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THE IMPACT OF RURAL BANKS' MICROFINANCE INTERVENTIONS ON POVERTY REDUCTIONS AMONG THE FISHING COMMUNITIES IN GHANA

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ABSTRACT

Microfinance has become an everyday word in the financial and credit market as an effective tool for poverty reduction and rural socio-economic development. However, poverty still denies many people in developing economies their basic needs. Nearly three decades after the global community welcomed the advent of microfinance as a tool for poverty eradication, people in both the urban and rural areas in developing economies still live in extreme poverty. Although, some progress has been made in developing economies such as Ghana towards meeting the United Nations Millennium Development Goals (MDGs) of halving extreme poverty, a chunk of the population in rural Ghana still lives below the poverty line, which remains unacceptable. These startling statistics have prompted this study to delve deeper to ascertain whether the use of microfinance interventions by rural banks and the methods used to deliver these microfinance interventions are still effective and relevant in the fight to eradicate poverty. This study, therefore, examines and evaluates the impact of rural banks' microfinance interventions and the effectiveness of credit delivery models on poverty reduction among the fishing communities of Ghana. The objectives of the study are to identify and examine the microfinance interventions provided by rural banks aimed at reducing poverty in fishing communities in Ghana and also to analyse the credit delivery models used by rural banks and their effectiveness in reducing poverty in fishing communities in Ghana.

The welfarist, institutionalist, and information asymmetry theories underpin the study. The study adopted the pragmatic philosophical stance that employs a mixed-method research design methodology, obtaining data from 302 participants comprising 294 clients of four rural banks and 8 staff of the rural banks operating in the fishing communities in the Volta, Western, Greater Accra and Central region of Ghana through questionnaires and semi-structured interviews.

However, the findings of the study reveals that microfinance intervention has a negative impacts on poverty reduction, empowerment and the credit delivery model(i.e. group liability schemes) have positive impacts on poverty reduction; therefore it cannot be conclusive that microfinance services are pivotal for poverty reduction in the fishing communities in Ghana, unless microfinance providers such as the rural banks inculcate a proper empowerment and training activities coupled with group cohesiveness from the beneficiaries of these microfinance services to make microfinance interventions relevant and an effective tool for poverty reduction. Furthermore, this study contributes to the poverty reduction theories by providing contextual understanding of microfinance provision. Additionally, the study also contributes to microfinance practice by providing a guide to effective interventions designs to inform policymakers to increase the knowledge base and the understanding of rural banks in rural areas in the fight against poverty.

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DEDICATION

I dedicate this thesis to Esinam Gbekle, Mawuyram Gbekle and Mawulorm Gbekle, for the support and encouragement during this great milestone of my life.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figure **Page**

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ARB	Association of Rural Banks
BOG	Bank of Ghana
CBOs	Community-based organisations
CCEs	Community Credit Enterprises
CGAP	Consultative Group to Assist the Poor
CIDA	Canadian International Development Agency
CSR	Corporate Social Responsibility
CUA	Credit Union Association
DFID	Department for International Development
DRDAs	District Rural Development Agencies
ENOWID	Enhancing Opportunities for Women in Development
FFE	Freedom from Hunger
FINCA	Foundation for International Community Assistance
GCSCA	Ghana Co-operative Susu Collectors Association
GPRS	Growth and Poverty Reduction Strategy
GoG	Government of Ghana
GHAMFIN	Ghana Microfinance Institution Network

GRATIS	Ghana Regional Appropriate Technology Industrial Services
IDB	Inter-American Bank
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
LEAP	Livelihood Empowerment Against Poverty
MASLOC	Microfinance and Small Loan Centre
MDGs	Millennium Development Goals
MFIs	Microfinance Institutions
MSE	Micro and Small Enterprise
NABARD	National Bank for Agriculture, Food and Development
PAMSCAD	Programme of Action to Mitigate the Social Cost of Adjustment
PLI	Poverty Line Index
SAT	Sinapi Aba Trust
SHG	Self Help Group
SMEs	Small and Medium Enterprises
SSCE	Senior School Certificate Examination
S&Ls	Savings and Loans
NBSSI	National Board for Small Scale Industries
NGOs	Non-Governmental Organisations
OLS	Ordinary Least Square
RCBs	Rural and Community Banks
RMFIs	Rural Microfinance Institutions
SHG	Self Help Group
UN	United Nation

UNDP	United Nations Development Programme
VSLAs	Village savings and Loans Association
WASSCE	West Africa Senior School Certificate Examination

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Many developing countries like Ghana face a major development issue such as reducing the scale and depth of poverty among the growing population (Enu-Kwesi et al., 2013). As part of the steps undertaken to address the issue of poverty, microfinance (an intervention that seeks to provide financial services such as microcredit, micro savings, insurance and bank transfers to individuals, groups and small business without access to traditional formal banking), specifically rural banking, was deemed the most appropriate. Many researches such as (Ahmed, 2023; Azamat et al., 2023; Chowdhury et al., 2023) have revealed that financial institutions operating in rural areas have a significant role in reducing poverty in these areas. The introduction of rural banks (a small bank, cooperative in nature established to provide credit to rural areas to boost their economy) has been instrumental in reducing poverty by the provision of microfinance interventions such microcredit, micro savings and empowerment to enable the very poor to boost incomes, build assets and reduce vulnerability to economic stress and shocks (Van Santen, 2010).

According to the study by Chowdhury (2009), establishing banks in rural areas encourage entrepreneurship, structural change and poverty reduction, thus making rural banks cooperative entities in nature, but providing a much more comprehensive range of services. Apart from rural banks undertaking the financial intermediation functions of local savings mobilisation and meeting the credit needs of the rural dwellers engaged in small and medium-scale activities, rural banks also take up the task of implementing programmes of supervised credit, providing ancillary banking services geared towards the overall development of their areas of operation (Shekhar & Shekhar, 2007; Tang, 2023; Hansel & kobani, 2024).

Indeed, a developing country like Ghana is no exception to global poverty. The Ghana Statistical Service (GSS) in 2020 revealed that the multidimensional Poverty Index (a measure of poverty that takes into account various dimensions of poverty such as Health, Education and the Standard of living) in Ghana is 0.236 (i.e. product of incidence of poverty and the average intensity) which puts the incidence of poverty at 45.6% and monetary poverty at 23.4%, but 19.3% of the population were experiencing both monetary and multidimensional poverty. The GSS report (2020) further indicated that 64.6% of rural folks in Ghana were experiencing multidimensional poverty, compared to 27% of urban populations. Furthermore, Oxfam International (2023) intimates that despite some success in reducing poverty, the gap keeps widening significantly between the southern and Northern parts, where most of the population live on $1.90 (equivalent of 26.17 Ghana cedi) a day. It is estimated that around 24.2 % of the national population of Ghana (34.8 million) live below the poverty line. Ghana is ranked 133 out of 191 countries on the Human Development Index (which considers life expectancy, primary schooling, adult literacy, and per capita income), placing Ghana in the medium human development category (United Nation Development programme, 2022).

However, since independence, the Government of Ghana has introduced strategies and also passed laws such as Provisional National Defence Council (PNDC) law 328 in 1991 to pave the way for establishing different categories of financial institutions and non-banking institutions to help provide financial services and products to the poor within the informal sector (Antwi,2015). This became the government's agenda of making available financial services to the rural and urban poor to alleviate their poverty. Given this, the government of Ghana launched pro-poor innovation programmes such as Ghana Poverty Reduction Strategy (GPRS 1 and 2) between 2003-2009, followed by the Microfinance and Small Loans Centre (MASLOC) and the Livelihood Empowerment Against Poverty (LEAP) under the GPRS 2. These programmes were intended to be microfinance bodies instituted to implement the government's programme to reduce poverty, accelerate growth, and empower the poor through capacity building toward creating employment and wealth (Antwi,2015).

Furthermore, before the banking sector reforms in Ghana in the 1990s, the Ghana Government, through the Central Bank of Ghana, established Rural Banks to advance credit to productive rural ventures and help promote rural development (a strategy intended to improve the social and economic life of the rural poor (World Bank, 1975). Despite all the pro-poor policy reforms, programmes, and microfinance interventions by the rural banks to reduce poverty in Ghana, poverty in the rural areas is still an issue and great motivation for this research.

1.2 Statement of the problem

The provision of microfinance by financial institutions such as rural banks is deemed an effective development-oriented programme for alleviating poverty (Okibo, 2014; Sulemana et al., 2024). Thus, rural banks make accessible microcredit to help the beneficiaries and their families in rural areas experience an improved quality in the well-being of their families. However, fishing, one of the occupations of rural dwellers in general, is presented as a 'backward, informal and marginal' economic actor and poorly integrated into the national and local decision-making process (Plateau, 1989; Jament & Osella,2024). Policymakers in many Sub-Saharan African countries, including Ghana, believe that fishing is exclusively for people experiencing poverty, and returns are so marginal that there is little potential for development, making the fisher folks and their communities poor. Reflecting on this marginalisation, the fishing sector is also largely ignored in research on water productivity, socioeconomic research and, more broadly, rural development and poverty alleviation (Bene & Friend, 2009, 2011).

Moreover, poverty exists in small-scale fisheries worldwide, and Ghana's small-scale fisheries are no exception. Poverty in small-scale fisheries has been reduced to income and consumption (Bene & Friend, 2009, 2011). Because microfinance is crucial for eradicating poverty, the World Bank declared 2005 the Year of Microfinance (World Bank, 2005). Since this statement, numerous empirical studies (e.g. Yeboah, 2010; Ampah, 2012; Bakare,2018; Addae-Korankye, 2018; Sulemana et al., 2024)) examining the impact of microfinance has been carried out in Ghana, and the conclusions about its effectiveness in eradicating poverty are varied.

However, most of these studies mentioned above focused primarily on the Small and Medium Enterprises (SMEs), MFIs in both urban and rural farming communities without a consideration to the relevance, effectiveness and delivering methods of microfinance interventions in the reduction of poverty in rural areas, especially the fishing communities in Ghana. It is very important for rural microfinance institutions such as the rural banks to provide an effective and relevant microfinance services tailored towards the rural fishing communities since these communities are poorly organized without political voice, deprived of resources to empower them and are also prone to natural disasters (FAO,2000).

Therefore, it is not out of place for this research to critically investigate the rural banks' microfinance interventions which include empowerment, microcredit and micro savings towards poverty reduction in the fishing communities in Ghana.

It is in this light, therefore, that this research has been designed to address this gap in literature, more specifically by addressing the following research question:

1.3 Research Question

How effective and relevant are the rural bank's microfinance interventions and credit delivery models on poverty reduction in the fishing communities in Ghana?

1.4 Research Aim

To evaluate the impact of microfinance interventions by rural banks in alleviating poverty among the fishing communities in Ghana.

1.5 Research Objectives

i. To identify and examine the microfinance interventions provided by rural banks aimed at reducing poverty in fishing communities in Ghana.
ii. To analyse the credit delivery models used by rural banks and their effectiveness in reducing poverty in the fishing communities in Ghana.

1.6 Definition of Key terms

- Microfinance interventions is a combination of a wide range of initiatives and strategies formulated to facilitate the goals of microfinance. The initiatives involve training, practices, and a framework to effectively provide microfinance services

(Maru & Chemjor,2013). In this study, the use of microfinance interventions includes empowerment and training, microcredit and micro savings.

- Microfinance is the provision of financial services to low-income people or a broad set of financial services tailored towards the needs of poor individuals (CGAP, 2013). Microfinance has been defined as small-scale financial services such as microloans, savings and micro insurance to small and medium enterprises(SMEs), individuals and groups in both rural and urban areas to alleviate poverty (Robison,2001; Owolabi,2015).

1.7 Significance of the research

This research contributes to both theory and practice addressing the existing gap in literature on the effectiveness and relevance of microfinance interventions and poverty reduction particularly on how the integration of microcredit, micro savings and empowerment contribute to poverty reductions in very deprived areas such as the fishing communities in Ghana. The research makes valuable contributions to:

Poverty Reduction Theory:

Contextual Understanding: This research highlights the specific contextual factors in the fishing communities that influence the effectiveness of microfinance interventions. These contextual factors include strengthening of the empowerment programmes, fostering trust and group dynamics, enhancing the credit delivery processes and also contextualising the microfinance interventions giving a holistic approach to poverty reduction perspectives. This contributes to a nuanced understanding of poverty reduction theories by Gupta (2016), which indicates that the poverty reduction theories should provide a holistic and multifaceted approach to addressing poverty issues instead of just relying on a single, one-size-fits-all theory.

Contribution to Microfinance Practice:

Effective Interventions Design: The research findings provide a guide to rural banks and microfinance institutions in designing robust and effective microfinance interventions tailored towards the unique needs and characteristics of fishing communities in Ghana by contextualising the microfinance interventions through the designing of microfinance intervention programmes with community members and stakeholders for the effectiveness of the programme. This approach of effective intervention design is in line with the Consultative Group to Assist the Poor (2006) in their publication "understanding the needs of the poor client" which suggests that microfinance providers, investors should engage and understand the financial reality and needs of the poor to ensure that microfinance interventions consistently meet demand of their clients, this assertion above is corroborated by the works of Gupta& Sharma (2023).

Policy Implication issues: The research findings reveal that microfinance interventions (microcredit and micro savings) are not the panacea of poverty reductions. This research outcome informs policymakers about the impact of rural banks' microfinance interventions in the fishing communities which may lead to policy changes or reforms in the microfinance sector. The findings of this research corroborate the suggestions made by the consultative group against poverty as guidelines for funders of microfinance which indicates that improving the lives of poor clients, responsive financial services are required beyond microcredit that will encompass deposit services, transfers, payments and safety net programmes such insurances(CGAP,2006). The findings of the research provide alternatives to poverty reductions such group empowerment through skill training to microfinance beneficiaries since microcredit provision only may not be the solution for poverty reduction.

In summary, this research increases the knowledge base and understanding of rural banks in rural areas in the fight against poverty and also offer policymakers a handy tool for making more informed decisions to empower the rural poor to accelerate long-term sustainable growth toward poverty reduction.

1.7 Organisations of the study

This study is divided into eight chapters: Chapter one of the thesis is the introduction, which provides a general overview of the purpose of the research. It also discusses the statement of the problem, the aim of the study, objectives, research questions, key terms used in the research and significance of the study and explains the organisation of the study.

Chapter two of the thesis provides an overview of the context of the study and financial landscape in Ghana, delving into the evolution of rural financial intermediation, rural finance in Ghana, and the structure and performance of rural finance in Ghana. It also discusses the Government's interventions programmes, fintech and rural financial intermediations, the relevance of the rural credit, challenges of rural banks in Ghana and the Government's regulations of rural microfinance.

Chapter three is the literature review, which reviews literature on the two approaches to microfinance: The Institutionalist theory and the Welfarist theory. It also discusses the information asymmetry theory, literature regarding concepts of poverty, credit delivery models, microfinance interventions provisions, accessibility and the impact of microfinance on poverty reduction.

Chapter four is the methodology chapter, which consists of the various research philosophies, research design and sampling methods. It also discusses the research instruments, data collection procedure, data analysis procedure, data validity, reliability, ethical Consideration and the chapter's conclusion.

Chapter five presents the quantitative results highlighting the responses from the questionnaire, Data preparation and description statistics, descriptive analysis of the microfinance interventions, Measurement model assessment, Structural Model results, Model fit, linear regression model, the moderating role of empowerment and Hypothesis testing.

Chapter Six is the qualitative results, which presents the data analysis on the interview. It also provides the results and interpretations for the rural bank staff and the leaders of the groups and liability schemes.

Chapter seven discusses the findings of the entire study, highlighting microfinance interventions and Poverty reduction, credit delivery models and Poverty Reduction outcomes and the Conceptual framework.

Chapter Eight is the concluding chapter of the thesis, which reviews the objectives of the research, summarises the research findings and conclusions and makes recommendations based on those findings. It also identifies the study's implications, discusses its limitations, and suggests future research. The next chapter focuses on context of the study and financial landscape in Ghana.

CHAPTER TWO

Context of the study and financial landscape in Ghana

2.1 Evolution of rural financial intermediation

In expanding the discussion, it is worth noting that Stuart Rutherford's work was a foundational critique of the formal financial systems' inability to serve rural and low-income communities effectively (Rutherford,2000). His research argued that traditional banks and financial institutions were often misaligned with the rural populations' financial behaviours and needs, leading to a dependence on informal mechanisms like moneylenders and community savings clubs. Rutherford's findings were corroborated by scholars like Collins et al. (2009) who emphasised that formal financial systems often imposed structures that were too rigid for the variable incomes and risks associated with rural livelihoods. For example, Collins et al. (2009), in their book "Portfolios of the Poor", provided detailed case studies of how low-income families manage money through the formations of savings clubs, saving money as reserves and also using microfinancing when possible, further underscoring the inadequacy of formal financial systems in meeting these diverse needs.

In contrast, the work of scholars like Yunus (1999) on microfinance offered a new paradigm, suggesting that tailored financial products could indeed successfully target rural and impoverished communities. Yunus essentially argued against Rutherford's implicit acceptance of the status quo, proposing that financial systems could and should adapt to the nuanced needs of rural communities, thereby negating the need for informal and exploitative financial systems.

However, the efficacy of microfinance itself has been a subject of debate. Bateman (2010) criticised the microfinance model for sometimes falling into the same traps as traditional banks, such as focusing too heavily on profit-making and not on community development, thus failing to address the systemic issues such as the inability to serve and provide tailored services to meet the financial needs of the poor as pointed out by Rutherford and others.

Therefore, Rutherford's work serves not merely to explore existing financial behaviours but as a critical lens through which to assess subsequent developments in rural financial intermediation. His work implicitly argues for financial models that are inclusive, adaptive, and responsive to the unique challenges faced by rural and low-income communities.

The advent of microfinance, mainly spearheaded by Mohammed Yunus and the Grameen Bank, was seen as a revolutionary shift in rural financial intermediation (Yunus,1999; Barua & Khaled,2023). While traditional financial institutions largely ignored impoverished rural populations, Yunus argued for the viability of these marginalised groups as borrowers. This idea was initially met with enthusiasm, both as a strategy for poverty alleviation and as a challenge to traditional financial services, which had been critiqued for their exclusionary practices such high interest and the demand for collateral (Armendáriz & Morduch, 2005; Shaikh, 2023).

However, the narrative of microfinance as a silver bullet for rural financial inclusion soon came under scrutiny. One significant critique came from scholars like Bateman (2010), who argued that microfinance, in some context, perpetuated or even exacerbated poverty and inequality. Critics contend that microloans often come with high interest rates and rigid repayment schedules, leading to a cycle of debt for borrowers. This perspective places the microfinance model at odds with its poverty-alleviation goals, suggesting that, in some cases, it could be replicating the same exploitative practices seen in traditional banking systems.

Moreover, Mader (2018) argues that while microfinance might increase financial activity at the individual level, it does not necessarily lead to broader structural changes required for sustainable development in rural areas. In this regard, microfinance is seen as a short-term solution to a long-term systemic problem, often without mechanisms for scaling individual success to community or regional levels.

2.2 Rural finance and financial landscape in Ghana

Prior to the setting up of the maiden rural bank in the year 1976, formal credit in rural communities to peasant farmers and fisher folks was limited. The Government of Ghana took steps to improve the access of finance in the rural areas by instituting some measures by making it a requirement for commercial banks to lend not less than 20 percent of their portfolio for agriculture use and allied industries in rural Ghana (Nair & Fissha,2010; Nordjo & Adjasi,2020). However, these commercial banks used their rural branches primarily to make payments and collect deposits for lending in urban areas, depriving the rural communities of the necessary credits envisage by the Government of Ghana (Nair & Fissha,2010; Nordjo & Adjasi,2020).

The advent of the Village Savings and Loans Associations (a group of individuals who come together to support a structured process of saving money and providing loans at a local-level) and Rural and Community Banks (RCBs) in Ghana was a direct respond to the limitations of traditional financial institutions in rural settings. RCBs have made strides in providing localized financial services more aligned with rural populations' economic realities. These community-focused banks (VSLAs and RCBs) often offer more flexible terms and understand local agricultural cycles, thus making it easier for rural residents to engage with formal financial systems (Steel & Andah, 2003; Magali, 2021; Ismail, 2023). Meanwhile, Village Savings and Loans Association(VSLAs) have empowered communities to save and lend among themselves, facilitating a culture of financial responsibility and providing a safety net for vulnerable populations. Research by Karlan et al. (2014) highlights microcredit networks and infrastructure as a better risk management tool and a significant microfinance model in improving agricultural investments and overall economic well-being in rural Ghana. There are three main financial systems in Ghana namely: formal, semi-formal and informal sectors.

2.2.1 Formal Financial Institutions

These are entities officially registered under Ghana's Companies Code of 1963 and regulated by the Bank of Ghana under various financial laws. Rural and Community Banks (RCBs) are a subset of this category but differ in several aspects like the inability to engage in foreign exchange, having a local client base, and lower minimum capital requirements (Jones et al.,2000; Agyapong et al., 2024). Savings and Loans Companies (S&Ls) are another sub group under the formal institutions primarily focusing on microfinancing and small-scale financial services (Jones et al.,2000; Agyapong et al.,2024).

2.2.1.1 Rural and Community Banks(RCBs)

The commercial banking sector in Ghana is limited, catering for only about 39.2% of households (Sasu, 2023). This number of customers by commercial banks as expressed in percentage primarily because of their locations and their target customers. However, other entities such as the rural banks, savings and Loans companies and some institutions in the semi-formal and informal systems play a critical role in the country's economic growth and poverty alleviation efforts. These institutions mentioned above collectively are called Rural Microfinance Institutions (RMFIs). RMFIs perform financial intermediation similar to that of commercial banks, but have distinct clientele such as farmers, rural communities, low-income families, and small businesses and with a different policy regulatory mechanisms due to their diverse approaches and focus areas. The RMFIs account for a substantial percentage of financial assets outside the commercial banking system, with RCBs holding almost 5% and S&Ls and Credit Unions (CUs) adding another 2% (IFAD,2008).

Rural and Community Banks (RCBs) are localized financial institutions in Ghana, owned by rural residents through share purchases. The first rural bank was established in 1976 to fill a gap in rural financial services that commercial and development banks were not meeting. Considering the role of rural banks in the rural financial intermediation, their numbers grew notably in the early 1980s, this was primarily to facilitate the government's policy of paying cocoa farmers through special cheques instead of cash, which affected the banks' financial health (Nissanke & Aryeetey,1988). Additionally, factors such mismanagement of funds, natural disaster, high inflation and poor supervision on the part of management culminated in a decline in financial performance in 1992 where only 23 out of 123 RCBs were rated as "satisfactory" (Obeng, 2008). Furthermore, the World Bank launched the Rural Finance Project from 1990 to 1994 to address these issues. This initiative improved the status of about half of these banks to "satisfactory" by 1996. In 1996, the Bank of Ghana imposed stringent reserve requirements, with a 62% combined primary and secondary reserve, alongside high Treasury bill rates. This helped the RCBs reduce risky assets and increase their net worth, enhancing their financial standing(Obeng,2008). The total number of rural banks in Ghana are 144, with more than eight hundred fifty (850) branches over Ghana providing banking services to their clients (Association of Rural banks, 2022).

2.2.1.2 Savings and Loans (S&Ls)

According to Obeng (2008) Savings and Loans Companies are non-banking financial institutions operating in Ghana licensed by the Bank of Ghana under the financial institutions non-banking Law 1993(i.e. PNDC Law 328). Governments priority in most developing economies such as Ghana is to improve the livelihood of the very poor to increase the levels of human capital through the provision of microfinance (Kessey,2014). According to the Ghana Microfinance Institutions Network (2003) microfinance provided by Savings and Loans companies is to play three broad roles namely:

1. Helping the very poor households meet their basic needs and financial risk protection.
2. Improving household economic welfare.
3. Empowering and supporting women's economic participation in order to promote gender equality.

However, Savings and Loans Companies face challenges in the performance of their duties to their clients as it was recently announced by the Bank of Ghana(BOG) in 2019 that the licenses of 23 Savings and Loans Companies have been revoked due to poor management, poor internal controls, poor record keeping, insolvency, non-payment of interest on depositor's money and also operating without complying to regulations(BOG,2019). The exercise by the BOG was done to bring sanity into the financial space in Ghana.

2.2.2 Semi-Formal Institutions

Non-Governmental Organisations (NGOs) and Credit Unions (CUs) fall under this category. Though legally registered, they are not governed by the Bank of Ghana. NGOs often focus on poverty alleviation and offer services like micro-credit but generally cannot accept deposits.

The Ghana Cooperative Credit Union Association regulates Credit Unions and also provide insurance cover for the loans and deposits of members in credit unions with the view of mitigating the risk of non-payment of loans (Anku-Tsede & Amankwa,2015).

2.2.2.1 Non-Governmental Organisations

Non-Governmental Organisations (NGOs) have been instrumental in advancing microfinance in Ghana by implementing methods that have been successful internationally, often collaborating with Rural and Micro Financial Institutions (Martin, 2009). These institutions usually employ group solidarity approaches and the Grameen bank model with benefits from the connections with Community-Based Organizations (CBOs). These organisations often form around community interests such as location, occupation, or social ties.

The NGOs and CBOs have a particular impact in northern Ghana, where traditional commercial and rural banks are less prevalent. However, their operations are generally localised and reliant on donor funding. There are approximately 50 FNGOs with active micro-credit programmes in Ghana, most are multi-purpose organisations focusing on the welfare of clients and also providing them with microcredits (Anku-Tsede,2014).

Many of the NGOs have used other approaches to microfinance, such as "Village banking," a model that combines both group and individual savings with credit and has been mainly promoted by Catholic Relief Services and the SNV/Netherlands Development Organisation. Some village banks are registering with the Credit Union Association (CUA) as Study Groups. Another initiative, Freedom from Hunger (FFH) uses individual savings coupled with group credit to target women and offers additional health, nutrition, and financial planning education (World Health Organisation,2013). This Village banking model also has the potential to be profitable, although the need for RCBs to have a high reserve requirement have historically limited their ability to use mobilized savings.

2.2.2.2 Credit Unions

According to the Ghana Co-operative Credit Unions Association (2023), credit unions are member-only financial cooperatives offering savings and loan services. The Canadian Catholic missionaries set up the first such institution on the African continent in Northern Ghana in 1955. By 1968, a legislative framework was established, and the Credit Union Association (CUA) was created as an overseeing body. At that time, there were 254 Credit Unions, 64 of which were rural and had a collective membership of around 60,000 people. Furthermore, in 2003, CUA had 250 affiliate Credit Unions with a membership of 132,000, a quarter of whom were part of study groups aspiring to become full-fledged Credit Unions. On average, these institutions have between 400 and 500 members and offer loans averaging US$153, a figure higher than the typical loan size for an African Microfinance Institutions (MFIs) and Ghana's Rural and Community Banks (Obeng,2008).

Considering the financial intermediation functions undertaken by CUA, efforts have been made to set up financial reporting systems within CUA, but data quality remains an issue. Additionally, many managers and board members need a clearer understanding of financial intermediation. As of April 1996, over 70% of Credit Unions in Ghana were in an "unsatisfactory" state, with 42% in the worst category. However, by the end of 2001, these percentages improved to 60% and 15%, respectively, and almost a third received the highest financial soundness ratings. According to the Ministry of Finance (2022), the total number of credit unions as of 2021 was 490, with combined assets of GHȻ2.68 billion, GHȻ 2.2 billion in member shares and savings and a total of about 984,034 members.

Credit Unions generally require borrowers to offer security and maintain good standing with their deposits. This often takes the form of a guarantee from another member with sufficient uncommitted savings. Some Credit Unions employ the Susu method (an informal or traditional way where a person collects and saves money on behalf of a client for the purposes of the client accessing some credit) for collecting deposits and loan repayments. Additionally, CUA has been innovative in offering credit insurance, which clears any remaining loan balance if a borrower passes away, as well as a contractual savings programme (Obeng, 2008; Kichawele, 2020).

2.2.3. Informal Financial Systems

This sector comprises various locally established savings and credit systems like Susu collectors, moneylenders, trade creditors, and personal loans from acquaintances.

2.2.3.1 Moneylenders

Moneylenders have historically been a significant source of emergency and short-term funding for most Ghanaians who lack access to conventional financial options, standing second to family and friends. Although moneylending was the first form of microfinance to be officially licensed in Ghana, it has evolved into more of a supplementary activity for traders and others with liquid assets. Moneylenders are required to obtain a license under the Moneylenders Ordinance of 1957.

The rise of Rural and Community Banks (RCBs), Credit Unions (CUs), Susu groups, and especially Savings and loans (S&Ls) have led to a decline in the formal registration and significance of individual moneylenders. Most moneylenders neither hold official licenses nor operate full-time (Obeng,2008; Aboagye & Anong,2020).

2.2.3.2 Susu Collectors

The Susu system primarily aids clients in saving money over periods ranging from one month to two years with the main intention of providing some credit to clients. Most of the RMFIs have recognised that Susu collectors (persons who collect and save money on behalf of a client for the purposes of accessing some credit) have close relationship with their clients, hence, several RCBs and S&Ls have engaged in pilot programmes to fund Susu collectors for re-lending to their clientele (GHAMFIN,2003). These collectors are unregulated by the central bank but are often part of self-regulatory associations. They serve nearly a quarter of an estimated 4,000 collectors in the country, collecting an average of $15 monthly from about 200,000 people (Obeng, 2008). Furthermore, several financial institutions, like commercial banks, RCBs, S&Ls, and NGOs, have adopted the Susu model to reach lower-income groups and women, who comprise 65-80% of the clients of such programmes. The fusion of traditional financial intermediation methods with formal financial entities has effectively mobilised savings and extended access to regulated financial services for lower-income households.

2.2.3.3 Traders

Traders have been a pivotal element of rural finance in Ghana. They act as middlemen between rural producers and urban markets, frequently extending credit through supplies or advance payments against future crop sales (Odoom et al., 2019). These traders seldom require collateral but operate based on the farmer's agreement to sell their produce to them. The traders are a crucial funding source for numerous farmers and fishermen. Their capacity to provide such financing, in turn, depends on their access to capital (Obeng,2008; Abdallah, 2016; Adams et al.,2022).

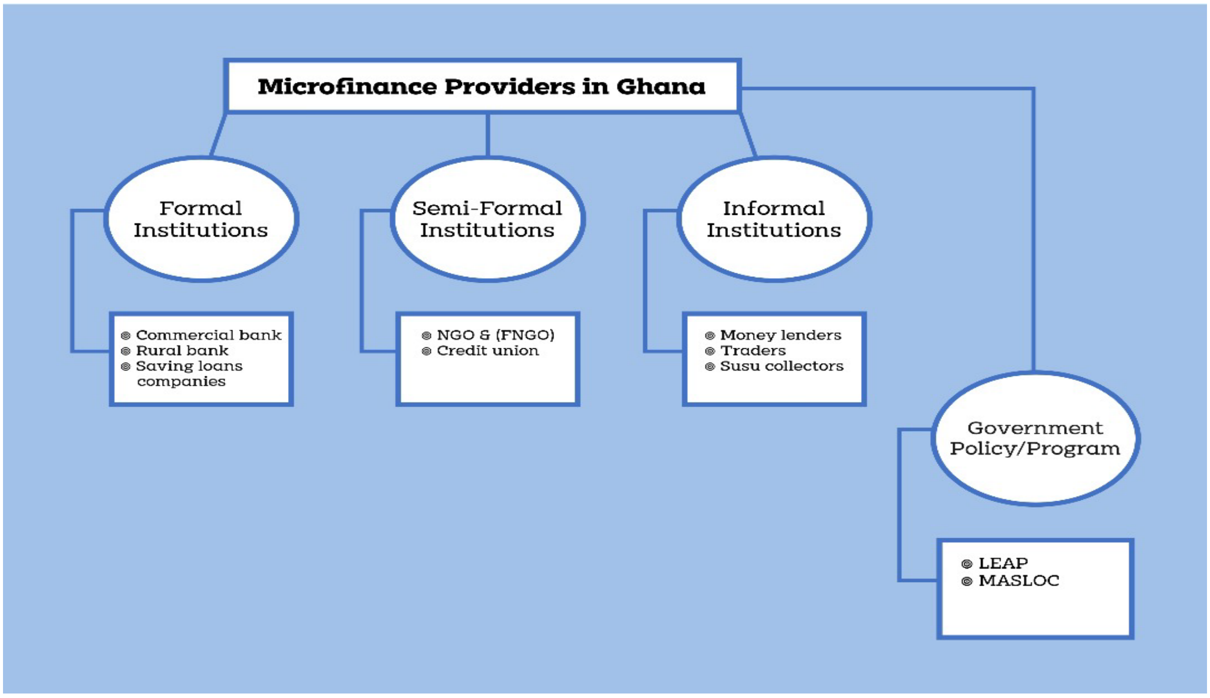
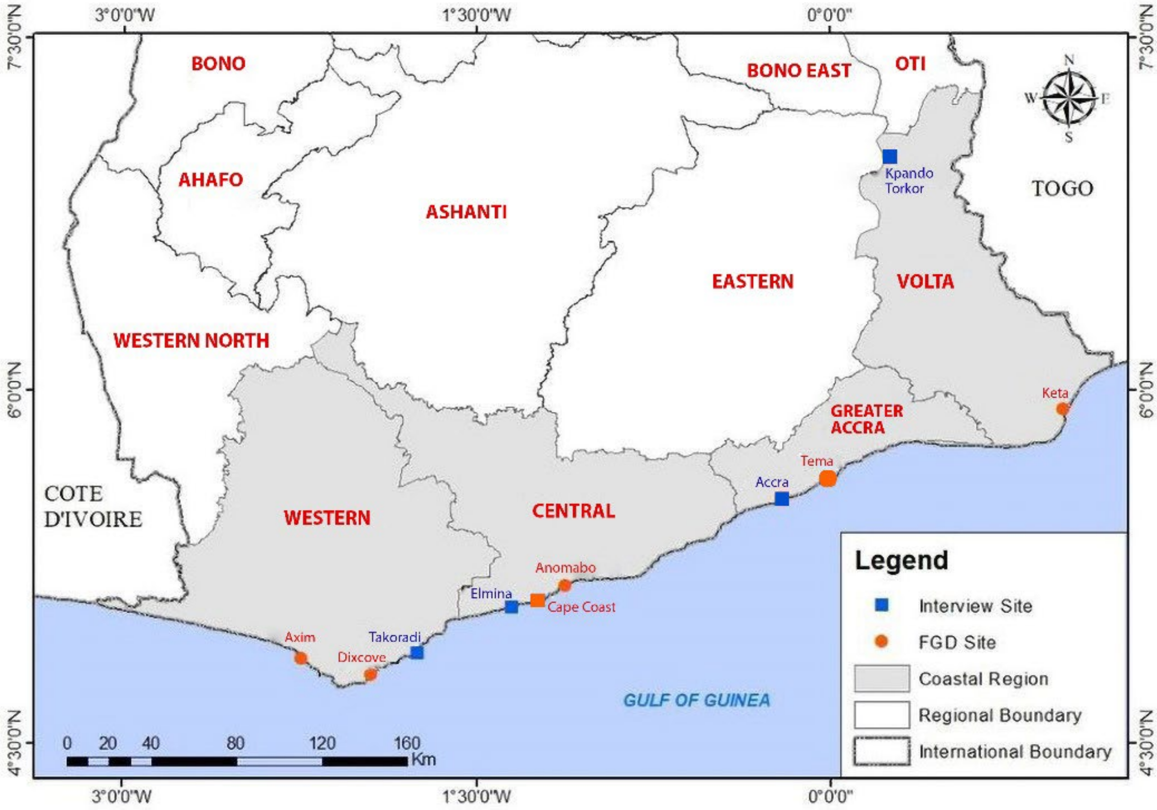


Figure 2a Microfinance providers in Ghana

2.3. Regional overview of coastlines of the research areas

Ghana is a West African country bordered on the east, north, west and south by Togo, Burkina Faso, Côte d'Ivoire and the Gulf of Guinea (Atlantic Ocean), respectively. Ghana has a coastal area that stretches over 550 kilometres and covers four coastal regions: Greater Accra, Volta, Western and Central Regions. There are 108 coastal water bodies in Ghana, comprising 14 in the Greater Accra Region, 15 in the Volta Region, 41 in the Western Region and 38 in the Central Region (Ghana Coastal Management project, 2018; Shell fishing Hub,2022). These water bodies comprise estuaries with accompanying mangrove vegetation, closed lagoons, and open lagoons, which support many commercially important fisheries. Furthermore, five coastal water bodies in Ghana are designated as Ramsar sites, namely Sakumo, Keta, Muni, Songor lagoons and the Densu Delta. The occupations of the people living in these coastal areas are fishing and fish-related businesses, of which women are integral.

Figure 2b: Map of the four regions showing the study areas



Source: Okyere et al (2020)

2.3.1 Challenges of rural fishing communities Ghana

The major issue confronting the rural fishing communities is poverty, where the challenges of the environment and political factor overlap with socioeconomic issues, affecting the well-being and livelihood of people of the rural fishing communities. The fundamental challenge faced by these rural communities are the limited access to resources and opportunities for employment. At the same time, issues of poverty motivate excessive fishing pressure, culminating into a poverty trap (Sumaila & Tai,2019). Rural fishing communities whose major occupation is fishing often grapple with the issues of inadequate fishing gears and technology, which hinders their ability to catch large quantities of fish (Ghana Environmental Management Project, 2020). In line with the Food and Agriculture Organization (FAO, 2021), inadequate investment in equipment for fishing contributes to the use of obsolete and inefficient practices preventing the inhabitants of the fishing communities from making sufficient and sustainable profits, exacerbating poverty within these fishing communities who contribute about 4.5 percent of annual Gross Domestic product of Ghana (FAO,2016). The rural fishing communities tend to be excluded from social protection interventions (programmes and policies designed to provide income security and support to address poverty and inequalities for the poor and vulnerable (FAO,2015,2019).

Furthermore, lack of education and awareness present significant barriers. Many of the inhabitants in these rural fishing communities have limited access to education, resulting in low levels of awareness of sustainable fishing practices and alternative livelihood options. The United Nations Development Programme (UNDP, 2019) highlights how important educational initiatives enhance the knowledge of sustainable agricultural methods, which could serve as supplementary income sources in rural communities.

In addition, fishing communities are bedeviled with health challenges that exacerbate the poverty situations as result of the prevalence of waterborne diseases, which are attributable to poor health facilities and inadequate sanitation hindering the community's productivity. According to the Ghana Health Service (GHS, 2018), rural fishing communities are often underserved in terms of healthcare leading to a population of an unhealthy workforce that cannot effectively and actively engage in their primary livelihoods.

Furthermore, climatic changes pose a threat to both lagoon and marine resources by altering migration patterns of aquatic life especially fishes, thereby affecting their breeding cycles. According to the Intergovernmental Panel on Climate Change (IPCC, 2019), the rising sea levels and water temperatures increases further compromise the fishing industry in Ghana, resulting unpredictable harvest and vulnerability among rural fishers. The Ghanaian fishing sector is particularly vulnerable, as many rural fishing communities depend on old practices that are sensitive to unstable environmental conditions (Food and Agriculture Organization, 2021).

