 Factors Influencing Access to Crowd Funding among Small Holder Farmers 47](#_Toc101625949)

[5.3 Setbacks Facing Small Holder Farmers in Accessing Crowd Funding 48](#_Toc101625950)

[5.4 Effects of Crowd Funding on Performance of Smallholder Farmers 49](#_Toc101625951)

[CHAPTER SIX 51](#_Toc101625952)

[6.1 Introducion 51](#_Toc101625953)

[6.2 Summary of the Findings 51](#_Toc101625954)

[6.3 Conclusion 52](#_Toc101625955)

[6.4 Recommendations 53](#_Toc101625956)

[REFERENCES 55](#_Toc101625957)

[APPENDICES 64](#_Toc101625958)

# LIST OF TABLES

[Table 3.1: Reliability Analysis 32](#_Toc101626757)

[Table 4.1: Descriptive Statistics Showing Demographic Characteristics 34](#_Toc101626758)

[Table 4.2: Factors Influencing Access to Crowd Funding Among Smallholder Farmers 36](#_Toc101626759)

[Table 4.3: Setbacks Facing Smallholder Farmers in Accessing Crowd Funding 38](#_Toc101626760)

[Table 4.4: Pearson Correlation Matrix Showing Linearity Test 41](#_Toc101626761)

[Table 4.5: Kurtosis and Skewness Test Showing Normal Distribution of Data 42](#_Toc101626762)

[Table 4.6: Durbin-Watson Showing Autocorrelations Test 43](#_Toc101626763)

[Table 4.7: Tolerance and VIF Test Showing Multicollinearity Assumption 44](#_Toc101626764)

[Table 4.8: Model Summary Showing Regression Analysis Results 45](#_Toc101626765)

[Table 4.9: Coefficient Summary 45](#_Toc101626766)

# LIST OF FIGURES

[Figure 2.1: Conceptual Framework 23](#_Toc101626767)

[Figure 4.1: Homoscedasticity Assumption Test 43](#_Toc101626768)

# LIST OF APPENDICES

APPENDIX I: QUESTIONNAIRE ………………………………….……………64

# ABBREVIATIONS AND ACRONYMS

CBOT Crowd-Based Online Technology

CCAF Cambridge Centre for Alternative Finance

CRDB Cooperatives Rural and Development Bank

FAO Food and Agriculture Organization

GDP Gross domestic product

GNSS Global Navigation Satellite System

ICT Information and Communication Technologies

JOBS Jumpstart Our Business Start-ups

LGA Local Government Authority

NMB National Microfinance Bank

TADB Tanzania Agricultural Development Bank

UNDP United Nations Development Programme

USAID United States Agency for International Development

# CHAPTER ONE

# INTRODUCTION

## Background to the Study

According to the World Bank (2020), agriculture investment is dramatically increasing due to rise in global population and changing dietary preferences of the growing middle class in emerging markets towards higher value agricultural products. In addition, climate risks increase the need for investments to make agriculture more resilient to such risks. World Bank suggest that demand for food will increase by 70% by 2050 and at least $80 billion annual investments will be needed to meet this demand, most of which needs to come from the private sector. Financial sector institutions in developing countries lend a disproportionately lower share of their loan portfolios to agriculture compared to the agriculture sector’s share of GDP (Ortiz-Bobea *et al*., 2021).

However, the growth and deepening of agriculture finance markets is constrained by a variety of factors which include: ineffectiveness of policies, high transaction costs to reach remote rural populations, covariance of production, market, and price risks, absence of adequate instruments to manage risks, low levels of demand due to fragmentation and incipient development of value chains, lack of expertise of financial institutions in managing agricultural loan portfolios (Antle & Ray, 2020)

Development and commercialization of agriculture requires financial services that can support: larger agriculture investments and agriculture-related infrastructure that require long-term funding (given that currently transportation and logistics costs are too high, especially for landlocked countries), a greater inclusion of youth and women in the sector, and advancements in technology (both in terms of mechanizing the agricultural processes and leveraging mobile phones and electronic payment platforms to enhance access and reduce transaction costs) (Emeana *et al*., 2020). An important challenge is to address systemic risks through insurance and other risk management mechanisms and lower operating costs in dealing with smallholder farmers (Masud *et al*., 2017).

Agriculture finance and agricultural insurance are strategically important for eradicating extreme poverty and boosting shared prosperity. Globally, there are an estimated 500 million smallholder farming households – representing 2.5 billion people – relying, to varying degrees, on agricultural production for their livelihoods (World Bank, 2020).

Agriculture is the central part of Tanzania's economy. By 2016, the country had over 44 million hectares of arable land, with only 33 percent of its cultivation. Almost 70 percent of the smallholder farmers, especially youth, women, and people with disabilities, live in rural areas, and where most are involved in the agriculture sector. The government is looking at agriculture as a promising sector to address youth and women's employment challenges (Aminzade, Schurman, & Lyimo, 2018).

According to FAO (2015), the agriculture industry is dominated by small-scale farmers who, on average, have less than 2 hectares. Most smallholder farmers lack access to productive inputs, financing, farming technology, knowledge, and farming skills, making them unable to achieve optimum yields. Furthermore, small-scale farmers lack post-harvest management, including storage, which is often inadequate, leaving crops exposed to mould, rot, and pests.

Many farmers are also not connected to the local, regional, and international markets due to limited infrastructure, inadequate storage systems, lack of packaging technology, and processing facilities. This leads to high postharvest losses in the domestic market (more than 40%) and 10% losses in export sectors (Thomas & Wawa, 2019).

Access to land is also a challenge to most smallholder farmers, especially youth and women, who have limited capital to rent land and are further challenged by the existing gender norms and inheritance practice. Gender norm prevents women from benefiting in commercial agriculture as women are limited to moving from their homes or are not trusted to be alone (Bergius, Benjaminsen, & Widgren, 2018). In rural areas, women must perform domestic work in the household. Women's agriculture engagement tends to be micro in size, low productivity, lacking product sophistication, little product innovation, short-term nature, and constrained growth. Women's income mostly belongs to her family, and young women are viewed as transitory members in most families (UNDP Gender Gap Report, 2018).

Internet and social networks increase opportunities for innovation due to its widespread usage. The use of crowd-based online technology (CBOT) to raise funds from many people is a financial innovation that leveraged on this opportunity. This financial innovation called crowd funding is increasingly being used around the world for raising funds for business as well as philanthropic projects (Kshetri, 2015). Usage of crowd funding by entrepreneurs for raising funds have led to the proliferation of alternative forms of entrepreneurial finance. One of the reasons for the increased significance of crowd funding in the recent years is the steady decline in the number of Angel investors since the financial crisis in 2008 (Kavitha, 2018). The fact that business and entrepreneurship were the most popular crowd funding category, collecting $6.7 billion in 2014 makes studies on crowd funding more pertinent to the field of entrepreneurship development (Borst, Moser, & Ferguson, 2018).

Crowd funding is a new and growing phenomenon in entrepreneurial finance that allows project owners to request funding from a potentially large pool of investors. Scholars classify it into four models based on the benefits earned from the backers: donation, reward, lending and equity (Belleflamme *et al*., 2014).

Crowd funding is therefore a combination of crowdsourcing and micro financing, where entrepreneurs raise money by way of the internet in relatively small amounts to finance a project or business venture, from masses, and connect with the potential investors. In crowd funding, the small businessmen or entrepreneurs showcase their idea by posting information, video links, and other details, to inform the innovativeness and profitability to the large group of people, through an online platform, i.e. crowd funding websites (Schwienbacher, 2019).

Similarly, crowd farming follows the same approach, where users can come to the website and invest directly in individual farms. Most crowd farming sites aim to bring capital to regenerative farms that often struggle accessing capital. Investors in the crowd farming platforms are effectively lending capital to the farms and receive their return from interest payments (Lin & Viswanathan, 2016).

In 2020, the Mwanza region was one of the top five regions that contributed the most to Tanzania's GDP (9.3 percent), with only the Dar es Salaam region surpassing it out (17.2 percent) (URT, 2020). Subsistence farming dominates the region's agricultural industry, which has the potential to modernise and become more commercially oriented as a result. Smallholder peasants in the region typically practise subsistence farming, which is characterised by a lack of commercial orientation in their farming methods. Low-yielding plant and livestock varieties, as well as minimum usage of inputs such as fertilisers and disease prevention, are the norm for the vast majority of them. 61% of the region's arable land is farmed for food production (Mwanza Investment Guide, 2020).

Smallholder farmers in Mwanza region encounter a variety of difficulties, including problems procuring and paying for quality seeds, fertiliser, and insecticide, and difficulties delivering commodities to market over run-down road networks. Compounding the problem is the scarcity of and high cost of post-harvest storage facilities for crops. A lot of money has been put into Tanzania's financial system recently by the governmental and commercial sectors, but smallholders still lack access to credit, insurance and payment options (Anderson, Marita, & Musiime, 2016). Innovative smallholders are resorting to crowdfunding to seek financing from the general public due to traditional banks' lack of financial resources for agricultural firms. There are many benefits to using a crowdfunding site, but there are also certain hazards if this new type of financing is to be successful (Sall, 2019).

In an ideal world, smallholder farmers seem to have convenient financial access that would boost creativity and accelerate future growth (Eldridge *et al*., 2019). In fact, however, there is a discrepancy among funding supply and demand; this inequality is driven primarily by financial institutions such as commercial and investment banks, which are underserving small firms financially (Kuzma, 2015; Bruton *et al*., 2017). Besides, the increasing importance of crowd funding in combination with possible incentives for smallholder farmers and lack of empirical study shows a research gap. Therefore, this study explores whether the use of crowd funding contributes to a performance of smallholder farmers, which are essentially a catalyst for agricultural growth.

## Statement of the Problem

Smallholder farmers' start-up requires capital investment (both cash and non-cash). The capital is required to start up the business caters for investments such as attaining a permanent water source, land, spray pumps for insects and diseases control, purchasing variable inputs such as seeds, pesticides, fertilizers and irrigation equipment like water cans and irrigation pumps (Cui *et al*., 2018). Other expenses may vary depending on the operation's size, costs such as labour for ploughing, planting, weeding, irrigation, and supervision (Jelsma *et al*., 2019). Crowd funding is seen as potential tool that can support smallholder farmers raise money in relatively small amounts to finance their farming projects from masses, by way of the internet to connect with the potential investors. However, due to the digital divide, smallholder farmers, especially youth and women, cannot tap into such online opportunities due to lack of knowledge, awareness, devices or fear (Harvey *et al.,* 2018).

According to FAO (2020), market forecasts for the next decade suggest a 'digital agricultural revolution' will be the newest shift that could help ensure agriculture meets the global population's needs into the future particularly in developing countries. However, for most smallholder farmers, digital inclusion in agriculture is limited due to lack of skills and knowledge, poor access to digital extension services, and lack of information on appropriate digital tools that enhance access to financial assistance, markets, and weather forecasting in rural areas (Winter *et al*., 2020). This prediction in expansion of agriculture calls for solutions to the existing agricultural challenges to allow to meet the global needs for agricultural products. This also intrigues the researcher into studying the potential contribution of crowd funding on smallholder farmers’ performance in Tanzania.

Due to these needs of farmers, the researcher has taken into account with great importance to study how crowd funding can potentially contribute to a performance of smallholder farmers.

## Research Objectives

### General Research Objective

The general objective of this study is to assess the effects of crowd funding on small holder farmers’ firm performance.

### Specific Research Objectives

1. To assess the factors influencing access to crowd funding among smallholder farmers
2. To examine the setbacks facing smallholder farmers in accessing crowd funding.
3. To analyse the effect of crowd funding on performance of smallholder farmers

## Research Questions

1. What are the factors influencing access to crowd funding among smallholder farmers?
2. What are the setbacks facing smallholder farmers in accessing crowd funding?
3. To what extent does crowd funding affect smallholder farmer’s performance?

## Significance of the Study

The study's findings contribute to the understanding of the major factors that influence smallholder farmers’ ability to engage in digital agriculture due to the aid of crowd funding. This will be relevant to smallholder farmers as well policy makers who makes policies related to the funding of small-scale producers.

Apart from that, upon the understanding of the importance of crowd funding to farmers, investors will be more willing to participate in the crowd funding not only for returns but also contributing in the growth of agricultural sector in the economy.

Lastly, this study will as well be useful as a guiding and reference tool for prospective researchers in a similar or related field for further research within Tanzania and other economies.

# CHAPTER TWO

# LITERATURE REVIEW

## Introduction

This chapter presents the reviewed literature as regards to crowd funding and small holder farmers performance. It contains fiveparts namely conceptual definitions, theoretical framework, empirical literature reviews, research gap and conceptual framework.

## Concepts Definitions

### Crowd Funding

Crowd funding is the financing of a project or a venture by a group of individuals instead of professional parties (like, for instance, banks, venture capitalists or business angels). In theory, individuals already finance investments indirectly through their savings, since banks act as intermediary between those who have and those who need money (Roma *et al*., 2017). In contrast, crowd funding occurs without any intermediary: entrepreneurs “tap the crowd” by raising the money directly from individuals. The typical mode of communication is through the Internet (Short et al., 2017).

In this study crowdsourcing refers to an open request for financial support, mainly via the internet, either in donations or in return for some kind of compensation and/or voting rights, with a view to supporting initiatives for agricultural activities (Lambert & Schwienbacher, 2010).

### Smallholder Farmers

This terms refers to farmers operating under a small-scale agriculture model. Definitions may vary on what constitutes a smallholder or small-scale farm, taking into account factors such as size, food production technique or technology, involvement of family in labour and economic impact. Smallholdings are usually farms supporting a single family with a mix of cash crops and subsistence farming (Kos & Kloppenburg, 2019).

### Crowd Funding Capital Providers

This include all individuals or entities or successors in interest thereof, providing capital or extending credit to provider or an affiliate of provider with respect to the system(s), or investing equity in provider or an affiliate of provider in a manner that will provide certain tax benefits from the system(s) to such individual or entity or successor in interest (Loher, Schneck, & Werner, 2018).

### Crowd Funding Intermediaries

Refers to an open organization of diverse participants and parties interested in the crowd funding industry (“portals”, “broker-dealers”, professional and business service providers, investors, etc.) allowed to consummate a securities-based crowd funding transaction (Heese, 2017).

### Peer-To-Peer Lending Crowd Funding

The crowd lends money to a capital-seeker with the understanding that the money will be repaid with interest. It is very similar to traditional borrowing from financial institutions such as a bank, except that you borrow from lots of investors online (Piva & Rossi-Lamastra, 2018).

### Crowd Funding Platform

A website which enables crowd funding by allowing people or companies looking for money to raise it from members of the public. The Crowd funding Platforms list and permits different projects, collect and process the payments between those the crowd funders giving money and the capital-seekers receiving it (Lacan & Desmet, 2017).

### Smallholder Farmers’ Performance

In this study,it refers to a calculation of a smallholder farmers’ success that depends on the productivity of the farming activities. Performance is an index or indicator of the outcomes or results of an operation or action, or in other words performance can be calculated as success or loss by the economist or investor. (Fitriah *et al*., 2019).

## Theoretical Framework

### Social Exchange Theory

The theory of social exchange (SET) was proposed by Emerson (1976). The theory describes the basis of culture as the interplaying of individuals (Westphal & Zajac, 1997). Alavi and Leidner (2001) also point out that the social dimension generated and inherent in the collective behaviour of a group is essential in Knowledge Management (KM) sector. Belleflamme *et al*. (2014) notes that funding partners benefit from community incentives that maximise their usefulness in achieving the project fund raise objective.

Social exchange theory has several strengths, first, it is possible to achieve better balanced interpersonal relationships if one is familiar with this theory. As a result of this knowledge, one can also gain an understanding of how much one's actions cost others. Secondly, relationships can be made more efficient by adopting an economic perspective to them. If the costs surpass the advantages or a comparable option is available, then it is time to end the relationship (Mitchell *et al*., 2012).

However, the social exchange theory has weaknesses; firstly, despite the theory's assertion that intimacy is the ultimate objective of a relationship, this may not always be the case (Miller, 2005). Secondly, the theory assumes that all relationships proceed in a linear fashion, while in reality, some may skip steps or move backwards in terms of intimacy. Thirdly, it is possible that some scholars may regard the theory's mathematical model as a cold, generic approach to understanding social interaction.

This theory is relevant to the study based on the fact that; it shows how important social relationship is in promoting financial matters. The theory gives a notion that, crowd is responsible to share awareness and provide funds as the way to support smallholder farmers’ initiatives through the crowd funding.

### Adaptive Structuration Theory

DeSanctis and Poole (1994) proposed Adaptive structuration theory (AST) for understanding how companies are using state-of-the-art technologies to achieve organizational performance. Structures (in an organisation) that simply arise from human intervention, such as electronic message systems, executive information systems or collaboration systems, communicate with technology. It is noted that information system is known to operate in a major social context, such as the support mechanism for community decision making and information management.

The strengths of the theory are that; there is a great deal of value in this theory's ability to assist organisations work through differences. So that a possible compromise or agreement can be established, it enables every group to precisely express the advantages of each suggestion in real-time. This theory also takes into consideration the structural possibilities that can be provided by current technology. As long as everyone can see the implications of the new technology, the lines of communication will remain clear. Another strength of the theory is that it lays the groundwork for certain outcomes or changes inside organisations.

The weaknesses of the adaptive structuration theory are that, the theory is complex and perplexing to understand at times. It is not based on ethical norms, although it does help a group comprehend its structure in order to achieve a specific goal.