In summary, the challenges of the rural fishing communities in Ghana face are multifaceted, and resolving these challenges will require a comprehensive and holistic approach that incorporates improved training and technology access, sustainable practices and policies that empower rural fishing communities.

2.3.2 Relevance of rural financial intermediation

According to Danquah et al. (2017), access to financial services offered by rural and community banks (RCBs) forms a portion of the financial intermediation process in rural areas of Ghana and household welfare, suggesting that access to financial services by RCBs is vital in improving household welfare. Furthermore, the recent transformation in the rural financial sector through the increased penetration of many financial intermediaries, aside from the RCBs, reveals the critical role of rural financial intermediation and its relevance in rural economic development for the 13 million people living in Ghana's rural areas with limited income-generating opportunities(Sasu,2024).

Consequently, rural financial intermediaries facilitate access to credit, enabling small businesses such as artisanal fisher folks and farmers to invest in more productive ventures to increase their income and improve their quality of life. Additionally, mobilising savings locally through financial institutions provides a buffer against economic shocks, allowing families to expand their businesses, increase their income to provide food and clothing, and pay their children's school fees (Mago,2017; Tour,2024).

Moreover, rural financial intermediation promotes financial literacy and inclusion by establishing localised financial institutions that provide educational programmes that enhance the understanding of financial services and products available to rural populations. This empowerment process leads to informed financial decisions and increases participation in the formal financial system to boost prosperity and reduce poverty (World Bank,2022). The rural financial intermediation is also consolidated in the Republic of Ghana's Constitution of 1992 which commit to provide financial inclusion as a means of rural development as part of a national effort to enhance rural living circumstances. The constitution includes a decentralisation model, under which the government develops political and administrative regions and Metropolitan, Municipal and District Assemblies(MMDAs) to address government coordination challenges to enhance the lives of rural residents. Moreover, the Government of Ghana(GOG) acknowledges the necessity for rural credit in the developmental agenda by providing an increase in access to rural financing, a possibility for additional development policy that mobilises rural resources and redistributes them to the rural sectors (Bonye et al.,2013).

For the rural development agenda of the government to materialise through rural financial intermediation, the Rural Agricultural Development Bank was established. However, it also started to focus on conventional banking operations in cities over time. The Ghanaian government brought the concept of rural banking through the bank of Ghana in 1976 to overcome many of these challenges such loan collateral and risks involved in agricultural operations. The goals of Rural Banks, according to the Association of Rural banks (1992), are:

I. To stimulate banking habits among rural dwellers.

II. To mobilise resources locked up in the rural areas into the banking systems to facilitate development.

III. To identify viable industries in their respective catchments areas for investment and development.

The relevance of rural financial intermediation cannot be underestimated in today's global economy that is why the Ghana Government has institute many policy reforms and interventions to impact community development to widen the goals set out by the Rural banks for the purposes of Economic Development (i.e. mobilizing resources in rural communities by encouraging savings and investments in business and project in within the local communities leading to growth in the rural economy) and Poverty Alleviation (i.e. providing rural communities with microfinance services to help individuals and the communities to better manage their finances and also engage in in-come generating activities) (Business and financial times,2022).

2.4 Government Interventions

Government interventions have played a pivotal role in shaping the landscape of rural microfinance in Ghana. The Government of Ghana has introduced several initiatives to strengthen microfinance institutions to boost financial inclusion and drive rural development. The following interventions are some of the initiatives undertaken by the Government of Ghana to address the issues of poverty:

2.4.1 Livelihood empowerment against poverty (LEAP)

The Livelihood empowerment against poverty (LEAP) programme is asocial cash transfer interventions geared towards the provision of cash and health insurance to Ghanaian's households experiencing extreme poverty to encourage human capital development in the long term and short term poverty alleviations (Handa &Parker,2012). The LEAP programme has its main objective of reducing poverty, smoothening consumption and promoting access to opportunities among the extremely poor (Ministry of Gender, children and social protection, 2016).

The LEAP programme commenced in 2008 and expanded significantly between the 2009-2010 reaching 1645 households across the regions of Ghana with a budget of $11million Furthermore, as of May, 2024 the LEAP programme has reached nearly 360,000 households across Ghana (UNICEF,2024). The LEAP programme targets a combination of proxy means test(PMT)and eligibility criteria (elderly persons aged 65 and above without any support, orphans and vulnerable children, people with severe disabilities and without any means of productive capacity and pregnant women with infants (UNICEF,2024).

The LEAP programme has made major strides since its implementation increasing the number of beneficiaries from 1645 in 2008 to 146,074 (in 185 districts) and a projected increase of households to 350,000 households in 2024 with an annual budget of Ȼ1.2billion (2024 Budget Statement and economic policy, MOF, Ghana).

The impact of the LEAP programme on alleviating extreme poverty was confirmed by an impact assessment of the programme which was undertaken by the institute of statistical, social and economic research(ISSER) in partnership with the North Carolina University in 2012 which showed, a positive impact of LEAP on extreme poverty reaching out to very poor families in Ghana (Yanda &Parker,2012).

2.4.2 Microfinance and small loans centre (MASLOC)

The Micro and Small Loans Centre (MASLOC) programme was established in Ghana in 2006 as a government intervention to aid rural development, targeting poverty reduction through financial services provision and accessible (Fant,2010; Sulemana et al.,2023). MASLOC offers micro loans to small businesses and individuals, aiming at empowering the rural poor through the creation of sustainable livelihoods. This initiative is essential to the socioeconomic development in a country where a chunk of the population live in rural area relying on agriculture and small-scale businesses for their income and about 24 percent of the population (i.e.7,317,555 people) are multidimensionally poor (Ghana Statistical service, 2024)

A major benefit of MASLOC programme is its focus on financial inclusion, providing tailored financial products that meet the needs of low-income households who are financially excluded, marginalised poor who lack productive activities but are classified within small and medium enterprises (Nyaaba et al., 2018). MASLOC facilitates loans to enable individuals to invest in their businesses, thereby stimulating local economies and creating job opportunities for many of the rural residents in Ghana who do not have access to the services of traditional banking, making it difficult for them to secure loans for business ventures.

Furthermore, MASLOC contributes to poverty reduction by fostering entrepreneurship the provision of capital to entrepreneurs, encouraging growth and innovation in small enterprises, which does not only help improve the financial stability of individuals and their families but also enhances and promote community resilience, as diversified sources of income reduce the total reliance on any single livelihood strategy (Naami,2017). MASLOC's initiatives of empowering individuals through financial literacy and support help promote long-term economic growth and self-sufficiency leading to long term poverty reduction (Nyaaba et al., 2018).

However, despite the massive benefits of MASLOC, the programme faces some significant challenges in its implementation process. A major significant issue is the continuous high default rate on loans disbursed to beneficiaries which has undermined the sustainability of the MASLOC programme (Oduro-Ofori et al.,2014). Furthermore, many of the borrowers lack the experience or financial knowledge to manage their finances effectively, leading to mismanagement of funds accessed. Additionally, the depth of outreach of MASLOC is often limited since many rural communities remain unaware of the product and services offered.

Moreover, the programme's over reliance on government support constraints its ability to expand and reach more indigents clients since there is limited funding and resources (Owusu and Osei,2019). Furthermore, interferences from government possess a lot of challenges that affect MASLOC's operational autonomy. Political considerations play an influential role in the acquisition of loans, potentially denying well deserving candidates in favour of political faithful. This reduces the trust beneficiaries of the MASLOC programme have and its effectiveness in achieving its goals, due to the subjective loan approval decisions leading to inequalities in the acquisition of loans (Abukari ,2020).

In conclusion, it is evident that MASLOC plays a critical role in addressing rural poverty in Ghana through the provision of financial services to underserved populations. While fostering entrepreneurship and helping create sustainable livelihoods, there are some challenges that need addressing to maximize its impact and ensure sustainability and long-term success. For the MASLOC programme to be effective to serve the needs of the rural areas to achieve rural economic development there is a need for stronger collaboration between various stakeholders including NGO's, Government agencies and the private sector, and also continuous efforts to improve financial literacy, resource allocation, and community engagement necessary to overcome these myriad of challenges and barriers and also to achieve the goals of poverty reduction in rural areas.

2.5 Fintech (mobile Money) and rural financial intermediation

Fintech is a financial technology encompassing myriad digital innovations to automate and improve financial services in developing and emerging economies in Africa and beyond. Fintech has emerged as a tool for financial inclusion since the traditional banking system in emerging economies often lacked fintech solutions (Akolgo,2023). Fintech in Africa began with the introduction of mobile money services, spearheaded by Kenya's M-Pesa in 2007. In 2009, MTN a mobile telecommunication service provider, partnered with nine banks in Ghana to introduce Mobile Money(MoMo), a pay-as-you-go digitalised medium of exchange and mobile money accounts (Akolgo,2023).

The rate of acceptance and patronage of mobile money services in Ghana saw an increased from nearly GHȻ 2.85 billion in 2020 to GHȻ4.26 billion in 2021, representing a 48.6 per cent growth. The total value of mobile money transactions also increased to GHȻ978.32 Billion in 2021 from GHȻ571.80 billion in 2020 (Bank of Ghana,2023). The patronage of mobile money accounts in Ghana increased, resulting in more mobile money account holders than traditional bank account holders, underscoring the drift to digital financial services(Akolgo,2023).

The regulatory framework in Ghana has been supportive of fintech innovations. The Bank of Ghana (BoG) plays a regulatory and supervisory role in all financial institutions and banks in Ghana. The Financial Institutions Supervision Department (FISD) oversees non-banking financial institutions, while the Payments Systems Department oversees the financial activities of mobile money operations of telecommunication service providers, undertaking the licensing, monitoring, and on boarding for the Telco's involved in payment systems (Ifeanyi-Ajufo,2022).

Furthermore, mobile money(MoMo) has become a transformative tool for financial inclusion in Ghana. Mobile money services enable businesses and individuals to conduct financial transactions through mobile devices, avoiding traditional banking services (Singh,2013), thereby making financial services for underserved populations very accessible.

Mobile money offers an additional channel for remittance, savings, and payment services. Adults who have access to financial services have climbed from 41% in 2011 to more than 50% by 2019 (World Bank, 2020). Furthermore, the convenient and efficient nature of mobile money for financial transaction such as payment of bills, funds transfer, and buying of goods without the physical presence of bank branches, which invariably had prevented financial barrier in rural areas. The ease of access to digital banking services like mobile money increases users' economic participation, empowering them to engage in agricultural markets and Small and medium enterprises (Aker and Mbiti, 2010).

However, there are challenges with the mobile money platform in Ghana. The significant challenges of mobile money usage are fraud issues; the Ghana Chamber of Telecommunications in 2016 reported 278 mobile money fraud cases in 2015 and 388 cases in 2016 (Akomea-Frimpong et al.,2019). Similarly, Suleiman (2017) revealed reports of some

MTN staff and agents being accomplices to the mobile money fraud. Moreover, the Ghana Chamber of Telecommunication, the umbrella association to which all mobile network operators belong, acknowledges the fraud cases(Ayamga,2018).

Another challenge is the introduction of the electronic levy (E-Levy) by the government of Ghana in November 2021 to be included in the 2022 budget. The introduction of the e-levy raises the question of digital financial exclusion (Senyo,2021). This e-levy applies a 1.75 per cent levy on all electronic transactions, including remittances, merchant payments, bank transfers and mobile money payments above GH₵100, separate from the fees that Telcos charge customers for transactions. Despite concerns that the e-levy will weaken Ghana's financial system and slow down the development of e-commerce, the government argued that the e-levy was necessitated by a drive to "widen the tax net," which would increase the country's tax to GDP proportion from about 11.3 per cent to over 16 per cent and serve as a driving force for Ghana's economy. The e-levy is seen to hinder Digital Financial inclusion due to its unintended effect of generating not only panic but also user distrust and insecurity, as evidenced by the withdrawals and concerns that fraudsters running social engineering schemes began initiating a reversal of the e-levy on mobile money transactions (Agyenim Boateng, 2022), in rural communities where many see the mobile money wallet as a bank account, for the primary means by which money is sent and received. However, the e-levy discouraged people from sending taxable amounts, reduces mobile money transactions and encouraged people to use cash if there is no other alternative (Ifeanyi-Ajufo,2022).

Lastly, regulation issues pose a challenge to mobile money usage since more than the regulation for pricing digital services is needed. The use of mobile money is also hindered by regulatory concerns, as more is required than just regulating the cost of digital services. This is so because online transactions are not restricted by Ghanaian laws. Expanding this rule will limit the amount that these fintech can charge for money transfers and withdrawals, as well as interest on microloans that have been disbursed (Akolgo,2023).

In conclusion, Ghana is becoming a key actor in the transition of financial services in Africa due to Fintech. Mobile money services like MTN MoMo have tremendously improved rural financial inclusion and economic growth. However, addressing security and financial literacy challenges is crucial for sustaining this growth. As Fintech continues to evolve, it holds the potential to drive further economic development and social inclusion across the continent.

2.6. Challenges of rural banks in Ghana

Rural and Community Banks (RCBs) have been integral to Ghana's strategy for enhancing financial inclusion in rural areas. However, they face numerous challenges that impede their effectiveness and sustainability. Some of the challenges rural banks face are delays in the payment of loans by their customers, failure on the part of customers to invest the loans in profitable ventures and the geographical constraint, due to the vast rural landscapes resulting in high operational and transactional costs, making it difficult for RCBs to provide services at affordable rates (Dogbe et al.,2013). Consequently, these operational and transactional costs get transferred to customers through high-interest rates and fees, thus limiting the banks' inclusivity (Osei-Assibey,2013; Eric et al.,2022).

Additionally, a major hurdle for rural banks is the need for adequate technology infrastructure which was confirmed by Boateng et al. (2017), which points out that, there is a technological gap between RCBs and other formal financial institutions, emphasizing that this puts them at a disadvantage, particularly in attracting younger, tech-savvy customers as clients.

Also, inadequate skilled personnel are another crucial challenge RCBs face in Ghana. Many of the employees in these banks need more specialized training in modern banking procedures and risk assessment. According to Tsorhe et al. (2018), the skills gap significantly hinder the operational efficiency and risk management capabilities of RCBs. This contributes to a higher rate of loan defaults leading to financial instability for these institutions.

Furthermore, financial literacy among potential and existing customers in rural areas is another obstacle. As Osei-Assibey & Boachie (2017) noted, the lack of understanding of financial products and services often lead to low uptake of formal banking services, even when available. This results in suboptimal use of banking products, hindering the core mission of RCBs, which is to foster rural development through financial inclusion.

Additionally, compliance and regulatory burdens also exert pressure on RCBs. While it is essential to have regulations to ensure the financial system's stability and integrity, the administrative and compliance costs associated with these regulations can be overwhelming for smaller banks. Regulatory pressures often drive consolidation trends among RCBs, sometimes leading to mergers that may not necessarily serve the best interests of rural communities (Quartey & Afful-Mensah,2014; Bansah,2021).

In conclusion, Rural and Community Banks in Ghana face many challenges, ranging from logistical and operational issues to human capital and regulatory constraints. To overcome these challenges, RCBS requires a multi-faceted approach that includes technological adoption, capacity-building, financial education, and regulatory reforms. Addressing these issues enunciated above holistically can make RCBs fulfil their mission of enhancing financial inclusion and fostering sustainable development in Ghana's rural communities.

2.7 Government regulations of rural microfinance

To enhance transparency and consumer protection, the government has also enacted regulations requiring microfinance institutions to disclose all the terms and conditions of their loan products. Scholars such as Tsorhe et al. (2018) argue that while this has improved consumer trust, there still a gap in effective enforcement, leading to compliance issues among some microfinance institutions.

Additionally, establishing the Association of Rural Banks (ARP) Apex Bank to be the regulator of RCBs in Ghana has brought about some sanity in the rural banking sector especially with regards to Rural Financial Services Project (RFSP) by the Government of Ghana which finances the Rural Banks to solve operational challenges of the rural financial sector (Krampah, 2018).

In conclusion, regulations in rural microfinance in Ghana have been assuring, covering consumer protection and sector stability. However, there are still some challenges in ensuring effective regulations and consumer education. Ongoing research and adaptive policy frameworks, as emphasised by Addo et al. (2020), are crucial for fine-tuning these interventions to meet the evolving needs and challenges of rural microfinance in Ghana.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

This chapter discusses the theoretical literature, the conceptual framework, and a review of existing literature about the study variables and empirical studies conducted in the past following the variables presented in the conceptual framework. The chapter also highlights the impact of microfinance and credit delivery models on poverty reduction and a chapter conclusion.

3.2 Theoretical literature

Different scholars have advanced several theories and applied them to explain the impact of microfinance interventions on poverty reduction. These theories include financial intermediation, financial innovation, information asymmetry, institutionalist and welfarist theories. However, according to Bangoura (2012), the open debate on how microfinance helps to eradicate poverty in developing countries will result in the opposition between two opposing schools of thought, i.e. the Institutionalist theory and the Welfarist theory, which Morduch (2000) referred to as the "microfinance schism." Each position differs regarding how microfinance services are provided (Commercial banks versus NGOs), the technology used (financial service approach versus minimalist approach to integrated service), and performance evaluation, making the financial viability of MFIs and social financing opposing the institutionalist and Welfarist approaches. The Welfarist are mainly supportive organisations like NGOs or cooperatives that see microfinance as a crucial tool for eradicating poverty among the most vulnerable. Institutionalists, predominantly commercial institutions, see microfinance as a financial instrument intended to enhance the role of the financial sectors of developing countries (Atara,2023). In the effort to provide an understanding of the concepts of microfinance and poverty reduction, the institutionalist theory of poverty, Welfarist theory (Bisen et al., 2012) and the information asymmetry theory underpins this study. The various theories underpinning this study are discussed below.

3.2.1 Institutionalist theory

The institutionalist theory lay emphasises on the importance of institutional procedures and arrangements, social and cultural norms, and the local context as a key factor in shaping the success or failure of microfinance initiatives (Hossain et al.,2024). In the context of microfinance, microfinance institutions should not only cover their operating and financial income through their own business but also generate profits to ensure their financial viability and sustainability to expand their client base (Hossain et al.,2024). Indeed, microfinance institutions are capitalist structures like the others, one of whose aims is the search for profitability (Bangoura, 2000). Furthermore, the institutionalist theory (Woller et al., 1999) considers that integrating microfinance into the formal financial system is the best way to reach most low-income people without access to financial services. It seeks to encapsulate MFIs within the logic of the "money market" while insisting on the will of the installation of perennial microfinance systems and the mass distribution of credit (De Briey, 2005).

In addition, Annim (2010) and Addae-Korankye (2018) explain that the institutionalist theory focuses mainly on the financial sustainability i.e. the capability of an organisation (MFIs) to maintain financial strength or ability over time (Bowman, 2011),resulting in a complete deviation of the objectives of the microfinance institutions(MFIs), which Aubert et al.(2009) described as a Mission drift (inauthentic shift or a state of confusion in which an organisation departs from its core values and objectives). Microfinance institutions (MFIs) view financial deepening (increase in the provision of financial services) as the fundamental objective of creating sustainable financial intermediation for people experiencing poverty. Therefore, institutionalists believe that financial sustainability as a measure of profitability should be prioritised by all microfinance institutions (MFIs) (Nyamsogoro, 2010; Kessy, 2013; Nkeng & Kehdinga,2023). This argument by the institutionalists might come from the fact that donor dependence is not inevitable in most cases for these microfinance institutions (MFIs). Therefore, for these microfinance institutions to serve people experiencing poverty in the long term, they must sustain themselves financially. This argument to a large extent, is valid; however, without the consideration for enhancing the well-being of people with low incomes and making profit to improve upon the organisation's image and goodwill for its commitment to Corporate Social Responsibility (Copestake, 2007), the objectives of the institutionalist may not be achieved. This approach to delivering microfinance is believed to generate jobs or create employment, change attitudes, and increase consumption towards entrepreneurship and business (Fernando, 2004; Bruck, 2006; Ahlin & Lin, 2006; Gonzalez, 2007; Sultani, 2021).

Contrary to the institutionalists, Krauss and Walter (2009) assert that the financial sustainability objectives of MFIs by institutionalists do not only come directly through profit generation but also other benefits; for instance, an investment in microfinance can provide significant financial gain with the opportunity for low-risk portfolio diversification in volatile economic times. Considering the arguments characterised by the institutionalist perspective of microfinance, a successful poverty reduction strategy depends on a massive scale, given the number of low-income families and the demand for microfinance. This massive scale requires financial resources far more than the levels supplied by traditional non-governmental organisations (NGOs) and aid donors. Instead, the institutionalists propose an approach of financial self-sufficiency to which MFIs can generate the highest return for investors and attract the most capital to grow their enterprises, service more clients, and reduce or eliminate poverty, as seen as best practice (Ayayi & Sene, 2010).

Undoubtedly, microfinance institutions are capitalists (institutions or persons focused on profit than anything else) seeking to maximise profit. Institutionalists typically demonstrate this by increasing the microfinance movement by integrating them into the formal financial system as the best way to reach the vast majority of people experiencing poverty who lack access to financial services (Bangoura, 2012). Proponents of this method seek to register microfinance institutions within a market approach, emphasising the will to establish sustainable microfinance systems and advance credit (De Briey, 2005). In contrast, the objective of establishing microfinance institutions is to assist the poor people in countries to have permanent access to various financial products and services (credit, savings, insurance, and fund transfers) supplied by different types of financial and non-financial institutions (non-governmental organisations, cooperatives, credit unions, non-bank financial intermediaries and commercial banks) through different kinds of accepted mechanisms (Consultative Group to Assist the Poor, 2004), all geared towards poverty reduction. Additionally, the institutionalists are of the view that the value added by financial resources donors lies in the donors' distinct competency to promote innovation through research and development, forge linkages, promote increased transparency and competition among retail providers of financial products, and assist in building capacity at all levels (Consultative Group to Assist the Poor, 2004).

Some critics of the institutionalist theory, such as Lewis (2008), also argue that despite the enthusiasm for microfinance, the number of experts who believe the concept of microfinance has lost its way, drifting from the professed social objective of alleviating poverty to making a profit. From a different perspective, the argument that the poorest are not reached by microfinance (Scully, 2004; Cai et al.,2023) or that the poor are denied access to microfinance services and products (Simanowitz, 2002), points to how interest rates have increased sharply, preventing the poor to access these microfinance services (microcredit etc.) paving the way for the microfinance institutions to grant more significant average loan amounts to the more secured client, this is a general mission drift. Critics believe microfinance institutions (MFIs) operate with double aims or bottom lines and should consider alleviating poverty for their clients rather than concentrating on generating profit for the investors. This argument of considering the welfare of clients in supporting them to come out of poverty is supported by the Welfarist theory which is discussed in the next section.

3.2.2 Welfarist theory

The Welfarist emphasise poverty lending as measured by the depth of outreach. That is reaching not just a more significant number of clients but a more significant number of indigent clients, also known as depth of outreach (Kipesha & Xhang, 2013; Hossain et al., 2024). It follows, therefore that Welfarist view microfinance as established for poverty reduction. The main objective of the Welfarist is to empower people with low incomes or the economically active poor, and thus, depth of outreach must be given the uttermost priority, which enjoins microfinance to serve as many as possible indigent clients even when it may appear as not profitable. The Welfarist contends that the deficit in operations should be filled with donor and government support or social investors (Kessy, 2013; Perera,2021). In addition to supplying financial products, this approach also advocates non-financial services such as technical assistance, training and literacy to micro-entrepreneurs (Bangoura, 2012). The

Welfarist approach contends that MFIs can be self-sufficient and should not seek financial sustainability at any cost. The zeal for financial performance and independence would inevitably make their social mission unclear.

However, there is an argument that reaching the poorest, requires small exclusive programmes which cannot be sustainable and require ongoing donor funding (Chen et al., 2008). Additionally, Bangoura (2012) intimates that social investors who provide financial resources to fund MFIs are not necessarily motivated by a personal search for financial gain. However, instead, they are driven by the willingness to contribute to poverty reduction. For example, most MFIs in Western Europe are either public or the foundation of banks or large corporations, primarily motivated to accomplish a social return, as opposed to a profit, which is "intrinsic" in working for the public (Bangoura, 2012).

Critics of MFIs argue that the commercialisation advanced by institutionalists is primarily based on conventional economic mechanisms such as markets, individual choice, supply and demand, which has resulted in microfinance excluding the poor, especially the poorest, from the financial system (Bennett, 2009; Sinclaire, 2012). For effective inclusion and access to microfinance services, the welfarist approach focuses on the customer's demand and reinforces the idea of subsidising microcredit schemes to reduce costs for microfinance institutions to provide their loans at affordable and reasonable interest rates (Congo, 2002; Njagi &Njoga,2021).

Microfinance institutions all over the world have failed to meet the demands for microcredits for millions of people, which is characterised by the continuous requests from creditworthy borrowers to access loans of gradually increasing size, which MFIs cannot possibly finance these microcredits on a global scale (Robinson, 2001; Blanco-Oliver et al.,2023). The primary objective of the welfarist approach is to provide the poorest of the poor with financial services which is also in line with the poverty reduction agenda of MFIs, which is executed through social development and increasing economic growth, targeted at achieving complete financial self-sufficiency (a condition for them to fulfil their social mission) (Woller et al., 1999). Furthermore, the welfarist approach is evident in its commitment to first reaching the very poor while, at the same time, acknowledging the need to fight global poverty on a large scale and to strive for increased financial self-sufficiency (Woller & Brau,2004; Gota &Sodha,2024). This is evident in an argument put up by Ferreira (2004) in support of Woller & Brau (2004) on the issue of the welfarist not interested in banking as such; their interest is in using financial services to alleviate the deadly outcomes of poverty among participants and communities directly, even if some of these services require subsidies. The welfarist fear that the commercialisation of microfinance, more precisely, the need to be financially self-sufficient (profitable) to attract private capital, will divert the industry from its paramount goal of poverty alleviation (Woller et al., 2004). Indeed, a microfinance institution achieves financial self-sufficiency by increasing its efficiency (which both parties view as desirable) and charging sustainable, effective interest rates. welfarist disagree with the institutionalist's view that increasing interest rates do not significantly reduce the demand for loans by imperfect people (Morduch, 2000; Nkeng & Kehdinga,2023).

Additionally, welfarist are concerned that the motivation to compile and define best practices may jeopardise implementing an approach to a microfinance model, preventing innovation and experimentation in designing new products and systems delivery services for the very poor (Woller et al., 2004). Finally, the welfarist do not agree that donors should only focus on the plans that have achieved or seek to achieve financial self-sufficiency, regardless of the actual impact of the plan. The welfarist believe that although most of the current programmes for impoverished people depend on subsidies and have the tendency to continue in the future, some donors believe that only 5% of MFIs will be financially self-sufficient (Morduch, 2000; Njagi &Njoga,2021). The impoverished people still need access to credit facilities. If social benefits outweigh social costs, there is no reason why donors' finances should dry up at the end (Woller et al., 2004).

Furthermore, the welfarist approach has been widely criticised because it is subjective, costly and has methodological challenges (De Briey, 2005; Blanco-Oliver et al.,2023). The welfarist approach faces viability and sustainability induced by subsidies, low reimbursement rates and rising operating costs. All in all, there are two schools of thought concerning the ultimate goal of MFIs. These include the views of welfarist and institutionalists. welfarist empathise with the programme's social objectives concerning its clients' economic upliftment and development and promote subsidised debt and donors' funds to achieve this by extending financial services to many applicants at low cost (Ejigu, 2009; Abdul Zalim,2022). Institutionalists, however, emphasise the unreliability of donor funds and thus promote extending services to clients at a high cost, i.e., at near market rates, prevailing in highly lucrative informal markets all over the developing world, to achieve the financial sustainability required to attract competitively priced commercial financing necessary for growth and perpetuity (Ejigu, 2009; Abdul Zalim,2022). It remains a very open question of which option to alleviate poverty.

The Welfarist approach aims to reach the poorest of the poor, even by depending on subsidies and grants. Everything is fine as long as the purpose has been served, even at the cost of taxpayers' money or others. Nevertheless, there are still some problems getting donations and grants, making the institutions inefficient. On the other hand, the institutionalist approach claims microfinance institutions must be financially sustained for a long time to serve the purpose for which they are devised and must be independent of donation and subsidy. This will increase their efficiency, make them survive for a long time and ultimately help to contribute to poverty elimination. Hence, outreach and profitability may not be mutually exclusive in sustainability.

3.2.2.1 Justification for aligning with Welfarist theory

Considering the nature of poverty in developing economies such as Ghana, this research strongly aligns and supports the welfarist theories based on the welfarists' comprehensive strategy for addressing issues of poverty in Ghana, which focuses on enhancing the well-being and quality of the economically marginalise populations (Agyemang, 2019). The approach of the welfarist recognises that the provision of financial services alone is inadequate; rather, it is important considering the broader socioeconomic context of the lives of clients. Recent studies have shown that the welfarist Microfinance institutions (MFIs) in Ghana that focus on well-being provide a range of services to meet the specific requirements of low-income and marginalized people through the provision of microloans with low interest rates, adjustable payback schedules, and easy-to-access savings accounts. The welfarist MFIs train and support the individuals to invest their money into income-generating ventures, children's education, and healthcare. Therefore, consumers can acquire more socioeconomic stability and escape poverty through many means made possible by this financial empowerment (Gonzalez & Rosenberg, 2020).

The microfinance initiatives in Ghana places priority on women since they make up a disproportionately significant portion of the poor population. Financial autonomy for women is a central tenet of the welfarist approach, which promotes social and gender equality. More women can take an active part in their homes and communities if they can access services that help them manage their money and start their businesses. According to Agu & Segaye (2021), mothers who access microfinance programs are more likely to invest in their families' well-being, especially in areas like healthcare and education. To ensure that microfinance programmes are culturally and contextually relevant, the welfarist approach emphasizes community interaction and engagements to consider local opinions and concerns for providing new financial products. In addition to fostering a sense of community ownership, this participatory method guarantees that marginalized groups receive a fair share of the benefits. Microfinance institutions (MFIs) increase their efficiency and influence by tailoring their services to meet the communities' requirements (Kwame & Agyemang, 2021). Because of the focus on client's participation, the clients feel they are part of the solution. Many of Ghana's welfarist programmes differ from conventional microfinance in that they emphasise the need for advisory and support services in addition to financial literacy workshops, entrepreneurial training, and access to technical assistance. These programmes help customers succeed by teaching them the fundamentals they need to run their businesses more efficiently and maximise their available resources thereby improving economic growth since it boosts the possibility of long-term results (Abdulai & Owusu, 2022). Improving economic resilience among low-income households is a critical effect of microfinance.

Microfinance helps people prepare for unexpected expenses and crises like health crises or market downturns by letting them save and invest in income-generating activities. To address the challenges of poverty, long-term stability is essential, and resilience helps with both the short-term impacts of shocks and that (Asante & Cudjoe, 2023). Local economies are significantly impacted by microfinance, both directly and indirectly. Microfinance encourages local economic activity and the growth of businesses by giving access to funds and resources to those with low incomes. Furthermore, the growth in businesses improves socioeconomic situations in the community, lowering unemployment and boosting general development (Mensah & Afriyie, 2022).

In conclusion, aligning with the welfarist theory of microfinance provision provides a solid foundation for fighting poverty in Ghana through the delivering of microfinance to marginalised populations, resulting in measurable outcomes such as long-lasting personal healthcare, entrepreneurial skills development, strengthening underrepresented groups, especially women and the alleviation of complex problems of poverty in Ghana and not just providing microloans with exorbitant interest rates as adopted the institutionalist theory all in the name of viability and sustainability of the scheme that discriminant and put many marginalised population in a perpetual cycle of poverty. Therefore, it is crucial to understand the net consolidation of institutionalists and welfarists.

Table 3.1 Summary of institutionalists and Welfarists approaches

	Institutionalist	Welfarist
Approaches	Performance evaluation from the standpoint of the institution: Broadness of the MFI Sustainability of the MFI	Performance evaluation from the standpoint of customers: Social outreach Impact assessment
Targeted customers	Micro-entrepreneurs close to the poverty line ($2/day)	Very poor ($1/day)
Type of institutions	Commercial contracts	Social bonds
Methodology	Financial self-reliance	Resort to subsidies
Criticisms	Customers selection bias (MFIs do not reach the very poor) High interest rates Long term self-reliance strategy	Sustainability issue High operation costs impact measurement methods Failures (refunding rate < 50%)
Common goal	Poverty reduction	

Source: Berguiga and Adair (2015)

3.2.3 Information asymmetry theory and its relevance on microfinance

Information asymmetry theory represents a critical concept in modern economics, characterized by an imbalance where one party possesses more or better information than the other. This imbalance may lead to unequal power distribution or influence within transactions, negotiations, or decision-making processes (Akerlof,1970; Arrow, 1971; Bergh, 2018). The information asymmetry theory was developed initially to explain market behaviours, particularly in financial transactions, here the seller often knows more about product or service's quality than the buyer (Akerlof,1970; Raban & Wlodarczyk,2024).

Information asymmetry has several implications notably being the adverse selection where borrowers with higher risk are more likely to seek and obtain loans, while lower-risk borrowers may be deterred from applying. This normally occurs where MFIs face the challenge of identifying and screening high-risk borrowers, leading to a portfolio towards riskier clients. This can result in higher default rates.

The information asymmetry theory can be traced back to ground breaking works in economics, "The Market for Lemons''(Arkelof,1970), where the author analysed how information asymmetry affects the quality of goods in the market. Subsequently, Spence (1973) and Stiglitz (2000) further explored the implications of information asymmetry in the context of moral hazards and adverse selection, contributing to the understanding of the theory in broader economic frameworks. Spence and Stiglitz's insights laid a solid foundation for numerous studies and also instrumental in shaping modern economic thought on the subject.

Information asymmetry's relevance to microfinance is particularly profound, as it permeates various aspects of lending and borrowing within this sector. In microfinance, lenders often face challenges in assessing the creditworthiness of borrowers, who typically lack conventional collateral or credit histories (Morduch,1999; Magale;2024). Conversely, borrowers may struggle to discern the true terms and conditions of financial products, leading to potential exploitation (Armendáriz & Morduch, 2010). This duality exemplifies the core dilemma of information asymmetry within microfinance, setting the stage for a detailed examination of how this theory informs practices, policies, and outcomes in poverty reduction efforts through financial interventions (Conning & Morduch, 2011).

In microfinance, information asymmetry has profound implications for Microfinance Institutions (MFIs) and borrowers. MFIs often struggle to assess the creditworthiness of potential borrowers, especially those lacking formal credit history or collateral, leading to potential adverse selection (Morduch,1999; Mursal et al.,2023). Additionally, information asymmetry may create moral hazard challenges, where borrowers take on excessive risk with the belief that the MFI will bear the loss or where MFIs may need to fully understand the social impact of their lending practices (Hermes & Lensink, 2007). The specific characteristics of microfinance, such as small loan sizes and the socio-economic status of borrowers, can exacerbate these challenges, underscoring the importance of robust monitoring and information-sharing mechanisms in mitigating the effects of information asymmetry (Armendáriz & Morduch, 2010).

3.2.4 Information Asymmetry and Poverty Reduction Efforts

Information asymmetry directly influences the effectiveness of poverty reduction efforts, particularly in the field of microfinance. When financial institutions need more comprehensive information about the financial situations and creditworthiness of potential borrowers, they may be reluctant to provide loans to impoverished individuals and communities (Morduch, 1999). This lack of access to capital further entrenches poverty by inhibiting entrepreneurial activity and economic growth. Moreover, information asymmetry may lead to misaligned incentives and inefficient allocation of resources, reducing the overall impact of poverty alleviation initiatives (Banerjee & Duflo, 2011).

The information gaps stemming from asymmetry can create substantial barriers for impoverished individuals seeking access to financial services. For instance, people with low incomes often need formal credit histories, making it challenging for financial institutions to assess their credit risk accurately. This lack of information can result in higher interest rates or outright denial of services, limiting the financial inclusion of vulnerable populations (Karlan

& Zinman, 2009). Even when financial products are available, information asymmetry between lenders and borrowers may lead to misunderstandings, mistrust, or the selection of inappropriate financial products, further hindering poverty reduction efforts (Cull et al., 2009) To overcome these challenges, microfinance institutions (MFIs) have adopted innovative strategies to mitigate information asymmetry. For example, some MFIs use non-traditional assessment methodologies, such as psychometric testing or community-based evaluations, to gauge the creditworthiness of borrowers without formal credit histories (Bjorvatn & Tungodden, 2010).

Furthermore, the application of technology, such as mobile banking and digital record-keeping, has enabled MFIs to gather more comprehensive and accurate data about borrowers, reducing the information gap and allowing for more targeted and effective poverty reduction interventions (Dunford,2006; Gomera,2020). Alternatively, advanced technology such artificial intelligence (AI) can be used by Microfinance institutions for Risk Assessment and Credit Scoring which involves data analysis in which AI can analyse a huge amount of data which includes alternative data sources such as social media activity, mobile phone usage, and bills payments, to build more solid and accurate credit scoring models for individuals without traditional credit histories. Additionally, AI is also used for the detection of Fraud by identifying unusual patterns or behaviours in financial transactions thereby detecting and preventing fraud.

However, a significant criticism of information asymmetry concerning microfinance is the overshadowing of other critical factors that influence lending decisions and poverty reduction. While information asymmetry undoubtedly shapes financial markets and lending practices, issues such as social capital, cultural norms, Governance structures, and market competition might have equal or even greater importance (Hermes & Lensink, 2007; Simba et ak.,2023). For example, social relationships and trust within a community might overcome information gaps, rendering the effects of information asymmetry less pronounced (Karlan, 2007; Di Pietro et al.,2021). By overemphasizing information asymmetry, policymakers and practitioners might need to pay more attention to these complex dynamics, leading to suboptimal solutions.

Finally, some scholars have questioned whether addressing information asymmetry will lead to meaningful improvements in poverty reduction. They contend that while better information might enhance efficiency and risk management for financial institutions, it does not necessarily translate into better outcomes for impoverished individuals (Morduch, 2000). This critique suggests that focusing on information asymmetry might lead to a technocratic approach that prioritizes institutional concerns over low-income people's actual needs and aspirations. It calls for a broader understanding of poverty and a more human-centred approach considering individuals' socio-economic context, aspirations, and capabilities (Sen, 1999; Moin et al.,2022).