This theory is relevant to the study as its aspects align with crowd funding since they serve as an awareness hub to help smallholder farmers exchange their insights, learn about other projects, engage with fund raisers and many others who pay attention to their farming activities.

## Empirical Literature Review

### Factors Influencing Access to Crowd Funding

Thanh Tu *et al.* (2018) conducted a study on factors influencing the success of crowd funding campaigns of start-ups in Vietnam. With the data from five most well-known crowd funding platforms (CFP) in Vietnam, they explored the factors which are significant for the success of crowd funding campaigns of start-ups. Besides, this article also shed lights on the prospects and challenges of crowd funding in Vietnam and proposes some recommendations for parties participating in the crowd funding system.

Sebatta *et al*. (2014) investigated determinants of Smallholder Farmers’ Access to Agricultural Finance in Zambia. Their study employed both purposive and random sampling techniques, a pre-tested questionnaire was administered on 1,326 households. Data was analysed using a double huddle model. Results indicated that education level of household head, size of household and number of daily meals served significantly influenced decision to access finance while loan payback period, having a phone and personal savings influenced the intensity of participation in the rural financial market.

Mitra (2012) examined the relatively new trend in alternative financing; namely, crowd funding and its role in funding start-ups and new enterprises. The study examined the global market for crowd funding and the rationale of businesses to crowdfund or crowdsource their new ventures, given the challenges of capital access for fledgling enterprises. The study found crowd funding as a means of alternative financing is growing globally. Donation and reward-based entities still remain the largest group. However, equity-based platforms are also raising funds in some European countries and Australia.

Iddris (2019) empirically examined how crowd funding can promote innovation in micro-enterprises and contribute to theory development in the field. The research questions this study addressed how does Crowd funding influence innovation in micro-enterprises. The data for the analysis were collected via both an extensive review of the academic literature and several video interviews with CEOs of equity-based crowd funding platforms, start-ups and micro-enterprises. The findings revealed that creativity, funding democratization, business growth, marketing innovation and pre-sell and feedback are some of the factors that contribute to innovation.

Chisasa and Makina (2012) examined the trend and pattern of bank credit to smallholder farmers in South Africa, both before and after the attainment of democratic government. The analysis of the trend and pattern of bank credit to smallholder farmers was conducted within the confines of the same agricultural sector, across all economy sectors and in relation to GDP. Their analyses showed that bank credit to smallholder farmers is (and continues to be) a small fraction of total credit to the private sector and is a very small proportion of GDP. The smallholder farmer sector observed to face the same constraints to credit as SMEs, a category of enterprises to which they also belong. In light of the importance of agriculture, in general, and smallholder farmers, in particular, to South Africa’s poverty alleviation and food security drive, their results to have important policy implications.

Kiplimo *et al*. (2015) conducted a study on determinants of Access to Credit Financial Services by Smallholder Farmers in Kenya. Their study sought to establish the main factors that affect smallholder farmers’ access to credit financial services in Kenya. The logistic regression results indicated that, the marginal effects of education level, occupation and access to extension services were statistically significant with positive effects on access to credit financial services. However, total annual household income and the distance to the credit source were statistically significant with negative influence on access to credit financial services. The study concluded with implication for policy to establish credit/loans offices close to farmers in order to reduce lending procedures, risks, and educate them on perceptions on loan repayment.

Nordjo and Adjasi (2019) evaluated the impact of access to production credit on the productivity of smallholder farmers in Ghana. Data for the study was drawn from the Agricultural Value Chain Facility (AVCF), which was implemented in the Northern Region of Ghana. Their paper uses the Propensity Score Matching (PSM) to estimate the average treatment effect of access to production credit on the productivity of smallholder farmers. The results revealed that smallholder farmers with access to production credit increased productivity through investment in farm inputs. For the impact of credit on productivity using control Group 1, the result showed that farmers with access to credit increased their productivity by 0.170 metric tonnes per hectare and for control Group 2, the result showed an increase of 0.252 metric tonnes per hectare more than farmers who are without access to production credit.

Marr *et al.* (2016) conducted a study on adoption and impact of index-insurance and credit for smallholder farmers in developing countries. The study revealed that demand for insurance is indeed hump-shaped in risk aversion and the functional form of this relationship should be tested in more detail. This also holds for the magnitude of the effect of trust and education on actual demand. Furthermore, it was unclear to what extent other risk mitigation strategies form complements or substitutes to index-insurance. Lastly, the interaction between basis risk and price is important to the design of index-insurance products.

### Setbacks Facing Smallholders’ Farmers

Misaki *et al*. (2018) examined the problems facing farmers in Sub-Saharan Africa when utilising mobile telephone technology to cultivate crops and suggests areas for further development. The results of the study reveal some of the obstacles that small-scale farmers have to confront, including their lack of participation in the beginning process. Other hurdles include poor trust and openness, improper use of foreign languages, bureaucracy and cell phone theft under local cultural circumstances.

Baloyi (2010) analysed production and marketing barriers that typically prohibit small-holders from reaching high-value markets in the agri-industry value chain. The study found that, smallholder farmers in Vhembe district had a comparative benefit in terms of their vegetable output. Compared with farmers in the region of Capricorn, smallholder farmers in Vhembe had a far better connection with agro-processors and supermarkets. The study also revealed that individual producers have higher access and better performance to on-farm infrastructure and are more closely linked to formal markets as compared with projects belonging to household groupings.

Shabangu (2016) conducted a study to address the challenges facing small-scale farmers in Swaziland's Hhohho area. The study found that there is a link between farmers and the extension officers; however, this has to be improved with more interactions and with the addition of more extension officers, to allow every farmer to be able to use them at any time for additional agricultural education and to reduce the challenges that emerge during cultivation.

Skjoldevald (2012) investigated how small-scale farmers negotiate the market for entry to the formal corn market and take part in the improvement of their revenues, using the P4P programme in Kenya. The study showed that there is a shortage of infrastructure, market knowledge and bank financing in food markets in poor nations. Due to its two diverse marketing channels, Kenya's dynamics are much more complex. The farmers have overcome many of these obstacles by collective effort.

Sintoo (2015) highlighted the aspects of knowledge that impact the sunflower growth of the Singida region. Findings indicated that Tanzania's government has implemented diverse production for agricultural growth and improved farmers' incomes. However, the sunflower farming techniques in the region under study are not well established, low prices obtained by agriculture, weak market infrastructure, such as processing facilities, road installations, intermediaries who entered into bad contracts and few farmers' organisations lack knowledge on the market.

### Effects of Crowd Funding on Smallholder Farmers’ Performance

Eldridge, Nisar, and Torchia (2019) analysed the effects of equity crowd funding in small and medium-size firms on innovation and development opportunities. The results demonstrate that crowd funding has no substantial impact on innovation in small enterprises, thereby rejecting the idea that the usage of crowd funding leads to increased creativity. Nevertheless, crowd funding has a significant positive link with small businesses' development opportunities.

Wati and Winarno (2018) assessed the alternative crowdsourcing financing source by recognising the difference between the success of crowd funding models and the elements which determine the extent of success in the crowd funding model's performance. The research showed that the most important financial means are obtained via equity-based crowd funding. The research also demonstrates that the performance levels of crowd funding models are different. The financing objective, total supports and the minimum investment amount have a beneficial effect on the success of crowdsourcing but no substantial impact on the performance of the crowd funding model can be achieved by the funding target.

Filimonova *et al*. (2019) examined the use of crowd funding as an alternate approach of obtaining cash for farm and rural development initiatives. It was revealed that the most successful effects of agriculture projects have been elements such as population income levels and the accessibility of information and communication on the web in the area in which the project is planned. Moreover, the research demonstrated that the performance of the fund raising does not significantly affect characteristics such as the index of agricultural goods production and fixed capital investment per capita in the project implementation region.

Girabi and Mwakaje (2013) explored the effects of microfinance on agriculture production in Tanzania by small farmers utilising the Iramba District case study. Findings indicate that, compared to respondents from the non-credit beneficiaries, credit beneficiaries had a high agricultural productivity. This is largely due to the relative improvement in access to agricultural commodity markets, input utilisation and improved agricultural technology by credit recipients. Lack of knowledge, poor credit supply, excessive interest rates and default were the main problems that impede small farmers accessed credit.

## Research Gap

Most of the reviewed literature are limited on factors influencing access to crowd funding, setbacks facing smallholder farmers, and effects of crowd funding. For instance, Thanh Tu *et al.* (2018) conducted a study on factors influencing the success of crowd funding campaigns of start-ups in Vietnam. Sebatta *et al*. (2014) investigated determinants of Smallholder Farmers’ Access to Agricultural Finance in Zambia. Iddris (2019) empirically examined how crowd funding can promote innovation in micro-enterprises and contribute to theory development in the field.

However, very little or no literature have scrutinised the effects of crowd funding on performance of smallholder farmers particularly in Tanzania. This study therefore aims at filling in this gap by assessing the effects of crowd funding on smallholder farmers’ performance in the Mwanza region.

## Conceptual Framework

Conceptual framework is the way ideas are organized to achieve a research project's purpose and explanation is the most common method employed. It explains the key concepts or variables and the relationships between them that need to be studied (Leshem & Trafford, 2007). The conceptual framework of this study is demonstrated by one dependent variable and three independent variables. Factors influencing access to crowd funding are regarded as independent variables which include factors such as access to crowd funding platform account, availability of infrastructure, and ability to perform electronic transactions. Whereas, performance of smallholder farmers was regarded as dependent variable which was measured using productivity. On the other hand, the relationship between dependent and independent variables tends to be intervened by setbacks facing smallholder farmers in accessing crowd funding as depicted on Figure 2.1.

I**ndependent Variables Dependent Variable**

**Factor influencing access to crowd funding**

* Access to crowd funding platform account
* Availability of crowd funding infrastructure
* Ability to perform electronic transactions

**Setbacks facing smallholder farmers**

* Poor Market Orientation Mindset
* Overdependence on Rain Fed Agriculture
* Poor Value Chain Development
* Poor knowledge on technology use

**Performance of smallholder farmers**

* Productivity

Figure 2.1: Conceptual Framework

# CHAPTER THREE

RESEARCH METHODOLOGY

## Introduction

This chapter discusses the methodology to be adopted by the researcher in carrying out the study. The chapter presents research design, research philosophy, area of the study, population, sampling techniques, data collection tools and analysis techniques. The chapter also detail validity and reliability of data instruments.

## Research design

The study design may be characterised as a set of tasks ordered in logical sequence to collect, quantify and analyse data (Kothari, 2004). It evaluates an appropriate approach to data gathering and analysis and determines relevant data sources for the research problem. This study uses cross-sectional design as a research design tool. It is the kind of study model that chooses entire populations or a subset for the purposes of research in the data collection at a single point in time (Olsen *et al*., 2004).

## Research Philosophy

The philosophy of research involves the generation of knowledge via data collection, analysis and use of results. There are four major study philosophies within the area of business studies in particular: pragmatism, positivism, realism and interpretativism. (Moon *et al*., 2019). The philosophy of positivism was therefore adopted for the aim of this investigation. The rationale for this decision is to make it easier, by employing documentation, interviews and surveys, for concepts to arise from field data. In general, positivist philosophy aims to test theory and is connected with quantitative techniques of collection and analysis; hence, quantitative research is normally carried out (Johnson & Onwuegbuzie, 2004; Creswell 2014).

## Research Strategies

This study employed both qualitative and quantitative designs. This involved a systematic investigation and analysis of data surrounding the periods of study. The researcher mainly relied on current information available on work already done on the crowd funding concepts but also from the general perspective. Descriptive analysis was used to analyse coded quantitative data from questionnaire while narrative analysis was used to analyse qualitative data obtained from interview method.

## Study Area

The study was carried out mainly in Mwanza city which is formed by two districts; Ilemela and Nyamagana Districts. The area is located roughly 1200 - 1400 metres above sea level in the south of Lake Victoria. This study area was chosen as regards to its significance in agriculture context in the region and country as well. According to the National Census (2012), around 62.8% of the economically active people were involved in agriculture activities. The domination of subsistence agriculture by smallholder farmers with relatively few business tendencies in their own husbandry practise is a general characteristic of the farming in this area. This study area was useful in providing an in depth and broad analysis of the potentiality of crowd funding business concepts in promoting smallholder farmers’ access to financial capital and sufficient insight on the effect of crowd funding in farmers performance.

## Survey Population

Target population for this study include Smallholder Farmers, Extension Workers, Horticulture Entrepreneurs who are investing in farms and Financial Institutions such as Tanzania Agricultural Development Bank (TADB), CRDB Bank, NMB, all of which support agricultural financing. There were 340,085 agricultural households in the region of Mwanza**.**

## Sampling Design and Procedures

### Sample Size

From the survey population of 340,085 agricultural households, the researcher selected only active smallholder farmers who invests in financial institutions and farms. The available total number of the farmers was 150. Both random and purposive sampling technique were used to select the sampled respondents. Village chairmen assisted in the process of contacting the selected respondents. Senso (2017) suggests a simplified formula of Yamane for calculation of the required sample size as it is clearly stated as follows;

The formula: 

Where;

n: is the sample size

N: is the population size,

e: is the level of precision, sometimes called sampling error or margin of error.

So far, if N = 150, and e = .05.

Then, calculated sample size was

150/1+150(.05)2 = 100

Hence, number of respondents was 100

###  Simple Random Sampling Technique

Simple random sampling gives every member in the population an equal chance of participating in the study. The use of this sampling technique helped the researcher to reduce biases, which crept in during the selection process. Also, it is easiest method for getting participants. Therefore, the researcher sought the list of smallholder farmers, extension workers, investors (individuals, banks). Then after the researcher picked randomly 100 smallholder farmers from the list who were included in the study.

### Purposive Sampling Technique

This sampling technique allowed the researcher to select intentionally individuals for inclusion in the study. With purposive sampling, the study selected respondents for interview session. The main reason for choosing purposive sampling technique is that, purposive sampling is believed to provide valuable and rich information, particularly in early stages of the study, thus turning up to be less costly and convenient. Purposive sampling technique was used to select 10 Smallholder Farmers, (5) Horticulture Entrepreneurs/Investors (5) Extension Workers and (5) Bank Regional Manager who provided adequate information on the issue under investigation.

## Methods of Data Collection

In this study data was collected through primary sources including interview and questionnaire and secondary data using documentary review technique. The data collection methods are briefly explained in the following subsections;

### Primary Data Collection Methods

Primary data simply refer to those data which are collected for the first time by the researcher, in other words we call it first-hand information. These are the original data collected but the researcher from the field (Hox & Boeije, 2005). The general aim of collecting primary data is to get the solution on the topic under investigation at hand. Therefore, in this study the researcher used interview and questionnaires to obtain primary data on the potentials of crowd funding business concepts in promoting smallholder farmers’ access to financial capital especially youth and women.

### Questionnaires

The questionnaire contained both closed and open-ended questions seeking a variety of information on the potentials of crowd funding business concepts in promoting smallholder farmers’ performance. Closed questions limited the respondents within the area of concern. Open-ended questions, on the other hand, allowed respondents to provide self-responses on the topic. Questionnaires was administered to 100 different smallholder farmers, extension workers, investors (individuals, banks) in the study area.

### Interview Guide

Interview session was arranged to allow respondents to freely provide their views related to the problem under investigation. The purpose of use this method is to supplement the questionnaire method of data collection so as to obtain the qualitative data that cannot be collected using questionnaires. Interviews was conducted to the smallholder farmers, extension workers, investors (individuals, banks). the interview session did take not more than 30 minutes. Information obtained from interview was recorded using tape recorder.

## Data Processing and Analysis

In the analysis and treatment of data to useable findings, the computer-Statistic Package for Social Science (SPSS) was employed. SPSS is an application system that uses complex data manipulation to implement a wide range of statistical procedures. In order to analyse the first and second objectives, descriptive statistics were employed. In particular, the first objective was analysed by frequency and percentage. Inferential statistics were utilised as a method for analysis of the third objective to examine the relationship between crowd funding and small-holder farmers' performance. Multiple regression was used as econometric model to examine the variables (dependent and independent variables) relationship.

*From general multiple regression equation,*

 *,*  $Y=α+x\_{1}β\_{1}+x\_{2}β\_{2}+..x\_{n}β\_{n}+ε$

*Then,*

 $P=α+x\_{1}β\_{1}+x\_{2}β\_{2}+x\_{3}β\_{3}+x\_{4}β\_{4}+x\_{5}β\_{5}+ε$

*Where*,

 P= *Performance*

 *X1= Access to crowd funding platform account*

 *X2 = Availability of crowd funding infrastructure*

 *X3= Ability to perform electronic transactions*

 *X4 = Intention to use crowd funding*

 *X5 = Social influence*

*β =Regression Coefficient*

*α = Constant*

## Unit of Analysis

In research, a unit of analysis is the thing a scholar want to talk about at the conclusion, and it is considered the emphasis of the study. It is the item (or items) observed, measured, or collected in an attempt to learn something about an analytical unit (Sedgwick, 2014). Smallholder farmers were considered as the unit of analysis in this study.

## Reliability and Validity

### Validity Analysis

The measurement validity is described as a capacity to measure what is to be measured in a scale or instrument. It is the exactness and veracity of the data and the results. (Msabila & Nalaila, 2013).

The study conducted test-retest pilot study to guarantee the validity of data instruments. 20 questionnaires were distributed and administered to the participants. The same subjects were repeated after one week after the same procedure. Results showed that in a questionnaire the same answers were provided, showing that the tools were valid.

### Reliability Analysis

The reliability of a research tool is the degree to which a research tool produces consistent data outcomes following repeated tests. The quality of the measurement depends on reliability. (Msabila & Nalaila, 2013). The experiment findings from Table 3.1 demonstrated that the Cronbach coefficient of all variables as a statistically reliable data collecting instrument was over 70 percent.