3.2.5 Justification for using the selected theories

These theories underpin this research due to the interconnectedness of the variables used in the research to address and achieve the aims and objectives of the research. In addition, integrating these theories in this study provides the researcher the opportunity to ascertain the various dimension of microfinance provision in the 21st century for poverty reduction and how these theories enhance the dissemination of information between the broader financial markets and microfinance institutions(MFIs) that can lead to proper decision-making for improve socioeconomic wellbeing of the poor. Furthermore, these theories used in the study shaped the choice of the data collection by enhancing a multidimensional approach to microfinance provision that considers the extent of poverty reduction by MFIs (quantitative research) and also personal experience of individuals (qualitative research) providing insights into how accessibility of microfinance interventions lift the poor out of poverty which align with the mixed method approach. The information asymmetry theory is often addressed by microfinance Institutions (MFIs) due to lack of credit history and risks associated with lending to the poor who lack collateral. However, addressing the challenges of information asymmetry, MFIs tend to use alternative assessment procedures such community verification and as group lending (Armendáriz & Morduch,2010), which is so much align with credit delivery models used in this research. The Welfarist theory on the other hand looks at an aspect of the research which considers and focuses on the welfare and training need of individuals, revealing the importance the Welfarist place on the role of depth of outreach in enhancing the borrower's welfare by the providing them the means to start up their own businesses, improve their livelihoods, and reduce poverty ultimately (Woller &Woodworth,2001). Additionally ,the institutionalist theory emphasise that the efficient and effective delivery of financial services is very necessary for the MFIs to achieve viability and sustainability (Bangoura,2012).Furthermore, the institutionalist theory places regulatory frameworks and community dynamics to influence how the operation of microfinance effectively bring about poverty reduction(North,1990).The integration of these theories in this study provides an nuanced understandings of how microfinance interventions can be effective an instrument for poverty reduction.

3.3 Microfinance in Ghana

The history of microfinance in Ghana traces its roots back to traditional savings and credit systems, often within close-knit communities. These traditional systems served as informal financial intermediaries long before the advent of modern microfinance. However, it was in the late 20th century and early 21st century that formalized microfinance institutions (MFIs) started becoming significant players in Ghana's financial landscape (Osei-Assibey,2013; Osei-Assibey & Boachie, 2017). The formalization of microfinance in Ghana initially came through non-governmental organizations (NGOs) that aimed to address poverty and foster rural development. One of the earliest programmes in this direction was the establishment of the Rural and Community Banks (RCBs), which aimed at enhancing financial inclusion in remote areas. Gyamfi (2015) identifies RCBs as a critical precursor to the rise of more specialized microfinance initiatives in Ghana.

Ghana's microfinance sector took a significant turn in the 2000s with the introduction of regulatory frameworks designed to legitimize and streamline the operations of MFIs. The Bank of Ghana, in particular, played a pivotal role by setting up the legal and regulatory framework that enabled MFIs to operate more transparently and effectively (Owusu-Danso, 2016; Amenu-Tekaa,2020). This regulation aimed to protect consumers and ensure the sector's stability, although its implementation faced numerous challenges.

The microfinance landscape in Ghana also diversified with the advent of technological innovations, particularly mobile money. A report by Asante and Aikins (2019) highlighted the transformative impact of mobile money platforms like MTN Mobile Money and Vodafone Cash on rural financial inclusion in Ghana. This technological shift significantly lowered the rural population's financial access barriers and introduced a more comprehensive set of financial products. Despite these advancements, the sector has also faced its share of crises, most notably the collapse of several MFIs due to mismanagement and fraud. The Bank of Ghana had to intervene on multiple occasions to safeguard the interests of depositors and maintain the sector's integrity (Ankrah,2021). These crises highlighted the need for stronger regulatory oversight and risk management strategies within the microfinance sector.

Gender-responsive approaches to microfinance have also gained prominence in Ghana, reflecting a broader global trend. Women-focused financial products and programmes are increasingly being introduced to bridge the gender gap in financial inclusion. Studies by Malapit & Murphy (2013) and Nutor et al. (2020) indicate that while progress has been made, challenges remain, particularly in ensuring that these programmes lead to genuine social and economic empowerment for women.

In summary, the origin and evolution of microfinance in Ghana offer a tapestry of traditional practices, formal institutions, regulatory frameworks, technological innovations, and gender-responsive initiatives. The sector has come a long way but faces challenges requiring nuanced and adaptive policy approaches. It is an essential case study for understanding the complexities of formalizing and scaling microfinance as the safest and quicker tool for financial inclusion and poverty alleviation.

3.3.1 Concepts of Microfinance

Microfinance aims to offer banking services to low-income individuals or groups who otherwise lack access to financial services, seeking to break the cycle of poverty by providing savings and borrowing opportunities, as well as insurance to protect their investments (Nyarondia, 2017). The intricate relationship between information asymmetry and microfinance's objective of fostering self-sufficiency can be observed in studies like Barto & Monsia (2021) and Ahlin et al. (2011), which elucidate the financial dynamics and mechanisms that underlie microfinance operations. These studies reveal how information asymmetry impacts financial markets impeding the development and implementation of innovative financial products and services making the Lenders reluctant to experiment with new approaches due to the uncertainty associated with incomplete information, thus contributing to the understanding of the complexities that govern microfinance's role in economic empowerment (Ahlin et al., 2011; Barto & Monsia, 2021).

The question of mission drift, or a departure from microfinance's fundamental goals, emerges in the context of microfinance's role in poverty alleviation. This concern is explored through various studies such as Johnson & Rogaly (1997), Zohir & Martin (2004), and Miled &Rejeb (2015), which collectively examine microfinance's broader social impacts, its connection to poverty reduction, and the synthesis of empirical evidence on its role in poverty alleviation (Johnson & Rogaly, 1997; Zohir & Martin, 2004; Miled & Rejeb, 2015). These works create a nuanced understanding of microfinance in action, highlighting potential inconsistencies between theory and practice and prompting a closer look at how information asymmetry might interact with these challenges.

Expanding the research to include various coastal regions in Ghana, as suggested, could uncover more about how microfinance institutions in deprived economies adhere to or drift from their foundational principles. Through an analysis of regional variations and the application of insights from studies like Johnson & Rogaly (1997), the research could develop a more comprehensive and generalisable picture of microfinance's effectiveness and alignment with its original goals. This wider scope would not only enhance the understanding of information asymmetry, microfinance, and poverty reduction but also lay the groundwork for interventions that are more closely aligned with the core concepts of microfinance, thereby promoting genuine poverty alleviation.

3.3.2 Principles of Microfinance

Microfinance's role in poverty alleviation extends beyond merely providing loans to the economically disadvantaged. The poor require various financial services, including flexible and affordable medical insurance, cash transfers and security, tailored to their unique needs (Nyarondia, 2017). Unfortunately, despite the significant potential of microfinance as a tool for poverty reduction, its full reach remains constrained. Many developing countries continue to view microfinance as a marginal sector, heavily dependent on donors, governments, and socially responsible investors. This perception hinders microfinance's integration into the broader financial system, limiting its ability to provide essential services to the vast majority of the population in need (Copestake, 2002).

To unlock microfinance's potential to alleviate poverty on a grand scale, there must be a concerted effort to make it an integral part of the financial sector. Financial sustainability, defined as the ability of a microfinance provider to cover all of its costs, is vital for this integration. It ensures the continued operation of microfinance institutions and the ongoing provision of services to the impoverished. The challenge lies in the lack of strong retail financial intermediaries in many regions, barring poorest people from accessing financial services. To create financially sustainable institutions isn't merely an end goal; it's a means to significantly impact poverty reduction, extending beyond what donor agencies alone can achieve (Copestake, 2002; Khan et al.,2021).

Achieving sustainability in microfinance involves a multifaceted approach, including reducing transaction costs, offering products and services that resonate with client needs, and innovatively reaching the unbanked poor. According to recent studies such as those by Barto

& Monsia (2021) and Ahlin et al. (2011), the effectiveness of microfinance institutions in developing countries is closely related to these sustainable practices mentioned above.

3.3.3 Characteristics of Microfinance

Nyarondia (2017) asserts that empowering small businesses is the key objective of microfinance, it is to provide means of financing that will enable: small businesses to expand, create employment and contribute to national development. This makes microfinance possess the following features/characteristics

i. Target poor clients who do not have access to formal financial sources
ii. Mostly collateral-free,
iii. MFIs go to clients rather than clients going for MFIs,
iv. Have simplified savings and loan procedures,
v. Offers small and repeating loans.

3.4 Differences between Microfinance and Microcredit

According to Hearth (2018), microfinance is a wide range of financial services for low-income micro-level enterprises in the household sector. It includes small savings, small short-term loans, micro insurance, remittances, and money transfer, guarantees, and a broad range of financial services, as well as non-financial services such as the provision of business development and capacity buildings. On the other hand, microcredit is a credit or loan facility or service to low-income customers; usually small loans for micro-enterprises and income-generating activities. Most of the micro-credit schemes involve compulsory savings which they use as collateral for the loans granted. These savings become the capital of micro-credit institutions. Both microfinance and microcredit use group-based delivery systems for savings and credit to reduce the cost-of-service delivery (Kagan,2023).

3.4 Concept of Poverty

According to Gwariro et al. (2017), poverty is defined as an inability to access resources to enjoy a minimal or acceptable living. This is in line with the definition of Black (2002), who says poverty is the inability to afford an adequate standard of consumption. On the other hand, Mat Zin (2011) describes poverty concerning the case and generic theories of poverty. According to case theories of poverty, individuals who cannot support themselves and afford the basic needs without assistance are considered living in poverty. For instance, older people, disabled people, drug addicts, and mentally ill persons are included in case of poverty. According to generic theories of poverty, poverty is explained by macro economy problems such as inadequate employment opportunities, low demand, and low national income or less developed countries.

The United Nations (1998) defined poverty as a denial of choices and opportunities and a violation of human dignity. In other words, it is suggested that people are poor due to a lack of the essential capacity to participate effectively in society. For instance, any person not having enough resources to feed a family, not having a school or clinic to go to, not having the land to grow one's food or a job to earn one's living, and not having access to credit. At the same time, the United Nations Development Programme (UNDP) describes poverty as a human condition characterized by sustained or chronic deprivation of the resources, capabilities, choices, security, and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political, and social rights. Meanwhile, the World Bank (2011) suggests that poverty includes low incomes, the inability to acquire essential goods and services necessary for survival, low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice and insufficient capacity and opportunity to better one's life.

3.4.1 Perspective of poverty

According to the United Nations (1995), poverty is grouped under two broad categories namely: absolute poverty and relative poverty. The concept of absolute poverty is defined as the minimum set of resources a person needs to survive, while the concept of relative poverty is a measurement of the resources and living conditions of part of the population in relation to others. In the discussion of any of the forms of poverty, a new global poverty is set at $2.15 on the 14th day of September, 2022 using at least 2017 prices, which means that anyone living on less than the amount coated as the Poverty line income (PLI) is considered as living in extreme poverty (Hassel,2023). Specifically, absolute poverty refers to a person who is lacking of basic human needs, which includes clean and fresh water, nutrition, health care, education, clothing and shelter. On the other hand, relative poverty is described as income inequality, which individual's yearly income is not taken into account as part of total wealth. Furthermore, the United Nations, Department of economic and Social Affairs (1995) suggested the three basic concepts pertaining to poverty are absolute poverty, absolute hard-core poverty and relative poverty. Absolute poverty has been regarded, as a condition in which the gross monthly income of a household is insufficient to purchase minimum needs. On the other hand, absolute hard-core poverty has been regarded as a condition in which the gross monthly income of a household is less than PLI ($2.15 a day). Lastly, with regard to relative poverty, this concept is linked to the notion of income disparity between groups. That is, there is no single standard in poverty measurement and also definition of poverty. This has implications for studies that attempt to compare poverty in different kinds of society. The next section discusses the poverty dynamics in Ghana.

3.4.2 Poverty dynamics in Ghana

Understanding poverty dynamics in Ghana requires a multifaceted approach, considering both spatial and temporal variations, as well as social, economic, and cultural factors. Ghana has experienced considerable economic growth since the turn of the century, but poverty is still predominant among the rural areas without the basic needs such as clean water and good healthcare (Ofori-Boateng, 2006). A study by Oduro et al. (2015) explores how the poverty gap between the northern and southern regions have widened despite national growth, underscoring the importance of targeted regional policies. Despite the widening poverty gap between the Northern and Southern regions, it cannot be said for the fishing communities in the southern regions where people mainly fisher folks experience extreme poverty.

Furthermore, according to Aryeetey et al. (2017), rural areas are more impoverished due to factors like lower educational attainment, limited access to healthcare, and inadequate infrastructure. These factors often perpetuate a cycle of poverty that is hard to break without comprehensive poverty policy intervention. In addition, income inequality has been on the rise, leading to social and economic consequences that could impede sustainable development. To address the issue of income inequality, there is a need for it to be part of the broader poverty alleviation strategy. Moreover, income inequality normally manifests in terms of educational levels and gender (Cobbinah & Erdiaw-Kwasie, 2018)

Furthermore, a study by Dzanku (2019) intimated that, women in rural areas often have limited access to productive resources and financial services, exacerbating gender-based poverty. Women's lower social status and limited mobility further make them vulnerable to poverty and make it essential for any poverty alleviation strategy to have a strong gender-responsive component. Considering the number of the youth engaged in small scale fishing in most off these fishing communities discovered by this study, it could be said that Youth poverty and unemployment is on the increase and should be recognized as a critical issue that need to be addressed. Moreover, Baah-Boateng (2015) highlighted the relationship between youth unemployment and poverty, emphasizing that providing employment opportunities for young people is not just an economic necessity but also a social imperative to avoid the youth bulge from becoming a liability.

In summary, poverty in Ghana is a complex issue shaped by regional disparities, rural-urban divides, income inequality, gender issues, and youth unemployment. While various interventions have been attempted, their effectiveness is still a subject of debate, necessitating ongoing research and policy refinement. The importance of understanding and addressing these various facets of poverty cannot be overstated, given the country's ambitious goals for economic development and social justice. Considering the poverty dynamics in Ghana and the impact on the economy, there is a justification to discuss the various microfinance interventions.

3.5 Microfinance interventions

Microfinance interventions serve a critical role in financial inclusion by providing not only financial services but also empowering tools to those underserved by traditional banking systems. These interventions encompass micro-loans, micro-insurance, micro-savings, and transfer services, alongside non-financial components such as business training, empowerment and skills development (Agembo,2014; Wani & Agarwal, 2024). This inclusive approach fills the gap in liquidity, transferring capital from those with surplus to those in need, acting as a bridge between the surplus and deficit sectors of the economy. The dual focus on financial and non-financial services recognizes the multifaceted needs of the poor and the low-income households, thereby aligning with the broader goals of poverty alleviation.

The selection of microfinance interventions depends on the unique objectives of the MFIs and the specific expectations of their target market (Von,1991; Hermes & Hudon,2018; Gupta & Sharma,2023). Such interventions must be tailored to foster a fiduciary relationship with clients, balancing the provision of necessary services and products with the pursuit of profitability. For example, MFIs may combine financial services like microcredits and micro-savings with non-financial interventions like empowerment programmes, creating a win-win scenario for both the institution and its clients (Canadian International Development Agency, 2005). This holistic approach reflects an understanding of the interconnected challenges faced by impoverished individuals and micro-enterprises, aiming to create sustainable and impactful solutions. According to Miled & Rejeb (2015), microfinance interventions' effectiveness lies in their adaptability and responsiveness to the local context. By incorporating financial and non-financial services, MFIs can offer a more comprehensive support system for poverty reduction. Undertaking this research in four (4) different fishing communities in Ghana could offer insights into how these interventions are tailored to different economic and cultural landscapes. Embracing a diversified approach to microfinance enables a more nuanced understanding of poverty and provides a foundation for innovative and responsive strategies that go beyond mere financial support, embedding empowerment and skills development into the fabric of poverty reduction efforts.

For the purposes of this study, a combination of the financial and non-financial microfinance interventions, which are microcredits, micro savings (financial) and empowerment (non-financial) are discussed.

3.5.1 Microcredit

Microcredit, a vital component of microfinance that extends small loans to those who are unable to qualify for traditional loans from commercial banks (Shepard, 2015). These small loans play a transformative role in rural livelihoods, unlocking entrepreneurial opportunities and stimulating small business growth. Microcredit aims at providing access to capital for self-employment projects, contributes to income generation and also improves living conditions for both rural and urban poor (Grameen Bank, 2014; International Year of Microcredit, 2015 Gupta & Sharma,2023). The significance of microcredit goes beyond just financial aid; it's a socio-economic mechanism that has a profound impact on poverty reduction across the globe, fostering entrepreneurial development and enhancing the welfare of marginalized communities (Hossain et al., 2012).

In today's technologically advanced era, the scope of microcredit has expanded to encompass a broader range of services, such as credit, savings and insurance, all aimed at liberating the poor (George & Jacob, 2015). Henry (2015) notes that microcredits are specifically tailored to support the smooth functioning and expansion of micro-enterprises, creating wealth and stimulating economic growth while simultaneously battling poverty. In addition to providing cash flow for businesses and projects, microcredits often include supplementary services like training, saving facilities, peer support, and programme support, enriching the financial landscape for the beneficiaries. The low-interest, small-scale nature of these loans makes them an accessible and sustainable strategy for poverty reduction (Idris & Agbim, 2015).

Microcredit is not merely a financial instrument; it represents a unique development intervention with a human-centric approach. By offering flexible, convenient and affordable financial services, it aims to empower the poor, enabling them to make their own decisions and create wealth (Littlefield et al., 2003; Sulemana et al.,2023). This focus on empowerment aligns with the overarching goals of poverty alleviation, where proper selection and strategic support can protect, diversify and increase the income sources of the poor. The multi-dimensional impact of microcredit underscores its potential as an essential tool in the broader framework of poverty reduction, providing a viable pathway for the underprivileged to elevate themselves out of poverty, not just through financial support but also through skill development, community building, and entrepreneurial encouragement.

3.5.2 Micro savings

According to Abiola (2016), micro savings are an aspect of microfinance consisting of small deposit accounts for low-income families or individuals as incentives to store funds for future use. Micro savings accounts work similarly to a standard savings account; however, their design is mostly around small amounts of money. Micro savings play a crucial role in bolstering the financial security of low-income families and individuals, providing a safe and convenient means to store small amounts of money for future needs (Abiola, 2016). Particularly in developing countries, where aggregate savings are often limited, micro savings offer a vital financial lifeline, enabling the poor to save and invest in future opportunities or mitigate unforeseen financial shocks. This promotes a culture of savings, often lacking in developing economies due to low per capita income, and bridges the resource gap by connecting people with essential financial services. Micro savings also foster financial inclusion, incorporating those in the informal economy who might otherwise be excluded from traditional banking systems (Sanusi, 2002; Oranu et al.,2020).

Despite the promising aspects of micro savings, there are challenges. Empirical evidence suggests that only a fraction of the adult population in developing countries is engaged in micro savings (Demirgüç-Kunt et al., 2018).The high costs of micro savings to banks and inconsistencies in profitability among different microfinance institutions (MFIs) can hinder the broad offering of micro savings products (Bergsma, 2011; Chikalipah,2018), and also geographical considerations and the presence of diseconomies of scope((occurs when there is growth in a company to the extent that the cost per unit increases) in less densely populated areas may further complicate the situation (Delgado et al., 2015). Additionally, commercial banks' neglect of rural areas has contributed to a gap in micro savings accessibility (Wenner et al., 2003; Rajapakshe,2021). Despite these challenges, the rise of micro savings remains a beacon of hope for increasing financial inclusion and savings culture in rural areas, with positive changes on the horizon in various developing countries like Ghana (Zeller, 2003; Oranu et al.,2020). The evolution of micro savings demonstrates the potential for targeted, innovative financial interventions to make a meaningful difference in the lives of the world's poor, but also highlights the need for careful consideration of the diverse factors influencing their success.

3.5.3 Empowerment

The World Bank's empowerment resource book defines empowerment as the expansion of the assets and the ability of the poor to negotiate, influence, participate and control through the accessibility of microfinance (Narayan, 2002; Holmes,2015; Donald et al.,2020).This implies that a change in the ability of the poor to interact deeply within the institutions that affect their lives is a panacea for the leveraging of poverty, since this microfinance institutions have the sole purpose or objectives of providing microfinance services to their clients, all tailored towards poverty reduction through the process of empowerment. The World Bank’s definition emphasises that the poor need material assets like land, housing, savings, radio, television, phone, and competencies such as education, training, good health, sense of identity, organisational capacity, access to information, participation in political life to increase their wellbeing, security, self-confidence, or wellbeing and security, self-confidence, independence and mobility which enable them to negotiate with the powerful in society. These definitions above contain the idea that empowerment is about making changes, changing the community's perception, causing personal transformation, and improving individual capabilities to formulate strategic choices for their lives (Malhotra et al., 2002; Besnier et al.,2023).

Microfinance's role in the empowerment of marginalized communities, particularly in developing economies, offers a multifaceted approach to uplifting the economically disadvantaged. By providing essential financial resources and services, microfinance institutions enable individuals to pursue entrepreneurial endeavours, enhancing not only their economic standing but also fostering self-respect and dignity (Yunus, 2003). Additionally, the educational components embedded within microfinance initiatives teach essential business skills and financial literacy, creating a pathway towards community collaboration and individual empowerment. Despite its successes, sustainable practices must be maintained to prevent potential over-indebtedness, and a nuanced understanding of various socio-economic factors must be considered(Schicks,2013).

One of the unique aspects of microfinance is its pronounced focus on women. Recognizing women's efficiency in managing household resources, microfinance often targets women to strategically enhance family well-being and contribute to broader community development (Mayoux, 2001; Farooq, 2024). However, true empowerment goes beyond merely providing access to financial resources; it must also address underlying gender norms and societal relations (Goetz & Gupta, 1996). The sensitive integration of gender-specific needs into microfinance initiatives is vital in fostering genuine empowerment, which may not only include economic growth but also enhance social agency and autonomy. Despite the transformative potential of microfinance in empowering marginalized communities, there are notable challenges that need to be addressed. The sustainability of microfinance institutions, coupled with the risk of over-indebtedness of clients, presents complex dilemmas (Bateman,2010; Kasoga &Tegambwage,2021).

However, with advancements in technology and the development of innovative products such as mobile banking and tailored insurance, there are promising opportunities to overcome these challenges (Morduch, 2010). Emphasizing a participatory and context-specific approach that considers diverse needs such as age, ethnicity, and locality can further strengthen the empowerment process. By integrating these dimensions, microfinance can transcend economic upliftment, enhancing social and political agency, and contribute to transformative societal change (Sen, 1999; Besnier,2023).

In the broadest sense, empowerment is an extension of freedom of choice and action. This means increasing one's authority and control over the resources and decisions that affect one's life in order to gain increased control over their lives which is in line with or supports the welfarist theory. To be powerlessness is inherent like an institutional relationship, even though the institutional definition of empowerment is appropriate and inevitable in alleviating poverty. It is based on this idea that the study is to explore and investigate the relevance of the operations of MFIs, and also, the credit delivery models which have been used over a period of time but poverty still prevails if not on the ascendency. The next section reviews the three major credit delivery models used by originators of microfinance which have been accepted and used over the period of three decades worldwide.

3.6 Credit delivery models by Rural Banks

Microfinance involves providing financial services such as savings, loans and insurance, training and empowerment to poor people living in urban and rural environments where traditional commercial banks do not provide these services (Dhungana et al.,2023). Hence, credit delivery models are developed to help drive the financial intermediation process and incorporate innovative methods to satisfy clients and reduce cost (Dwivedi,2017). The credit delivery models include the Grameen bank model, Village bank model and the self-help group (SHG) model. The study discusses these models since these models formed the basis of the microfinance revolution in which the world has come to accept and implemented in the dispensations of all aspect of microfinance interventions.

3.6.1 Grameen bank model

The Grameen bank originated from Bangladesh by Professor Mohammed Yunus in the early 1970s, and has provided more than $2.1billion to nearly close to about 2million people in Bangladesh(Barret,2003). The Grameen bank model (globally known as the grassroots of all microfinance model) operates based on the voluntary formation of small groups comprising five people to provide mutual, morally binding group guarantees in place of the collateral required by conventional banks. The Grameen model has successfully provided it beneficiaries who are mostly women the financial resources to empower them to start or expand small businesses, generate income, and improve their living standard. The focus of the Grameen bank on lending to women, is for the transformative impact women make in their communities and their families (Wang et al.,2022). Furthermore, the Grameen bank played a crucial role in promoting financial inclusion by extending banking services to those who were traditionally excluded from the formal banking sector, demonstrating that the poor can be responsible borrowers and creditworthy when given the equal opportunity to access the schemes and reversed the conventional banking practices by removing collateral requirements by developing a financial system based on mutual trust, accountability, involvement, and innovation (Fotabong, 2011; Kamoga,2024).

The Grameen Bank model's successes and failures present an intricate picture of the complexities involved in microfinance. While its innovative approach to extending credit without collateral has made it a globally replicated scheme, its shortcomings cannot be ignored. The model's rigidity in payment policies, especially in agrarian economies, demonstrates a lack of adaptability to local conditions. This inflexibility not only burdens borrowers but also forces them into cycles of multiple borrowings, sometimes even from unscrupulous moneylenders. An effective model should consider the economic realities of the community it serves, including seasonal fluctuations in income and other local dynamics, to be genuinely inclusive and supportive (Fotabong,2011).

Furthermore, critics like Morduch (1999), intimated that the Grameen Bank model does not necessarily reach the absolute poor, which underscores a vital concern in the field of microfinance. The model's self-selection mechanism, while intending to instil group responsibility, might inadvertently lead to exclusion of the most destitute. The fear of being held liable for another person's loan, particularly if that individual is known to be poor, often leads to the exclusion of those most in need of credit. This raises significant ethical considerations for microfinance institutions and prompts a re-evaluation of their methods and goals. Ensuring that the benefits of microfinance reach the most marginalized requires a nuanced approach, possibly involving community engagement, tailored solutions, and continual assessment and adjustment.

Lastly, the concerns surrounding the Grameen model's long-term sustainability due to its reliance on external funding highlight an essential aspect of any microfinance initiative (financial self-sufficiency). In addition, an overreliance on donor funding can create a fragile system that collapses if that external support is withdrawn. To foster enduring success, a microfinance model must develop strategies for internal resource mobilization and create a sustainable structure that can function independently of inconsistent external funding. This sustainability ensures that the benefits of microcredit continue to reach those in need and contributes to the overarching goal of poverty reduction. The failures and lessons from the Grameen model could indeed pave the way for more adaptive, inclusive, and sustainable microfinance systems in the future.

3.6.2 Village banking model

The Village Banking Model is a community banking model which uses a microfinance approach that aims to provide financial services to communities in rural areas, especially those lacking access to traditional banking services(Gajijime, 2023). The Village banking model involves small groups of people ranging from 10-30 members within a community usually homogeneous in terms of financial and socioeconomic needs coming together to save money, supporting each other's economic activity and providing loans to group members. The village banking model was first developed during the 1980s in Bolivia by John Hatch (Fotabong, 2011). The Village Banking model implemented by Foundation for International Community Assistance (FINCA), with its community involvement and collaboration, faces the limitation of failing to retain long-term members who graduate and become autonomous (Quattara et al.,1998; Mayoux,2020). This "graduation" signifies growth and empowerment, but the departure of experienced members might hinder the cohesive functioning of the village bank and potentially affect its stability (Quattara et al., 1998; Mayoux,2020). This raises a question about the scalability of the model and how it can evolve to accommodate growing demands without losing its core community-based essence (Fotabong, 2011).

Another shared concern between both the Grameen Bank and the Village Banking models is the heavy dependence on external funding (Fotabong, 2011; Addae-Korankye, 2018). The reliance on outside sources poses a risk of collapse if the funding ceases, creating an uncertain environment for members who rely on continuous access to credit (Fotabong, 2011). This emphasizes the need for the development of internal capital generation mechanisms, creating a more robust and self-sufficient model, even in the absence of external support (Addae-Korankye, 2018).

Lastly, the village banking model's exclusion of certain sectors, notably agriculture, highlights a significant oversight, particularly in developing countries with agrarian economies (Bangoura, 2012). By neglecting vital sectors like agriculture, the model may fail to reach a significant portion of the population (Bangoura, 2012). The mandatory contribution policy, where the interest is paid on the full loan amount despite a reduction to 80%, adds another layer of complexity and pressure on borrowers (Bangoura, 2012). These concerns draw attention to the need for a more flexible approach, recognizing the diverse economic activities and needs of the communities served (Fotabong, 2011). Tailoring the model to include neglected sectors and introducing more considerate interest rate policies might make the village banking model more responsive to the actual needs of the poor and possibly more effective in reducing poverty (Bangoura, 2012; Addae-Korankye, 2020).

3.6.3 Self-Help group(SHG) Federation

The SHG is a savings-driven programme founded primarily by women (Sushanta & Madhavi, 2016). The model came to light when the official financial system in India and state-sponsored poverty alleviation programmes failed to deliver their duties to the poor (Chakrabarti & Ravi, 2011; Mahajan & Nagasri, 2013). As a result, the National Bank for Agriculture, Food and Rural Development (NABARD) in the late 1980s devised a microfinance concept based on self -help Group Bank Linkage programme (SHBLP) and the Reserve Bank of India. The scheme operates by members making contributions to the group's savings account regularly. These contributions are usually collected weekly, fortnightly or monthly and kept in the custody of the group's elected leader until the organisation opens an account. The size of each group ranges between 12 and 20 people, depending on geographical conditions, population density and the promoting NGO's convenience. The money saved by group members is used for inter-loaning.

Generally, after six months of inter-loaning, the group becomes eligible for a bank loan. Banks give loans in the group's name after checking the group’s financial record and other books of accounts. SHGs may never go to a bank; instead, they may meet their needs only through inter-lending or conserving money without ever withdrawing it (Harper, 2000; Malhotra& Bagg,2022). Members of the group decide on the amount to be saved per person, the maximum loan size to be disbursed, the payback schedule, and loan guarantee procedures. Loan requests of members are prioritised based on their financial needs and the group enjoys the freedom to run their enterprises as they deem it fit.

Many scholars have criticised the SHG model due to some challenges with the model. Notably among them is the Consultative Group Against Poverty (2007) that asserts that the financial services provided by the SHGs do not fully satisfy the need of members (i.e. high interest rates), hence many of them fail to pay their loans on time. Furthermore, group members complain that the loan terms do not match their needs and cash flows making the members avoid the use of SHGs as a savings vehicle. Another challenge is that SHGs are not able to mobilise large amounts from members’ savings. This is because the mandatory savings that members make are not what they intend but a requirement from the SHGs to be used as deposits and a condition to get a loan. This makes just a small number of SHGs offer voluntary savings, possibly because the institutions or SHGs do not want to entangle themselves with the complexities of issues involved in managing peoples’ money.

Notwithstanding the shortcomings of these methods, the various credit delivery models (Grameen bank model, Self-help group and the Village banking model) discussed have created an environment that encourages frequent meetings, training and interaction among borrowers. The group lending methodology facilitates the development of trust and expansion of micro-entrepreneurs' networks (Ojong & Simba, 2018), which are effective techniques for assisting impoverished businesses and helping them to escape from poverty which is an objective of microfinance. However, the critical question is whether the actual and ultimate goal of microfinance institutions is the optimal method of giving microfinance to the poor since all three methods are heavily criticised on their procedure for selection of the poor and also how these credit delivery methods are implemented by the various microfinance institutions. Looking at the criticism of the three methods in terms of identifying the poor and also maintaining the balance for sustainability of the microfinance institutions and the welfare of the beneficiaries of the MFIs. The study considers two factors (institutional development and development of financial infrastructure) by which microfinance can be accessible to all. These factors will provide an insight on how MFIs will provide their services to their beneficiaries in order to achieve their objectives of establishing the microfinance. The next section discusses the institutional development and development of financial infrastructure.

3.6.4 Institutional development

Microcredit's role in institutional development isn't just confined to economic progress; it extends into shaping social norms and community behaviours. This aspect is often neglected, with focus diverted to immediate economic benefits (Abhlijit et al.,2016). However, the formation of strong local institutions and collaboration with existing entities like churches, banks, or job training programmes is pivotal in ensuring the long-term success of microcredit initiatives (Snow, 1999; Ashta & Parekh,2023). It's not merely about providing access to funds; it's about creating an ecosystem where the marginalised can thrive and become self-reliant. Integrating microcredit with existing institutions can foster a more coordinated approach, aligning economic goals with social welfare, and providing a robust framework for sustainability.

The reluctance of commercial banks to engage in microcredit, due to perceived high costs and risks, has indeed left a void that microfinance institutions (MFIs) are striving to fill (Snow, 1999; Iheakanwah,2022). Yet, the success of MFIs often depends on a complex web of connections with local institutions. These partnerships not only lend credibility and stability to microcredit programmes but also create pathways for broader community engagement and development (Uphoff, 1986; Ostrom et al., 1993). It's essential that MFIs navigate this intricate network efficiently, seeking out partners with comparative advantages who are committed to alleviating poverty. Such synergy can drive innovation in microcredit programmes, leading to more comprehensive and effective poverty reduction strategies.

Finally, the emphasis on local institutional capacity in theories of development leads us to reflect on the broader financial infrastructure necessary for microfinance success. The mention of an underdeveloped financial infrastructure as a potential barrier to achieving microfinance objectives is poignant (Ostrom et al., 1993). Without robust support systems, including not just credit facilities but also financial education, risk management, and efficient regulatory environments, the impact of microcredit programmes may be limited. A holistic approach that considers financial infrastructure development in conjunction with microcredit can offer a more nuanced and potentially more successful route to poverty alleviation. This is a multifaceted challenge that requires attention not just at the level of microcredit programmes themselves but at the broader systemic level, underscoring the complexity and importance of the links between microcredit and institutional development (Ostrom et al.,1993).

3.6.5 Development of financial infrastructure

The constraint posed by underdeveloped financial infrastructure in the expansion of microfinance services emphasizes the need for an integrated approach to financial system development (ADB,2000; Kandpal,2023). While governments have been instrumental in creating institutions to distribute funds to the poor, the focus must shift to nurturing an environment that encourages private sector participation and ensures the systemic stability of the microfinance industry. This is a complex task that involves not only the creation of legal and regulatory frameworks but also the fostering of innovation and competition among microfinance providers. Proper financial infrastructure will serve as the backbone for robust and resilient microfinance systems, allowing for more effective risk management and the cultivation of trust between providers and beneficiaries.

Moreover, the role of legal barriers and the necessity for a supportive legislative framework underscore a significant aspect of financial infrastructure development. Restrictive legal conditions may stifle the ability of banks and other financial institutions to engage with informal or community-based organizations, limiting the reach and effectiveness of microfinance programmes (ADB, 2002; Hamid & Nassir,2021). Furthermore, flexibility within legal frameworks is therefore crucial, allowing for adaptation and growth within the sector without compromising the integrity and safety of the financial system. In line with the arguments of ADB (2002) Legislation must strike a careful balance, promoting growth and innovation while providing oversight and regulation to prevent abuse and protect consumers.

This dual objective requires an in-depth understanding of the unique dynamics and needs of the microfinance sector within the broader financial ecosystem.

Considering the barriers to the development of financial infrastructure, one can say that it goes beyond legal and regulatory concerns, hence attention must also be given to the supportive elements of financial infrastructure, such as information systems and training facilities. These elements are vital for the microfinance sector to operate efficiently and transparently (ADB, 2002; Hamid & Nassir,2021), hence helping in facilitating the collection and analysis of data, enabling microfinance institutions to make informed decisions, tailor their services to the specific needs of their clients, and monitor progress towards poverty reduction goals. Moreover, training facilities can equip both providers and beneficiaries with the skills and knowledge needed to navigate the complexities of microfinance, contributing to the creation of a holistic financial infrastructure that can truly unlock the potential of microfinance as a tool for social and economic empowerment (Coleman, 2003; Kato,2023).

In summary, an argument can be made that focusing on these vital components, governments and stakeholders can build a foundation, not only sustains the growth of individual institutions but also fosters the development of an entire subsector dedicated to financial inclusion and poverty alleviation.

3.7 Conceptual framework

According to Miles & Huberman (1984), a conceptual framework is a current version of the researcher's map of the territory under study, which includes factors, concepts, or variables, as well as their interactions (Miles & Huberman, 1994, p.18). It is critical to realise that the study's conceptual framework can shift over time as the investigation progresses. Furthermore, Miles and Huberman (1994) point out that it can start with a tentative conceptual framework to discover new data collection ideas. Therefore, a conceptual framework is considered a flexible tool for research, and it can change as the investigation evolves (Trafford, 2007).

The Figure below represents a synopsis of the variables used in this research. It also highlights the relationships between the independent variables and the dependent variable. An integrated conceptual framework connecting credit delivery models, empowerment, microcredit, micro-savings, and poverty reduction can be understood through the interplay of these components, highlighting how they influence one another to create sustainable socio-economic development. The credit delivery models, which include group lending, individual lending and technology-driven platforms, may determine how financial services are accessed. For instance, group lending models often encourage social collateral, enabling greater inclusivity for marginalized populations. Furthermore, these models promote community ties and enhance loan repayment rates, which are very important for empowerment and support networks (Morduch, 2021), making empowerment a critical outcome of effective credit delivery. Furthermore, accessing credit (microcredit) allows individuals, particularly people with low incomes and women to engage in income-generating activities, leading to more decision-making power within their households and communities. Additionally, microcredit initiatives focus on female borrowers which leads to significant investments in health, education and also fosters generational empowerment (Kabeer, 2020). Moreover, microcredit is a catalyst for entrepreneurial activities by providing financial resources that drive income generation. The integration of microcredit with business training and mentorship significantly reduces poverty levels, which results in improved living standards for borrowers (Banerjee et al., 2019). The interconnectedness of credit delivery models, empowerment, microcredit, and micro-savings creates a cycle where increased access to economic resources leads to enhanced skills, better health and education, and ultimately improved livelihoods. According to Fischer & Niekamp (2021), having a robust microfinance infrastructure show poverty-level reductions, affirming the importance of sustainable financial practices. To conclude, the conceptual framework below outline how the effective integration of credit delivery models, empowerment, microcredit, and micro-savings play a pivotal role in reducing poverty.

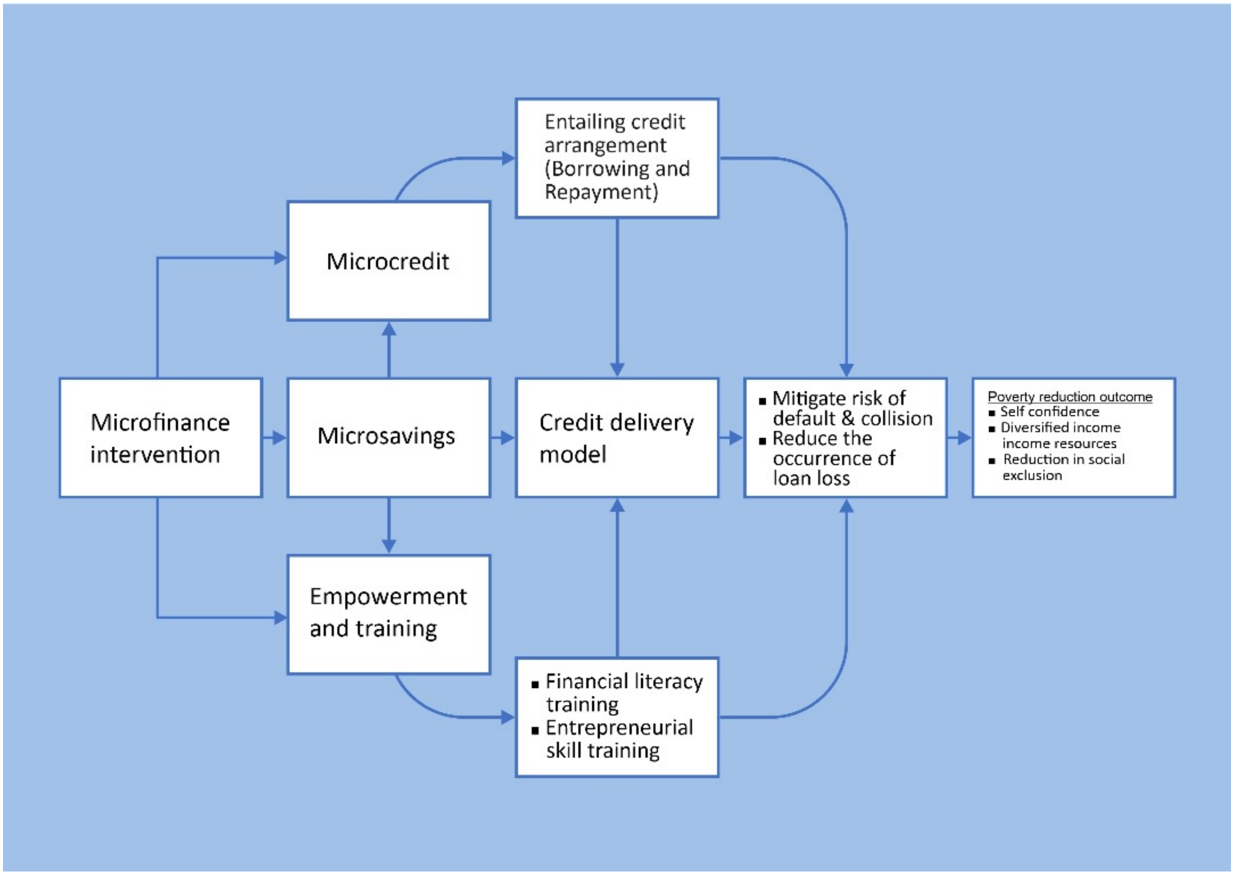


Figure 3a Conceptual framework

3.8 Impact of microfinance interventions on poverty reduction

This section examines the impact of the microfinance interventions and the poverty reduction outcomes. In particular, this section reviews the impact of savings, microcredit and empowerment on poverty reduction.

3.8.1 Access to credit on poverty reduction

Access to credit is the prerequisite to income generation and hence financial stability for an individual. However, the poor lack this very capital and therefore, the means to generate income. According to Burgess & Pande (2003), the lack of access to finance is the core reason the poor cannot break away from their poverty. Therefore, it stands to reason that access to credit will present a way through which the impoverished can take themselves out of poverty. Micro-credit proposes doing just this by making capital available to the poor who would otherwise lack access. Microcredit mainly targets women since the level of poverty among female-headed households in developing countries is significantly higher than in male-headed households (Annim et al., 2008, p.94). The reason for this is that, there exist structural constraints such as lower pay, inadequate healthcare place women at a disadvantage. Arguably, cultivating a good saving habit enables one to finance income-generating projects and have a safety net in case of problems. The poor traditionally exhibit poor saving habits, mainly due to their low earning powers, combined with the lack of membership to financial institutions, which mean that the poor do not have any savings. For the sustainability of the MFIs and a prerequisite for acquiring loans, MFIs tend to promote savings and deposits among their clients, making the influence of microcredit go beyond simply providing funds to the impoverished (Tehulu, 2022). A research undertaken in Bangladesh on the impact of microcredit programmes hinted that a 1% increase in credit from an MFI to women increased the probability of a girl-child enrolling in school to 1.86 %. This data revealed that microcredit had a positive effect on education which also affirms the results of previous researchers like Imtiaz et al., (2014); Iqbal et al., (2015); Mahmood et al., (2016). One can relate that the provision of microcredit to the poor is a step to enhancing the change microcredit brings on household, the more financial resources one gets the easier it is for the person to have an improved economic life away from poverty. Additionally, an investigation into the impact of microcredit provision by Akhuwat Islamic Micro finance in Pakistan on poverty alleviation and women empowerment by Shafique & Siddique (2020) also revealed that micro-credit plays an essential role in reducing poverty by offering loan to small business owners to enhance their businesses, thereby improving their living standards, earning them livelihood, and coming out of the swamp of poverty. Using concepts such as education, living standards, income, health, food and nutrition, electricity, assets, expenditure, and employment, the living standards and income levels increased after microcredit access. Consequently, in alleviating poverty, banks providing microcredit facilities should offer loans to the poor, particularly in rural areas, at a reasonable cost, and also establish microfinance banks in both the rural and urban areas to select the poor and assist them with credit facilities.

However, whether the availability of microcredit reduces poverty remains to be proven. It is difficult to separate the impact of credit from the numerous factors that can influence poverty in a microfinance intervention (Duvendack et al., 2011). Furthermore, a study by Awarwoyi (2014) on microfinance, analysing 25 empirical studies with 595 participants on microcredit and access to credit on poverty and microenterprises reveals no significant association between access to credit and assets but discovered a link between credit availability and income. The correlation here could mean access to credit has an insignificant relationship with consumption expenditure and revenue from a business. Arguably there are significant consumption fluctuations common among the poor, resulting in insecurity and debt since the access to credit brings partial improvement in well-being of beneficiaries because of the low absorptive capacity in poor communities. This makes microcredit schemes protective of the poor by minimizing consumption fluctuation, thereby resulting in consumption smoothing (a practice of optimizing living standards by ensuring a proper balance between spending and saving) (Chen et al., 2013), which is buttressed by research conducted in Bangladesh on households who benefited from microcredit programmes that had their household consumption decreased by 47% across seasons (Morduch, 1998). Microcredits when provided to meet the purpose intended for, gives the poor a more stable life by smoothing consumption, resulting in poverty reduction. For the poor to come out of total poverty, unemployment must be tackled since it is the most significant driver of poverty; as a result, employment is the most effective means of overcoming poverty (Goldberg, 2005). The impact made by access to microcredit on job creation and its related impact on poverty reduction is revealed by a research undertaken by Dunn & Arbuckle (2001) who indicated that microcredit membership resulted in 17,414 full-time jobs, with 6259 opportunities available to non-members, demonstrating microcredit institutions' ability to employ individuals, providing the poor with the chance of escaping from poverty. Considering the outcome of the study, one can say that MFIs help non-participants by creating a spill over effect, in which non-participants profit from the increased economic activity brought on by microcredit (Chikwira et al.,2022).

Furthermore, the success of MFIs on poverty reduction is now considered a viable tool of combating poverty. According to data from the Grameen Bank, which provides microcredit services, 55 per cent of its clients had crossed the poverty level over the years (Goldberg 2005; Chikwira et al.,2022). Microcredit has played a critical role in helping small businesses get off to a good start by providing well-tailored microcredits facilities to clients that have been credited with enhancing the poor's quality of life. However, Kar (2008, p.24) observes that in the majority of situations, customers lack creative ideas on how best to utilise the given cash and, as a result, end up misusing the funds. For MFIs to achieve their objective for given out loans, they should provide some training and guidance to the clients to enable them become more productive and become economically vibrant. This is also to say the sustenance of the MFI is critical because only such institutions can attract the necessary findings for growth and the provision of services to the poor. According to Snow (1999) and Mia (2024) microcredit programmes are only considered sustainable when the net benefits to the community outweigh the total costs involved. Nonetheless, focusing on credit would render MFIs no different from a commercial lender, which will mean a drift away from its deepest ideals for economic fairness thereby losing its identity as a beacon of economic freedom for the poor (Lewis, 2010). This study cannot consider only the microcredit aspect of the rural banks without looking at micro savings since some group liability schemes consider it as prerequisite for microcredit. The next section looks at micro savings.

3.8.2 Micro savings on poverty reduction

Micro savings programmes in developing countries provide evidence for demand for savings by the poor (Dowla & Barua, 2006 on Grameen Pension Savings in Bangladesh; Collins et al., 2009 on Rotating Savings Credit Associations in South Asia., Armendariz & Morduch, 2010 on Safe Save in Bangladesh). The Financial Diaries (Collins et al., 2002) are examples of demand studies (Devaney, 2006). However, most of the studies focus more on microcredit instead of micro savings. According to Ashraf et al., (2003), Dupas & Robinson (2013b) limited field experiments in developing countries show that individuals who had access to savings accounts or informal savings are more likely to increase consumption, income, and investment in health, as well as reduce vulnerability to illness and other adverse shocks. It can be argued that impoverished people required savings products more than credit (Collins et al.,2010; Abiola, 2016; Pomeranz & Kast, 2024) and that savings has a more significant impact on alleviating rural poverty (Burgess & Pande, 2005, Archana & Kusuma, 2023).

However, according to the Findex Research, just 48% of adults over 15 years save globally, and only 43% in developing countries (Demirgüç-Kunt et al., 2018). The supply side may be constrained if there is a significant demand for micro savings, hence, the banks do not offer these products to their clients due to the high costs to the banks, even though micro savings have grown significantly (Datar et al., 2008; Davis, 2012), research results have been mixed regarding the profitability of financial institutions offering micro savings. Similarly, Ahmed-Karim & Alders-Sheuya (2014) argue that micro savings have received far less attention in the microfinance discourse than microcredit. They contend that micro savings are generally less of a financially profitable proposition for lending institutions than microcredit. The assertion by these authors to a large extent might be true but one can also view the opposing arguments from the perspective of the customer whose savings are in the form of deposits, which are given out as loans to other customers as the banks perform their financial intermediation obligation, receiving large interest on the loans given but pay little to the depositors (clients), so the argument that savings are not cost-effective to the banks can certainly not be true since the more savings the banks receive in the form of deposits the more money the banks have to disburse as loans.

Moreover, providing the poor with access to save their money has been found by several studies to have promising effects (Dupas & Robinson, 2012),examples of studies that affirm the argument by Dupas and Robinson are the studies conducted in Nepal by Kast et al (2012) and Prina (2015) in Malawi reveal that access to free and easy to use savings accounts for female heads of households led to an increased savings, assets and investments in health and education and also the provision of savings account to the poor in Malawi to the rural farmers resulted in increased input usage, higher crop sales and more significant household expenditure over the subsequent agricultural year. Looking at these two studies from different locations and continents, one is tempted to conclude the argument raised by banks on the profitability of savings is a hoax. In support of the argument made above, in a study by Opportunity International (a microfinance institution) revealed that, microfinance institutions offering savings products to their clients are more financially sustainable than those that do not, because credit risk is partially mitigated (Bergsma, 2011). This assumption might be right because it has been observed that the median MFIs have economies of scope (providing both microcredit and micro savings) Bergsma (2011). Although a quarter of MFIs have dis-economies of scope, often those in less densely populated areas, indicating that not all MFIs should offer both credit and savings (Delgado et al., 2015). The objective of savings groups can be essentially social and financial, offering poor people a safer alternative to keeping money at home, integrating the population into the formal system for a cost-effective and cheap banking alternatives for the poor (Arvind & Satish, 2017). Moreover, the percentage of people who use savings to start their business is only 14% (Demirgüç-Kunt et al., 2018), meaning the concepts of savings in the rural areas or the less deprived communities are still in the struggling stages since the idea of savings has not resonated with the populaces in such communities, which can affect the concepts of microfinance.

Furthermore, a study by Dupas et al. (2012) in Western Kenya reveals that the specifics of the accounts and the context seem to matter significantly, in the sense that the study revealed that out of the 63% of people who opened bank accounts after the opening fee was waived, only 15% actively used the accounts due to the charges on maintaining the accounts. The issue of charges on accounts especially opening charges and withdrawal charges tend to hinder or militate against people opening accounts in rural areas, hence banks, as well as MFIs, should make it a point to provide a waiver to the rural or deprived communities to enable them open accounts for the purpose of savings.

Ampah (2012), in his study to establish the effect of micro savings on poverty reduction, reveals a statistically significant positive relationship between micro savings on poverty reduction. The study concludes that micro savings is perhaps the most critical microfinance intervention that influences poverty reduction compared to the other forms of interventions. The effect of micro savings on an individual is the ability to increase one's income to enable one to be free from the cycle of perpetual borrowing thereby making people come out of the bondage of poverty. Perhaps the provisions of micro savings to clients by MFIs and its dynamics, if well understood, will guide and help managers and policymakers in the industry to improve their services and products to achieve the United Nations Millennium Development Goals(MDGs) set in the 2000 of halving if not alleviating poverty in the years to come. To achieve the millennium development goal, one cannot overlook the issues of discrimination in all forms, especially those pertaining to the socio-economic development of women with emphasis on the microcredit Summit held in Washington DC in 1997 which recognises microcredit as a "miracle tool" for poverty reduction with four major themes namely: reaching the poorest, the empowerment of women, building self-sufficient financial institutions and ensuring a positive and measurable impact on the lives of clients and their families(United Nations,1999; Illangakoon,2024). Hence, a discussion on microfinance interventions without the impact of empowerment on poverty reduction is an injustice to the issue being discussed.

3.8.3 Empowerment on poverty reduction

Considering the context of poverty reduction, empowerment plays a vital role in enabling communities and individuals to overcome the situational and structural barriers (i.e. affordable housing, lack of access to education and training) trapping them into poverty (2016).

Women often face unique challenges (i.e. low income, unemployment) and limitations in accessing financial services, including micro savings (Burgess & Pande, 2005; Megasa et al.,2013; Metu & Nwogwugwu,2024). Empowering women through targeted micro savings programmes can have ripple effects on family well-being, education, health, and community development (Kast et al.,2012; Prina,2015). Furthermore, engaging women in the design and implementation of micro savings programmes ensures that the services are aligned with their specific needs and priorities (Jahns-Harms &Wilson, 2018). This alignment is vital for both the effectiveness and sustainability of micro savings initiatives resulting in addressing gender disparities in access to micro savings, which is a crucial step in achieving broader poverty reduction goals (Demirgüç-Kunt et al., 2018). The focus on women's empowerment complements the broader microfinance discourse, reinforcing the idea that financial inclusion is not just about providing services but also enabling individuals to take control of their lives and futures. By emphasizing women's roles in micro savings and microfinance, a more inclusive and impactful approach to poverty reduction can be attained. This can be done by establishing programmes aimed at empowering women to help reduce the gender gap and provide them with a better social and economic standing in their communities. Considering, a study by Dorius (2010) using the GINI index (a summary of the measure of income inequality that ranges from 0 to 1, meaning 0 (perfect equality) and 1 (perfect inequality) found that 2.1 billion adults in 193 countries, spread evenly among men and women revealed that about 45% of the women are literate, and also had a GINI coefficient (a measure of the inequality within the figures or values of frequency distributions e.g. income levels) of about 0.3(i.e. relative income equality) indicating that women had lower income levels and are more likely to be poorer than men. This considerable difference in economic and political activities between men and women is revealed in research conducted by Ezeh et al. (2012), where men possessed larger farms than women with higher agriculture incomes, demonstrating the unequal population growth and the provision of meagre resources to women which have hindered progress toward gender equality.

Gender disparity seem to be embedded in cultural, socioeconomic and religious activities in most parts of the world, especially in third world countries and also in the religious traditions such as roman Catholics and Orthodox Jews who allow only the male to be clergy (Ezeh et al., 2012; Odusanya & Fayomi,2023). The question then is what is the best solution to curb the issue of gender disparity in order to reduce poverty amongst women? To provide a solution to gender disparity one must consider programmes tailored towards empowering women with enough resources as corroborated by Sindhe et al. (2013) in India to examine the role of organisations providing support to women in the form of microfinance. This research revealed that women benefits enormously from microfinance, even though the findings of the research explicitly didn't single out microfinance as the absolute means of empowering women to come out of poverty, but microfinance provision is seen as a partial solution to India's gender disparity and lowering poverty. One can therefore say microfinance programmes geared towards empowering women allows them to avoid lender discrimination and gain access to credit and savings opportunities. As a result, the women will steadily raise their income and contribute to their families, potentially improving their status within their household (Sindhe et al., 2013; Alhassan & Nwagbara,2023). To improve one's status in society, the issue of access to good healthcare becomes a springboard to total economic and financial liberation since bad healthcare may affect businesses if they are not taken proper care of. Additionally, microcredit programmes should include educational policies that enhance the health of the participating women and their families to enable them carry out their business to increase their income and enable them to fulfil their obligation to the microfinance institutions (Salt, 2010; Ojha & Ojha, 2024).Considering the argument made above, one can say that microcredit programmes have a negligible impact on poverty reduction if the provision of microcredit alone is their sole aim of MFIs, this is because providing microcredit to the beneficiaries without putting in place proper measures and structures such unlimited access to education, training and solid economic empowerment, beneficiaries of microcredit facilities will find it difficult coming out of poverty (Suhendar et al.,2024).

For MFIs to achieve their objectives of empowering women who have been discriminated against, women should be helped to attain the best in their education. Taking into account the research by Awan et al. (2011) on the relationship between poverty, level of education, experience, and gender to understand how these three factors affect poverty. The outcome of the research reveals a relationship between poverty and educational levels on both a regional and local level, linking education and the three areas of empowerment (economic, social, and political) in Asia (Jayaweera, 1997; Liu et al.,2021). However, the connection between empowering women and education is geared towards increasing their self-confidence and also expanding their pool of knowledge to make them conscious of the need for different gender equality, as in the case of the research conducted by Malik (2011) whose research reveals that women can break through this social layering of male dominance, by participating in higher educational programme in order to achieve the needed skills in empowering themselves, and a better standing in their family and community with greater economic autonomy to overcome poverty. Importantly, one can say that as one's level of education goes up, so does one's chance of becoming financially unsuccessful or poor decreases by showing that the middle education earners (lowest level) decrease these odds by about 58% while the professional degree (highest level) allows for a reduction of 99.4% (Awan et al., 2011). If one is to go by the findings of this research then what it means is that women should be educated to the highest point to be empowered, certainly this should not just be the case but rather, educating women to achieve economic autonomy, MFIs must tailor their educational programmes with the needed skills to empower women, not for the sake of just acquiring academic qualifications. For instance, the linkage between educational attainment and a woman's economic well-being is that schools that include gender roles in their educational processes tend to produce women with a negative self-perception, which is an impediment to further empowerment (Jayaweera, 1997). The issue of negative self-perceptions by women normally comes to play when women perceive the disparities in their society and the preference for men in the labour market, the incentive of furthering their education will be lacking. The ideal situation is that after obtaining a higher education, women can increase their probability of finding a good job and earning a higher salary as revealed by Yousefy & Baratali (2011) who concludes that women with higher degrees enjoy more job promotions, better work-life, and better job positions. On the other hand, Jayaweera (1997) finds out that education could not overcome the economic and social barriers that cause women to live in poverty, nor did it mitigate the impact of gender differentiation in the social arena, which leads to greater gaps between men and women due to the difference in gender ideologies such as women fulfilling their roles through nurturance, parenting activities and homemaking. Considering the fact that educating women has mixed outcomes, one can conclude that women have difficulty escaping poverty because of the discrepancies in employment opportunities and their access to education (Awan et al.,2011), and also to attain total empowerment for women discriminated against, educational programmes should include strategies to reduce the gender disparities at all levels and focus on promoting educational opportunities for women into higher-level education (Malik, 2011; Suhendar et al.,2024). Perhaps there are some underlying factors that inhibit the active participation of women in their community based on the causality between development and empowerment, and for women to gain access to opportunities in their society and progress economically, and become more just, the need for empowering them as their male counterparts won't be an over-exaggeration (Mutongu, 2012; Sandhu, 2016; Pal &Gupta, 2023). Moreover, women's empowerment and development has become a global issue and feminist-centred organisations (e.g. Grameen bank, and women's world bank) who are interested in empowering women are on-board to resolve this. This explains how global governance plays a role in how women embark on reducing disparities among genders and how this relates to international goals of reforming development aid (Campbell & Teghtsoonian, 2010; Campbell & Kim,2018).

The following section highlights the credit delivery models on poverty reduction and the impact of microfinance interventions on poverty reduction with references to some Africa Asia, Latin America countries and Ghana.

3.8.4 Credit delivery models on poverty reduction

Most of the microcredit delivery methods employ groups for the disbursement of loans to their clients, and the question is, how are these groups formed for the smooth implementation of the credit delivery process? The issue of microfinance institutions allowing their clients to form their loan groups or group liability scheme is crucial and ensures that potential borrowers utilise local information about each other's projects or attributes to look for the best partners (Ghatak, 1999, 2000; Armendariz & Morduch, 2005; Al-Azzam & Sarangi, 2007; Yeboah, 2010; Buri et al.,2023; Fernández Sánchez et al.,2024). The idea that potential members are jointly liable for loans, meaning that self-selection is crucial to ensure assortative matching, where safe or risky people form groups with their kind. Self-selection is to enable the groups to reduce the incidence of adverse selection (Ghatak, 1999; Hermes & Lensink,2020; Nawai et al.,2023), and also prevent the members of the group from the manipulation by microfinance officials which is vital for the success of the group lending scheme (Rogaly & Johnson, 1997; Sangwan et al.,2023). Some empirical studies reveal that not all groups under microfinance schemes go through their formation using peer selection. For instance, the Foundation for International Community Assistance (FINCA), a non–profit, microfinance organisation in Peru invited interested borrowers to add their names to a list which later became a group without consideration to peer selection (Karlan, 2003), starting as fragments and in a heterogeneous setting (Marrs, 2002). This implies that group members had limited information about the peer's level of risk and also the initial information about group members provided were generally superficial, which can be attributed to the state of affairs based on four factors namely: lack of interest of loan officers in the screening process, nepotism on the part of officers of the MFIs to hand over loans to relative, persons in the position of power ignoring the selection criteria for political favours and money, and the pressure to find enough people to attain the minimum number to start a group. Furthermore, the groups exhibit traits of heterogeneity due to what is regarded as the hidden agenda (keeping adverse clauses of loan agreement hidden) of group members and officials (Marr, 2002; Ngochembo et al.,2023). From the discussion above, one can emphasise the importance of how groups are supposed to be formed, and in practice in terms of self-selection. Considering the risk type and what is supposed to mitigate adverse selection and also bring about the formation of a homogeneous group. Homogeneity of risk type seems not to be the only factor in ensuring successful group lending, but a prerequisite to achieving success of the group.

The study of microfinance intervention by Mknelly & Kevane (2002) emphasise the importance of achieving socioeconomic status homogeneity. Their research discovered that loan sizes relate positively to socioeconomic class. Whereas, unequal sizes of loans affect repayment performance (Habamenshi et al.,2023). This phenomenon actually affects members who had taken smaller loans thereby becoming reluctant to be jointly liable for much larger loans their peers took. Socioeconomic homogeneity (state of being on the same economic and social status) among groups is expected to enhance intimacy, cooperation, and consensual decision-making, but in this situation where group members and the amount of loans are not properly discussed and accepted by all members bearing in mind the problematic selection criterion, which many have criticized. This is not to say that heterogeneous groups are not without merit. The heterogeneous groups mitigate covariant risks (type of risk exhibiting the correlation between risks realisations) and improve group performance when better-off service users assist poorer service users with loan repayment.

In summary, most microfinance institutions desire self-selected groups to ensure risk and socioeconomic status homogeneity. In practice, issues and competing interests may prevent such aspirations from being realised, making intrinsic contextual elements such as ethnic and caste affiliations impact group formation in a community (Mknelly and Kevane, 2002). Therefore, microfinance service providers' targeting methods should perhaps be tailored to the needs of the poorest of the poor (Sengupta & Aubuchon, 2008; Yang et al.,2023), this would help microfinance institutions to provide loans to those most affected by poverty and require credit. The next section gives an account on how microfinance interventions have impacted poverty reduction in other parts of the world with tailored credit delivery models.

3.8.5 Microfinance and poverty reduction in Asia, Latin America and Africa

It is appropriate to return first of all to the experience of Bolivia as one of the pioneering countries in Latin America concerning commercialised microcredit (Rhyne, 2001; Grubbauer et al.,2020; Bateman,2023), Bolivia has also been subject to the microcredit-driven anti-developmental trajectory encountered in Mexico. Attempts in the 1960s and 1970s to promote an industrial upgrading and industrialization trajectory were only making progress when, from the 1980s onwards, they were progressively abandoned under the Structural Adjustment Programme (SAP) designed by the World Bank (Velazco-Reckling, 2015). After that, Bolivia's scarce financial resources for enterprise development were increasingly intermediated by the market and private financial institutions, into the high-interest rate paying informal sector. Indeed, nowhere more than in Bolivia has the market-driven microcredit model implementation created the conditions for the destruction of the local economy. This invariably saw microcredit usage grow from virtually nothing in the 1980s to about 37% of the whole financial sector in 2012 (Vogel, 2012). Inevitably, Bolivia began to suffer from a severe 'Crowding out' effect (a phenomenon that occurs when there is an increase in government involvement in the sector of the market economy affecting the rest of the other sector) that undermined its formal SME sector (International financial Cooperation, 2011). The overall result of the quick spectacular rise of the microcredit sector in Bolivia has therefore been to help create a no-growth 'bazaar economy'(an economic and social mechanism for the exchange and production of goods and services) of quite astonishing proportions alongside a dramatically weakened and capital-starved formal SME sector. Notably, the neoliberal-oriented Inter-American Development Bank (IDB), one of the largest suppliers of funding and technical advice for microcredit programmes in Latin America, finally recognized the fundamental problem and addressed it accordingly by providing the needed assistance to the poor to be empowered to get out of poverty. Considering the arguments advanced by the various studies, one may attribute this to one main factor creating the extreme poverty and the under-development problems that arose in Latin America between 1980 and 2000 (i.e., during the high period of the Washington consensus) as the increasingly private sector-managed financial intermediation process from the 1980s onwards, this served to intermediate scarce financial resources into the most unproductive informal microenterprises and self-employment ventures while also effectively starving the much more productive formal SMEs and larger companies capable of leading the industrial upgrading and structural transformation process (Pages, 2010).The overall situation is well summed up in a significant report on business development in Africa prepared by Thompson et al. (2017), which points out that there is a 'missing middle'(businesses that are significant contributors to the economy, yet are still struggling with flexible debt finance) in business financing in Africa, whereas there are many funding vehicles for micro-enterprises and several major financial institutions that will support more significant investments, but there is a gap in the availability of accessible finance at a scale appropriate for building up SMEs. This is because growing existing companies rather than developing start-ups drive productivity growth due to the fact that start-ups are capital intensive and the uncertainties surrounding the fortunes of the business, especially in high interest-laden economies. Hence, many of commercial banks in Africa are shifting out of SME lending and into microcredit and consumer finance (Tyson, 2016; Sinha, 2020; Hassan et al.,2024). For example, South Africa has a particularly severe case of this problem as the post-apartheid South Africa's initially celebrated engagement with microcredit which later reversed the local industrial development progress and structural transformation mechanism (Bateman, 2015). For reasons of profitability, the financial sector took the lead in intermediating South Africa's financial resources into informal microenterprises and consumption spending, especially in the shape of two large microcredit banks (Capitec Bank and African Bank), while gradually shutting down many traditional forms of productive lending to SMEs because of the comparative unprofitability and high risk of such activities. In contrast to the situation in South Africa where there was a rapid growth of the hugely unproductive informal sector. In Uganda, it is reported that this growth was only made possible because of the rapid growth in the supply of microcredit (Ahmed et al., 2015). This increase in supply was partially funded by the concomitant reduction in financial support for the lower profit, formal SME sector, resulting in a shift in employment away from SMEs and large companies over to informal micro-enterprises in the last ten years in Uganda.

The issue of whether microfinance is an effective tool for poverty reduction is revealed by Levin (2012) who intimates that microfinance in Andhra Pradesh suggests that the lending industry, although perceived as champion of alleviating poverty, should have been evaluated by the same standards applied to profit-oriented businesses since the microfinance crisis in India in 2010 brought to light many microfinance issues that had previously gone unnoticed by the global community (Sharma & Priyanka,2023). However, since the creation of the Grameen Bank model for credit delivery, academics have investigated the realities of microfinance, such as measuring the success of the programme, evaluating potential corruption, and assessing which groups are most affected by microcredits (Levin, 2012; Sharma & Priyanka, 2023). Consequently, scholars have used the Grameen Bank model for many other lending institutions as a basis for analysing the relevance and effectiveness of microcredit. This is because the Grameen bank model is believed to be the first model of the microfinance revolution and many other look-alike models have sprung up using if not all of its principles to implement others models. The Journal of Development Economics in 2003 evaluated the borrowers of the Grameen Bank, and concludes that "while microcredit is successful at reaching the poor, it is less successful at reaching the most vulnerable poor based on data from 229 borrowers' households made up of not the poor but members who were also rich (Amin, 2003). To add to the criticism of microfinance, researchers have discovered that micro lending's long-term effectiveness and relevance are limited, meaning the impact of micro-credit on poverty is quite useful for about six years with some levelling off after that point (Chowdhury, 2005; Khan, 2024). Considering the argument advanced by Chowdhury (2005), this can only occur in situations where there is no training offered to the beneficiaries of these loans, the training offered to the beneficiaries normally offer them the opportunities to utilise such loans in a productive and rational way to achieve a total increase in income to sustain them, thereby leveraging them out of poverty.

Contrary to the theory of micro-credit, the implementation processes have increasingly focused on supporting the poor's consumption spending needs in deprived or third world countries including the need for food, rather than the poor investing in a new or expanding microenterprise (Cons &Paprocki, 2008), this fact makes it even more challenging to establish causality between microcredit and poverty reduction and also the Grameen microfinance model's implementation. According to the findings, microcredit in Bangladesh is essential but not causally tied to poverty reduction. Thus, rising local demand does not prove that the microcredit model works after all, since substantial empirical evidence confirms that microcredit has not worked out as neoliberal financial theory as suggested, maybe it would in the longer term and not when microcredit displays pretty alarming similarities in practice to the anti-developmental agenda perpetuating adverse hardships in developing economies. Notably, developing countries with a significant microcredit sector inevitably intermediate a much greater proportion of available (scarce) financial resources into the very least productive informal microenterprises and self-employment ventures and vice versa (Bateman, 2010; 2018; Distinguin et al., 2016; Dalla Pellegrina et al.,2024).

3.8.6 Microfinance interventions on poverty reductions in Ghana

In the view of Hermes and Lensink (2007) microfinance is an effective tool for economic development, but its outreach to the poor is constrained due to the high transaction cost associated with loans. Moreover, because the poor cannot contribute to the profitability of MFIs, loan officers frequently discriminate against them (Simanowitz, 2000; Wright, 2000; Diaz-Serrano & Sackey,2023). The discrimination factor that characterises microcredit provision is significantly due to the magnitude of their loans being asked for, hence the microfinance service providers prefer to grant loans to wealthier clients who they see as having the ability to pay on time without defaulting. Thus, there is a tendency to ignore the extremely poor in the community thereby leaving them in poverty and also drifting from the objectives of microfinance. Moreover, microfinance policies that encourage or effectively force hundreds of millions of desperate people to engage in informal sector activities as the last-minute means to survive can exacerbate the economic, social, and environmental conditions in the world's most impoverished communities (Davis, 2006; Mensah,2023). Consequently, one can argue that microcredit support for petty entrepreneurial activities is therefore not the solution to global poverty but desperation which brings nothing but an untold hardship and cycle of poverty to beneficiaries.

Many critics of microfinance argue about the implementation process even though they believe some of the outcomes are quite positive for the users. The argument by the critics is affirmed by the study conducted by Yeboah (2010) to investigate the implementation processes of microfinance interventions and their impact on households and businesses from a contextual and user perspective in Ghana, with the central argument of the research being that microfinance discourse has neglected the perspective of microfinance users, which has negatively affected microfinance interventions as decentralisation. The study revealed that group formation has significant ramifications on following group activities with peer monitoring having a minimal impact on moral hazard mitigation, while service users exhibited a noticeable lack of knowledge on intervention activities, which concludes that microfinance interventions contribute more to household consumption than household asset accumulation, resulting in poorer service users reporting more household and business benefits. Considering the outcome of the research above, it is with no doubt one can say most of the MFIs fail in their duty to school their prospective clients about the interest rates, the pros and cons of the products and also the reason why groups need to be formed. Should MFIs try to balance financial performance (financial sustainability) and social goals by achieving operational sustainability, they can lower their lending interest rates while also fulfilling their social mission of poverty reduction (Abra,2019); otherwise, there is no difference between MFIs and conventional/traditional banks if they ignore their social mission in favour of focusing on their financial performance and thus achieving financial sustainability. This notion is supported by Ghalib (2017), who asserts that the primary goal of MFIs is not profit-making but poverty reduction and a social mission. However, most NGOs and Commercial banks are transforming their business model to MFIs since they believe they can satisfy their profit motives, where their strategy impacts positively on profitability but has no significant impact on operating cost efficiency. MFIs should be cost-efficient to reduce lending rates to benefit their clients and reduce poverty(Hishigsuren,2006).

Additionally, a study by Addae-Korankye (2018) to investigate the relationship between microfinance and poverty reduction, microfinance and business growth, and microfinance and employment generation with the aim of developing a framework for understanding microfinance as a tool for poverty reduction in Ghana, revealed that although factors like inadequate loan sizes, lack of training and high interest rates hindered the growth of some microenterprises, which resulted in some small businesses to collapse and also exacerbated the poverty situation of some clients. However, the net effect is that microfinance does generate employment and leads to business growth in Ghana, but not a panacea of poverty reduction in Ghana.

Consequently, the profitability mission of the MFIs seeks to align and adhere to the institutionalist view on microfinance even though, it is contrary to the objectives of microfinance provision, making the very poor avoid microfinance institutions for fear of being stigmatised and discriminated against (Swope, 2007; Wright, 2000; Simanowitz, 2000; Simanowitz and Walter, 2002; Ascher,2023). Therefore, to understand the role and required behaviours of microfinance providers, a study on the credit delivery methods implementation and its relevance to beneficiary communities need to be conducted, and also whether MFIs should be held to international standards or be allowed to self-govern on how to effectively apply the techniques of micro-lending to balance profit with social justice, especially where there is evidence to disproof the widespread belief that microcredit is a potent tool or strategy to uplift the rural poor to a higher economic status (Hussain and Nargis, 2008). However, microcredit would be able to reduce poverty faster if accompanied by income and productivity growth with more significant employment opportunities to bridge the inequality gap, and this can be done if MFIs stop contributing to poverty reduction and enhancement of economic well-being through vivacious, negligible and insignificant means, since micro-finance is a precious tool for alleviating poverty worldwide.

3.9 Chapter conclusion

This chapter examines the literature on the impact of microfinance interventions by rural banks on poverty reduction by looking at the relationship between microfinance interventions such as microcredit, micro savings and empowerment on poverty alleviation. Furthermore, the chapter evaluates different contextual issues and methodological approaches adopted in previous studies to evaluate microfinance interventions on poverty reductions. There are varied evidences on the influence of microfinance on poverty reduction outcomes, some research work suggests that access to microfinance has the potential to reduce poverty significantly (Hashemi et al., 1996; Montgomery et al., 1996; Yunus, 1996; Remenyi, 1997; Khandker, 1998; Husain, 1998; Khandker and Pitt, 2005; Swain et al., 2008; Bakare, 2018; Herath, 2018; Addae-Korankye, 2018; Gupta & Sharma,2023; Morse,2024), others argue that microfinance has a minimal impact on poverty reduction (Morduch, 1998; Altay, 2007; Banerjee et al., 2009; Roodman & Morduch, 2009; Yeboah, 2010; Masron & Subramaniam,2023; Farooq et al.,2024). This may mainly be attributed to the methodological approaches used by these studies. Furthermore, the context of the study and the microfinance schemes implemented by the different MFIs could account for the mixed or varied outcomes (Staley, 2014).

Furthermore, the way microfinance institutions facilitate group formation and manage the inherent tensions between homogeneity and heterogeneity is important for the interventions. The success or failure of these interventions often hinges on the delicate balance between homogeneity and heterogeneity within these groups (Mknelly and Kevane, 2002). It is clear that MFIs need to address not only the economic barriers to inclusion but also the social and cultural dynamics that can exclude the most vulnerable. This might involve innovative strategies for outreach, tailored financial products for different client segments, rigorous ethical guidelines, and ongoing monitoring to ensure that microfinance stays true to its mission. To measure the extent of the impact of microfinance on poverty reduction in Ghana, it has become necessary to take into account all the variables necessary to establish whether or not the intervention has impacted the beneficiaries. The diverse conclusions about the effectiveness of microfinance as an emerging poverty fighting mechanism have dominated the literature. This lack of consensus on how microfinance success is assessed makes it challenging to generalise the outcomes of these empirical studies mentioned above. As a result of these inconclusive outcomes in the literature, this research opted to carry out this study in the poorest communities bedevilled with the issue of poverty in Ghana. In the next chapter, the methodological approaches are discussed to construct the most appropriate research methods.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter describes the procedures and methods employed to collect data for the present study. The overall goal of the research methodology is to achieve consistency between the philosophical view underpinning this study and the objectives of the research (Easterby-Smith et al., 1997; Coates,2023), and also to address a particular research problem by considering the nature of the data collected to address the research questions or test the hypotheses (Bryman, 2008). Furthermore, this chapter describes the philosophical underpinnings of the study, research design with a detailed justification for the research design, ethical issues relating to the study, data collection procedures, and the data analysis techniques used in this study**.**

4.2 Research Philosophy

A paradigm defines the worldview and the basic set of beliefs that inform the principles regarding ethics, epistemology, ontology, and methodology of research (Denzin & Lincoln, 2000; Handema et al.,2023;). For example, ontology describes the nature of reality and being, while epistemology concerns the view in which one acquires knowledge. In the context of microfinance concepts, it relates to the claim of truth and assumptions made about the nature of reality (Gauthier ibid, 2012). That is, whether microfinance concepts exist objectively, as processes, sets of structures, rules and artefacts that are external to practitioners, and other stakeholders, referred to herein as social actors (an objectivist ontology), or whether it is made real by the activities of social actors and the meanings that they attach to them (a constructionist ontology).

Furthermore, Easterby-Smith et al., (1997), Benton & Alexander(2023) intimate that the three main reasons to explore the philosophical underpinnings of a research: firstly to clarify the research strategy by refining and specifying the research methods used in a study which includes the type of evidence gathered, where it was gathered, and how the evidence aids in answering the research questions; secondly assisting the researcher in evaluating different research methodologies and methods to summarise a clearer picture of appropriate methods and their limitations at an early stage of the research, and thirdly assisting the researcher to bring out the creative potential of the research. Consequently, this will enable the researcher to understand the philosophical positions of different paradigms and offer some clarity, identifying the type of research design that fits into detailed research, meets the research aims, and answers the research questions. When it comes to the issue of microfinance concepts, one needs to build an understanding of how respondents perceive, evaluate, and understand the microfinance interventions on poverty reduction. The philosophical assumption must follow that knowledge that can best be acquired by accessing the participants' thoughts, as it requires an exploration of their subjective beliefs concerning microfinance interventions on poverty reduction through the use of appropriate research methods discussed in subsequent section.