Table 3.1: Reliability Analysis

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | **Number of Respondents** | **Cronbach’s Alpha** | **Number of items** |
| Factors influencing access to crowd funding | 100 | 0.838 | 5 |
| Setbacks facing smallholder farmers  | 100 | 0.811 | 5 |
| Performance of smallholder farmers | 100 | 0.873 | 2 |

# CHAPTER FOUR

PRESENTATION OF FINDINGS

## Introduction

This chapter provides analysis of the findings. The chapter begins with demographic characteristics followed by specific objectives results interpretations. Findings were presented in tables and figures.

## Socio-Demographic Characteristics

This section presents the summary of socio-demographic features of the respondents. Five features were considered which consist of sex, age, education, farming experience, and status on receiving crowd funding. These information were useful prior to research objectives as they detail an overview of the population demography under study. Table 4.1 demonstrate the findings.

Table 4.1: Descriptive Statistics Showing Demographic Characteristics

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Category** | **Frequency** | **Percent (%)** |
| **Sex** |  |  |  |
|  | Male | 54 | 54.0 |
|  | Female | 46 | 46.0 |
| **Age** |  |  |  |
|  | 18-30 | 27 | 27.0 |
|  | 31-45 | 30 | 30.0 |
|  | Above 45 | 43 | 43.0 |
| **Education Level** |  |  |  |
|  | Primary education | 27 | 27.0 |
|  | Secondary education | 45 | 45.0 |
|  | College/ University | 28 | 28.0 |
| **Have you ever received crowd funding?** |  |  |  |
|  | Yes | 08 | 8.0 |
|  | No | 92 | 92.0 |
| **Farming Experience** |  |  |  |
|  | 1- 5 years | 36 | 36.0 |
|  | 6 - 10 years | 26 | 26.0 |
|  | Above 10 years | 38 | 38.0 |
|  | Above 6 years | 47 | 47.0% |

Source: Researcher (2021)

### Sex of the Respondents

Table 4.1 demonstrates that majority of the respondents were males occupying 54% while their female counterparts were 46% of the total sample size (100 respondents).

### Age of the Respondents

As indicated on Table 4.1, majority 43(43%) out of 100 respondents were adult aged above 45 years old, followed by 30(30%) of youth aged between 31 and 45 years old. A few 27(27%) were youth aged 18-30 years old.

### Education Level

Results on Table 4.1 indicate that large number 45(45%) out of 100 respondents had secondary education. Whereas, a few 28(28%) had college/ university education, followed by 27(27%) of respondents with primary education.

### Status on Receiving Crowd Funding

Findings on Table 4.1 revealed that, majority 92(92%) out of 100 respondents had never received crowd funding credit while a very few 8(8%) of respondents claim to ever receive crowd funding credit for farming activities.

### Farming Experience

As shown on Table 4.1, majority 38(38%) out of 100 participants had a farming experience above 10 years. Whereas, 36(36%) of respondents had 1-5 farming experience, and a few 26(26%) had 6-10 years of the same experience.

## Factors Influencing Access to Crowd Funding Among Small Holder Farmers

This objective was analysed using descriptive statistics. Frequency and percentage as measurements of descriptive statistics were used to examine the factors influencing access to crowd funding as shown on Table 4.2.

Table 4.2: Factors Influencing Access to Crowd Funding Among Smallholder Farmers

|  |  |  |
| --- | --- | --- |
| **Variable**  | **Frequency**  | **Percentage**  |
| Access to crowd funding platform account | 30 | 30 |
| Availability of crowd funding infrastructure | 18 | 18 |
| Ability to perform electronic transactions | 22 | 22 |
| Intention to use crowd funding | 11 | 11 |
| Social influence | 19 | 19 |
| Total | 100 | 100 |

Source: Researcher (2021)

### Access to Crowd Funding Platform Account

Having a Crowd funding platform account takes advantage of wide accessibility of people through social media and crowd-funding sites to connect investors and entrepreneurs, and to broaden the pool of investors outside the usual circle of owners, family and farmers, to enhance farming activities. As shown on Table 4.2, 30% of the respondents regarded access to crowd funding platform account determine eligibility for receiving crowdfund.

### Availability of Crowd Funding Infrastructure

Access to crowd funding requires a smallholder farmer to own or have access to ICT gadgets such as computer, smartphone, and tablets. These tools make it easier for a person to access crowd funding sites for further procedures. Results on Table 4.2 indicate that, 18% of the respondents regarded this factor as important in influencing towards crowd funding.

### Ability to Perform Electronic Transactions

An electronic transaction involves the selling or purchase of products or services using computer-mediated networks between companies, homes, people, governments and other governmental or private institutions. Based on the findings in Table 4.2, 22% of the respondents indicated ability to perform electronic transaction in a crowd funding platform as a crucial factor that influences access to crowd funding.

### Behavioural Intention to Use Crowd Funding

This refers to the motivating variables that influence a smallholder farmers behaviour, as the stronger the intention to use crowd funding, the higher the chances of adopt the platform. Findings on Table 4.2 revealed that, 11% of the respondents had behavioural intention to use crowd funding platforms.

### Social Influence

Social influence describes how smallholder farmers adapt their behaviour to satisfy the needs of the social context. It takes numerous forms and is visible in conformity, socialisation, peer pressure, obedience, leadership, insight, sales and commercialization. Based on Table 4.2, 19% of the respondents regarded social influence as a factor that influence access to crowd funding.

## Setback Facing Small Holder Farmers in Accessing Crowd Funding

This objective was analysed using descriptive statistics mainly frequency and percentage. Four factors were examined as setbacks facing smallholder farmers in accessing crowd funding namely; poor market orientation mindset, overdependence on rain fed agriculture, poor value chain development, and poor knowledge on technology use.

Table 4.3: Setbacks Facing Smallholder Farmers in Accessing Crowd Funding

|  |  |  |
| --- | --- | --- |
| **Variable**  | **Frequency**  | **Percentage**  |
| Poor market orientation mindset | 32 | 32 |
| Overdependence on rain fed agriculture | 29 | 29 |
| Poor value chain development | 20 | 20 |
| Poor knowledge on technology use | 19 | 19 |
| **Total** | **100** | **100** |

Source: Researcher (2021)

### Poor Market Orientation Mindset

In market-based farming, a farm is used as a company for the purchase and sale of inputs to manufacture agricultural goods. Findings on Table 4.3 reveal that 32% of the respondents indicate poor market orientation mindset affect smallholder farmers towards accessing crowd funding platforms.

### Overdependence on Rain Fed Agriculture

In the dry season, many smallholder farmers in Tanzania rely exclusively on rain, most of which fail to produce. The lack of sufficient irrigation systems compounds the problem. Results on Table 4.3 indicate that, 29% of the respondents consider this factor as a challenge facing smallholder farmers.

###  Poor Value Chain Development

The agricultural value chain is described as the individuals and activities bringing a fundamental agricultural commodity, such as maize or vegetables or cotton, through processing, packaging and distribution to the customer. Based on Table 4.3, 20% of the respondents suggested that, poor value chain development significantly constrains smallholder farmers.

### Poor Knowledge on Technology Use

Adoption of technology particularly ICT tools in agriculture among smallholder farmers encourage use of crowd funding resources. Findings on Table 4.3 reveal that, 19% of the respondents suggest poor knowledge on technology use as a challenge facing smallholder farmers.

##  Effects of Crowd Funding on Performance of Smallholder Farmers

 Analysis of this objective was carried out using multiple linear regression. The technique of multiple regression is essentially for measuring relationship between one dependent variable and several independent variables. Before running the test, assumptions of the regressions were conducted including, linearity, normality, homoscedasticity, multicollinearity, and autocorrelations.

### Linearity Assumption

This assumption is often tested to check whether linear relationship exists between dependent and independent variables. Pearson’s correlations test was used to examine the assumption. Results indicate that, performance as dependent variable has significant relationship (*p* <.05) with all five independent variables. Specifically, performance positive correlated with access to crowd funding account, *r*(100) =.19, *p*=.05, crowd funding infrastructure, *r*(100) =.06, *p*=.04, ability to perform electronic transactions, *r*(100) =.05, *p*=.05, intention to use, *r*(100) =.08, *p*=.02, and social influence, *r*(100) =.07, *p*=.05 as shown in Table 4.4.