However, there are two processes involved, namely: The interaction with respondents shapes the understanding of the microfinance interventions of both the respondent and the researcher since there is an ongoing interaction between the researcher's meanings and their meanings so far as there is a common sense about the reality in this world (Berger & Luckman, 1994; Jovanović, 2021). The epistemological spectrum comprises interpretivism on one hand and positivism on the other, where an objectivist ontology underpins positivism with deductive logic. It rules explicitly out an understanding of the world derived from human experience (Fox,2008), and it delivers infallible and universal laws. In contrast, interpretivism aims for an in-depth understanding of phenomena (Putnam, 1983; Pulla&Carter,2018; Amadi, 2023). The following section discusses the research philosophies in detail.

4.2.1 Ontology

Ontology assesses how an individual looks at the social world or thinks the world is (Wilson, 2010; Ylönen & Aven,2023). Ontology mainly considers two positions, objectivism and subjectivism (Saunders et al., 2009; Handema et al.,2023). Subjectivism perceives the world as a socially constructed reality, whereas objectivism assumes the existence of a world independent of social actors. The ontology allows comprehension of the studied phenomenon (Easterby-Smith et al., 2006). Considering the different methods of microfinance delivery (i.e. Grameen bank model, Self-Help Group) in this world, discovering reality will involve the use of a variety of methods such as interviewing and questioning the social actors. This explains why ontology precedes epistemology (Crotty, 1998).

4.2.2 Epistemology

Epistemology is the study of presuppositions or assumptions about knowledge and how it is acquired (Bryman, 2001; DePoy & Gitlin, 2011). In other words, epistemology is about how people acquire perception and knowledge to be used to achieve their research goals (Crotty, 1998; Bryman, 2012). Furthermore, the epistemological perceptions of interpretivism and positivism are both applied to the research objectives.

In order to enhance and obtain suitable data to elucidate the results for this research, positivism (involving quantitative data collection) is required for the analysis and evaluation of the independent variables on the dependent variables with the use of existing literature, while interpretivism (involving qualitative data collection) is included since the experiences of the beneficiaries with the microfinance interventions provided is very important for the outcome of this research. Saunders et al., (2009) posit that a researcher can include personal ideas or not be biased so as to add value to the research or its concepts. In so doing, enabling and stimulating the philosophical orientation of the person undertaking the research based on the actions or values involved within different platforms (Holden & Lynch, 2004; Disemadi,2022).

The following section reviews the various philosophical paradigms with the purpose of placing this current research within the appropriate and suitable philosophical perspective.

4.2.3 Positivism

Positivism is an epistemological assumption that supports the use of approaches in natural science to investigate social reality and beyond (Bryman, 2004; Vostovska & Siregar,2024). Under positivist research, the emphasis is often on a highly structured and systematic methodology (a method used for identifying and characterising multiple causes and effects, as well as their interdependencies) in its data collection (Gill & Johnson, 1997; Saunders et al., 2012). With this research approach, the researcher is independent, and neither affects nor is affected by the research subject (Remenyi et al., 1998), and only observable social reality produces valuable knowledge (Gill & Johnson,2010), making the outcome of the research that has adopted a positivism viewpoint create law-like generalisations. Research results under this approach are similar to those of the natural and physical sciences (Remenyi et al., 1998) and as a result, "Knowledge claims not anchored in positivist philosophy are simply discarded as unscientific and thus invalid" (Hirschheim, 1985, p.12). Furthermore, Hirschheim (1985) argues whether positivism is entirely suitable for social science research. Contrary to this view, this current research is one that lies in the domain of the realism approach (a philosophical approach that relies on the idea of the independence of reality from the human mind and is also based on the assumption of an empirical approach to knowledge development) which relates to microfinance interventions on poverty reduction that permits the use of positivism in achieving some of the objectives of the study in which quantitative data is used. However, the strengths of human bias and the impact of imperfect former research is always acknowledged (Trochim & O'Donnelly, 2006; Chi et al.,2023), this requires reinvestigation and investigation of the research instruments related to the outcomes and findings. This realism approach, which has been used extensively in accounting and management, also falls in the social sciences, in which financial and statistical information have been merged with evidence and information concerning the enthusiasms of participants and researchers (Fleetwood, 1999). Furthermore, the data obtained from this philosophical stance is quite reliable in the sense that, the methodology uses an existing theory to create hypotheses, and the data collected under this study can be used for statistical analysis (Cooper & Schindler, 2011; Saunders et al., 2012; Maksimovic & Evtimov,2023), leading to the hypothesis being verified or denied due to this testing and re-testing (Saunders et al., 2012).

However, Positivists are constantly criticised for failing to point out the difference between social life as a merely possible and refined extension of social life and what is already known (Easter by-Smith et al., 1999). Moreover, positivists use the quantitative method that relies on statistical tests which may be misused leading to a misinterpretation within the research due to the selection of incorrect test of statistics, and the significance of the results are dependent on size of the sample (Husam & Abraham,2020).

In summary, quantitative experiments and surveys that assume natural laws and mechanisms are the primary data collection modes under this paradigm. Considering the opposing view of the positivism, the next section discusses the interpretivism.

4.2.4 Interpretivism

This paradigm is not as common as the positivists in business studies, but it has gained popularity over recent decades and has become accepted among scholars (Myers, 2013; Bonache,2021). It states that organisations result from social constructions such as shared customs and languages (Saunders et al.,2007). In other words, social entities are formed due to constant changes in the actions and perceptions of social actors. Furthermore, the goal of this paradigm is to understand the intersubjective meanings embedded in social life and explain why people act the way they do (Gibbons,1987; Pervin &Mokhtar,2022). Interpretivist do not predefine variables but focus instead on human complexity as the situation emerges (Kaplan & Maxwell, 1994; Myers, 2013; Henry & Miller,2020) and seek to understand the phenomenon through answers given by the investigated people (Orlikowski & Baroudi, 1991). The interpretivism research approach is subject to consciousness, and each case is uniquely observed (Remenyi et al., 1998; Chowdhury& Shil,2021). Interpretivists strive to account for this complexity by gathering meaningful information(data needed for achieving the purpose of the research) from their study participants and tries to enhance the collective understanding of reality; hence the researcher's personal experience, ideas, and opinions of the stakeholders or beneficiaries are included in the study, which is related to the objective of the current study in which the aim of the researcher is not just to discuss the specific associations or the relationships between the variables being studied.

Contrary to both the positivist and the interpretivist paradigms, pragmatism, a hybrid, and mid-point research assumption, is added and intended to resolve the growing disagreement between the two philosophical assumptions (Saunders et al., 2009; Imran,2024). Pragmatists argue that the choice of ontology and epistemology is largely influenced and controlled by the research questions, whereas each paradigm may be more relevant in addressing particular research questions. Pragmatists advocate mixed methods that involve both quantitative and qualitative as feasible and exceptionally suitable for conducting an investigation (Saunders et al., 2009). Furthermore, Tashakkori & Teddlie (1998) argue that pragmatism appears much more instinctively fascinating, mainly because it side-steps the needless debates about what is deemed as reality and truth. In their view, one should consider studying what is deemed as interest and also place value on it by adopting different ways appropriate to obtain and use the results in ways that can bring about positive consequences within a preferred value system (Tashakkori & Teddlie, 1998, p.30).

4.2.5 Philosophical stance and Implication for the research

The study adopts the pragmatic paradigm, in which the mixed method (qualitative and quantitative methods) is adopted to address the research's aim. The aim of this study is to evaluate the extent to which rural banks' microfinance interventions have impacted poverty reduction among fishing communities in Ghana. Considering the popularity of interpretivist and positivist philosophies among researchers (Husam & Abraham,2020), this study chooses the pragmatic approach which provides alternative views to those based purely on positivist or interpretivist paradigms, since it focuses on the research problem and its consequences

(Feilzer, 2010; Morgan,2014). The pragmatic approach is most suitable for answering "what," "why," and "how" research questions (Saunders et al., 2009). Furthermore, this paradigm is adopted in this research in order to generate practical solutions to the problem and provides flexibility throughout the research to develop a greater insight into the phenomenon through abductive reasoning that allows shifting between deductive and inductive reasoning. The pragmatic approach had been used by Bakare (2018) to investigate the impact of microfinance on poverty reduction amongst farmers in Ghana.

Invariably, the multidimensional nature of microfinance and poverty reduction, and the different research methods been used by scholars, outcomes and findings are varied or mixed (Addae-Korankye, 2018), hence the decision to use pragmatism which offers inter-subjectivity as a solution to the conflict between objectivity and subjectivity in the research process (Cameron, 2011). In this sense, the use of pragmatism in this research affirms that reality is shaped by the experiences, practical outcomes and contexts by an individual due to the multiple interpretations of reality. As a result, the chosen philosophy provides a better understanding of the phenomenon and verifies whether or not the assumption held at the beginning of the research are valid. Based on the tenets of the adopted research philosophy, there is no doubt that individuals within a society (the social actors) are deemed subjective. Individual actors hold different views of the world based on their belief systems. Furthermore, "social actors" such as the beneficiaries of microfinance by the rural banks perceive diverse conditions in various fashions due to their unique world views. Thus, the study acknowledges and determinedly considers the significance of the microfinance clients' subjective reality relative to the physical and objective social entity (Johnson and Clark, 2006). This therefore, suggests that, it is vital to adopt a variety of approaches (triangulation approach i.e., applying and combining several research methods within the study of a single phenomenon) in order to capture the differing perspectives of issues influencing the relationship between rural banks providing the microfinance interventions and their beneficiaries in the fishing communities in Ghana. This can only be done by integrating qualitative and quantitative data to help strengthen the validity of data collected and also providing valuable insights into how the contextual factors help enhance the relationship between microfinance and beneficiaries. As it is explained above, the pragmatic approach gives more freedom for the researcher to move back and forth during research, which does not restrict it to being strictly theory-driven or data-driven (Morgan, 2007; Bibri,2020).

4.3 Research design

Several factors influence the research strategy chosen for the subject under investigation (Creswell, 2009). These include perceptions of the development of the social reality and the research issues that underpin them (Saunders et al., 2009). Research design can be grouped mainly into quantitative, qualitative, and mixed methods research. The following section discusses the research types in detail, explaining and justifying the design choice used in this research.

4.3.1 Quantitative Research

The quantitative research method used in this study aims at explaining the phenomena by collecting numerical data and analysing it using mathematical based methods (Cooper, Schindler, and Sun, 2003; Arigiyati,2023). Positivist and objectivist views are the pillars for researchers who adopt this approach (Makrakis, 2016). Considering the use of quantitative research, some scholars (e.g., Aideyan, 2009; Ampah, 2012; Appah et al., 2012; Jegede et al., 2011; Obisesan & Oyedele, 2015; Omitoyin & Sanda, 2013; Kasali et al., 2015; Ugochukwu &

Onochie, 2017; EL-Nasharty, 2022; Patel,2023) made use of quantitative data to investigate the impact on microfinance on poverty reduction in a similar context.

The quantitative method used in this study is to investigate the relationship between poverty reduction outcomes and microfinance interventions which requires an adequate sample, representative of the population to enable replication, generalization, and comparison of the research results (Blumberg et al., 2014). Furthermore, the quantitative method in the study answers questions such as "how much, and "to what extent" (Blumberg et al., 2014), as well as to identify the numbers and frequencies of responses to those questions (Bryman & Bell, 2015). In addition, using quantitative research in this current study aims to provide descriptions of the study variables with explanations and their relationships after formulating and testing hypotheses emerging from theories, which can either be accepted or rejected based on statistical and comparative analyses (Bryman & Bell, 2015). The contrary view of quantitative research, which is qualitative research is discussed in the next section.

4.3.2 Qualitative Research

The qualitative research used in this study aims to discovers emerging themes and concepts by creating a complex, holistic picture through analysing words, presenting detailed views of information, and conducting the study in a natural setting (Patton,2002;2023). The qualitative method has been used in different disciplines (Wodak & Meyer, 2009). For example, research regarding microfinance's impact on poverty reduction usually comes with the challenge of participants being reluctant to provide data when it comes to issues pertaining to their finances making it difficult to pre-plan, hence requiring flexible methods to investigate phenomena to manage unanticipated directions of the research. For this reason, this study uses this method to provide an understanding to how the beneficiaries of the microfinance interventions feel and perceive the impact of the interventions on poverty reduction in their communities. Moreover, scholars, such as (Irobi, 2008; Yeboah, 2010; Antwi, 2015; Owusu, 2017; Bukari et al.,2021; Sulemana et al.,2023) who undertook studies on microfinance and poverty reduction in Ghana used qualitative methods as the main research design choice to investigate the impact of microfinance on poverty reduction.

However, despite its benefits, the qualitative approach has some limitations. For instance, Miles &Huberman (1994) point out that qualitative research is textual, reducing its value and leading the researcher to confusion and biased interpretation of the data (Cornford & Smithson, 2006). Furthermore, it is usually impossible to generalize qualitative results because they are intended to explore a small number of cases in-depth and usually have a small sample size, which is considered as a limitation (Taherdoost,2022).

4.3.3 Mixed (triangulation) method approach

A mixed method combines quantitative and qualitative data inside a single study that complements each other by combining their strengths (Green & Caracelli, 1997; Tashakkori &Teddlie, 2003; Hendren et al.,2023). The order of data collection can also be changed, with quantitative and qualitative phases running concurrently or sequentially (Creswell et al., 2004). Furthermore, this method no longer confines researchers to specific paradigms such as positivism or interpretivism, as it has been the case in the past, and is now regarded as a viable social and human science study (Creswell & Plano Clark, 2011). The adopted strategy for this research is one of mixed method approach proposed by Creswell (2009), which is the sequential explanatory technique, in which quantitative data is collected and analysed in the first phase, followed by qualitative data gathering and analysis in the second phase, which builds on the quantitative results.

4.3.4 Selected Research Design

This study employs a sequential explanatory strategy mixed methods, an approach in which quantitative data is collected first, followed by qualitative data collection so that quantitative data is contextualised with the qualitative findings (Creswell et al., 2003) to enhance and enrich the findings of the study (Mason, 2006; Taylor &Trumbull, 2005; Hendren et al.,2023) to generate new knowledge (Stange, 2006). However, the decision to employ a quantitative or qualitative research design depends on the most appropriate method regarding the research topic(s).

4.3.5 Justifying the use of the mixed method in this Research

The use of a mixed method involving both quantitative (obtained from the questionnaires) and qualitative (obtained from semi-structured interviews) is to provide a rich and deeper insight into the different perspectives of issues about the impacts of rural bank's microfinance interventions on poverty reduction amongst fishing communities, thereby helping resolve the problem of the research. Moreover, many studies on the impact of microfinance and poverty reduction have adopted mixed methods; notably, among these studies are those by (Yeboah, 2010; Yahaya et al., 2011; Ihugba et al., 2013; Akosile & Ajayi, 2014; Owolabi, 2015; Ikpefan et al., 2016; Lawanson, 2016; Bakare, 2018; Addae-Korankye, 2018; Cooke & Amuakwa-Mensah,2022) which also form part of the literature review in this this current study.

Furthermore, Guba & Lincoln (1994) assert that quantitative and qualitative research approaches can be used with any paradigm, with the purpose (research questions) linked to procedures (Morgan, 2014). In addition, the method chosen in this current research is to help increase confidence in the findings and provide more evidence while offsetting possible shortcomings of using a single approach (Bryman, 2004; Caruth, 2013; Creswell & Plano Clark, 2011; Tashakkori &Creswell,2008; Hendren et al.,2023). The adoption of a mixed method approach is for confirmatory purposes in which the results obtained from a qualitative method are used to confirm the results of the quantitative methods and vice versa. One severe limitation of qualitative research is the issue of subjectivity which may lead to erroneous, inaccurate, and misleading results (Cohen & Morrison, 2011).

On the other hand, the qualitative method has been criticised for lacking objectivity (Nagel, 1986; Franz,2023) and generalisability (Gelo et al., 2008); hence, combining methods in this study confirms the outcome of any research methods (qualitative or quantitative). Furthermore, a mixed method for this particular research is for elaboration and expansion. For example, using mixed methods in this study helps cross-verify findings, where similar results obtained through the quantitative and qualitative approaches enhance the validity and the reliability of the study. Here, using one type of data analysis adds little to understanding microfinance interventions and poverty reduction (Owusu, 2017). Moreover, a significant setback of qualitative research concerns peoples' feelings and experiences of the beneficiaries of the microfinance interventions, making it difficult to verify their factual statements, leading to unreliable and inconsistent data and results. Quantitative data, on the other hand, ignores respondents' experiences and perspectives in the sense that data collected quantitatively does not give room for individual respondents to bring their thoughts and feelings regarding the phenomenon under study. This makes understanding the meaning the respondents ascribe to the experiences difficult. Again, this makes mixing the two methods possible to expand the breadth and range of inquiry. However, mixed research methods might seem compelling, have several weaknesses, and are scary for researchers due to a lack of resources, time, and understanding (Johnson & Onwuegbuzie, 2004;2021), especially if the study is a concurrent mixed study.

4.4 Sampling method

The selected sampling techniques is explained in detail, stating why is the most appropriate one for this study and the justification for this choice.

4.4.1 Selected Sample and Sampling Methods

Non-probabilistic sampling is employed in research when it is only feasible and a viable option to adopt in the aspect of restrictions in selecting probability sampling; therefore, the choice of non-probabilistic sampling requires solid assumptions such as knowing the similarities between the sample and the population although they are self-selected concerning the nature and proportion of the sample for its validity (Tran&Perry,2003; Wowling et al.,2024). For the purpose of evaluating rural banks' microfinance interventions on poverty reduction among the fishing communities in Ghana, four (4) rural banks who offer microfinance services in the fishing communities out of 144 rural banks in Ghana (Ghanaian Standard, 2023) were selected as a unit of the population using a purposive sampling technique (a sampling technique in which the choice of the population participating in the study is by the judgment of the researcher or a technique in which the selection of participants is based on their level of expertise). The Rural banks chosen as the sample for this particular research have their offices and clients located within the main research area. The sampling frame for the research consists of one thousand (1000) microfinance clients. The sample size for this study is verified and obtained by using the sample size formula proposed by Yamane (1967):

$$n = \frac{N}{1+Ne^2} \text{ ------------------ (1)}$$

Where n = the sample size required and which is statistically representative

N = the target population size =1000

e= margin of error (0.05) confidence level of 95%

The desirable sample size for the microfinance beneficiaries based on the formula is calculated as follows:

$$n = \frac{1000}{1 + 1000X\ 0.05 * 0.05} \text{ ----------------- (2)}$$

$$285.71 \approx 286$$

Therefore, this research adopts a sample size of 286 because the number is more adequate, and a representative of the population. Secondly, the Yamane sample size formula has been applied by Ullah et al., (2020) to investigate the impact of microfinance on mountain-specific poverty and living standards in the central Karakorum National Park region of Gilgit in Pakistan. In selecting the sample size of two hundred and eighty-six (286), consideration was given to the population size in the sampling frame, the confidence level required, the margin of error that could be tolerated, and the type of analysis to be undertaken.

4.4.2 Selection of participants

A total of 286 questionnaires were administered to the participant for the survey research. See table 5a and 6a in the next chapters for the detailed distribution of the questionnaires and interview questions to the participants in the various regions. The distribution of the questionnaire was based on the number of available coastlines in the various fishing communities in Ghana. See chapter two (2) for details on the coastlines of Ghana. Furthermore, a total of 16 participants were selected purposively for the qualitative interviews comprising eight (8) officers in charge of the microfinance section of the rural banks working directly with the fisher folks and eight (8) leaders of the fishing groups or the liability schemes as participants in the study. The selection criteria for the participants for the survey and the interview for the leaders of fishing group /schemes are:

- the person should have benefited from the banks' microfinance interventions at least in the last three or more years,
- the person should be working within the study area,
- the person should be aged eighteen years or above are qualified to be part of the study.

A similar criterion of this nature have been used in similar studies by Yeboah (2010); Bakare (2018) and Addae-Korankye (2018) for their participant selection. The rationale for the settling on the selection criterion is based on the fact that customers of the rural banks who have benefitted from microfinance interventions for the last three or more years are deemed to have had enough experience as benefactors to know the information in relation to microfinance procedures and processes since the last few years have seen some policy reforms in the microfinance sector, and these customers of the rural banks are preview to these reforms, therefore are more qualified to provide the needed data to help achieve the research aim and objectives.

4.5 Research instruments

The research instruments for collecting primary data for the study was questionnaires and semi-structured interviews. The questionnaire elicited responses from the beneficiaries of the microfinance and the semi-structured interviews from the officials of the rural banks providing the microfinance services and the leaders of the fishing groups/scheme in the fishing communities.

4.5.1 Questionnaires

Saunders et al. (2012) assert that a questionnaire is an effective and efficient method of gathering responses from a large sample prior to quantitative analysis. Similarly, Janowicz (2000, p.222); Wided (2023) assert that a questionnaire is very effective when one needs to contact or obtain a large number of responses from people to get data on the same subject or issues, as in the case of this research where the aim is to investigate the extent to which microfinance interventions have impacted on the fishing communities in Ghana, which will result in often asking the same questions in the same order to everyone.

Furthermore, using a questionnaire in this study is to help collect data in a pre-arranged form that can be readily analysed (Kumar, 2005; Opie,2019). Moreover, questionnaires are one of the most widely used data collection techniques within the survey strategy and are deemed the most effective choice to reach many respondents at once (Saunders et al., 2012). Therefore, the choice of using questionnaires is based on the research objectives.

4.5.2 Semi-structured Interview

According to Kvale (1996); Dehalwar & Sharma (2023) interviews are essential in research since they provide information about how people make sense of the social world through explaining and describing experiences and events (Willig, 2008), which also enhance and enrich quantitative data findings (Smith, 1996; Taylor & Trumbull, 2005). Using semi-structured interviews for this study allows the emergence of themes from the findings by the researcher, thereby providing rich and detailed accounts of the data obtained (Braun &

Clarke, 2008; Peel, 2020) and eliciting personal experiences and knowledge that can then be used to identify themes in handling large amounts of data (Silverman, 2005).

The use of semi-structured interviews in this study helps to obtain the needed information as structured interviews would not allow sufficient flexibility, and unstructured interviews would be too flexible. Furthermore, Willig (2008) asserts that semi-structured interviews include elements of formal and informal interviews emphasising personal experience leading to unexpected results that can help improve the research findings (Hair et al., 2011). The semi-structured interview used in this study focuses on the operational activities of the selected rural banks in the fishing communities in of Ghana, disbursement or access to loans, savings, and the issue of training and empowerment in reducing poverty in the beneficiary communities. Notwithstanding the use of the two data collection tools in this research, the issue of bias is likely to occur, hence the avoidance of questions that tend to lead or prompt the participants in the direction of anticipated outcomes. The study achieves this by correctly using well edited, properly coded and appropriate questions with clarification and probes during the interview process (Collins, 1988; Scott et al.,2021).

Additionally, this approach allows the participants to express their opinions on the issues being investigated without restrictions since the interview structure is less rigid and open-ended. Furthermore, the interviews focused on the questions that arose from the literature review, which forms the bases for the objective of the interview in which data gathering for the research covers both the supply and demand sides of the credit market on microfinance intervention which makes Semi-structured interviewing flexible than structured interviewing (Bryman, 2004;2012; Saunders et al., 2012).

4.6 Data collection procedure

The data collection procedure is separated into two stages: questionnaire for fisher folks who are beneficiaries of the microfinance services provided by rural banks and semi-structured interviews for the staff of the rural bank and leaders of the various fishing/liability groups in the study area. Prior to the data collection, participants were informed about the modalities, the scope of the study, and the aim of the interview and survey. The questionnaires were administered face-to-face to participants with the help of the fishing group leaders. This study used the semi-structured interviews to collect data from the participants. The interview questions were read out to every individual participants and the and the individual responses recorded. In order to avoid biases, the questions were read to the participants exactly as written. Each interview lasted for an average of 30 minutes. In addition, the interview for the participants was from May to June 2023 at the various branches of rural banks and the meeting places of the fishing groups/scheme members. The medium of communication for the interviews was English, the official language of Ghana (Edu-Buandoh & Otchere, 2012).

4.6.1 Pre-Testing

The questionnaires were tested before moving ahead with main research (Hermanowicz, 2002; Naz et al.,2022), this was to check whether the questions targeted the correct information; covered the research problem; and whether or not these questions were organised and asked in such a way that will enable the respondents to answer them. A pilot study was undertaken in two (2) of the fishing communities (Volta Region and Greater Accra Region). Prior to the pilot study, participants involved were made to sign before partaking in the pilot study as a way to preventing any ethical issues and also from participating in the main research. Furthermore, participants were paid a small honorarium since many of them have to leave their places of work to be briefed about the procedure of the study and also participate in the pilot study. In all, a total of 60 questionnaires were administered to the two (2) the fishing communities for 3 weeks. A total of 49 were retrieved. In addition, a microfinance specialist with 18 years of experience and a consultant for some of rural banks was chosen as the pilot informant. The comments and suggestions provided by the pilot informant about the interview questions were considered, thereby helping to improve the data collection procedure and the questions. Furthermore, the pilot study provided the researcher with the needed feedback from the pilot participants from the two fishing communities with regard to the interview questions. This provided the opportunity to practice how to conduct an interview and improve interviewing techniques, thereby influencing the way the research was conducted.

4.7 Data analysis procedure

The present study leverages two distinct types of data to fulfil its research objectives: qualitative data collected from semi-structured interviews and quantitative data collected through questionnaires. The two data analysis procedures are outlined in the next sections:

4.7.1 Quantitative Data Analysis procedure

The descriptive statistics was used to summarise the key features of the dataset, support and enrich the findings of the data collected from questionnaires. Furthermore, the study employs the Structural Equation Modelling (SEM). SEM is a statistical technique ideal for examining complex relationships between observed and latent variables. This method is particularly relevant for this research as it allows for an in-depth analysis of multiple relationships, assessing both direct and indirect effects within the proposed model (Beran &Violato,2010). The application of SEM is crucial for understanding the dynamics of microfinance interventions, credit delivery models, and their influence on poverty reduction in the fishing communities of Ghana.

In addition to SEM, the research incorporates other quantitative techniques such as linear regression using ordinary least squares (OLS) to examine relationships between the independent variables (microfinance interventions like microcredit, empowerment, and micro savings) and the dependent variable (poverty reduction outcomes).The study combined the SEM analysis and the regression analysis for the model fit assessment and validation that use regression analysis to provide coefficients for relationships between the independent and dependent variables, while the SEM provides the model-fit indices, which allow thorough evaluation of the overall models, resulting in the validation of theoretical constructs and refining the models (Ringle et al., 2015). Furthermore, combining the two analytical methods helps increase the predictive power, allowing predictive modelling by the regression analysis and the deeper analysis by the SEM resulting in models that do not only explain variance and robust predictions (Zammuto et al., 2021).

Before applying the OLS regression technique, several critical assumptions such as data normality, homoscedasticity, and linearity are tested. The OLS technique serves as a tool for exploring correlations between one or more explanatory variables and a continuous response variable (Hair et al., 2006; Field, 2009). Furthermore, it allows for the exploration of how the independent variables influence the dependent variable, thus OLS regression allows for the exploration of how various microfinance interventions influence poverty reduction outcomes in fishing communities.

4.7.2 Qualitative Data Analysis procedure

The analysis of data from the semi-structured interviews was done using Nvivo for the thematic analysis as explained in chapter six under the qualitative data analysis. This approach is designed to illuminate the structural context that shapes individual experiences, particularly focusing on the beneficiaries of microfinance interventions in fishing communities. The objective is to understand the impacts of these interventions on poverty reduction. The qualitative approach also allows for the co-construction of knowledge between the research participants and the researcher, thus highlighting socially constructed meanings.

4.8 Validity and reliability

Validity and reliability are critical factors that contribute to the overall quality and robustness of a research study (Saunders et al., 2012). This section elucidates the measures taken to ensure both validity and reliability in the current research.

4.8.1 Validity

In pursuit of a robust validity, including statistical conclusion validity, the study tested its central research question concerning the relationship between microfinance interventions and poverty reduction. A pilot study was conducted using a subset of the questionnaire samples to assess the efficacy and adequacy of the measurement instrument, thereby reinforcing internal validity. This precautionary step ensures that the questionnaire is both reliable and valid, and does not pose comprehension challenges for respondents, such as questions that are overly long, complex, or confusing.

The questionnaire was designed with rigour, leveraging on a previously validated instrument as a foundational model (a basic model that forms the bases upon which theories, further research is built) (Prajogo & McDermott, 2011), to assure its validity. Furthermore, Cronbach's Alpha (a statistical tool used to test or measure the extent to which items are positively correlated) was utilised to test the internal consistency of the questionnaire, providing a numeric value between 0 and 1 to confirm the validity of the items or variables included in the research. A higher Cronbach alpha indicates greater internal consistency (Cronbach,1951; Trabelsi,2024).

4.8.2 Reliability

Reliability refers to the extent to which the research findings can be consistently reproduced over time which is of paramount importance (Joppe, 2000; Kyngäs,2020). To mitigate subjectivity and enhance the reliability of the study, a mixed-methods approach, or triangulation, was employed (Wilson, 2010; Babbie, 2010).

For the quantitative aspect of the study, the internal consistency test was the most pertinent, gauging the coherence of responses to all items in the questionnaire. This was assessed using Cronbach's Alpha, which provided a numerical coefficient ranging between 0 and 1, the composite reliability ranging from 0.6 to 0.7 thereby verifying the reliability of each variable (Zulueta & Coatales, 2004; Saunders et al., 2012).

With respect to the qualitative aspect, the study focused on minimizing all forms of biases including interviewer, interviewee, and participant biases (Saunders et al., 2012). A structured interview schedule (detailed outline or plan used for the semi-structured interview which gives the instructions to participants and the order of questioning) was carefully developed and adhered to, thereby reducing context effects and enhancing comparability across participants. Because all interviewees received the same set of questions in a consistent sequence, the structured format provided a more reliable and less biased way of collecting qualitative data.

4.8.3 Ethical Considerations

This research is guided by the De Montfort University Postgraduate School code of research ethics. Ethical issues are significant in social science research (Myers, 2009; Weinhardt,2021). Therefore, it is essential to maintain ethical standards while interviewing individuals, hence the need to follow the rules for research ethics and seek approvals before commencing the investigation.

Furthermore, in order to facilitate access to the organisations and avoid ethical issues in this research, a complete description of the research procedure is made available to the respondents; allowing the respondents to take part in the research willingly without being forced or coerced to take part in the study and with an assurance of total anonymity and confidentiality. Furthermore, due to the nature and sensitivity of the issues (i.e. bank policy reforms in Ghana resulting in the revocation of licenses of about 347 microfinance firms in Ghana) relating to microfinance and poverty related investigation, an introductory letter was sent to the appropriate and relevant authorities of the head offices of the selected rural banks to assist or enhance the cooperation of the intended respondents. This letter defines the researcher's institutional identity, the investigation's purpose, and a promise of confidentiality and anonymity. Similarly, the study's objectives and background are clearly expressed on the participants' information page, which is included in the questionnaire sent to the respondents to help them comprehend the study.

4.9 Chapter Summary

This chapter discusses the methods employed in this study and why specific philosophical approaches were chosen over others. It also discusses the different methodologies and philosophies that may have been utilized to arrive at this research's philosophical assumptions. The different research strategies were thoroughly explained, and the decisions made for these research strategies to be chosen and others rejected. A semi-structured interview and questionnaire data collection strategy were chosen; this decision was based on the research goals and objectives.

This chapter also discusses the procedures employed in gathering and analysing the data for this study, focusing on the two main approaches used. Moreover, the methodology and procedure followed to improve the research validity, reliability, and ethical considerations are discussed. The next chapter discusses the methods followed in collecting and analysing data.

CHAPTER

FIVE

QUANTITATIVE RESULTS

5.1 Introduction

The data for this chapter is primarily quantitative which was collected from questionnaires administered to 286 respondents (Clients of rural banks) from four (4) fishing communities in four regions (Volta, Central, Western and Greater Accra) of Ghana, out of which 280 of the questionnaires were retrieved and six (6) of the questionnaires not accounted for. See table 5a below for the distribution of the questionnaires in the four (4) regions.

The data were collected through a structured questionnaire designed with Likert-scale questions. These questions aimed to evaluate the perceptions, experiences, and attitudes of the respondents regarding microfinance interventions and credit delivery models implemented by rural banks for poverty reduction.

The questionnaire covered a variety of topics including the effectiveness of these interventions, the structure of credit delivery models, and their impact on poverty alleviation in these communities. The sample size of 280 respondents is substantial, providing a robust base for quantitative analysis and enabling the use of reliable statistical methods to draw significant insights. In the identification of the variables used, the first process was to review literature relating to the topic and the gaps identified to establish a clear research questions or hypotheses that guide the study (Field,2018; Bryma,2016; Creswell,2014). Furthermore the variables to be used in the research was categorised into the dependent and dependent, setting the basis for the research design. The relevance and the impact of the variables identified were assessed by defining how each of the variables (dependent and independent) were measured or quantified.

In assigning weights to the variables identified, since this study had multiple variables which may influence outcomes, different weights to the variables perceived to be important or having great impact went through various regression analysis where the coefficients obtained in the regression indicated the direction and strength of relationships between variables. Variables with smaller coefficients may not be influential and vice versa (Field,2018; Bryma,2016; Creswell,2014).

Table 5a Sample distribution across the Four (4) coastal regions

Regions	Number of participants	Male	female	Not retrieved
Volta region	63	35	28	1
Greater Accra	63	38	25	2
Western region	80	45	35	1
Central region	80	45	35	2
TOTAL	286	163	123	6

This chapter plays a significant role in the overall structure of this study, representing a critical stage of analysis wherein the impacts of microfinance interventions and credit delivery models, as implemented by rural banks, are examined in relation to poverty reduction within Ghana's fishing communities. The primary goal of this chapter is to investigate the relationship between microfinance interventions and the credit delivery on poverty reduction, and also examine the views of the clients of rural banks to either confirm or disconfirm, accept or reject the views or responses in the conformity to literature.

Many studies on the impact of microfinance on poverty reduction outcomes have been conducted and some of these studies have been presented in the literature review chapter of this study. Considering studies such as Sulemana et al. (2023); Addae-Korankye (2018); Bakare (2018); Ampah (2012) and Yeboah (2010), it has become became necessary to develop the following hypotheses and use Ordinary Least Square(OLS) regression to test them.

H1: Microcredit provision contributes positively to poverty reduction outcomes.

H2: Micro Savings contributes positively to poverty reduction outcomes.

H3: Empowerment and training impact positively on poverty reduction outcomes.

H4: Credit delivery models contribute positively to poverty reduction outcomes.

5.2 Data Preparation and Descriptive Statistics

5.2.1 Data Cleaning and Preparation

The dataset, primarily composed of responses from Likert-scale questions, required preparation to ensure its compatibility with the statistical techniques employed in this research (Tabachnick & Fidell, 2013). The foremost step in data preparation involved addressing missing data. The approach to handling missing data was dependent on the extent of missingness for each variable. For variables with minimal missing data (usually under 5%), mean imputation was utilised, where missing values were replaced with the variable's mean. This approach was chosen to maintain the distribution characteristics of the data (Donders et al., 2006). In cases where the missing data exceeded 5%, multiple imputation techniques were applied. This method is particularly effective in maintaining data integrity, especially when the missing data are considered missing at random (MAR) (Schafer & Graham, 2002; Woods et al.,2024). Furthermore, due to the ordinal nature of the Likert-scale data, an evaluation of data normality was necessary. Measures like skewness (a measure of the asymmetry of a distribution) and kurtosis (a measure of the heaviness of a distribution's tails which is relative to a normal distribution) were assessed to ensure normality. The results were within acceptable limits (i.e. -3 and +3 for skewness and -10 and +10 for kurtosis) indicating no significant deviation from normal distribution (Kline, 2015). However, to align the data more closely with the assumptions of Structural Equation Modelling (SEM), a transformation process was undertaken. This step was crucial to adapt the data for SEM analysis and other quantitative methods (Hair et al., 2017).

5.3 Responses from the questionnaire

5.3.1 Descriptive Statistics

This section focuses on the descriptive analysis of the data collected from the questionnaires administered to 280 clients of the rural banks. These data include the biodata of the clients of the rural banks, micro savings, access to microcredit, empowerment and training and credit delivery models provided by the banks.

5.3.1.1 Demographic of the fisher folks

In the quantitative survey conducted, the demographic data was collected and analysed from a total of 280 respondents from the fishing communities in four regions of Ghana. The following subsection provides a detailed breakdown of the demographic distribution of respondents:

5.3.1.2 Age Distribution

Table 5.1 below shows the age distribution of the respondents as follows: 53.2% are between the ages of 18-30. 24.6 % are between the ages 31-45, and 22.2 % are aged 46 and above. Majority of the respondents falling within the 18-30 age bracket suggests a significant representation from an economically active segment of the population. This age group is likely to engage heavily in fishing activities and more likely to be beneficiaries of microfinance interventions and credit delivery models of the rural banks (Avila & Bañas, 2021), thus offering valuable insights into the effectiveness of these strategies for poverty reduction.

5.3.1.3 Gender Composition

In terms of gender, table 5.1 below shows that 47.9% of the respondents were male, and 52.1% were female. The dominance of female respondents is particularly significant, considering the critical role that women often play in fishing communities and their unique experiences with poverty and financial interventions (Dalaguit et al.,2023).This gender disparity can provide valuable insights into the impact of microfinance and credit delivery strategies on this demographic, thus aiding in the development of more gender-focused approaches such as women empowerment for family and community development to alleviate poverty.

5.3.1.4 Marital status

On marital status, the respondents comprised 37.9% singles, 51.7% married, and 10.4% divorced individuals. This diversity in marital status provides context as financial behaviours and needs can vary depending on family responsibilities. These dynamics can contribute to enhancing the effectiveness of the poverty reduction strategies.

5.3.1.5 Educational Qualification

Regarding educational qualifications, a majority of respondents (64.3%) had completed the Basic Education Certificate Examination (BECE). Further, 31.8% had credentials from SSCE/WASSCE or held O/A Level certificates. A smaller proportion of respondents (3.9%) had higher qualifications such as a Diploma, HND or Degree. According to a research by Amadu et al. (2021), when the educational level of the fisher folks increases, the livelihood resilience of fisher folks also increases, which impact on poverty reduction.

Moreover, the diversity in educational background informs the accessibility and understanding of microfinance interventions on the part of the beneficiaries, which can also influence the overall outcome of the study in terms contributions and information provision on the various interventions on the poverty alleviation efforts in these fishing communities.

Table 5.1 **Demographic Analysis from Questionnaire**

Age	*Frequency*	*Percent*
18 – 30	149	53.2
31 – 45	69	24.6
46 and above	62	22.2
Gender		
Male	134	47.9
Female	146	52.1
Marital Status		
Single	106	37.9
Married	145	51.7
Divorced	29	10.4
Educational Qualification		
BECE	180	64.3
SSCE/ WASSCE / O/A LEVEL / CERT A	89	31.8
DIPLOMA / HND / DEGREE	11	3.9

5.4 Descriptive analysis of the microfinance interventions.

5.4.1 Micro savings.

The analysis from Table 5.2a regarding micro savings shows that savings accounts are prominently utilised by customers, as reflected in the mean score of 3.82 and substantiated by a highly significant t-test result ($p < 0.01$). This prevalent use is in harmony with recent research by Dupas & Robinson (2013b), who underscore the importance of savings accounts in enabling economic advancement and access to credit facilities.

Moreover, the motivation for maintaining savings accounts predominantly for loan acquisition, with a mean score of 3.94 and a significant t-test result ($p < 0.01$), suggests that customers are strategically planning their financial activities, echoing the sentiments of contemporary financial behaviour that highlight the role of savings in securing future capital (Dupas & Robinson, 2013b).

Contrary to the assumption that regular saving is not widespread, the data reveals a mean score of 1.63, with a t-test result that is highly significant ($p < 0.01$), indicating that consistent saving is indeed a common practice among the customers surveyed. This aligns with the broader discourse on the necessity of regular saving habits for financial stability (Ashraf et al., 2006; Fried line & Freeman,2016).

The mean score of 1.86 for the continuation of savings after acquiring loans, coupled with a significant t-test result ($p < 0.01$), suggests that obtaining a loan does not typically disrupt customers' saving habits, supporting the notion that ongoing savings contribute to sustained financial health even after incurring debt (Dupas & Robinson, 2013b).

With regard to more withdrawal than deposit behaviours of savings account, a mean score of 3.34 and a significant t-test result ($p < 0.01$) reveal a balanced approach to withdrawals versus deposits, indicative of prudent financial management among respondents. This finding is consistent with financial behaviour analysis that indicate varying withdrawal strategies depending on immediate financial needs versus long-term saving goals (Dupas & Robinson, 2013b).

Lastly, the mean score of 3.90 reflecting satisfaction with the services provided by rural banks, verified by a significant t-test result ($p < 0.01$), implies a favourable reception of these services. This observation is supported by Demirgüç-Kunt et al. (2018), who emphasize there had been a growing trend of satisfaction with microfinance services as part of the financial inclusion drive.

5.4.2 Access to Microcredit

Table 5.2a shows that the responsiveness of rural banks in disbursing loans, highlighted by a mean score of 4.05, signalling efficient processing and speed, with a significant t-test result ($p <0.01$). This reflects an environment where quick access to funds is critical, resonating with recent research emphasizing the agility of microfinance institutions in meeting clients' needs (Burlando & Canidio, 2017).

Loan refusals attributed to the lack of collateral are not widely reported among respondents, as indicated by a mean score of 1.74 and a significant t-test result ($p < 0.01$). The standard deviation points to diverse experiences, supporting the notion that microfinance decisions may also consider other factors such as the borrower's repayment history or business prospects (Banerjee et al., 2015).

Regular repayment of loans, as suggested by a mean score of 3.95 and a significant t-test result ($p < 0.01$), seems to be a norm, with the standard deviation indicating some variability in repayment intervals. This aligns with the importance of maintaining a steady repayment structure for the sustainability of microfinance (Schicks, 2013).

The data indicates that defaulting on loan repayments is not prevalent, as reflected in the mean score of 1.51 and a significant t-test result ($p < 0.01$). This finding underscores the commitment of borrowers to meet their obligations, a critical aspect of microfinance's success (Field et al., 2013).

Punitive actions against loan defaulters appear to be uncommon, with a mean score of 1.73 and a significant t-test result ($p < 0.01$), suggesting that rural banks may adopt a more lenient or supportive approach when dealing with repayment issues, as found in the microfinance literature (McIntosh et al., 2015).

Finally, the use of loans for their intended purposes, with a mean score of 3.39 and a significant t-test result ($p < 0.01$), indicates general adherence to planned use. The standard deviation reveals some deviations, which may be a reflection of borrowers' need to adapt to changing circumstances, as discussed in the flexible nature of microfinance lending (Karlan & Zinman, 2011).

5.4.3 Credit Delivery models

In the context of the group liability scheme, a mean score of 3.36 with a significant t-value ($p <0.01$) as shown in Table 5.2a suggests that fisher folks are well-represented in these schemes, indicating the targeted approach of microfinance in supporting community-based livelihoods, a trend also observed in recent studies by Cassar et al. (2020). The standard deviation points to the inclusion of diverse member profiles in such schemes.

The initiation of these schemes, with a mean score of 1.57 and a significant t-value ($p < 0.01$), indicates that they are more community-driven rather than bank-led, which resonates with the collaborative nature of microfinance initiatives that empower communities to take the lead in their financial management, as supported by the work of Attanasio et al. (2020).

The offering of loans to groups over individuals is indicated by a mean score of 2.04 and a significant t-value ($p <0.01$), suggesting that while group loans are common, there is room for individual lending within these frameworks. This reflects the flexible and evolving structure of microfinance that caters for the various needs within a group setting (Banerjee et al., 2020).

Enforcement of loan repayment by group leaders is confirmed with a mean score of 3.68 and a significant t-value ($p < 0.01$), highlighting the crucial role of community leadership in ensuring financial discipline among members. This is in line with the increasing recognition of social capital's role in financial accountability within microfinance as suggested by Labie et al. (2020).

The effectiveness of group liability schemes in repayment, as indicated by a high mean score of 4.00 and a significant t-value ($p < 0.01$), underscores the success of these schemes in fostering a collective responsibility ethos, a phenomenon that has been increasingly documented in microfinance research (Kar, 2020).

Finally, the perception that group liability schemes provide easier access to loans, denoted by a mean score of 3.75 and a significant t-value ($p < 0.01$), reflects the schemes' efficiency and efficiency. This supports recent findings that emphasise the importance of microfinance in providing inclusive financial services (D'Espallier et al., 2020).

Table 5.2a Descriptive Analysis of the variable

Variables & Items	Code	Obs	Mean	t	Sig, 2 tailed	Std. Dev.	95% CI	
							Lower	Upper
Micro savings		4.32	0.22			4		
Savings account is the most operated account by customers	ms1	280	3.82	117.187	0.00	0.54	3.7572	3.8856
The purpose of savings by the customers is for the purposes of accessing loans	ms2	280	3.94	138.748	0.00	0.48	3.8869	3.9988
Customers do not save regularly	ms3	280	1.63	28.982	0.00	0.94	1.5246	1.7468
Savings accounts are halted just after loan acquisition	ms4	280	1.86	23.699	0.00	1.31	1.7062	2.0153
Withdrawal from savings accounts are more frequent than the rate of savings	ms5	280	3.34	62.002	0.00	0.9	3.2367	3.449
Services provided by the rural banks meet customer's expectations	ms6	280	3.9	98.619	0.00	0.66	3.8257	3.9815
Access to Microcredit		280	4.59			0.21		
Disbursement of loans to clients by rural banks is quick and fast	atc1	280	4.05	117.191	0.00	0.58	3.982	4.118
Refusal of loans by the rural banks is due to the lack of collateral	atc2	280	1.74	25.912	0.00	1.12	1.6072	1.8714
Payment of loans to the rural banks is done on a weekly basis	atc3	280	3.95	73.553	0.00	0.9	3.8443	4.0557

Variables & Items	Code	Obs	Mean	t	Sig, 2 tailed	Std. Dev.	95% CI	
							Lower	Upper
Customers always default on repayment of loans to the rural banks	atc4	280	1.51	28.539	0.00	0.89	1.4098	1.6187
Loan defaulters are sanctioned by rural banks	atc5	280	1.73	24.243	0.00	1.19	1.5948	1.8767
Customers do not use loans acquired from rural banks for the intended purpose	atc6	280	3.39	75.228	0.00	0.75	3.3006	3.478
Group liability scheme/microfinance scheme (Credit Delivery Model)		280	4.43			0.2		
Most of the members of the group liability scheme of the rural bank are the fisher folks	cdm 1	280	3.36	58.191	0.00	0.96	3.247	3.4744
The group liability scheme is initiated by the officials of the bank	cdm 2	280	1.57	25.613	0.00	1.02	1.4474	1.6884
The liability scheme offers loans to only the group and not to individuals	cdm 3	280	2.04	23.737	0.00	1.44	1.8702	2.2084
The repayment of loans to the rural banks is enforced by group leaders	cdm 4	280	3.68	63.633	0.00	0.98	3.5648	3.7924
Group liability schemes are the easiest means of accessing loans from the rural banks	cdm 5	280	3.75	81.03	0.00	0.78	3.6554	3.8374
Group liability schemes are the most effective means of repaying loans at rural banks	cdm 6	280	4	99	0.00	0.68	3.9275	4.0868

5.4.4 Empowerment and Training

The data from Table 5.2b demonstrates the crucial role of rural banks in client empowerment and training. The provision of technical advice for effective loan management is highly valued, as indicated by a mean score of 4.05 and confirmed by a significant t-value ($p < 0.01$). This strong provision of guidance resonates with the recent findings of Bernhardt et al. (2021), which highlight the importance of capacity-building by financial institutions.

Similarly, the impact of this advice on customers' savings habits, with a mean score of 4.00 and a significant t-value ($p < 0.01$), suggests that such educational efforts are fruitful in enhancing financial literacy, as suggested by Dorfleitner et al. (2021). The standard deviation indicates the variability in the assimilation of this advice which underscores the diverse financial backgrounds and needs of the customers.

The benefit of group schemes in easing the loan repayment process is also underscored, with a mean score of 3.51 and a significant t-value ($p < 0.01$), highlighting the supportive structure of these schemes that promote financial discipline, aligning with recent research by Kar (2020). The variability indicated by the standard deviation reflects the nuanced experiences of members within these group settings.

The likelihood of members recommending their scheme to others, indicated by a mean score of 3.76 and a significant t-value ($p < 0.01$), points to the positive perceptions and trust in the efficacy of these microfinance structures, supporting the discussions by Mersland and Strøm (2019) on the value of social networks in microfinance.

Lastly, the inclination towards long-term membership in these schemes, denoted by a mean score of 3.49 and a significant t-value ($p < 0.01$), suggests a commitment to the collective approach of microfinance. This commitment is key to the sustainability of such financial models, as explored by Hartarska and Nadolnyak (2019), and reflects the strategic considerations of members in light of evolving economic conditions, as noted by Van Rooyen et al. (2022).

5.4.5 Poverty reduction outcomes

Table 5.2b indicates that microfinance schemes have a notable impact on individual income levels, with respondents reporting an average score of 3.825, significantly confirmed by the t-test result ($p < 0.01$). This effect on income aligns with recent research showing the positive financial impact of microfinance initiatives (Banerjee et al., 2022). Variability in this upliftment, as evidenced by the standard deviation, suggests that the extent of income increase may vary, reflecting the individual circumstances of the beneficiaries.

Fishing output has seen an improvement due to the microfinance scheme, as reflected by an average score of 3.13, with a significant t-test result ($p < 0.01$). This increase in productivity could be attributed to better resources and tools made available through microfinancing, in line with findings that microfinance can enhance business operations (Karlan et al., 2021). The standard deviation indicates that not all participants have experienced the same level of output increase, which may depend on how the microfinance resources are utilized.

Social exclusion appears to be mitigated by the microfinance scheme, with a mean score of 3.5 and a significant t-test result ($p < 0.01$). This suggests that microfinance is achieving its broader goal of socio-economic inclusion, as documented in studies on the social benefits of financial inclusion (Sarma & Pais, 2019). The standard deviation points to a range of experiences in this area, indicating that while many feel included, some may not experience the same level of socio-cultural integration.

The data further reaffirms the role of microfinance in financial empowerment, with an average score of 3.63 for income enhancement and a significant t-test result ($p < 0.01$). This suggests that the microfinance scheme contributes to economic stability for individuals, supporting the notion that access to finance can lead to increased financial resilience (Duflo et al., 2021). Yet, the standard deviation reflects disparities in how this financial empowerment is felt among different individuals.

Operational costs associated with outdated technology in the fishing industry appear to be reduced by the microfinance scheme, as indicated by a mean score of 3.59 and a significant t-test result ($p < 0.01$). This suggests that microfinance could be supporting the adoption of more cost-effective practices, which is consistent with literature on the role of financial services in promoting business efficiency (Morduch et al., 2021). The standard deviation, however, reveals that the degree of cost reduction varies among participants.

The scheme also seems to have a positive effect on personal development, with an increase in self-confidence reported with an average score of 3.65, significantly supported by the t-test result ($p < 0.01$). This personal growth aspect of microfinance reflects the findings that such schemes can lead to improved self-perception and empowerment (Karim et al., 2021). The standard deviation suggests that the impact on self-confidence may differ among participants.

Finally, the scheme's contribution to reducing loan defaults is reported with an average score of 3.62, with a significant t-test result ($p < 0.01$), indicating that microfinance may be fostering a sense of fiscal responsibility among borrowers. This finding is in line with recent evidence on the effectiveness of microfinance in improving repayment behaviours (Field et al., 2022).

The standard deviation indicates variability in how this aspect of the scheme is perceived by different respondents.

Table 5.2b Descriptive Analysis of the variables

Variables & Items	Code	Obs	Mean	t value	Sig, 2 tailed	Std. Dev.	95% Confidence Interval of the Difference	
							Lower	Upper
Empowerment and training		280	4.33			0.62		
Rural banks always provide technical advice to customers to effectively manage their loans	et1	280	4.05	106.346	0.00	0.63	3.975	4.125
The technical advice provided by the rural banks impacts positively the customer's savings habits	et2	280	4	80.548	0.00	0.83	3.9057	4.1014
Being a member of the group/scheme makes the repayment of loans easier	et3	280	3.51	61.638	0.00	0.95	3.4021	3.6265
Members of the schemes are likely to recommend the scheme to non-members in the fishing business	et4	280	3.76	60.082	0.00	1.05	3.634	3.8802
Members are likely to remain as group members for the next 5-10 years	et5	280	3.49	56.498	0.00	1.03	3.3677	3.6109
Poverty reduction outcomes		280	4.13			0.52		
The microfinance scheme has increased my income level	pro1	280	3.825	71.684	0.00	0.89	3.72	3.93
The microfinance scheme has brought an increase in fishing output	pro2	280	3.13	41.25	0.00	1.27	2.9793	3.2779
The microfinance scheme has reduced social exclusion	pro3	280	3.5	56.292	0.00	1.04	3.3776	3.6224

The microfinance scheme has increased my income level	pro4	280	3.63	52.416	0.00	1.159	3.4957	3.7685
The microfinance scheme has reduced the operating costs associated with the use of obsolete technology in the fishing business	pro5	280	3.59	49.498	0.00	1.214	3.45	3.7357
The microfinance scheme has increased my self-confidence	pro6	280	3.65	60.028	0.00	1.01	3.5338	3.7734
The microfinance scheme has reduced the issue of default of loans	pro7	280	3.62	67.053	0.00	0.9	3.5151	3.7277
The microfinance scheme has really reduced poverty in my community	pro8	280	3.617	64.457	0.00	0.93	3.5074	3.7283

5.5 Measurement Model Assessment

5.5.1 Indicator & Construct Reliability, and Convergent Validity

From appendix E, the Access to Credit (ATC) construct demonstrates strong indicator reliability with outer loadings ranging from 0.824 to 0.913, well above the 0.7 threshold suggested by Hair et al. (2017). However, the Variance Inflation Factor (VIF) for ATC2 indicates a potential multicollinearity issue, being above the threshold of 5 (O'Brien, 2007). The sample means and standard deviations for ATC indicate a high level of agreement and consistency among respondents. The T-statistics and p-values, significantly high and at 0.00 respectively, this underscore the statistical significance of these indicators. Cronbach's alpha of 0.937 and composite reliabilities within the recommended threshold of 0 to 1 and 0.7 respectively, and an Average Variance Extracted (AVE) of 0.759 assures good internal consistency and convergent validity.

For the Credit Delivery Model (CDM) construct in appendix D, the indicator loadings vary, with the lowest being just above the acceptability threshold, suggesting moderate reliability. The VIF values are within acceptable limits, indicating no significant multicollinearity concerns. The indicators show high T-statistics and p-values of 0.00, confirming their statistical significance. Although specific Cronbach's alpha and composite reliability values are not provided, the loadings suggest adequate reliability.

The Empowerment and Training (ET) construct exhibits exceptional indicator reliability with high outer loadings. However, some VIF values were a bit out of range, suggesting potential multicollinearity issues. The indicators have high mean scores and low standard deviations, reflecting strong agreement among respondents. Extremely high T-statistics and p-values of 0.00 further affirm the significance of these indicators. The construct also shows excellent reliability and convergent validity, with a Cronbach's alpha of 0.964 and high composite reliability and AVE values.

From Appendix E, the Micro Savings (MS) construct has outer loadings with one item (MS3) falling below the 0.7 threshold, indicating weaker reliability for this particular indicator. VIF values are below the threshold of 5, mitigating multicollinearity concerns. The construct demonstrates significant T-statistics and p-values of 0.00 across all indicators. Cronbach's alpha and composite reliabilities are within the acceptable range, and the AVE of 0.66 confirms convergent validity.

Lastly, the Poverty Reduction Outcome (PRO) construct shows very high indicator reliability with outer loadings ranging from 0.92 to 0.968. The VIF values are elevated, with several above 5, which could indicate multicollinearity issues. The construct has high mean scores and very low standard deviations, suggesting strong agreement among respondents. Extremely high T-statistics and p-values of 0.00 highlight the significance of the indicators. The construct's reliability and convergent validity are outstanding, as evidenced by the high Cronbach's alpha, composite reliabilities, and AVE value.

In summary, while most constructs in the model demonstrate strong reliability and validity, certain areas, particularly concerning multicollinearity (as indicated by high VIF values in some constructs), might require further investigation or refinement. This detailed assessment aligns with the best practices in SEM analysis as suggested by authorities like Hair et al. (2017) and O'Brien (2007).

5.5.2 Discriminant Validity

In this study to examine the impact of microfinance on poverty reduction in the fishing communities in Ghana, an integral component of the analysis involves assessing discriminant validity using the Fornell-Larcker criterion. This criterion is a cornerstone in structural equation modelling that necessitates that the square roots of the Average Variance Extracted (AVE) for each construct be greater than the correlations between constructs (Fornell & Larcker, 1981; Bekata & Kero, 2024). However, the results from this study present some challenges in adhering to this criterion, indicating potential issues with discriminant validity.

Specifically, from table 5.3 and appendix D, the square root of the AVE for the "Access to Credit" construct was noted to be 0.871. While this value surpassed its correlation with the "Poverty Reduction Outcomes" (0.842), "Empowerment and Training" (0.813), and "Micro Savings" (0.828), it was exceeded by its correlations with "Credit Delivery Model" (0.949) Such a pattern raises concerns about the distinctiveness of the "Access to Credit" construct, particularly in relation to the "Credit Delivery Model".

In a similar vein, the "Credit Delivery Model" construct, with a square root of AVE at 0.984 surpassed its correlation with "Access to Credit" (0.949) than with itself. This indicates a notable overlap, potentially suggesting some distinctiveness in the construct's discriminant validity. Moreover, the "Empowerment and Training" construct, despite having a relatively high square root of AVE of 0.936 surpassed its correlation with "Credit Delivery Model" (0.907), suggesting correlation distinctiveness. See table 5.3 and Appendix D.

The "Micro Savings" construct also manifested validity concerns, with its square root of AVE of 0.812 being lower than its correlations with "Credit Delivery Model" (0.973) and "Empowerment and Training" (0.942). Furthermore, the "Poverty Reduction Outcomes" construct, while possessing a robust square root of AVE of 0.956, surpassed the correlations with "Credit Delivery Model" (0.935) and "Empowerment and Training" (0.936). The patterns, where the square roots of the AVEs of certain constructs do not sufficiently surpass their correlations with other constructs, underscore potential issues in discriminant validity. This suggests that respondents may not perceive these constructs as distinctly as hypothesized, prompting the need for further investigation. Such inquiry might involve a re-examination of the measurement scales to ensure that the constructs distinctly capture the intended dimensions of the research model. The significance of these findings cannot be overstated, as they highlight the imperative for rigorous validation of construct distinctiveness, particularly in complex models. This necessity aligns with the best practices in structural equation modelling as detailed in the literature (Hair et al., 2022).

In the structural modelling of this study, despite encountering challenges with discriminant validity in certain constructs, the decision to proceed with the presentation of the structural model is supported by the robustness of other reliability and validity measures (such as Cronbach alpha and the composite reliability). This approach aligns with the recommendations by Hair et al. (2017), who emphasize the importance of considering the totality of the measurement model assessment, rather than focusing solely on a single criterion. The constructs in question demonstrated strong indicator reliability, with loadings well above the recommended threshold of 0.7, and the internal consistency reliability measures, such as Cronbach's Alpha and Composite Reliability, were also within acceptable ranges (Nunnally & Bernstein, 1994; Fornell & Larcker, 1981; Bekata & Kero,2024).

Furthermore, Henseler et al. (2015) argue that while discriminant validity is crucial, its absence does not immediately invalidate the structural model, especially when other aspects of the measurement model are satisfactory. In this study, the constructs with discriminant validity issues still contribute valuable insights to the overall model, and their relationships with other constructs are theoretically justified and empirically substantiated. Therefore, the structural model's findings, while interpreted with caution due to the noted validity issues, still provide meaningful contributions to the understanding of the impact of microfinance and poverty reduction outcomes in the fishing communities in Ghana.

The decision to present the structural model, despite discriminant validity concerns with some of the constructs, is further buttressed by the study's exploratory nature. As recommended by Smith &Thomas (2020), exploratory studies can provide preliminary insights even in the presence of certain measurement limitations, setting the stage for future research to refine and build upon these findings. Thus, while acknowledging the limitations inherent in the discriminant validity of some constructs, this study's structural model analysis remains a valuable step in exploring complex relationships within sustainable financing practices.

Table 5.3 Discriminant validity -Fornell -Larcker criterion

	Access to Credit	Credit/Delivery Model	Empowerment and Training	Micro Saving	Poverty/Reduction Outcome
Access to Credit	0.871				
Credit Delivery Model	0.949	0.984			
Empowerment and Training	0.873	0.947	0.936		
Micro Savings	0.928	0.973	0.942	0.812	
Poverty/reduction Outcomes	0.842	0.935	0.963	0.911	0.956

5.6 Structural Model Results

5.6.1 Path Analysis -Direct Links

Focusing on the impact of microfinance and poverty reduction in the fishing communities in Ghana, the analysis of path coefficients using the partial least squares structural equation modelling(PLS-SEM) offers critical insights into the interconnectedness of various constructs. From table 5.4 below, the relationship between Access to Credit and Poverty Reduction Outcome is particularly intriguing. With a path coefficient of -0.263 and an F-square of 0.108, this negative association is statistically significant (p = 0.00, T-statistics = 6.147). This suggests that increased access to credit might not straightforwardly lead to improved poverty reduction outcomes, a phenomenon that aligns with recent discussions on the complexity of financial systems and their socio-economic impacts (Hair et al., 2022).

From table 5.4 below, the Credit Delivery Model's influence on Access to Credit is profoundly positive, indicated by a path coefficient of 0.949 and an F-square of 9.101, reflecting its substantial impact (p = 0.00, T-statistics = 196.038). This finding echoes contemporary literature emphasizing the critical role of efficient credit delivery in enhancing financial accessibility (Henseler et al., 2019). Additionally, the strong path from Credit Delivery Model to Micro Savings (path coefficient = 0.973, F-square = 17.803) highlights the significant role of credit systems in promoting savings, supporting recent theories in financial behaviour (Ringle et al., 2021). Furthermore, the significant positive effect of the Credit Delivery Model on Poverty Reduction Outcome (path coefficient = 0.724, F-square = 0.265) underscores the importance of systemic structures in poverty alleviation efforts, a concept increasingly recognized in recent financial studies (Sarstedt & Cheah, 2019). See table 5.4 below.

The relationship between Empowerment and Training and Poverty Reduction Outcomes, with its strong positive path (path coefficient = 0.728, F-square = 0.8), reflects the growing acknowledgment of the role of human capital development in poverty reduction, as discussed in recent literature (Richter et al., 2020). See table 5.4 below.

The interaction between Micro Savings and Empowerment and Training, denoted by a path coefficient of 0.942 and an F-square of 7.829, highlights the interconnected nature of savings mechanisms and empowerment initiatives, resonating with the latest theoretical perspectives on financial empowerment (Smith et al., 2021).

Lastly, the negative path from Micro Savings to Poverty Reduction Outcome (-0.235, F-square = 0.046) suggests a nuanced relationship, indicating that increased savings might not directly lead to poverty reduction. This complex linkage warrants further exploration and aligns with recent discussions on the multifaceted nature of financial strategies and poverty (Thomas & Smith, 2022).

Table 5.4 Path Analysis - Direct links

	Path coefficients	F-square	Total Effects	VIF	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Access to Credit -> Poverty Reduction Outcome	-0.263	0.108	-0.263	11.04	-0.269	0.043	6.147	0.00
Credit Delivery Model -> Access to Credit	0.949	9.101	0.949	1.00	0.949	0.005	196.038	0.00
Credit Delivery Model -> Micro Savings	0.973	17.803	0.973	1.00	0.973	0.004	237.73	0.00
Credit Delivery Model -> Poverty Reduction Outcome	0.724	0.265	0.912	34.22	0.731	0.09	8.072	0.00
Empowerment and Training -> Poverty Reduction Outcome	0.728	0.8	0.728	11.43	0.727	0.037	19.672	0.00
Micro Savings -> Empowerment and Training	0.942	7.829	0.942	1.00	0.941	0.006	147.218	0.00
Micro Savings -> Poverty Reduction Outcome	-0.235	0.046	0.45	20.69	-0.236	0.076	3.078	0.00

5.6.2 Path Analysis - Indirect Links

The analysis of specific indirect effects in this study on microfinance and poverty reduction in the fishing communities in Ghana provides profound insights into how various constructs interact to influence Poverty Reduction Outcomes. The indirect effect analysis is crucial for understanding the mediating roles of certain constructs in the path between independent and dependent variables.

From table 5.5 below, the specific indirect effect of the Credit Delivery Model on Poverty Reduction Outcome, mediated by Access to Credit, is -0.25 ($p = 0.00$, T-statistics = 6.151). This negative effect, with a sample mean of -0.255, indicates that the influence of the Credit Delivery Model on poverty reduction, when mediated by Access to Credit, is significant but inversely proportional. This finding suggests a complex interplay between credit delivery and access to credit, where improvements in delivery models might not directly translate into poverty reduction outcomes, a phenomenon which aligns with recent studies on financial system dynamics (Hair et al., 2019).

From table 5.5 below, another indirect pathway, Credit Delivery Model -> Micro Savings -> Empowerment and Training -> Poverty Reduction Outcome, shows a substantial positive effect (0.667, $p = 0.00$, T-statistics =18.567). This implies that when the Credit Delivery Model influences empowerment and training which in turn affects Micro Savings, there is a significant positive impact on Poverty Reduction Outcome. This pathway underscores the importance of holistic financial strategies in poverty reduction, resonating with the comprehensive approaches to financial empowerment discussed by Sarstedt et al. (2018).

Similarly, the path from Micro Savings through Empowerment and Training to Poverty Reduction Outcome also demonstrates a significant positive effect (0.685, $p = 0.00$, T-statistics

= 18.659). This indicates the vital role of empowerment and training in enhancing the positive impact of micro savings on poverty reduction, supporting the findings in the literature on financial education and poverty alleviation (Ringle et al., 2019). See table 5.5 below.

The indirect effect of the Credit Delivery Model on Poverty Reduction Outcome, mediated by Micro Savings, is negative (-0.229, p = 0.002, T-statistics = 3.065). This suggests a nuanced relationship where improvements in the credit delivery system, leading to increased micro savings, might not straightforwardly contribute to poverty reduction, a concept explored in recent financial inclusion research (Henseler et al., 2019). See table 5.5 below.

Table 5.5 Path Analysis - Indirect Links

	Specific indirect effects	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**
Credit Delivery Model -> Access to Credit -> Poverty Reduction Outcome	-0.25	-0.255	0.041	6.151	0.00
Credit Delivery Model -> Micro Savings -> Empowerment and Training -> Poverty Reduction Outcome	0.667	0.666	0.036	18.567	0.00
Micro Savings -> Empowerment and Training -> Poverty Reduction Outcome	0.685	0.684	0.037	18.659	0.00
Credit Delivery Model -> Micro Savings -> Poverty Reduction Outcome	-0.229	-0.23	0.075	3.065	0.002
Micro Savings -> Empowerment and Training -> Poverty Reduction Outcome	0.685	0.684	0.037	18.659	0.00

5.6.3 Coefficient of Determination (R^2)

The Coefficient of Determination or R-square (R^2), and its adjusted counterpart play an instrumental role in evaluating the model's explanatory power. The R^2 values are essential in assessing how well the independent variables explain the variance in the dependent variables within the model (Hair et al.,2022).

From the table 5.6 below, "Access to credit" exhibits a high level of explanatory power indicating a strong model fit. An R^2 value of 0.901 is reported, with the adjusted R-square mirroring this figure at 0.901. This high R^2 value implies that 90.1% of the variance in the construct is explained by the model's indicative of the model's robustness in capturing the factors influencing access to credit. This aligns with recent research emphasizing the importance of high R^2 values in reflecting the predictive accuracy of models in partial least squares structural equation modelling(PLS-SEM) (Hair et al., 2022).

From table 5.6 below, "Empowerment and Training" shows an R^2 of 0.887 and an adjusted R-square of 0.887, suggesting that the model explains 88.7% of the variance in this construct. This high explanatory power underscores the significant role of the predictors in explaining empowerment and training initiatives within the industry, echoing findings in contemporary studies that highlight the importance of human capital development in organizational success (Sarstedt & Cheah, 2019).

The construct "Micro Savings" exhibits an R^2 of 0.947 and an adjusted R-square of 0.947, indicating that a remarkable 94.7% of the variance is accounted for by the model. This exceptional level of explanation is consistent with recent discussions on the critical role of savings in financial behaviour and decision-making (Ringle et al., 2021). See table 5.6 below.

Lastly, "Poverty Reduction Outcome" has an R^2 of 0.942 and an adjusted R-square of 0.942, meaning that nearly 94.2% of its variance is explained by the model. This high R^2 value reflects the model's effectiveness in capturing the complexity of poverty reduction outcomes, supporting the notion in recent literature that comprehensive models are essential for understanding multifaceted socio-economic phenomena (Henseler et al., 2019). See table 5.6 below.

Table 5.6 Coefficient of Determination (R^2)

	R-square	**R-square adjusted**
Access to Credit	0.901	0.901
Empowerment and Training	0.887	0.886
Micro Savings	0.947	0.947
Poverty Reduction Outcome	0.942	0.941

5.7 Model Fit

In the structural model analysis on the impact of microfinance on poverty reduction in the fishing communities in Ghana using PLS-SEM, the model fit statistics play a crucial role in determining how well the model aligns with the empirical data. One key measure is the Standardized Root Mean Square Residual (SRMR), a primary fit index in PLS-SEM that evaluates the average discrepancy between the observed and the model's predicted correlations.

From table 5.7 below, the estimated model, the SRMR value stands at 0.078, is the recommended cut-off value of 0.08 by Hu & Bentler (1999) for a good fit. The SRMR value suggests that the model's predicted correlation was a bit lower than from the observed correlations. However, as Hair et al. (2022) suggest, while SRMR is a valuable fit index, it should be interpreted in the context of the model's overall complexity and the nature of the data. Additionally, the discrepancy measures, d_ULS (Unweighted Least Squares discrepancy) and d_G (Geodesic discrepancy), provide further insights into model fit. The d_ULS value for the estimated model is 1.832, and the d_G value is 1.135. These values, albeit without widely accepted cut-off criteria in PLS-SEM, are relatively high, hinting at a less-than-optimal fit. According to recent literature by Henseler et al. (2019), while lower values are generally preferred, the interpretation of these indices should be tempered by the model's theoretical foundation and empirical context. See table 5.7 below.

The chi-square statistics in this model are 219.04 for the saturated model and 283.05 for the estimated model. The saturated model is indicative of how best fit perfectly the data, while the estimated mean covariance value suggest how well the model fits the data. However, In the context of PLS-SEM, these values are less critical due to the method's non-reliance on data distribution assumptions. This perspective is supported by Ringle et al. (2021), who note that chi-square values in PLS-SEM are more informative in relative terms rather than as absolute indicators of fit. See table 5.7 below.

Lastly, from the table 5.7 below, the Normed Fit Index (NFI) offers a comparative assessment of the model fit. The NFI values are 0.811 for the saturated model and 0.808 for the estimated model, falling short of the near 0.9 value typically indicative of a good fit in PLS-SEM. This suggests that the model fit could benefit from enhancements, a notion echoed by recent findings in SEM literature (Sarstedt et al., 2018). Furthermore, it is essential that the fit indices are not interpreted in isolation, and it is important to consider multiple fit indices in addition to other important information about the data and the model. Moreover, the threshold value deemed as a good fit is dependent on standards or specific guidelines used in a particular field or study (Sarstedt et al., 2018). The major weakness associated with SEM analysis was the issue of sample size, smaller sample size in SEM analysis leads to underpowered tests and overfitting while large small sizes produce unreliable estimates (kline, 2016). In addressing this particular issue, bootstrapping techniques were used for the estimatimation of the standard errors accurately. Additionally, another weakness of SEM analysis has to do with multicollinearity. As observed with some of the variables in the study, there were some high correlations among predictor variables resulting in the distortion of the findings and weakening of the effectiveness of the model. This issue was addressed by the using variance inflation factors (VIF) and also combining the highly correlated variables (Anderson et al.,2010)

Table 5.7 Model Fit

	Saturated model	**Estimated model**
SRMR	0.085	0.078
d_ULS	8.792	8.832
d_G	11.661	12.135
Chi-square	219.04	283.05
NFI	0.811	0.808

5.8 The linear regression model

Considering the objectives of assessing the impact of various factors on poverty reduction outcomes, a linear regression model is proposed, using Ordinary Least Squares (OLS) as the estimation technique to test the hypothesis and the how the results are consistent with the SEM analysis.

HA1: Microcredit provision contributes positively to poverty reduction outcomes. H01: Microcredit provision does not contribute positively to poverty reduction outcomes.

HA2: Micro Savings contributes positively to poverty reduction outcomes. H02: Micro Savings does not contribute positively to poverty reduction outcomes.

HA3: Empowerment and training impact positively on poverty reduction outcomes. H03: Empowerment and training do not impact positively on poverty reduction outcomes.

HA4: Credit delivery models contribute positively to poverty reduction outcomes. H04: Credit delivery models do not contribute positively to poverty reduction outcomes.

The dependent variable is Poverty Reduction Outcomes and the independent variables are Microcredit provision, Micro Savings, Credit delivery models, and Empowerment and training.

The regression equation is represented as:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \cdots + \varepsilon_i \ (1)$$

Where:

- i_{th}: Refers to the index of a specific observation or data point
- Y_i: Represents Poverty Reduction Outcomes for the *ith* observation.
- β_0: Denotes the intercept of the regression model.
- X_{1i}: Stands for the value of Microcredit provision for the *ith* observation.
- X_2i: Represents the value of Micro Savings for the *ith* observation.
- X_3i: Denotes the value of Empowerment and training for the *ith* observation.
- X_4i: Is the value of credit delivery models for the *ith* observation.

- ε_i: The error term for the *ith* observation, capturing unobserved factors.

The hypotheses with respect to the regression coefficients are defined as:

1. For Microcredit provision: $H0$: $\beta 1=0$ versus Ha: $\beta 1>0$
2. For Micro Savings: $H0$: $\beta 2=0$ versus Ha: $\beta 2>0$
3. For Empowerment and training: $H0$: $\beta 3=0$ versus Ha: $\beta 3>0$
4. For: Credit delivery models $H0$: $\beta 4=0$ versus Ha: $\beta 4>0$

Each null hypothesis assumes no effect of the corresponding independent variable on Poverty Reduction Outcomes. The alternative hypotheses, on the other hand, suggest a positive relationship between each factor and Poverty Reduction Outcomes.

5.8.1 OLS regression

An explanatory capacity for Poverty Reduction Outcomes (PRO) was yielded by the analysed OLS regression model, as evidenced by a remarkable R-squared value of 0.97 as shown on table 5.8 below. This impressive indicator suggests that the model's predictors effectively explain a vast majority of the variability observed within PRO. Furthermore, the significance of the F-statistic and its associated p-value less than 0.001 confirm the model's strong statistical fit, leaving little room for the possibility that its predictive capability arises purely from chance.

Upon delving into the individual coefficients, a negative association was revealed between Micro Savings (MS) and PRO. This relationship, manifested by a coefficient of -0.344 and a p-value of 0.003, suggests that an increase in MS is correlated with a decrease in poverty reduction outcomes within the analysed data set. Such a result raises intriguing questions, hinting at a potential paradox where savings activity, traditionally hailed as a positive force, may not translate directly into improved PRO. This could be attributed to factors such as the opportunity costs associated with saving in contexts with limited investment avenues or the presence of financial literacy gaps that hinder effective savings strategies.

Similarly, a negative association was identified between Access to Credit (ATC) and PRO, marked by a coefficient of -0.399 and a p-value of less than 0.001 as shown on table 5.8 below. This finding challenges the conventional assumption that increased access to credit serves as a straightforward path towards poverty reduction. It is possible that, when implemented without proper safeguards, access to credit may lead to unsustainable debt burdens or exacerbate existing financial vulnerabilities through irresponsible borrowing practices. This highlights the crucial need for tailored microcredit programs that comprehensively assess borrower circumstances and prioritize responsible lending practices, as advocated by Armendariz & Morduch (2010).

However, the model also shines a light on positive influences on PRO. The substantial positive impact of Credit Delivery Model (CDM) (0.936 coefficient, p-value < 0.001) underlines the critical role played by the manner in which credit is provided. As emphasized by Amin & Chowdhury (2019), effective loan repayment structures, coupled with financial literacy training and supportive mechanisms, can significantly amplify the positive impact of credit on poverty reduction. This finding underscores the importance of adopting holistic financial inclusion strategies that move beyond mere access to credit and prioritize the creation of enabling environments for successful credit utilization.

Finally, the strong positive correlation observed between Empowerment and Training (ET) and PRO (0.89 coefficient, p-value < 0.001) reinforces the fundamental contribution of human capital development in the fight against poverty. Programs that equip individuals with relevant skills, knowledge, and decision-making capacity have the potential to create sustainable pathways out of poverty, as eloquently described by De Haan & Duflo (2011).

Table 5.8 OLS Regression Analysis

Model		Unst. Coeff.		Standardized Coefficients	T	Sig.	F	Sig.	R	Adjusted R Square
		B	Std. Error	Beta						
1	(Constant)	-0.501	0.101		-4.941	0.000	1101.298	0.001	0.97	0.94
	MS	-0.344	0.114	-0.219	-3.022	0.003				
	ATC	-0.399	0.083	-0.309	-4.814	0.000				
	CDM	0.936	0.12	0.743	7.822	0.000				
	ET	0.89	0.054	0.729	16.488	0.000				
Dependent Variable: Poverty reduction outcomes										

5.9 Hypothesis Testing

H1: Microcredit provision contributes positively to poverty reduction outcomes. Banerjee et al. (2015) found that despite the popularity of microcredit, its impact on poverty reduction is not as significant as once thought.