Table 4.4: Pearson Correlation Matrix Showing Linearity Test

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Access to crowd funding platform account | Availability of crowd funding infrastructure | Ability to perform electronic transactions | Intention to use crowd funding  | Social influence | Performance |
| Access to crowd funding platform account |  | 1 |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | 100 |  |  |  |  |  |
| Availability of crowd funding infrastructure |  | .092 | 1 |  |  |  |  |
|  | .362 |  |  |  |  |  |
|  | 100 | 100 |  |  |  |  |
| Ability to perform electronic transactions |  | .188 | -.049 | 1 |  |  |  |
|  | .061 | .631 |  |  |  |  |
|  | 100 | 100 | 100 |  |  |  |
| Intention to use crowd funding |  | -.032 | -.084 | .063 | 1 |  |  |
|  | .751 | .407 | .535 |  |  |  |
|  | 100 | 100 | 100 | 100 |  |  |
| Social influence |  | .151 | -.046 | .368\*\* | .126 | 1 |  |
|  | .133 | .650 | .000 | .211 |  |  |
|  | 100 | 100 | 100 | 100 | 100 |  |
| Performance |  | **.192** | **.062** | **.054** | **.082** | **.073** | 1 |
|  | **.051** | **.038** | **.046** | **.019** | **.049** |  |
|  | 100 | 100 | 100 | 100 | 100 | 100 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

### Normality Assumption

This assumption is used to test whether there is normal distribution of data. kurtosis and Skewness test were employed to examine the assumption. Because all examined variables had Kurtosis values ranging from -2 to 2, and they were skewed between -1.96 and 1.96, the results indicated that independent variables were normally distributed as shown in Table 4.5.

Table 4.5: Kurtosis and Skewness Test Showing Normal Distribution of Data

|  |  |  |  |
| --- | --- | --- | --- |
|  | N | Skewness | Kurtosis |
| Statistic | Statistic | Std. Error | Statistic | Std. Error |
| Access to crowd funding platform account | 100 | **.239** | .241 | **-1.214** | .478 |
| Availability of crowd funding infrastructure | 100 | **-.119** | .241 | **-1.205** | .478 |
| Ability to perform electronic transactions | 100 | **-.867** | .241 | **-.537** | .478 |
| Intention to use crowd funding | 100 | **-.957** | .241 | **-.235** | .478 |
| Social influence | 100 | **-1.235** | .241 | **.755** | .478 |
| Valid N (listwise) | 100 |  |  |  |  |

### Homoscedasticity Assumption

Homoscedasticity arises when all levels of predictor variables have the same variance errors. Standardised residuals versus predictor value was plotted to test the assumption. Since the residuals were portrayed dispersing about a horizontal line depicting an equal distribution, the assumption was fairly met. Figure 4.1 depicts the assumption test.



Figure 4.1: Homoscedasticity Assumption Test

### Autocorrelations Assumption

When the error term of one variable is linked with the error term of another variable over time, this is referred to as autocorrelation (Berman & Wang, 2017). The assumption was investigated using the Durbin-Watson coefficient. The results showed that Durbin-Watson (*DW*) =2.0, suggesting that the variables had negligible autocorrelation. For considerable autocorrelation observation, Field (2009) recommends a Durbin-Watson value of 1.5 to 2.5 as shown in Table 4.6.

Table 4.6: Durbin-Watson Showing Autocorrelations Test

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error  | **Durbin-Watson** |
| 1 | .226 | .051 | .000 | 21.26351 | **2.022** |

### Multicollinearity Assumption

When the variables are uncorrelated, it is possible to measure the significant influence of independent variables on the dependent variable (Keith, 2006). Collinearity between variables was assessed using the tolerance rate and the Variance Inflation Factor. Since the tolerance coefficient was between 0.8 and 0.9, indicating the permissible range, and VIF varied between 1.0 and 1.1, all independent variables had minimal collinearity. According to Shieh (2010), the VIF coefficient runs from 1 to 10, whereas the tolerance rate varies from 0 to 1, with a high tolerance rate and a low VIF signifying minimal multicollinearity. Findings are depicted in Table 4.7.

Table 4.7: Tolerance and VIF Test Showing Multicollinearity Assumption

|  |  |  |
| --- | --- | --- |
| Model |  | Collinearity Statistics |
|  |  | **Tolerance** | **VIF** |
| 1 | (Constant) |  |  |  |  |
| Access to crowd funding platform account |  |  | **.944** | **1.059** |
| Availability of crowd funding infrastructure |  |  | **.980** | **1.020** |
| Ability to perform electronic transactions |  |  | **.844** | **1.184** |
| Intention to use crowd funding |  |  | **.976** | **1.025** |
| Social influence |  |  | **.845** | **1.183** |

## Multiple Regression Analysis

Multiple regression analysis was conducted after successful assumptions tests. Results indicated that, the regression model was statistically significant (*p*<.000). Also, the independent variables explain 0.5% of the regression model variation as demonstrated in Table 4.8.

Table 4.8: Model Summary Showing Regression Analysis Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | R | R Square | Adjusted R Square | Std. Error  | Sig. |
| 1 | .226a | .051 | .000 | 21.26351 | 0.000 |

 In regards to each predictor output, results indicate that, all variables were significant predictors (p<=.05) of smallholder farmer’s performance. In specific, one unit of access to crowd funding platform account explains 0.2 increase in performance. One unit increase in crowd funding infrastructure predicts 0.7 unit increase in farmer’s performance. Similarly, one unit increase in ability to perform electronic transactions predicts 0.03 increase in farmer’s performance. Also, one unit increase in intention to use and social influence accounts for 0.8 and 0.3 increase in farmer’s performance respectively as shown in Table 4.9.

Table 4.9: Coefficient Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 56.133 | 11.528 |  | 4.869 | .000 |
| Access to crowd funding platform account | 2.979 | 1.562 | .197 | 1.907 | .050 |
| Availability of crowd funding infrastructure | 1.093 | 1.526 | .073 | .716 | .046 |
| Ability to perform electronic transactions | .053 | 1.701 | .003 | .031 | .015 |
| Intention to use crowd funding | 1.286 | 1.671 | -.078 | .770 | .054 |
| Social influence | .569 | 1.978 | -.031 | .288 | .014 |

Regression model equation was developed from the coefficient output as follows;

*From general multiple regression equation,*

 *,*  $Y=α+x\_{1}β\_{1}+x\_{2}β\_{2}+..x\_{n}β\_{n}+ε$

*Then,*

 $P=α+x\_{1}β\_{1}+x\_{2}β\_{2}+x\_{3}β\_{3}+x\_{4}β\_{4}+x\_{5}β\_{5}+ε$

*Hence,*

 $P=56.1+3x\_{1}+1.1x\_{2}+0.1x\_{3}+1.3x\_{4}+0.6x\_{5}$

*Where*,

 P= *Performance*

 *X1= Access to crowd funding platform account*

 *X2 = Availability of crowd funding infrastructure*

 *X3= Ability to perform electronic transactions*

 *X4 = Intention to use crowd funding*

 *X5 = Social influence*

*β =Regression Coefficient*

*α = Constant*

# CHAPTER FIVE

DISCUSSION OF THE FINDINGS

## Introduction

This chapter provides discussion of the findings concerning crowd funding and performance of smallholder farmers. The chapter discusses results based on the implications and empirical literature underpinnings. Discussion was arranged in correspondence to specific objectives of the study.

## Factors Influencing Access to Crowd Funding among Small Holder Farmers

Pertaining to the findings of the study, five factors were found to determine the extent of crowd funding access among smallholder farmers in the study area. These factors were access to crowd funding account, availability of crowd funding infrastructure, ability to perform electronic transactions, behavioural intention to use crowd funding platform, and social influence.

Findings provides several implications. For instance, 30% of smallholder farmers regarded having access to crowd funding account would help them gain a crowdfund. This implies that, some of the smallholder believes ownership of an account in crowdfund websites provide an advantage to receive a fund. Also, 18% of the respondents suggested crowd funding infrastructure as an important factor influencing access to crowd funding. This implies that, some of the smallholder farmers lacks basic resources that are essential in accessing crowd funding such as ICT gadgets and are living in areas with poor ICT infrastructures. Results also indicate that, 22% of the respondents mentioned ability to perform transaction as an important factor influencing access to finance. It implies that, knowledge regarding technological tools is necessary in performing electronic transaction in crowd funding platform particularly online transactions. Smallholder farmers requires basic ICT skills to assure them effective access to crowd funding which aligns with Sebatta *et al*. (2014).

Present findings are consistent with Iddris (2019) on the notion that, social influence and intention ot use crowd funding influences access to crowfunding platforms.

## Setbacks Facing Small Holder Farmers in Accessing Crowd Funding

Based on the findings, several setbacks were revealed to hinder smallholder farmers’ access to crowd funding. These were poor market orientation mindset, overdependence on rain fed agriculture, poor value chain development, and poor knowledge on technology use. The findings provide various implications to the study. For instance, 32% of the smallholder farmers indicated poor market orientation mindset as challenge. This implies that, stagnant mindset among farmers limit their decision making particularly in market orientation matters. They do not view crowd funding as an opportunity towards market growth. It was also found that, 19% of the smallholder farmers regard poor knowledge on technology use as challenge limiting their access to crowd funding. It gives an implication that, majority of farmers are ICT-illiterate to utilise crowd funding resources. For instance, they lack basic skills on how to access, open, and join crowd funding platforms. On the other hand, 29% of the smallholder farmers suggested overdependence on rain fed agriculture as another challenge facing their access to crowd funding. It means that, this aspect impedes the farmers’ decision to look for crowdfund as a financial capital to establish alternative irrigation systems.

These findings aligned with Misaki *et al*. (2018) on the notion that, majority of farmers fails to adopt crowd funding due to improper use of foreign language and poor skills in using ICT resources such as computer and smartphones. Shabangu (2016) also inline with current findings on the fact that, lack of crowd funding infrastructure and poor knowledge among smallholder farmers influences access to crowd funding platforms.

## Effects of Crowd Funding on Performance of Smallholder Farmers

Findings on this objective suggest that, crowd funding has a significant positive effect on performance of smallholder farmers. It shows that, crowd funding contributes 0.5% of variation on the farmers’ performance. This implies that, despite the positive contribution, the effect is too small for generating substantial farmers’ performance. Crowd funding-related factors which contribute access to performance such as infrastructure, ability to perform electronic transactions, social influence, and intentions to use crowd funding tend to play minimal role in uprising agricultural productivity. The findings were in harmony with Wati and Winarno (2018) who also revealed significant contribution of crowd funding on success and growth of agricultural firms. Girabi and Mwakaje (2013) was consistent with this study on the aspect that, credit beneficiaries have a high agricultural productivity compared to non-credit beneficiaries.

# CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

## Introducion

This chapter presents conclusion of the study. It specifically provides summary of the findings, conclusions, and recommendations of the study. Conclusions were based on specific objectives of the study.

## Summary of the Findings

First objective of the study revealed that, factors influencing access to crowd funding among smallholder farmers were; access to crowd funding platform account, availability of crowd funding infrastructure, ability to perform electronic transactions, intention to use crowd funding, and social influence. 30% of the respondents regarded access to crowd funding platform account determine eligibility for receiving crowd fund. 18% of the respondents regarded this factor as important in influencing crowd funding. 22% of the respondents indicated ability to perform electronic transaction in a crowd funding platform as a crucial factor influencing access to crowd funding. 11% of the respondents had behavioural intention to use crowd-funding platforms. 19% of the respondents regarded social influence as a factor influencing access to crowd funding.

Second objective of the study found that, 32% of the respondents indicate poor market orientation mindset affect smallholder farmers towards accessing crowd-funding platforms. 29% of the respondents consider this factor as a challenge facing smallholder farmers. 20% of the respondents suggested that, poor value chain development significantly constrains smallholder farmers. 19% of the respondents suggest poor knowledge on technology use as a challenge facing smallholder farmers.

Third objective revealed that, the regression model was statistically significant (*p*<.000). Also, the independent variables explain 0.5% of the regression model variation. one unit of access to crowd funding platform account explains 0.2 increase in performance. One unit increase in crowd funding infrastructure predicts 0.7 unit increase in farmer’s performance. Similarly, one unit increase in ability to perform electronic transactions predicts 0.03 increase in farmer’s performance. Also, one unit increase in intention to use and social influence accounts for 0.8 and 0.3 increase in farmer’s performance.

## Conclusion

This study aimed at assessing the contribution of crowd funding on promoting performance of smallholder farmers. In regard to the findings, crowd funding contributes significantly positive effect on performance of smallholder farmers. However, its contribution is very minimal accounts only for 0.5% variations of performance.

Access to crowd funding platforms among smallholder farmers tend to be influenced by factors which are related with knowledge, skills, perception, and social influences. Majority of farmers not only are limited by lack of knowledge and skills pertaining ICT, but also their environment is impeded by poor technological infrastructure.

In a nutshell, crowd funding act as a source of financial capital and gears growth and productivity of smallholder farmers. However, effective access to crowd funding requires delimitation to setbacks such as overdependence on rain fed agriculture, market orientation mindset, and improvement of knowledge on technology use.

## Recommendations

Based on the findings, the study recommends the following;

**Factors influencing Access to Crowd Funding**

The crowd funding analysis and distribution of information in the study area is poor, especially for smallholders who are conceptually detached from market forces in rural areas. This abnormality should be corrected by a strategy. An efficient information system must be established that can guarantee that information regarding crowd funding is distributed promptly to farmers.

**Setbacks facing Small Holder Farmers in Accessing Crowd Funding**

The existing agriculture management at local government level makes service delivery ineffective due to the excessive politization by advisors. The government must be persuaded directly from Ministerial levels to carry out crowd funding agricultural awareness programs to help smallholder farmers easy access to crowd funding platforms.

**Limitations of the Study**

This research has a number of limitations. First and foremost, the study is a cross-sectional one, therefore it cannot provide a comparison scenario of crowdfunding adoption by start-up entrepreneurs before and after. Secondly, the sample strategy utilised in this study may not be representative of the total population, which may result in sampling bias. The study drew a sample size from Mwanza region only, however, Tanzania comprises a total of 28 regions.

While this study has several limitations, it does lay the groundwork for future research on start-ups and crowdfunding. Using longitudinal data can help researchers gain a better understanding of causal or long-term linkages and changes among components. Expanding research's breadth, particularly in developing nations, can be accomplished in the future through the use of larger samples and a broader geographic study region..

# REFERENCES

Chisasa, J., & Makina, D. (2012). Trends in credit to smallholder farmers in South Africa. *International Business & Economics Research Journal (IBER)*, *11*(7), 771-784.

Gabor, M. R. (2010). Descriptive Methods of Data Analysis for Marketing Data- Theoretical and Practical Considerations. *Management & Marketing Challenges for Knowledge Society*, 5(3),119-134.

Iddris, F. (2019). The role of crowdfunding in promoting innovation in microenterprises in Africa. In *University of Cape Coast College of humanities and legal studies, School of economics, 10th Microfinance conference, 7-8 February*.

Kiplimo, J. C., Ngenoh, E., Koech, W. & Bett, J. K. (2015). Determinants of Access to Credit Financial Services by Smallholder Farmers in Kenya. *Journal of Development and Agricultural Economics, 7*(9), 303-313.

Kleemann, F. G., Gunter, V. & Kerstin, R. (2008). Un(der)paid Innovators: The Commercial Utilization of Consumer Work through Crowdsourcing. *Science, Technology & Innovation Studies*, *4*(1), 5-26.

Lambert, T., & Schwienbacher, A. (2010). An empirical analysis of crowdfunding. *Social Science Research Network*, *1578175*(1), 23.

Loeb, S., Dynarski, S., McFarland, D., Morris, P., Reardon, S., & Reber, S. (2017). Descriptive Analysis in Education: A Guide for Researchers. NCEE 2017-4023. *National Center for Education Evaluation and Regional Assistance*.

Marr, A., Winkel, A., van Asseldonk, M., Lensink, R., & Bulte, E. (2016). Adoption and impact of index-insurance and credit for smallholder farmers in developing countries: A systematic review. *Agricultural Finance Review*, 76(1).

Mitra, D. (2012). The role of crowdfunding in entrepreneurial finance. *Delhi Business Review*, *13*(2), 67-72.

Nordjo , R. E. & Adjasi, C. K. (2019). The impact of access to production credit on the productivity of smallholder farmers. *Agricultural Finance Review*, 80(1).

Sebatta, C., Wamulume, M. & Mwansakilwa, C. (2014). Determinants of Smallholder Farmers’ Access to Agricultural Finance in Zambi. *Journal of Agricultural Science*, 6(11), 63-74.

Sheppard, V. (2020). The Process of Undertaking Research. *Research Methods for the Social Sciences: An Introduction*.

Thanh Tu, T. T., Anh, D. P. & Ha Thu, T. T. (2018). Exploring Factors Influencing the Success of Crowd funding Campaigns. *Accounting and Finance Research*, 7(2), 19-33.

Borst, I., Moser, C., & Ferguson, J. (2018). From friend funding to crowd funding: Relevance of relationships, social media, and platform activities to crowd funding performance. *New media & society*, 20(4), 1396-1414.

Ortiz-Bobea, A., Ault, T. R., Carrillo, C. M., Chambers, R. G., & Lobell, D. B. (2021). Anthropogenic climate change has slowed global agricultural productivity growth. *Nature Climate Change*, 11(4), 306-312.

Antle, J. M., & Ray, S. (2020). Challenges of Sustainable Agricultural Development in High-Income Countries. In Sustainable Agricultural Development (pp. 139-165). Palgrave Macmillan, Cham.

Emeana, E. M., Trenchard, L., & Dehnen-Schmutz, K. (2020). The revolution of mobile phone-enabled services for agricultural development (m-Agri Services) in Africa: The challenges for sustainability. *Sustainability*, *12*(2), 485.

Masud, M. M., Azam, M. N., Mohiuddin, M., Banna, H., Akhtar, R., Alam, A. F., & Begum, H. (2017). Adaptation barriers and strategies towards climate change: Challenges in the agricultural sector. *Journal of cleaner production*, 156 (1), 698-706.