H2: Micro Savings contributes positively to poverty reduction outcomes. Prina (2015) demonstrated that providing savings accounts to the poor resulted in better financial behaviours and positive economic outcomes.

H3: Empowerment and training impact positively on poverty reduction outcomes. Kumar et al. (2019) identified that empowerment and training for women in agriculture significantly contributed to economic gains and reduced poverty.

H4: Credit delivery models contribute positively to poverty reduction outcomes. Attanasio et al. (2015) provided evidence that innovative credit delivery models have a substantial impact on the income and consumption of beneficiaries.

H5: Effective financial literacy programmes enhance the positive impact of microcredit on poverty reduction. Morduch & Ashta (2018) intimated that the introduction of effective tailored empowerment programmes contributes in addition to the provision of microcredit impact positively on poverty reduction outcomes.

H6: Increased access to credit may lead to higher risk-taking behaviour, potentially jeopardizing poverty reduction outcomes. (Honohan & Möller, 2022).

The analysis of the hypotheses in this study reveals a series of significant relationships, as elucidated by the path coefficients and p-values. Each supported hypothesis reflects a statistically significant relationship that aligns with the theoretical framework of the study.

Hypothesis H1 posits a negative relationship between Access to Credit and Poverty Reduction Outcome. The path coefficient of -0.263 with a p-value of 0.001 indicates a significant negative impact, suggesting that increases in access to credit might inversely affect poverty reduction outcomes. This could imply that while access to credit is crucial, it might not always directly contribute to poverty alleviation.

Hypothesis H2 shows a strong positive relationship (path coefficient = 0.949, p = 0.001) between the Credit Delivery Model and Access to Credit. This highlights the critical role of credit delivery systems in facilitating access to credit, echoing the findings of Sarstedt et al. (2018) on the importance of efficient financial infrastructure.

Hypotheses H3 and H4 indicate that the Credit Delivery Model significantly influences Micro Savings (path coefficient = 0.973, p = 0.001) and Poverty Reduction Outcome (path coefficient = 0.724, p = 0.001).

Hypothesis H5 presents a strong positive effect (path coefficient = 0.728, p = 0.001) of Empowerment and Training on Poverty Reduction Outcome. This supports the view that empowerment and training initiatives are key contributors to poverty reduction, a notion explored by Ringle et al. (2021).

Hypothesis H6 shows a negative relationship between Micro Savings and Poverty Reduction Outcome (path coefficient = -0.235, p = 0.002). This implies a complex relationship where increased micro savings might not directly lead to poverty reduction.

Table 5.9 Summary of Hypothesis

Hypothesis	**Relationship**	**Path Coefficient**	**P-Value**	**Supported?**
H1	Access to Credit -> Poverty Reduction Outcome	-0.263	0.001	NO
H2	Credit Delivery Model -> Access to Credit	0.949	0.001	Yes
H3	Credit Delivery Model -> Micro Savings	0.973	0.001	Yes
H4	Credit Delivery Model -> Poverty Reduction Outcome	0.724	0.001	Yes
H5	Empowerment and Training -> Poverty Reduction Outcome	0.728	0.001	Yes
H6	Micro Savings -> Poverty Reduction Outcome	-0.235	0.001	NO

CHAPTER SIX

QUALITATIVE ANALYSIS

6.1 **Introduction**

This chapter considers the qualitative facet of the study, encompassing both the data collection and analysis processes. The primary research tool employed was a semi-structured interview conducted with two distinct groups. The first group consisted of key staff members who work with the microfinance department of the rural banks offering microfinance services to the fisher folks in the fishing communities. The second group is composed of leaders of the microfinance schemes and the leaders of the fishing groups who are direct beneficiaries of these services. Table 6a shows the distribution of the participants for the semi-structured interview

Table 6a Participants distribution for interview

Region	Group/scheme leaders	Officers of the rural bank	Total
Volta region	**2**	**2**	**4**
Greater Accra	**2**	**2**	**4**
Central region	**2**	**2**	**4**
Western region	**2**	**2**	**4**
Total	**8**	**8**	**16**

The primary objective of this qualitative chapter is dual-fold. Firstly, it strives to corroborate the findings of the quantitative data and the variables in literature. Secondly, it aims to unearth any potential new variables that might surface from the information provided by the staff members and fisher folks/leaders of the microfinance schemes.

The data gathered from this qualitative stage is subsequently harnessed to fine-tune the proposed model empirically. This cyclical procedure culminated in the creation of a refined and final model that provides a more accurate depiction of the impact of microfinance interventions and credit delivery models on poverty reduction in the fishing communities of Ghana.

This qualitative investigation is not simply an adjunct to the research process; instead, it is a fundamental avenue to unearth the nuances and intricacies embedded within the domain of microfinance and its effect on poverty reduction. Ultimately, the results of this chapter contribute significantly to the overarching aim of this study to evaluate the impact of microfinance interventions and credit delivery models on poverty reduction among the fishing communities in Ghana.

6.2 Data analysis

After conducting the interviews, the study applied thematic analysis to analyse the collected data. Thematic analysis was developed by Gerald Holton a physicist and historian in the 1970s for analysing qualitative data. Braun & Clarke (2006) proposed a systematic approach to thematic analysis which involves a process used to identify patterns or themes within qualitative data. The study adopted the six-phase analytic process by Braun and Clarke (2006). The six-phase analytic process procedure is outlined and explained in figure 6.1 and next section.

Figure 6a The six-phase analytic process

Source**:** Braun and Clarke (2012)

In conducting the six-phase analytic process, the following activities were undertaken to arrive at the outcome of the thematic analysis:

Phase one: familiarisation with the data

A thorough reading and re-reading of the dataset was done in order to become familiar with the data. This was done specifically to identify the appropriate information that may be deem relevant to the research question(s). This stage was where the manual transcription of data was done by listening and typing out the conversations to rectify all challenges such as breaks and pauses in the recordings. This familiarisation process is the first phase of the thematic analysis and also an essential phase (Braun & Clarke, 2006), that allows the researcher to become well acquainted with the body of the material. Admittedly, this procedure of reading and re-reading could be more convenient and time-consuming. However, it is crucial as it sets the tone for the rest of the analysis.

Phase two: generating initial codes

The stage after the process of familiarisation is the coding of all interview transcripts. In the second phase, codes were assigned to data to give a description to what has been said in the interview, enabling the formation of the themes. The codes are the foundations on which the themes can be developed. According to Tuckett (2005) the process of coding involves organising the data into meaningful groups. The features of the test data transcribed were identified in relation to the research questions and objectives, and were assigned codes to denote the meaning conveyed through the coded excerpts. The coding stage involved an open coding to allow for a proliferation of codes, and assigning names to small portions of text.

Despite the fact that the coding was data-driven, the process remained open to numerous theoretical pathways in order to be effective (Creswell & Poth, 2016). The data were critically analysed in great depth. Each transcript was analysed independently using qualitative analysis software, specifically Nvivo. Moreover, Bryman (2016) noted that the innovation of Nvivo not only reduces the difficulties associated with qualitative data analysis but also saves time. In addition, Zamawe (2015) emphasises that Nvivo is compatible with methods such as thematic analysis and has minimal or no impact on the majority of research designs. Furthermore, Nvivo was used to import the transcript and coding accordingly. The main objective of the investigation was to unearth phrases, sentences, statements, and words that were in line with the research questions and objectives.

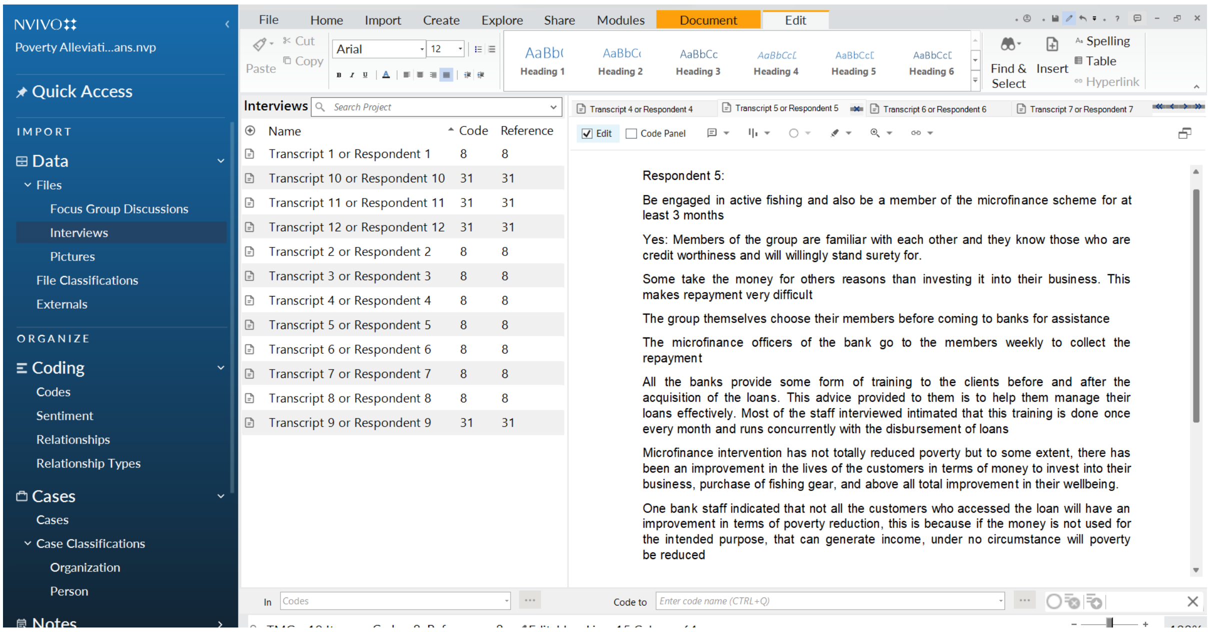


Figure 6b: Coding with Nvivo

Phase three: generating themes

The next phase after coding the data is the grouping of codes into potential themes. This stage involves the search for broader patterns or topics that emerged from the coded data, which required a re-organisation of the data to reflect the groupings (Braun & Clarke, 2006; Bryne, 2020). At this point, the number of codes were reduced and common elements were searched to enable these codes to be moved to the level of higher-order codes or themes. Additionally, this phase was undertaken when all the relevant items had been coded. The focus drifted from the interpretation of individual data items to the interpretation of aggregated meaning and meaningfulness across the dataset. The obtained coded data was reviewed and analysed with the consideration to how different codes combined according to shared meanings to form themes or sub-themes (Braun & Clarke, 2012).

Braun and Clarke's (2006) captures a theme as a pattern representing a topic or idea within qualitative data. A theme should reflect something important about the data about the research question and be supported by evidence from the data. By estimation, the theme should be backed with an evidence from the dataset, there is no fixed number of occurrence the of the theme before qualifying to be a theme.

Braun and Clarke (2006) highlight the importance of reflexivity and context in the thematic analysis process, which allows themes to be shaped by both the data and the researcher's interpretations.

Phase four: reviewing potential themes

A recursive review of the themes obtained during the analysis was conducted in relation to the coded data items and the entire dataset to ascertain the themes that may not function well or provide information to address the research questions (Braun and Clarke, 2020;2022). In this phase, some of the themes were discarded because they could not be classified as themes due to the lack of evidence to support them. Some other themes also appeared same leading to the mergers of such themes. Again, all collated extracts were reread at this stage to ensure they formed a coherent pattern with both the themes and sub themes.

Phase five: defining and naming theme

A detailed analysis of the thematic framework was presented in this phase. All the individual themes and sub-themes were expressed in relation to both the dataset and the research question(s). According to Patton's (1990), dual criteria stipulates that each theme provides a coherent and internally consistent account of data which should be clear and distinctive within themes.

Phase six: producing the report

This is the final and completion stage of the analysis where the needed information is used for the report.

6.3 Results and Interpretations (staff of the rural banks)

6.3.1 Demographics of staff

Table 6.1 below, shows the demographic information about the interview participants, this offers a pivotal foundation to comprehend the diverse range of experiences and insights, thus contributing towards the evaluation of the impact of microfinance interventions in the fishing communities in Ghana. A thorough description of the demography of participants in research provides adequate information needed for synthesising a research and to determine whether a research finding can be generalised or allows for the comparisons to be made across replications of studies (Bein, 2009; Qanga & Schutte,2021).

6.3.1.1 Work Experience of staff:

Given the varied years of service, ranging from 4 to 15 years, the participants provided a timeline of the evolving microfinance interventions and credit delivery models. Staff 1, 3, 5 and 7 had more than 6 years of experience working in their current position. The experiences of the staffs provided invaluable insights into the historical and developmental aspects of rural banks' intervention which aligns with the first research objective. On the other hand, participants like Staff 2,4,6 and Staff 8, with more than 3 years of experience help shed light on more recent and contemporary strategies or challenges faced by the rural banks. This demography outcome corroborates the research findings by Detthamrong et al. (2023) on how experience, leadership and group management play a pivotal role in the success and effectiveness of microfinance programmes.

6.3.1.2 Educational Background of staff

The diverse educational backgrounds of the staff, especially with the prevalence of 1st-degree holders which accounts for almost 75% of the total staff interviewed, and Master's Degree for staff 5 suggest a depth of academic and practical understanding of microfinance systems within the bank and Ghana as whole. According to Dary & Haruna (2013) there is a significant relationship between educational profiles of staff of MFIs and MFIs innovations. The research findings by Dary & Haruna (2013) was corroborated by Adams &Vogel (2014) adding that one finds more microfinance innovations within MFIs with more highly educated staff than those MFIs with less educated staff members. These microfinance innovations are designed to improve the operations of MFIs and to meet the needs of clients and mitigate loan default (Rehman et al., 2015). The diversity in data collected and the contribution of participants significantly aided in the development of a conceptual framework, as outlined in the third research objective, by bringing forth both grounded experiences and theoretical knowledge.

6.3.1.3 Marital Status of staff

All the total number of the staff interviewed are married, this implies a direct or indirect understanding of household financial dynamics, which are critical when considering poverty reduction strategies in communal settings like fishing communities as posited by Armendáriz & Morduch (2010). Such insights could be vital in understanding the real-world implications of the credit delivery models, resonating with the second research objective.

6.3.1.4 Ages of staff

Table 6.1 below shows that majority of the staff members interviewed were in their thirties (mid–late thirties). This comprehensive age distribution guarantees insights spanning different generational perspectives. The varied age groups ensure that while newer banking strategies might be highlighted by younger staff, traditional and long-standing interventions won't be overlooked, thereby addressing the broader aim of the study. According to Oscar (2023), the importance of diverse ages in an organisation is to provide diverse customer understanding to customers since every generation of employees have unique needs and preferences i.e. the older staff can provide insights into behaviour and preferences of older customers and vice versa.

In conclusion, the diverse demographic composition of the participants is crucial in offering a holistic understanding of microfinance interventions and credit delivery models. Given the study's aim and objectives, the varied differences in terms of the demographic composition ensures a robust analysis that is grounded in both historical legacy and contemporary challenges, central to understanding the intricate dynamics of poverty reduction in Ghana's fishing communities (Adams & Von Pischke, 1992; Hossain et al.,2023).

Table 6.1 Demographics of staff

Participants	Work Duration	Educational Background	Marital Status	Age
STAFF 1	15 years	1st degree	Married	late-Thirties
STAFF 2&6	4 years	1st degree	Married	Mid-Forties
STAFF 3	9 years	1st degree	Married	Mid-Forties
STAFF 4	4 years	HND	Married	Mid-Thirties
STAFF 5	12 years	Master’s Degree	Married	Late –Thirties
STAFF 7	7 years	1st degree	Married	Mid-Thirties
STAFF 8	6 years	1st Degree	Married	late-Thirties

6.3.2 Constructs and Themes – Staff of Rural Banks

The interviews carried out during the field study were analysed to identify a spectrum of themes and subthemes across four (4) constructs, as presented in Table 6.2 below. These outcomes exhibited the presence of four (4) constructs and ten (10) themes, complemented by twenty-six (26) related subthemes, which were acknowledged by 50-100% of the interviewees. Subthemes that garnered a score below 50% were discarded due to the fact that they were not strongly supported. The table 6.2 below provides the frequency (collective occurrences) of each variable as mentioned by the participants.

Table 6.2 Constructs and themes on variables from staff interview

Constructs	Theme	Subthemes	1	2	3	4	5	6	7	8	%
Credit delivery model (CDM)	Credit score	Income and Saving Frequency	√	√	X	√	√	√	√	√	87.5
		Membership in Group/Scheme	X	√	√	√	√	√	√	√	87.5
		Engagement in Fishing	X	√	X	√	√	√	√	x	62.5
	Risk Evaluation	Loan Misuse	√	√	√	X	√	x	√	x	62.5
		Repayment Difficulties	X	√	√	√	√	√	x	x	62.5
		Group Loans as Risk Mitigation	X	√	√	√	x	√	x	√	62.5
	Segmentation Strategy	Self-Formed Groups	√	√	X	√	x	√	√	x	62.5
		Training Prior to Saving/Loans	√	x	√	X	√	√	√	x	62.5
		Election of Leaders	X	√	X	√	√	√	√	x	62.5
	Recovery Management	Weekly Payments -	√	√	√	X	√	x	√	x	62.5
		Group Leader Involvement	√	√	√	√	x	x	x	x	50
Microfinance Intervention (MI)	Creditworthiness Assessment	The group as Surety/Collateral	√	√	√	X	x	x	x	√	50
		Familiarity and Trust Among Group Members	√	√	X	√	√	√	√	x	75
		Group Guarantee for Loan	X	√	X	√	x	√	√	x	50
	Educational Consultancy	Pre- and Post-loan Training	√	x	X	√	√	√	√	x	62.5
Strategic Focus	Risk Evaluation	Loan Misuse	√	√	X	√	√	x	x	x	50

Constructs	Theme	Subthemes	1	2	3	4	5	6	7	8	%
(SF)		Repayment Difficulties	X	√	X	√	√	√	√	x	62.5
	Creditworthiness Assessment	The group as Surety/Collateral	√	√	√	X	x	x	x	√	50
		Familiarity and Trust Among Group Members	√	x	√	X	√	x	√	x	50
	Segmentation Strategy	Self-Formed Groups	√	√	X	√	x	√	√	x	62.5
		Account Operation Before Loans	√	√	X	√	x	√	√	x	62.5
		Election of Leaders	X	√	X	√	√	√	x	x	50
Poverty Reduction Outcomes (PRO)	Microfinance Impact	Partial Poverty Reduction	√	√	√	√	√	√	√	√	100
		Improved Business Capital	√	√	√	√	√	√	√	√	100
		Enhanced Wellbeing	√	√	√	√	√	√	√	√	100
		Misuse of Loans	√	√	√	√	√	√	√	√	100

In the evaluation of the validity and internal consistency between the data gathered from the interviews and the themes outlined in table 6.2 above, the thematic analysis was performed on separate times for the results to be discussed and also obtain a consensus (Granehein & Lundman,2004). Despite this, some variables were selected even with slight variations in the interpretation between the variables discerned from the literature review and the field study. Moreover, the participants expressed their perspectives in line with their awareness, personal experiences, and emotional responses. The data from the interviews were refined, incorporating participants' expressive styles and non-verbal signals, which may have led to minor discrepancies. The collected data encapsulated participant responses within the framework of rural banks offering microfinance services within the targeted fishing communities in Ghana.

Table 6.2 above shows that all participants in the interview agreed with the established constructs, displaying minor variations concerning the variables. Participants recognised that both the identified constructs and their associated themes had both immediate and mediated effects on microfinance interventions as shown in Table 6.3 below.

6.3.2.1 Micro savings and Access to Microcredit

During the interview Staff 2 ,3 and 5 stated: *"The customer should be saving regularly with the bank at least for 6 months for the individual loans. For the group loan, the member should be part of the microfinance scheme and also be saving for a period of 2-3 months to qualify for a loan".*

STAFF 4 stated *"The average income and how often the members save with the rural bank and the number of months he/she has been a member of the microfinance scheme".*

STAFF 1 indicated that "*for individual members of the scheme to contract a loan, they should have saved with the bank for a period of 2-3 months to qualify".*

These quotes suggest that the individual's credit score, in the view of Staff 4, Staff 1, and Staff 2 are largely determined by their savings behaviour with the bank. Regular savings deposits over a period of 2 to 3 months are critical for individuals in the microfinance scheme to be considered for loans. For group loans, membership in the microfinance scheme is essential. In other words, the participant's commitment to regular savings and participation in banking programmes influences their perceived creditworthiness or credit score which is corroborated by the 3C's model (character, capital and capacity) one of the models of creditworthiness with much emphasis on capital that considers studying the customer's position financially and the regular personal savings that can be used in the event of default from income (Kousayri,2020, Chapman,2023).

6.3.2.2 Credit delivery models

In relation to liability schemes STAFF 2,4,6,7 and 8 indicated that: "*for a member to be part of the microfinance scheme to qualify for a loan at least some members should know him/her and must know where the person resides and also his or her whereabouts during group meeting times.*

All staff members indicated that:*" the group loans are safer and the rate of default is quite lower than that of individual loans since members of the group serve as sureties for any loan contracted by any group member.*

The quote by Staff 2,4,6,7 and 8 clearly suggest that familiarity and trust among group members is critical for the banks to disburse loans due to the mitigation of risk, social collateral and the prevention of information asymmetry (Besley & Coates,1995; He & Tang, 2023). The believe that any default on the part of a member will be the liability of all members, necessitates the choosing of known members.

6.3.2.3 Poverty reduction outcomes

Furthermore, under the poverty reduction outcomes, all the staff members of the four rural banks intimated that:

"microfinance interventions have not totally reduced poverty but to some extent, there has been an improvement in the lives of the customers in terms of money to invest into their businesses, purchase of fishing gear, and above all total improvement in their wellbeing".

In addition, Bank staff 1,3, and 6 further indicated that:

"not *all the customers who access the loan will have an improvement in their lives that will result in poverty reduction, this is because if the loan obtained is not used for the intended purpose to generate additional income, under no circumstance will poverty be reduced".*

Considering the quotes from all the staff members on the poverty reduction outcomes, it is clearly evidenced that the role of microfinance interventions (microcredit, micro savings) do not have an absolute impact on poverty reduction unless microfinance beneficiaries are equipped with the necessary knowledge, skills, and resources to manage their financial affairs and businesses effectively which is consistent with the works of Duvendack et al. (2011).

6.3.3 Link among the constructs -Staff

The data analysed revealed the interconnectedness of the constructs, as illustrated in Table 6.3 below. The discovery of these connections was achieved by implementing thematic analysis on the transcriptions from the eight participants. This analysis facilitated the uncovering of vital details concerning the associations between the constructs.

Table 6.3 Links among the constructs – Staff of the rural bank

Link	Items	1	2	3	4	5	6	7	8	%
CDM→PRO	Income and Saving Frequency	√	√	x	√	√	√	√	√	87.5
CDM→MI	Membership in Group/Scheme	X	√	√	√	√	√	√	√	87.5
CDM→MI	Engagement in Fishing	X	√	x	√	√	√	√	X	62.5
CDM→PRO	Engagement in Fishing	x	√	x	√	√	√	√	X	62.5
SF→CDM	Loan Misuse	√	√	√	X	√	X	√	X	62.5
SF→CDM	Repayment Difficulties	x	√	√	√	√	√	X	X	62.5
CDM→MI	Group Loans as Risk Mitigation	x	√	√	√	X	√	X	√	62.5
SF→CDM	Self-Formed Groups	√	√	x	√	X	√	√	X	62.5

Link	Items	1	2	3	4	5	6	7	8	%
MI→CDM	Training Prior to Saving/Loans	√	X	X		√	√	√	X	62.5
SF→CDM	Election of Leaders	x	√	x	√	√	√	√	X	62.5
SF→MI	Group as Surety/Collateral	√	√	√	X	X	X	X	√	50
MI→PRO	Familiarity and Trust Among Group	√	√	x	√	√	√	√	X	75
SF→MI	Group Guarantee for Loan	x	√	x	√	X	√	√	X	50
MI→CDM	Pre- and Post-loan Training	√	X	x	√	√	√	√	X	62.5
SF→PRO	Loan Misuse	√	√	x	√	√	X	X	X	50
SF→MI	The group as Surety/Collateral	√	√	√	X	X	X	X	√	50
SF→MI	Familiarity and Trust Among Group	√	X	√	X	√	X	√	X	50
SF→CDM	Self-Formed Groups	√	√	x	√	X	√	√	X	62.5
SF→CDM	Election of Leaders	x	√	x	√	√	√	X	X	50
PRO→MI	Partial Poverty Reduction	√	√	√	√	√	√	√	√	100
PRO→DM	Improved Business Capital	√	√	√	√	√	√	√	√	100
PRO→SF	Misuse of Loans	√	√	√	√	√	√	√	√	100

The excerpts from the interviews below serve as illustrations of the connections highlighted by the participants: Bank staff 1,2 and 4 mentioned that:

"Consistent savings behaviours from a customer over a period of 2 to 3 months positively influences their credit score. This, in turn, enables them to qualify for group loans, significantly contributing to their economic upliftment". (This indicates the link between the CDM→PRO)

Similarly, bank staff 7 and 5 indicated that

"A member's inclusion in the microfinance scheme, specifically after a period of 3 months, plays a significant role in determining their credit score. Additionally, the member's

engagement in income-generating activities such as fishing and having a percentage of the loan they wish to receive saved up, are some of the factors considered in the assessment of their creditworthiness by the bank. This suggests an intricate link between credit delivery and microfinance intervention in terms of how the members' creditworthiness is evaluated." (This indicates the link between "CDM→MI"; and "CDM→SF").

Furthermore, Staff 2,3 and 8 remarked,

"*The organisation's strategic focus directly impacts our credit delivery model, particularly when there are loan repayment challenges. An aligned strategic approach ensures that the credit system is robust and adaptable, essential for navigating complexities related to loan repayments.*"(This underscores the relationship between "Strategic Focus→CDM").

Bank Staff 3 commented,

"When there's a lack of strategic focus in the loan utilization process, instances of loan misuse become prevalent. Such misuse, especially if loans are not aligned with strategic needs, it can have a detrimental effect on achieving poverty reduction outcomes." (This delineates the connection between "SF→PRO").

The connection between Credit Delivery Model (CDM) and Poverty Reduction Outcomes (PRO) was strongly affirmed, with 87.5% of participants supporting the CDM→PO link. This link also received 62.5% backing, a 50% agreement, and unanimous consent (100%) in various dimensions. The link between Credit Delivery Model (CDM) and Microfinance Intervention (MI) also received substantial approval. There was 87.5% consensus for the CDM→MI link, with four specific aspects of this linkage securing 62.5% approval. The relationship between Credit Delivery Model (CDM) and Saving Frequency (SF) was endorsed by the participants, with one aspect of the CDM→SF link gaining 87.5% support, five aspects earning 62.5% backing, and one aspect garnering 50% agreement. The link between Microfinance Intervention (MI) and Saving Frequency (SF) consistently received a 50% consensus across all four dimensions, indicating the MI→SF connection.

Meanwhile, the Microfinance Intervention (MI) and Poverty Reduction Outcomes (PRO) link gained significant support, with a 75% agreement for one aspect of the MI→PRO link and another aspect getting 100% agreement.

Finally, the Saving Frequency (SF) and Poverty Reduction Outcomes (PRO) connection had a balanced consensus, with one aspect of the SF→PRO link having 50% agreement and another aspect achieving unanimous approval (100%). This shows the varying degrees of agreement among participants regarding different aspects of these interconnected constructs.

6.4 Results and interpretations (group/scheme leaders)

6.4.1 Demographics of group/scheme leaders

This aspect of the interview delved into the total number of dependents of the participants (group/scheme leaders), their educational level and whether they were engaged in other jobs apart from fishing.

From table 6.4 below, the number of dependents, the participant's total number of dependents ranged from 3-5 people in each household. Five (5) participants had three dependents, representing about 62.5% of the total number interviewed. The remaining three (3) participants had six dependents, constituting 37.5 % of the total population. Considering the outcome of the interview, the number of children in households can affect the microeconomic behaviour of that family in terms of expenditure decisions (Browning,1992;

Lusaya & Mulunda,2022) and can also increase the chance of being poor due to the dilution of household economic resources (Musgrove,1980; Schultz,2006). Regarding engaging in other forms of business aside from fishing, six (6) of the participants, constituting about 80%, alluded to the fact that they could not engage in any other business due to their positions within their various groups. The 20% of the remaining participants intimated they were engaged in petty trading and farming to supplement their income.

From table 6.4 below, the participant's education ranged from middle school leaving certificate (MSLC) to first degree. Four (4) of the participants, representing 50% of the total participants, are with senior school certificate examination (SSCE), two (2), representing 25% of the participants, are with a first degree, while the remaining two (2) are with the MSLC. Considering the different educational qualifications of the participants, it is with no doubt that having a form of formal education plays a role in the day-to-day running and planning of businesses, which enriches the participant’s understanding of the themselves and also raises creativity and productivity to secure social and economic progress to improve the distribution of income(Ozturk,2008).

Lastly, all the participants had been clients of the banks for nearly 7-9 years, but two hinted that they became group leaders three (3) years ago. Considering the time, the participants have been clients of the banks bring on board the desired qualifications and experiences needed to provide invaluable insights into the historical and developmental aspects of rural banks' intervention, which aligns with the first research objective.

Table 6.4 Demographic analysis from Group /scheme leaders interview

Participants	Dependents	Educational Background	Other business engagements	Years with the Bank
GL1	3	SSCE	NO	8
GL2	3	MSLC	YES	8
GL3	3	1st degree	NO	7
GL4	3	SSCE	NO	7
GL5	3	SSCE	NO	3
GL6	6	1st degree	NO	8
GL7	6	MSLC	YES	9
GL8	6	SSSCE	NO	3

6.4.2 Constructs and Themes – group /liability scheme leaders

The field interviews involving the leaders of the group /liability schemes revealed the existence of four (4) constructs and twenty (23) themes, further supplemented by thirty-nine (39) corresponding subthemes. Each of these was corroborated by at least half of the interviewed fisher folks. The table articulates the frequency of each variable, representing their cumulative mentions by the participating fisher folks. These findings are not only for the purposes of validation but also to enrich the themes and subthemes earlier delineated in the existing academic literature.

Table 6.5 below, reveals the unanimous agreement among the leaders of groups that participated in the field study interviews, concerning the established constructs, albeit with minor variations in relation to the variables. They all recognised that both the identified constructs and their associated themes, directly and indirectly impact the microfinance interventions they encounter

Table 6.5 Constructs and themes on variables from group /scheme leaders

Construct	Theme	Subthemes	1	2	3	4	5	6	7	8	%
Group Liability/credit delivery model (CDM)	**Scheme Membership**	**Universal membership**	√	√	√	√	√	√	√	√	100
	Group Formation	**Self-formation**	√	√	√	x	√	√	√	√	87.5
		Leader-initiated formation	x	√	√	x	√	√	√	√	75
		Invitation by leader	x	√	X	√	√	√	√	√	75
	Loan Access	**Universal group-guaranteed loan access**	√	√	√	√	√	√	√	√	100
	Loan Process	**Leader-mediated application**	√	√	√	√	√	√	√	√	100
	Repayment Influence	**Absence of process influence on repayment**	√	√	√	√	√	√	√	√	100
	Joining Reason	**Loan access and advice**	√	x	√	x	√	√	√	√	75
		Business expansion	x	√	√	x	√	√	√	√	75
		Avoidance of predatory lenders	√	√	√	x	√	√	√	√	87.5
		Cash for equipment purchase	x	√	x	√	√	√	√	√	75
	Continuation Plan	**Unanimous continuation plan**	√	√	√	√	√	√	√	√	100
	Continuation Reason	**Scheme's immense help**	√	x	√	x	√	√	√	√	75
		Positive business impact	x	√	√	√	√	√	√	√	87.5
		Satisfaction with interest rate	x	√	X	√	√	√	√	√	75

Table 6.5 Constructs and themes on variables from group /scheme leaders

Construct	Theme	Subthemes	1	2	3	4	5	6	7	8	%
Access to Micro credit (AMC)	Scheme Awareness	Leader's information	√	√	X	x	√	√	√	√	75
		Bank's advertisement	√	√	√	x	√	√	√	√	87.5
	Additional Loan	No additional loan	√	√	X	√	√	√	√	√	87.5
		Additional loan for business expansion	√	x	√	x	√	√	√	√	75
	Repayment Rate	Weekly repayment	√	√	√	√	√	√	√	√	100
	Repayment Default	No default	√	√	X	√	√	√	√	√	87.5
	Savings Frequency	Weekly savings	x	x	√	√	√	√	√	√	75
	Savings Reason	Saving after profit,	x	√	√	√	√	√	√	√	87.5
		Loan repayment alignment	x	x	√	√	√	√	√	√	75
	Savings Amount	Saving profits	√	√	√	√	√	√	√	√	100
	Micro-credit Impact on Savings	Impact on business expansion	√	√	√	√	√	√	√	√	100
		Resultant profit savings	√	√	√	√	√	√	√	√	100
Empowerment	Understanding of Empowerment	Self-reliance	√	x	√	x	√	√	√	√	87.5
		Business growth	x	√	X	√	√	√	√	√	75
	Perception of Gender Discrimination	No gender discrimination	√	√	√	√	√	√	√	√	100

Table 6.5 Constructs and themes on variables from group /scheme leaders

Construct	Theme	Subthemes	1	2	3	4	5	6	7	8	%
	Experiencing Social and Economic Empowerment	**Affirmation of empowerment**	√	√	√	√	√	√	√	√	100
	Impact of Empowerment on Social Life and Relationships	**Financial independence from spouse**	√	x	√	x	√	√	√	√	75
		Debt-free life,	x	√	√	√	√	√	√	√	87.5
		Timely payment of rates	√	√	X	√	√	√	√	√	87.5
Poverty Reduction	**Perception of Poverty**	**Lack of money and food**	√	x	√	x	√	√	√	√	75
		Absence of meaningful life	√	x	√	x	√	√	√	√	75
		Inability to afford basic necessities	√	√	X	√	√	√	√	√	87.5
	Prevalence of Poverty in the Community	**Confirmation of poverty prevalence**	√	√	√	√	√	√	√	√	100
	Causes of Poverty in the Community	**family conflicts due to financial strain**	x	√	√	√	√	√	√	√	87.5

6.4.2.1 Access to microcredit and credit delivery models

Some notable quotes from the group leaders provide clear insight into the theme of 'Loan Access,' under the 'Universal group-guaranteed loan access' subtheme. Group leader 1and 5 said,

"Being a member of the group is one major factor the bank considers prior to granting of loans. The member should be part of the microfinance scheme to qualify for a loan".

Group leader 3 intimated, *"We joined the group because the bank considers this first when granting loans, hence being a member is a prerequisite."*

Group leader 6 hinted that,

"joining the microfinance scheme is the surest and fastest way of being considered for a business loan and without the scheme it is quite difficult to access any loan."

These quotes demonstrate the strong correlation between group membership and loan access, with group leaders 1,5 and 6 emphasising that being part of the microfinance scheme significantly increases the chances of loan approval. This theme is supported by 100% of the participants as evidenced by Table 6.5 above.

In another case, Group Leaders 2, 4 and 7 shared a statement that related to the theme 'Joining Reason,' under the subtheme 'Avoidance of predatory lenders'. Group leader 2 remarked,

"*Joining the microfinance scheme helped me avoid predatory lenders and gave me access to safer, more reliable loans*."

Group leader 3 and 4 stated,

"*We joined this scheme to access more secured loans and also safeguard our initial contributions since some money lenders bolted with our savings."*

Group leader 5 and 7 intimated, *"Our savings are protected and secured, we can check our loan balances anytime, any day without waiting for specific bank staff coming to us.*

These highlights how joining the microfinance scheme serves as a protective measure against potential financial pitfalls, such as shylock (a person who lends money with very high interest) and unscrupulous MFIs, a sentiment that is backed by 75% of the interviewed leaders.

The theme 'Repayment Rate,' under the 'Weekly repayment' subtheme, is another point of discussion, as group leader 3,4 and 7 stated,

"*The weekly repayment option is manageable and less stressful*." This was buttressed by group leader 4 who stated, *"Weekly repayment has helped majority of us since it is quite flexible and less stressful"*

These assertions suggest that the weekly repayment plan positively impacts their ability to handle the loan repayment, a belief supported by all the group leaders interviewed, as seen in the table 6.5 above.

6.4.2.2 Empowerment and training

Considering the theme self-reliance, debt free life and gender discrimination all the group leaders indicated that:

"before loans are contracted from the banks, they are briefed about the do's and don'ts of the credit and also trained on best practices to adopt in their businesses".

Group leader 2,4 and 7 indicated that:

"any *member who avails himself or herself during group meetings with the bank or training sessions or when the distributions of resources needed for business growth are underway, no form of discrimination occurs".*

All the group members stated that:

"*they believe without the training from the bank on best ways to manage their loans coupled with weekly monitoring, most of them would have had difficulty paying their loans which will have resulted in name calling amongst the group members".*

These above statements by the group leaders indicate the role of empowerment and training on accessing microcredit within the rural fishing communities in Ghana which is corroborated by Cohen and Avenot (2014).

6.4.2.3 Poverty reduction outcomes

Finally, under the theme 'Perception of Poverty,' the 'Lack of money and food' subtheme drew a direct quote from group leader 2,3 and 8, who stated,

"*Poverty is the constant struggle for money and food with any means of getting them*."

Group leader 3,5 and 6 indicated that:

"*in as much as loans contracted from the banks has improved their wellbeing and also improved their economic situations, it cannot be conclusive that poverty has been reduced".*

Group leader 1 indicated that:

"*when the loan obtained is not used for the intended purpose, many of the beneficiaries find it very difficult to pay back making them worse off", this make the prevalence of poverty high within the group and the community at large".*

This personal definition of poverty underlines the daily realities of these fisher folks and their communities, especially when it comes to the impact of microcredit and the corresponding effect on the wellbeing. Even though, some of the group leaders admitted that loans meant for business if is not used for the intended purpose, it may result in a perpetual cycle of poverty resulting in the inability to afford basic necessities of life, absence of meaningful life and high poverty prevalence rate in the communities.

6.4.3 Links among the constructs – group /scheme leaders

The data analysis shed light on the intricate interplay between the constructs, as demonstrated in Table 6.6 below. These relationships were unearthed through the application of thematic analysis and obtained from the interviews conducted with eight group leaders. This analytical process helped to extract important insights pertaining to the interconnectedness among the constructs.

The passages from the interviews of the group leaders provided below shed light on the intricate linkages that participants pointed out:

Group leader 5 noted that:

"*A sense of collective unity is vital in our group, as it plays a significant role in helping us acquire loans. This mutual support and trust, facilitated through universal membership, not only strengthens our relationships but also enhances our credibility as potential borrowers*." (This underscores the "CDM→AMC" link with a 100% consensus.)