Aminzade, R., Schurman, R., & Lyimo, F. (2018). Circulating Discourses: The Case of Agricultural Development in Tanzania. *Sociology of Development, 4*(1), 70-93.

Bergius, M., Benjaminsen, T. A., & Widgren, M. (2018). Green economy, Scandinavian investments and agricultural modernization in Tanzania. The Journal of Peasant Studies, 45(4), 825-852.

Thomas, H., & Wawa, I. P. (2019). Harnessing Technology for Agricultural Development in Africa: Lessons from Tanzania.

Stanko, M. A., & Henard, D. H. (2017). Toward a better understanding of crowd funding, openness and the consequences for innovation. Research Policy, 46(4), 784-798.

Walthoff‐Borm, X., Vanacker, T. R., & Collewaert, V. (2018). Equity crowd funding, shareholder structures, and firm performance. Corporate Governance: An International Review, 26(5), 314-330.

Lin, M., & Viswanathan, S. (2016). Home bias in online investments: An empirical study of an online crowd funding market. Management Science, 62(5), 1393-1414.

Schwienbacher, A. (2019). Equity crowd funding: anything to celebrate? Venture Capital, 21(1), 65-74.

Eldridge, D., Nisar, T. M., & Torchia, M. (2019). What impact does equity crowd funding have on SME innovation and growth? An empirical study. Small Business Economics, 1-16.

Cui, Z., Zhang, H., Chen, X., Zhang, C., Ma, W., Huang, C., ... & Dou, Z. (2018). Pursuing sustainable productivity with millions of smallholder farmers. Nature, 555(7696), 363-366.

Jelsma, I., Woittiez, L. S., Ollivier, J., & Dharmawan, A. H. (2019). Do wealthy farmers implement better agricultural practices? An assessment of implementation of Good Agricultural Practices among different types of independent oil palm smallholders in Riau, Indonesia. Agricultural Systems, 170, 63-76.

Harvey, C. A., Saborio-Rodríguez, M., Martinez-Rodríguez, M. R., Viguera, B., Chain-Guadarrama, A., Vignola, R., & Alpizar, F. (2018). Climate change impacts and adaptation among smallholder farmers in Central America. Agriculture & Food Security, 7(1), 1-20.

Winter, E., Marton, S. M., Baumgart, L., Curran, M., Stolze, M., & Schader, C. (2020). Comparing the sustainability performance of typical conventional and certified coffee production systems in Brazil and Ethiopia using the FAO SAFA Guidelines. Frontiers in Sustainable Food Systems, 4, 49.

Roma, P., Petruzzelli, A. M., & Perrone, G. (2017). From the crowd to the market: The role of reward-based crowd funding performance in attracting professional investors. Research Policy, 46(9), 1606-1628.

Short, J. C., Ketchen Jr, D. J., McKenny, A. F., Allison, T. H., & Ireland, R. D. (2017). Research on crowd funding: Reviewing the (very recent) past and celebrating the present. Entrepreneurship Theory and Practice, 41(2), 149-160.

Kos, D., & Kloppenburg, S. (2019). Digital technologies, hyper-transparency and smallholder farmer inclusion in global value chains. Current Opinion in Environmental Sustainability, 41, 56-63.

Löher, J., Schneck, S., & Werner, A. (2018). A research notes on entrepreneurs’ financial commitment and crowd funding success. Venture Capital, 20(3), 309-322.

Heese, M. A. (2017). Investments in the Wild West: How Failure and Fraud Affect Trust and Contributions in Crowd funding. In Academy of Management Proceedings (Vol. 2017, No. 1, p. 13974). Briarcliff Manor, NY 10510: Academy of Management.

Piva, E., & Rossi-Lamastra, C. (2018). Human capital signals and entrepreneurs’ success in equity crowd funding. Small Business Economics, 51(3), 667-686.

Lacan, C., & Desmet, P. (2017). Does the crowd funding platform matter? Risks of negative attitudes in two-sided markets. Journal of Consumer Marketing.

Fitriah, A. W., Rosdi, S. N., Rosli, M. M., Aziz, Z. A., Ibrahim, W. M. Y. W., Radzi, M. S. N. M., ... & Yaacob, A. A. (2019). The effects of marketing mix on small fish farming business performance. Revista Publicando, 6(19), 1-16.

Misaki, E., Apiola, M., Gaiani, S., & Tedre, M. (2018). Challenges facing sub‐Saharan small‐scale farmers in accessing farming information through mobile phones: A systematic literature review. The Electronic Journal of Information Systems in Developing Countries, 84(4), e12034.

Baloyi, J. K. (2010). An analysis of constraints facing smallholder farmers in the Agribusiness value chain: A case study of farmers in the Limpopo Province (Doctoral dissertation, University of Pretoria).

Shabangu, P. (2016). Challenges faced by small scale farmers in Swaziland: A case of Hhohho Region (Doctoral dissertation, University of the Free State).

Skjöldevald, M. (2012). Small scale farmers’ access to and participation in markets: The case of the P4P program in western Kenya.

Sintoo, Y. E. (2015). Factors affecting income of smallholder Sunflower farmers in Singida region, Tanzania A case study of sunflower farmers in Singida Rural district (Doctoral dissertation, Mzumbe University).

Eldridge, D., Nisar, T. M., & Torchia, M. (2019). What impact does equity crowd funding have on SME innovation and growth? An empirical study. Small Business Economics, 1-16.

Wati, C. R., & Winarno, A. (2018). The performance of crowd funding model as an alternative funding source for micro, small, and medium-scale businesses in various countries. KnE Social Sciences, 16-33.

Filimonova, N. G., Ozerova, M. G., Ermakova, I. N., & Miheeva, N. B. (2019, August). Crowd funding as the way of projects financing in agribusiness. In IOP Conference Series: Earth and Environmental Science (Vol. 315, No. 2, p. 022098). IOP Publishing.

Girabi, F., & Mwakaje, A. E. G. (2013). Impact of microfinance on smallholder farm productivity in Tanzania: The case of Iramba district. Asian Economic and Financial Review, 3(2), 227.

Leshem, S., & Trafford, V. (2007). Overlooking the conceptual framework. Innovations in education and Teaching International, 44(1), 93-105.

Hox, J. J., & Boeije, H. R. (2005). Data collection, primary versus secondary. Encyclopedia of Social Management, 1, 593-599

Anderson, J., Marita, C., & Musiime, D. (2016). National Survey and segmentation of smallholder households in Tanzania. *CGAP: Washington, DC, USA*.

Miller, Katherine (2005). Communication Theories. New York: McGraw Hill.

Mitchell, M. S., Cropanzano, R. S., & Quisenberry, D. M. (2012). Social exchange theory, exchange resources, and interpersonal relationships: A modest resolution of theoretical difficulties. In *Handbook of social resource theory* (pp. 99-118). Springer, New York, NY.

Sedgwick, P. (2014). Unit of observation versus unit of analysis. *Bmj*, *348*.

# APPENDICES

APPENDIX I: QUESTIONNAIRE

**SECTION A**

**RESPONDENT’S BACKGROUND INFORMATION**

 Please tick (√ ) the age group you are; gender and education level in the most appropriate box provided.

|  |
| --- |
| * + 1. Age 2: Sex
	+ 18-30 years Male
	+ 31-45 years Female
	+ Above 45 years
 |
| 3: Education qualification * Primary Education
* Secondary Education
* College/ University
 |

**4.** Experience

* + 1 year- 5 years
	+ 6 years- 10 years
	+ Above 10

 **SECTION B**

Use the scale provided to each part to make an assessment. Please tick in the table the number that best describes your perception. Each number is presented by statement as shown below.

1-Strongly agree, 2 – Agree, 3 – Neutral, 4 – Disagree, 5 – Strongly disagree

**Factors influencing access to crowd funding among smallholder farmers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Description | 1 | 2 | 3 | 4 | 5 |
| i | Access to crowd funding platform account |  |  |  |  |  |
| ii | Availability of crowd funding infrastructure |  |  |  |  |  |
| iii | Ability to perform electronic transactions |  |  |  |  |  |
| iv | Intention to use crowd funding |  |  |  |  |  |
| v | Social influence |  |  |  |  |  |
|  |  |  |  |  |  |  |

**Setbacks facing smallholder farmers in accessing crowd funding**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| S/N | Description | 1 | 2 | 3 | 4 | 5 |
|  | Poor market orientation mindset |  |  |  |  |  |
|  | Overdependence on rain fed agriculture |  |  |  |  |  |
|  | Poor value chain development |  |  |  |  |  |
|  | Poor knowledge on technology use |  |  |  |  |  |

**Performance of smallholder farmers**

Indicate percentage of average increase of productivity in each respective year

|  |  |  |  |
| --- | --- | --- | --- |
| Variable  | 2018 | 2019 | 2020 |
| Productivity  |  |  |  |
|  |  |  |  |
|  |  |  |  |