Another group leader emphasized the self-formation aspect of their group, saying:

"We came together voluntarily, realizing that as a group, we had more chances to improve our financial conditions. Our combined savings have now enabled us to explore larger economic opportunities."

"*The cohesiveness in the group is one major factor holding the group and making us successful, we monitor, advise and also look up for each other in our various schemes so that none of us will make a loss and default in payment.* (This illustrates the "CDM→PR" link, as supported by 75% of the participants.)

Furthermore, group leader 3 explained that:

"*We the leaders initiated the formation of our group. The bank only explained to us the economic advantages that group membership could bring, which included increased access to microfinance opportunities. This prompted us to embrace the scheme willingly."* (This indicates the "CDM→AMC" link, as observed by 50% of participants.)

In alignment with this, group leader 4 mentioned that:

"We received an invitation from our group leaders to join the microfinance scheme. The assurance of universal group-guaranteed loan access was a primary incentive." (This implies the "CDM→AMC" link, supported by 50% of participants, and underscores the "CDM→AMC" link with 100% consensus, regarding universal group-guaranteed loan access.)

Group leader 5 and 7 narrated their experiences, stating that:

"We were drawn towards the microfinance scheme due to the promising prospects of business expansion. The understanding that consistent savings could improve our creditworthiness

further motivated us". (This highlights the "CDM→AMC" link with respect to business expansion, as recognized by 50% of participants).

These real-life testimonials highlight the substantial impacts of Credit Delivery Models (CDM) on the fisher folk's access to Poverty Reduction (PR), Ability to Mobilize Credit (AMC), and Empowerment (EM) initiatives. By sharing their experiences, they corroborated the theoretical links postulated in the study.

Under the construct **empowerment**, group members stated:

"The total dependence on spouses and friends for financial support, and the also getting embarrassed by friends because of debts has been curtailed, which has resulted in improving my relationships with friends, improved my social life and to some extent brought about a level of financial freedom".

The quote above highlights the role of empowerment in fostering business growth and enhancing entrepreneurial skills, which are crucial for individuals and groups to seize economic opportunities and achieve sustainable livelihoods (Assefa et al.,2020). This illuminates the "EMT→PRO" link with respect to business expansion, as recognized by 100% of participants.

Considering the poverty reduction outcomes, participants had mixed responses. Different group members outlined the following:

Group leader 2 and 3 stated:

"*To some extent, microfinance interventions and credit delivery models have actually reduced poverty. This is not to say poverty has been totally reduced in the community".*

Group 1,4 and 5 stated:

“The percentage of money to be held in the savings account is just a ripe off making the customer go through perpetual poverty. This doesn’t reduce any poverty but aggravate the poverty situation of most us.

Group 6 and 7 stated:

“Without the microfinance intervention and the microfinance scheme, it will be very difficult to overcome the challenges associated with this fishing business especially in the lean seasons where money is scarce and an upsurge in hunger or poverty”.

Group 8 stated:

“If any of us ignore the advice by the staff of the rural banks and also refuse to use loans accessed as planned, the person ends up defaulting on loan payment and also run in debt”.

These insights underscore the rich tapestry of experiences and perceptions of the participants, shedding light on the interplay between group formation, loan access, and processes, reasons for joining the scheme, repayment dynamics, scheme awareness, additional loan requirements, savings behaviours, understanding and experience of empowerment, as well as their perceptions of poverty.

Table 6.6 Links among the constructs –group/scheme leaders

Link	Subthemes	1	2	3	4	5	6	7	8	%
CDM→PRO	Universal membership	√	√	√	√	√	√	√	√	100
CDM→PRO	Self-formation	√	√	√	x	√	√	√	√	87.5
CDM→AMC	Leader-initiated formation	X	√	√	x	√	√	√	√	75
CDM→AMC	Invitation by leader	X	√	X	√	√	√	√	√	75
CDM→AMC	Universal group-guaranteed loan access	√	√	√	√	√	√	√	√	100
CDM→PRO	Leader-mediated application	√	√	√	√	√	√	√	√	100
CDM→PRO	Loan access and advice	√	X	√	x	√	√	√	√	75
CDM→AMC	Business expansion	X	√	√	x	√	√	√	√	75
CDM→PRO	Avoidance of predatory lenders	√	√	√	x	√	√	√	√	87.5
Em → CDM	Cash for equipment purchase	X	√	X	√	√	√	√	√	75
CDM→PR0	Scheme's immense help	√	X	√	x	√	√	√	√	75
Em → CDM	Positive business impact	X	√	√	√	√	√	√	√	75
Em → CDM	Satisfaction with interest rate	X	√	X	√	√	√	√	√	75
AMC→PR0	Leader's information	√	√	X	x	√	√	√	√	75
AMC→PR0	Bank's advertisement	√	√	√	x	√	√	√	√	87.5
AMC →CDM	No additional loan	√	√	X	√	√	√	√	√	87.5

Table 6.6 Links among the constructs –group/scheme leaders

Link	Subthemes	1	2	3	4	5	6	7	8	%
AMC→PR0	Additional loan for business expansion	√	X	√	x	√	√	√	√	75
Em→AMC	Weekly repayment	√	√	√	√	√	√	√	√	100
Em→AMC	No default	√	√	X	√	√	√	√	√	87.5
Em→AMC	Loan repayment alignment	X	X	√	√	√	√	√	√	75
Em→AMC	Impact on business expansion	√	√	√	√	√	√	√	√	100
Em→AMC	Business growth	X	√	X	√	√	√	√	√	75
Em→AMC	Debt-free life,	X	√	√	√	√	√	√	√	87.5
Em→AMC	Timely payment of rates	√	√	X	√	√	√	√	√	75
CDM→PRO	Lack of money and food	√	X	√	x	√	√	√	√	75
AMC→PRO	Absence of meaningful life	√	X	√	x	√	√	√	√	75
AMC→PRO	Inability to afford basic necessities	√	√	X	√	√	√	√	√	87.5
CDM→PRO	Confirmation of poverty prevalence	√	√	√	√	√	√	√	√	100
CDM→PRO	family conflicts due to financial strain	X	√	√	√	√	√	√	√	87.5

CHAPTER SEVEN

DISCUSSION OF QUANTITATIVE AND QUALITATIVE RESULTS

7.1 Introduction

7.1.1 Data triangulation

In this chapter, a discussion of the findings from both the qualitative and quantitative sections of the study are presented, triangulating the dataset from the quantitative and qualitative data after analysis. Data triangulation is a methodological approach in a research aimed at increasing the validity and credibility of research findings through cross verification of data with varied methods and sources(Cresswell,2014). Major issues data triangulation addresses are biases and weaknesses associated with a source or method of data.

The triangulation of data was carried out after the two data sources were separately analysed, the findings were compared to look for contradictions and corroborating evidence or new information from the two data analysed. This was basically done to foster an in-depth understanding of the research questions thereby helping to draw conclusions the integrate the insights from the different sources. A thorough discussion was done on how the qualitative results provided context to the quantitative results (Johnson & Onwuegbuzie,2004; Creswell & Plano Clark,2018).

7.2 Microfinance interventions and Poverty reduction

The quantitative analysis yielded intriguing insights into the interplay between the independent variables, namely micro savings, access to microcredit and empowerment and training, and their association with the dependent variable (poverty reduction outcomes). Contrary to initial expectations, the quantitative findings revealed a negative relationship between micro savings and poverty reduction, indicating that an increase in micro savings is linked to a decrease in poverty reduction outcomes which is buttressed by the qualitative research in which the participants in the interview revealed that the amount of money requested to be kept as savings for a period of time to qualify for a loan puts a strain on them resulting in their inability to contract the needed amount of money to expand their businesses resulting in the stagnation in the growth of business. Moreover, their savings do not generate enough interest for them to be able to take them out of poverty reduction. Contrary to studies by Ampah (2012); Negassa, (2021); Kumari, (2021) whose studies established a significant positive relationship between micro savings and poverty reduction. As observed, the negative relationship between the micro savings and poverty reduction outcomes in this study may be due to the dominance of microcredit (loans) by the suppliers (microfinance providers). This observation is buttressed by Datar et al. (2008) and Davis (2012), who assert that the supply side may be constrained if there is a significant demand for micro savings; hence, banks do not want to offer these products to their clients due to the high costs to the banks. Arguably, the mission drift (e.g. high interest rates, request for collateral) postulated by critics of microfinance schemes has been unearthed since savings usually attract some interest paid by the bank, which banks feel is quite expensive. However, microcredit is an option where the banks will make money instead from their clients in terms of interest on loans contracted.

Furthermore, the quantitative analysis indicated a negative relationship between access to microcredit and poverty reduction outcomes, implying that an increase in access to microcredit is associated with a decrease in poverty reduction outcomes, which is consistent with the qualitative research in which the participants indicated that the interest charged on the loans contracted is exorbitant which results in continuous loan defaults. Additionally, the participants in the qualitative research also revealed that loans not used for the intended purpose and do not generated any income which may result in poverty reduction. These findings are consistent with recent studies that underscore the intricate and multifaceted nature of microfinance interventions and their nuanced effects on poverty reduction (Banerjee et al., 2015; Hermes & Lensink, 2011; Karim et al., 2018; Negassa,2021). Furthermore, the qualitative research revealed that the impact of micro savings and access to microcredit on poverty reduction may be influenced by various contextual factors such as size of loan, purpose for the loan and the effectiveness of the microfinance programmes implemented.

The findings suggest that increasing awareness of access to microcredit through effective information dissemination and the timely access to additional loans for business expansion positively contribute to poverty reduction efforts (Karim et al., 2019; Asante et al., 2020; Rahman et al., 2020). Furthermore, the promotion of regular savings practices, aligning savings with loan repayment, and encouraging the use of savings for business expansion and profit savings can enhance the impact of microcredit on poverty reduction (Arun et al., 2019; Asante et al., 2020; Rahman et al., 2020).

On empowerment, the quantitative research revealed a positive relationship with poverty reduction which is in line with the qualitative research, in which participants said the skills and training offered before and after contracting loans improves their financial literacy. These findings suggest that empowering individuals with self-reliance skills, providing business growth opportunities, promoting gender equality, and enabling financial independence contribute significantly to poverty reduction outcomes (Arun et al., 2019; Karim et al., 2019; Rahman et al., 2020).

The quantitative and qualitative analysis indicate that microfinance intervention, such as access to credit and micro savings, when combined with empowerment and training, yield positive outcomes for poverty reduction. Therefore, a comprehensive approach that sought to incorporate elements of microfinance services (access to credit, micro savings), empowerment and training is crucial for maximizing the impact of microfinance interventions on poverty reduction in Ghana's fishing communities.

Additionally, the qualitative analysis revealed that microfinance programmes need to integrate empowerment initiatives such as business training, financial literacy programmes, and gender-focused interventions, to address the multifaceted challenges faced by individuals in poverty. Moreover, it is crucial to tailor microfinance interventions to the specific needs and contexts of the fishing communities to ensure their effectiveness and sustainability (Arun et al., 2019, Karim et al., 2019, Rahman et al., 2020).

7.3 Credit delivery models and Poverty Reduction

The Credit delivery model also known as the group liability schemes have gained considerable attention as a poverty reduction strategy in Ghana's fishing communities. These findings from both qualitative and quantitative analyses, provide an understanding of the various aspects of credit delivery models and their impact on poverty reduction. However, qualitative analysis further revealed several key factors within the credit delivery model (CDM) construct which was contrary to the quantitative research. These factors include Scheme membership which emerged as a crucial key factor, highlighting universal membership in microfinance schemes among fishing communities. The findings suggest that microfinance interventions provide financial services to all members of the community, regardless of socioeconomic status or background. This inclusive approach aligns with studies undertaken by Otero et al. (2017) and Nuhu (2018) who emphasised on the importance of inclusive financial services and access to credit for marginalized populations.

Furthermore, universal membership ensures that individuals in fishing communities have equal opportunities to benefit from microfinance interventions and engage in poverty reduction activities. Furthermore, group formation was another prominent construct in the qualitative analysis, with a particular emphasis on self-formation. The findings indicate that individuals within the fishing communities come together voluntarily to form their own groups for microfinance participation. Self-formed groups enable individuals to come together based on shared interests and mutual trust, resulting in better group dynamics and a stronger support system for poverty reduction initiatives. Self-formed groups have higher levels of social cohesion, trust, and collective responsibility (Duvendack et al; 2017, Pitt et al; 2018).

Additionally, access to loan and the loan processing time were also significant key factors within the CDM construct. The qualitative analysis revealed that universal group guaranteed loan access and leader-mediated application processes. This implies that microfinance interventions strive to provide equal access to credit for all members of the microfinance scheme, ensuring that no individual is left behind. According to Bateman & Chang (2017); Helms (2017), the importance of simplified loan processes and group guarantees are to facilitate access to credit ensuring that all members have equal opportunities to access credit, promoting inclusivity and reducing poverty among the members.

The findings from both the quantitative and qualitative research further indicated that an effective credit delivery model, characterized by inclusive membership, simplified loan processes, and repayment flexibility, is instrumental in poverty reduction efforts (Otero et al., 2017; Nuhu, 2018). By ensuring access to credit and supporting borrowers' repayment capacities, the CDM used by the rural banks contribute to improving livelihoods and reducing poverty among fishing communities. The link between the qualitative and quantitative findings highlight the multidimensional nature of microfinance interventions and their impact on poverty reduction and also the importance of credit delivery models as a means of delivering microfinance interventions (access to microcredit) in poverty reduction in Ghana's fishing communities.

7.4 Poverty Reduction Outcomes

In contrast to the projected impact based on the existing literature, the findings presented results that deviated from the anticipated outcomes regarding the relationship between the independent variables and poverty reduction outcomes. Some literatures have suggested a positive influence of micro savings and access to microcredit on poverty reduction. However, the analysis of this study revealed a negative association between these independent variables and poverty reduction outcomes. This disparity challenges the conventional assumptions derived from prior studies and underscores the intricate nature of microfinance interventions and their effects on poverty reduction. For instance, a recent research by Johnson et al. (2021), highlighted the complexity of microfinance interventions and the need for a more nuanced understanding of their impacts on poverty reduction. Similarly, a study by Chen et al. (2018), emphasised the importance of considering contextual factors and tailored approaches in microfinance interventions to achieve effective poverty reduction outcomes. Consequently, these findings, coupled with the aforementioned literature, emphasize the necessity for a comprehensive re-evaluation of the current understanding and call for a more nuanced and context-specific approach to microfinance interventions in order to enhance their effectiveness in reducing poverty.

Furthermore, the findings underscored that effective empowerment programmes, including pre and post loan training play a crucial role in mitigating the negative impacts of Micro Savings and Access to Microcredit on poverty reduction. These programmes were found to enhance financial literacy, entrepreneurial skills, and business management capabilities among microfinance recipients, empowering them to make informed decisions and effectively utilize microfinance services and resources (Duvendack et al., 2011; Copestake et al., 2013). It is through the integration of empowerment programmes that individuals and groups are equipped with the necessary knowledge, skills, and confidence to effectively manage their businesses, generate income, and escape the cycle of poverty. By addressing not only the financial needs but also the socio-economic empowerment of microfinance recipients, microfinance interventions can have a more transformative effect on poverty reduction (Duvendack et al., 2011; Copestake et al., 2013; Negassa,2021).

Additionally, the findings highlighted the importance of trust, familiarity, and group dynamics within microfinance interventions. The use of group-based collateral and creditworthiness assessment procedures fostered trust and familiarity among group members, providing a support system that reduces the risk and improves the repayment rates of microcredit loans. The group guarantee for loans and the shared responsibility among members created a sense of accountability and collective support, contributing to successful microfinance outcomes (Arun et al., 2019; Karim et al., 2019; Asante et al., 2020). These findings highlight the social dynamics inherent in microfinance interventions and underscore the significance of social capital and trust-building mechanisms in enhancing poverty reduction outcomes.

The qualitative findings, further highlighted the significance of factors such as scheme awareness, leader's information, and bank's advertisement in promoting the microcredit schemes. It was observed that when potential borrowers were well-informed about the microcredit schemes and had access to accurate and transparent information about the leaders and banks involved, they were more likely to engage with the microfinance schemes with the rural banks involved and also prevent the issue of information asymmetry. This enhanced awareness and transparency fostered trust among borrowers and increased their willingness to participate in microfinance programmes (Arun et al., 2019; Asante et al., 2020).

In conclusion, the integrative approach utilised by this study allowed for a nuanced comprehension of the impact of microfinance interventions and credit delivery models by rural banks on poverty reduction. By correlating the qualitative narratives with the quantitative evidence, a more compelling and comprehensive outcome is achieved and aligns with the objectives of this research.

CHAPTER EIGHT

FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

8.1 Introduction

This chapter reviews the objectives of the research, summarises the research findings and conclusions and makes recommendations based on those findings. It also identifies the study's implications, discusses its limitations, and suggests future research.

8.1.1 Review of objectives

1. To identify and examine the microfinance interventions provided by rural banks aimed at reducing poverty in fishing communities in Ghana.

2. To analyse the credit delivery models used by rural banks and their effectiveness in reducing poverty in fishing communities in Ghana.

Considering the studies of other scholars in the literature review on the microfinance and poverty reduction, it was necessary to test the following hypotheses.

Hypotheses

H1: Microcredit provision contributes positively to poverty reduction outcomes.

H2: Micro Savings contributes positively to poverty reduction outcomes.

H3: Empowerment and training impact positively on poverty reduction outcomes.

H4: Credit delivery models contribute positively to poverty reduction outcomes.

8.1.2 Reviewing the Gap in literature

Microfinance interventions are holistic and comprehensive programmes that need a well thought through policy and framework on its implementation to achieve a desired outcome. Many studies on microfinance provision and poverty reduction in developing economies have done extensively well in looking at the implementation challenges associated, however looking at high rate of poverty in developing economies such as Ghana, where the great number of indigents depend on microfinance services but the issue of poverty in rural Ghana is still an issue, creating a gap in literature on addressing the effectiveness and relevance of microfinance programmes and how the delivery methods impact on poverty. The outcome of this study reveals a holistic approach to microfinance that seeks to consider not only the financial aspects of microfinances but the non-financial aspects (training, empowerment and capacity building) which put the indigents in a better position of coming out of poverty.

8.1.3 Summary of key findings

Objectives 1: Identifying and examining microfinance on poverty reduction

The current study on the impact of rural banks' microfinance interventions on poverty reduction reveals that microfinance is not a panacea of poverty reduction.

There are several studies that have suggested that microfinance is a significant tool in the global fight against poverty, notably amongst them is a research undertaken in Bangladesh on the impact of microcredit programmes that hinted that a 1% increase in credit from MFIs to women increased the probability of a girl-child enrolling in school to 1.86 %. This data revealed that microcredit had a positive effect on education which empowers them to come out of poverty which also affirms the results of previous researchers like Imtiaz et al., (2014);

Iqbal et al., (2015); Mahmood et al., (2016). Additionally, scholars like Awan &Bukhari (2020) and Yunus (2007,2023) have also suggested that microfinance has helped improve the livelihoods of beneficiaries, leading to job creation within communities.

However, many scholars, such as Bateman (2010), have argued that microfinance has led to over-indebtedness among borrowers, particularly when high interest rates are charged, suggesting that for some microcredit borrowers, the pressure to pay back loans leads to a cycle of borrowing that traps them in cycle of debt rather than alleviating poverty. This unearths the risk of microcredit as more exploitative than liberating. Furthermore, a study by Banerjee et al. (2015) found that while microcredit did improve some business outcomes, it did not have a significant, lasting impact on the poverty levels of borrowers which is consistent with a study by Gelata (2015) conducted in Northern Ethiopia which reported that microfinance worsens the poverty situation of the poor. Furthermore, scholars such as Aghion & Duflo (2017); Addae-Korankye (2018) Banerjee and Duflo (2019); Matul et al. (2020) have also suggested that microfinance is not a tool for poverty reduction.

This current study Corroborates the findings of previous scholars, confirming the negative relationship between microfinance and poverty reduction outcomes, in both the quantitative and qualitative analysis chapters of this study, confirming that microcredit and micosavings cannot significantly bring about poverty reduction.

However, combining microfinance programmes with well thought through empowerment programmes will bring about poverty reduction. The quantitative research of this study revealed a positive relationship between Empowerment and training and Poverty Reduction outcomes, which corroborates a study by the World Bank (2022) that revealed that households who take part in microfinance integrated programmes experience a 20% increase in their income compared to those relying solely on microfinance. This integrated approach provides not just capital but also knowledge and skills to utilise that capital effectively. Additionally, a 2023 report by the Microfinance Gateway highlighted that entrepreneurs who participated in empowerment programmes, alongside microfinance accessed better business training, which led to an increase in business sustainability rates by 30%, resulting in entrepreneurs feeling more confident in making business decisions. Moreover, empowerment and training programmes equip individuals with the knowledge, skills and resources necessary to manage their financial affairs effectively, make informed decisions, and engage in income-generating activities (Jackson et al., 2023). Furthermore, the qualitative analysis further emphasised the importance of empowering individuals with self-reliance skills, fostering business growth opportunities, and promoting gender equality, which significantly contributes to poverty reduction outcomes as posited by Martinez & Rodriguez (2023). Empowerment and training are integral to the success of microfinance provision, as they play a pivotal role in enhancing the positive impact of microcredit and micro savings on poverty outcomes (Johnson & Smith, 2023).

Objectives 2: Analysing the credit delivery models and their effectiveness on poverty reduction

The quantitative analysis demonstrated a positive relationship between the Credit Delivery Model and Poverty Reduction outcomes (Johnson & Smith, 2023). By ensuring equitable access to credit, the Credit Delivery Model enhances the capacity of individuals and groups to invest in income-generating activities (Anderson et al., 2023).

The qualitative analysis further supported these findings, underscoring the significance of scheme membership, self-formed groups, loan access, and repayment influence within the credit delivery model (Walker & Thompson, 2023). Microfinance clients often choose the group liability schemes to resolve their financial difficulties, indicating a significant demand for such interventions in the fishing communities in Ghana (Smith & Davis, 2023). Moreover, the implementation of group liability schemes has emerged as a preferred method by banks to resolve the loan default issue. For the microfinance client, these group liability schemes become a means or prerequisite to contract loans, fostering a sense of collective responsibility and mutual support among group members (Wilson & Thomas, 2023).

Furthermore, credit liability schemes have become a loan acquisition tool from rural banks in Ghana, making the loan acquisition process quick and less cumbersome, with minimal paperwork involved (Hughes & Rogers, 2023). This emphasises the efficiency of the credit delivery model employed by these institutions, facilitating timely access to credit and, thus, contributing to effective poverty reduction.

8.2 Research implications for the microfinance industry

Microfinance provision has widely been projected as a tool for poverty reduction, aimed at providing services such microcredit, micro savings and insurance. However, this current research has revealed that microfinance (i.e. microcredit and micro savings) does not contribute to poverty reduction in the fishing communities in Ghana. As a result, rises the following implications for the microfinance industry.

- **Microfinance Institutions(MFIs)**

Reputation and Credibility Concerns**:** Considering the research findings which reveals that microfinance programmes (micro savings, microcredit) by MFIs are not poverty reduction tools, the reputation and credibility of these institutions could be in jeopardy, leading to loss of trust of these programmes from donors, investors and also clients of the MFIs.

Issues of Sustainability: For MFIs to sustain microfinance programmes, it is dependent on the programme's ability to impact positively on the social and economic wellbeing of the beneficiaries. The outcome of this research reveals that the levels of poverty among the beneficiaries of the microfinance programmes are on the increase, this can send a negative signal or challenge to the microfinance investor communities, thereby affecting the sustainability of the programme in the long-term. The risk of Over-indebtedness: Focusing solely on financial inclusion by MFIs without paying adequate attention to the financial well-being of borrowers, can result in the risk of over-indebtedness among clients. In a matter of time can exacerbate poverty instead of alleviating it, as debt repayment becomes a struggle /burden for clients.

Alternative Models and approaches: The effectiveness of any microfinance programme is prerequisite to the success of the programme, however when the microfinance programme is seen by clients as not being effective to in addressing the issue of poverty as revealed by this research could result in clients shifting towards other alternative models or approaches of addressing their needs.

- **Policymakers**

Stringent Regulations: Regulatory bodies and the governments may tighten the rules and regulation governing the operations of the microfinance sector as in the case of the bank clean up exercise that occurred in Ghana where the licenses of a number of MFIs were revoked due to non-compliance, regulatory breeches (BOG,2022). The lack of MFIs demonstrating their programmes impact on poverty reduction could lead to stringent regulatory policy and increased in scrutiny in the microfinance industry for the intended purposes to be achieved.

8.3 Methodological implication of study

This study departs significantly from previous researches relating to the evaluation of microfinance interventions on poverty reduction in Ghana, particularly in its choice of research approach. While many studies in this field have traditionally favoured either qualitative or quantitative methods, each with its own set of challenges, this study takes a novel approach by employing a mixed methods analysis. The choice of mixed method in this study is for the purposes of offering a methodological advantage that enhances the validity and depth of research findings compared to relying solely on a single method. The mixed method approach in this study comprehensively understood multifaceted issues by merging quantitative and qualitative data. This integration not only enriched the narrative in the research but also provided a deeper insight, which is very important in the field of social sciences, as indicated by Creswell & Plano Clark (2018). Additionally, by employing multiple methodologies, can validate results through triangulation. The qualitative data was used to support, corroborate and clarify the quantitative results, thereby reinforcing the reliability and credibility and of the overall study (Fetters et al., 2013). Furthermore, the mixed method allows for flexibility in selecting data collection instruments tailored to the research query. For instance, the use of the qualitative research in this study proved very effective in investigating areas lacking existing literature. Moreover, using the sequential explanatory design, where the quantitative data is collected and analysed first to set the stage for qualitative exploration, provides a robust framework for understanding the findings (Creswell, 2014). Furthermore, considering the study's qualitative approach for the mixed method allowed for a closer interaction with the participants, ensuring that participant's perspectives and experiences are accurately and genuinely represented in this study. According to Barnett-Page and Thomas (2009), this is important in participatory research settings. Therefore, the mixed-method research used yielded more thorough evidence for practical and policy applications, for decision-making.

8.4 Recommendations

The recommendations made in this section are based on the findings and conclusions to enhance the effectiveness of microfinance interventions and credit delivery models for poverty reduction in the fishing communities in Ghana:

- ***Strengthening Empowerment programmes***

Microfinance interventions by rural banks should incorporate comprehensive empowerment programmes that provide financial literacy training, business development support, and gender-focused initiatives. These programmes should enhance the capabilities and self-reliance of individuals and groups to enable them to manage their businesses and make informed financial decisions.

- ***Fostering Trust and Group Dynamics***

Microfinance programmes should prioritise establishing trust and support systems within microfinance groups. Regular group meetings, knowledge-sharing sessions, and collaborative relationships among group members should be fostered. Group-based collateral arrangements and shared responsibility mechanisms should be encouraged to promote accountability and reduce the risk of loan defaults.

- ***Enhancing Credit Delivery Processes***

Credit delivery models should focus on inclusive membership and simplified loan processes to ensure equitable access to credit. Dissemination of accurate and transparent information about microcredit schemes and banks is crucial in promoting awareness and trust among potential borrowers. Flexible repayment structures and regular repayment schedules should be implemented to support responsible financial behaviour and improve loan repayment rates.

- ***Contextualising the interventions***

Microfinance interventions should be tailored to the specific needs and challenges of fishing communities in Ghana. A deep understanding of the socio-economic context, cultural dynamics, and unique characteristics of the communities is essential.

Microfinance interventions should be designed with community members and stakeholders to ensure their relevance and effectiveness.

8.5 Limitations of the study

The present study has limitations, which must be acknowledged to place the findings in the appropriate context. The study was conducted exclusively in four fishing communities in four regions of Ghana; the results of this study might not apply or be generalised to other different geographical or cultural settings. The reason is that, although the same country, there are differences in economic conditions and socio-cultural characteristics of the people within one region, community and district to the other; hence, there may be differences in effective demand leading to differences in the policies, profits of Clients and Rural banks. Therefore, generalizing the findings for larger groups or the entire country of nearly 30 million people must be done cautiously.

Another constraint is the study's emphasis on the narratives and experiences of the fishing communities, mainly excluding the perspectives of critical stakeholders such as governmental bodies and NGOs. Such viewpoints might shed light on different dimensions of microfinance interventions and their role in poverty reduction. Consequently, it would benefit upcoming research to broaden the participant base for a more holistic comprehension of the intricacies related to microfinance endeavours to alleviate poverty.

Time constraints also presented challenges, potentially curtailing the depth and breadth of data collection. Additionally, accessing data on specific rural bank staff and clients could have been improved due to limited time availability or, at times, an evident hesitation to divulge information or answers that are more socially acceptable rather than a reflection of their true feelings or behaviour. This factor could have inadvertently influenced the comprehensiveness of the data collected.

From a statistical standpoint, certain methodological constraints were evident. The sample size, although substantial, was restricted to only rural banks across four fishing communities in four regions. This limitation potentially reduces the external validity of the findings, given the vast array of rural banks and the diverse client base they serve.

Nevertheless, even with these constraints, this research enriches the extant literature on microfinance and its role in poverty alleviation. It offers actionable insights for those operating in microfinance and poverty reduction. The revelations underscore the pressing need for nuanced approaches combining financial services with empowerment initiatives and customized interventions. Such strategies appear pivotal in addressing poverty's challenges, especially within fishing communities.

8.6 Areas for Future Research

From the findings and the limitations of the study, subsequent investigations should replicate this study in other fishing communities in Ghana with an increased sample size in the number of the rural banks and their staff and also the fishing group members to corroborate these findings and broaden the research spectrum.

Secondly, future study should conduct an impact assessment of social protection programmes of MFIs in empowering women in fishing communities towards poverty alleviation efforts in rural areas in Ghana since women are now engaging in the business.

Thirdly, further research should explore the impact on high lending rates by microfinance institutions on the operations of SMEs in rural communities in Ghana.

Lastly, future studies should explore different contexts and include a broader range of stakeholders such as the ARP Apex Bank to enrich the understanding of microfinance interventions and poverty reduction in Ghana since the current study was limited to only rural banks.

8.7 Conclusion

The results of the study from the OLS regression rejects

H1 (Microcredit provision contributes positively to poverty reduction outcomes)

H2 (Micro Savings contributes positively to poverty reduction outcomes),

However, the results of the OLS regression supports:

H3 (Empowerment and training impact positively on poverty reduction outcomes) and also H4(Credit delivery models contributes positively to poverty reduction outcomes).

Although the negative relationships between micro savings, access to microcredit and poverty reduction outcomes challenge conventional assumptions and highlight the need for a comprehensive understanding of the factors at play, it can be concluded that microfinance interventions have a complex and multifaceted negative relationship with poverty reduction in the fishing communities of Ghana.

The positive relationships between the Credit Delivery Model and Poverty Reduction Outcomes and Empowerment and training and Poverty Reduction Outcomes underscore the importance of inclusive membership, simplified loan processes, and empowerment initiatives in promoting equitable access to credit and enhancing poverty reduction efforts.

Additionally, promoting micro savings as a poverty reduction tool and adopting group-based approaches can further strengthen the impact of microfinance interventions on poverty reduction outcomes (Barua &Khaled,2023).

In conclusion, the findings of this study revealed that microfinance interventions such micro savings and micro credit alone cannot be effective and relevant in the fight against poverty unless a comprehensive and context-specific approach integrating financial services with empowerment initiatives and fostering trust and group dynamics to microfinance interventions and credit delivery models in the fishing communities in Ghana.

By implementing the recommended actions and advancing research in this field, stakeholders can enhance the effectiveness and sustainability of microfinance interventions, leading to improved poverty reduction outcomes and better livelihoods for fishing communities in Ghana and beyond.

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APPENDIX A

DE MONTFORT UNIVERSITY

TOPIC: THE IMPACT OF RURAL BANKS' MICROFINANCE INTERVENTIONS ON POVERTY REDUCTION IN THE FISHING COMMUNITIES IN GHANA

I am a DBA student at De Montfort University, Faculty of Business and Law in the United Kingdom. I am currently researching the topic mentioned above. This self-administered questionnaire is intended to elicit information about the impact of microfinance interventions on poverty reduction on the fishing communities. Be assured that the data obtained will be used solely for research purposes and treated with the utmost confidentiality and anonymity. Your full cooperation is greatly appreciated.

If you have any questions or need clarification about the study, please contact me on P2625475@my365.dmu.ac.uk

Interview guide (Section 1 to IV) for the beneficiaries of microfinance

SECTION 1: BIO DATA OF RESPONDENTS

Please provide the appropriate answer that best applies to you			
Gender	Male	Female	Prefer not say
Marital Status	Single	Married	Divorced
Educational Qualification	BECE	SSCE/WASSCE O/A LEVEL CERT A	DIPLOMA/HND DEGREE
Age	18-30	31-45	46 and above

SECTION II: MICRO SAVINGS

	Please indicate the extent to which these statements apply to you. Please circle the number that best represents your opinion	*Strongly Disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1	Accounts mostly operated by customers at rural banks are savings	1	2	3	4	5
2	These accounts by the customers are for the purposes of contracting loans from the banks	1	2	3	4	5
3	Saving accounts holders operate the accounts for a brief period just after accessing the loans from the Rural banks	1	2	3	4	5
4	Cash deposit by customers into their savings accounts in the rural bank is often on as when basis	1	2	3	4	5
5	Withdrawal of money from savings accounts is more frequent than how monies are saved	1	2	3	4	5
6	Services provided by the rural bank meet your expectation	1	2	3	4	5

SECTION III: ACCESS TO CREDIT

	Please indicate the extent to which these statements apply to you? Please circle the number that best represents your opinion	*Strongly Disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1	Rural banks are prompt in granting loans to its customers	1	2	3	4	5
2	The refusal of loans to customers is always due to a lack of collateral	1	2	3	4	5
3	Loans repayments to the banks are made weekly by the group members	1	2	3	4	5
4	Loan repayment are the major setbacks for the customers of the banks	1	2	3	4	5
5	Banks always take punitive actions against loan defaulters	1	2	3	4	5
6	Credits obtained from the banks are not used for the intended purposes by most of the customers	1	2	3	4	5

SECTION IV: CREDIT DELIVERY MODELS/GROUP LIABILITY SCHEME

Please indicate the extent to which these statements apply to you? Please circle the number that best represents your opinion.		*Strongly Disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1	All members of the fishing groups belong to a group scheme	1	2	3	4	5
2	Group formation is done by the officials of the group	1	2	3	4	5
3	Loans are also provided to the group not on an individual basis	1	2	3	4	5
4	Loans repayment is enforced by group leaders	1	2	3	4	5
5	The group liability method of accessing loans is very effective	1	2	3	4	5
6	Group liability schemes are the best means of loan repayment	1	2	3	4	5

SECTION IV: EMPOWERMENT AND TRAINING

Please indicate the extent to which these statements apply to you? Please circle the number that best represents your opinion.		*Strongly Disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1	The banks provide training and technical advice to customers to help manage their loans.	1	2	3	4	5
2	The training and technical advice provided by the bank impact positively on the savings habits of customers	1	2	3	4	5
3	A major improvement that has occurred to a member of the saving scheme is the ability to pay loans promptly.	1	2	3	4	5
4	Beneficiaries of these schemes will encourage others to join the savings scheme if they are not part.	1	2	3	4	5
5	Customers are most likely to be part of the loan scheme of the bank for the next five to ten years.	1	2	3	4	5

SECTION V: POVERTY REDUCTION OUTCOMES

	Please indicate the extent to which these statements apply to you? Please circle the number that best represents your opinion.	*Strongly Disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly Agree*
1	Microfinance scheme has increased my income level	1	2	3	4	5
2	Microfinance has brought an increase in fishing output	1	2	3	4	5
3	Microfinance has reduced social exclusion	1	2	3	4	5
4	Microfinance scheme has increased my income level	1	2	3	4	5
5	Microfinance has reduced the operating costs associated with the use of obsolete technology in the fishing business	1	2	3	4	5
6	Microfinance has increased my self-confidence	1	2	3	4	5
7	Microfinance has enabled me to pay my loans on time	1	2	3	4	5
8	Microfinance has reduced poverty in my community	1	2	3	4	5

APPENDIX B

Interview guide – staff of Rural banks

1. How long have you worked for the rural bank in this current position? (Kindly provide further details about your educational background, marital status, and age____________

2. Can you outline the factors the bank considers before approving or granting a loan facility/loan request? _________________

3. Do you consider group characteristics the most important factor when making decisions relating to loan applications? If yes, why? ____________

4. What are some of the banks' challenges when granting clients loans in the communities?

5. How are these groups formed? Do the banks play any supervisory role in their formation? If yes, please explain_____________

6. How does the bank enforce the repayment of loans? ________________

7. Do you provide training and advisory services to your clients before and after giving out loans to empower them? If yes, kindly outline some of the training being provided. ___________

8. Do you think the microfinance interventions provided by the rural bank reduced poverty in these fishing communities? ___________

Thank you for participating

APPENDIX C

Interview guide – leaders of the fishing groups/leaders of the liability scheme

Background and Personal Profile of fisher folks

1. How many dependents do you have? _______________

2. Have you engaged in any other form of business besides fishing? If yes, kindly provide____________

3. What is your level of education? Has your educational background contributed immensely to your work? ____________________

4. How many years have you been a client of the rural bank?

Access to Micro-credit or Loan:

1. How did you hear of the loan scheme by the rural bank? ________________

2. How long have you been a beneficiary of loans from the bank? _____________

3. Do you currently have any loans from another financial institution beside the rural bank's microcredit? If yes, what was the purpose of that loan? _____________________

4. How often do you pay your loan? Have you ever defaulted on a repayment of a loan? If yes, why?

5. what are some of the challenges you face before and after accessing loans from the bank?

Micro savings

1. How often do you save at the bank? Any reason for this choice? ____________________-

2. Which money do you normally save at the bank? Your profit from the business or the income from other businesses? _______________

3. Has the microcredit scheme affected your attitude towards savings? Kindly explain your answer______________________-

Empowerment, training and advisory services

1. Have you heard about empowerment? If you answered yes, can you explain to me what it means? _______________-

2. In your view, do you think there is discrimination in terms of gender regarding empowerment? If yes, kindly explain__________________

3. In your own opinion, have you been empowered economically and socially ever since you became a member of the microcredit loan scheme at the rural bank? If yes, how has it affected your relationship with your friends and also improved your family? ______________

Group Liability/credit delivery models

1. Are you a member of any microfinance scheme? If yes, how was the group formed? Do you think being a group member guarantees easy access to a loan facility? ____________________

2. How are loans accessed by members of the group? Does this process also influence the repayment of such loans? _________________

3. Why did you join this microcredit scheme? Do you consider yourself a member in the next 5 to 10 years? Please explain your answer_________________

Poverty reduction outcomes

1. What is your understanding of poverty? Can fisher folks in these communities be said to be going through this phenomenon currently? If yes, why? ___________________

2. In your opinion, have the interventions and credit delivery models by the rural banks helped reduce poverty in these fishing communities? Kindly explain_________________

Thank you for participating.

Appendix D

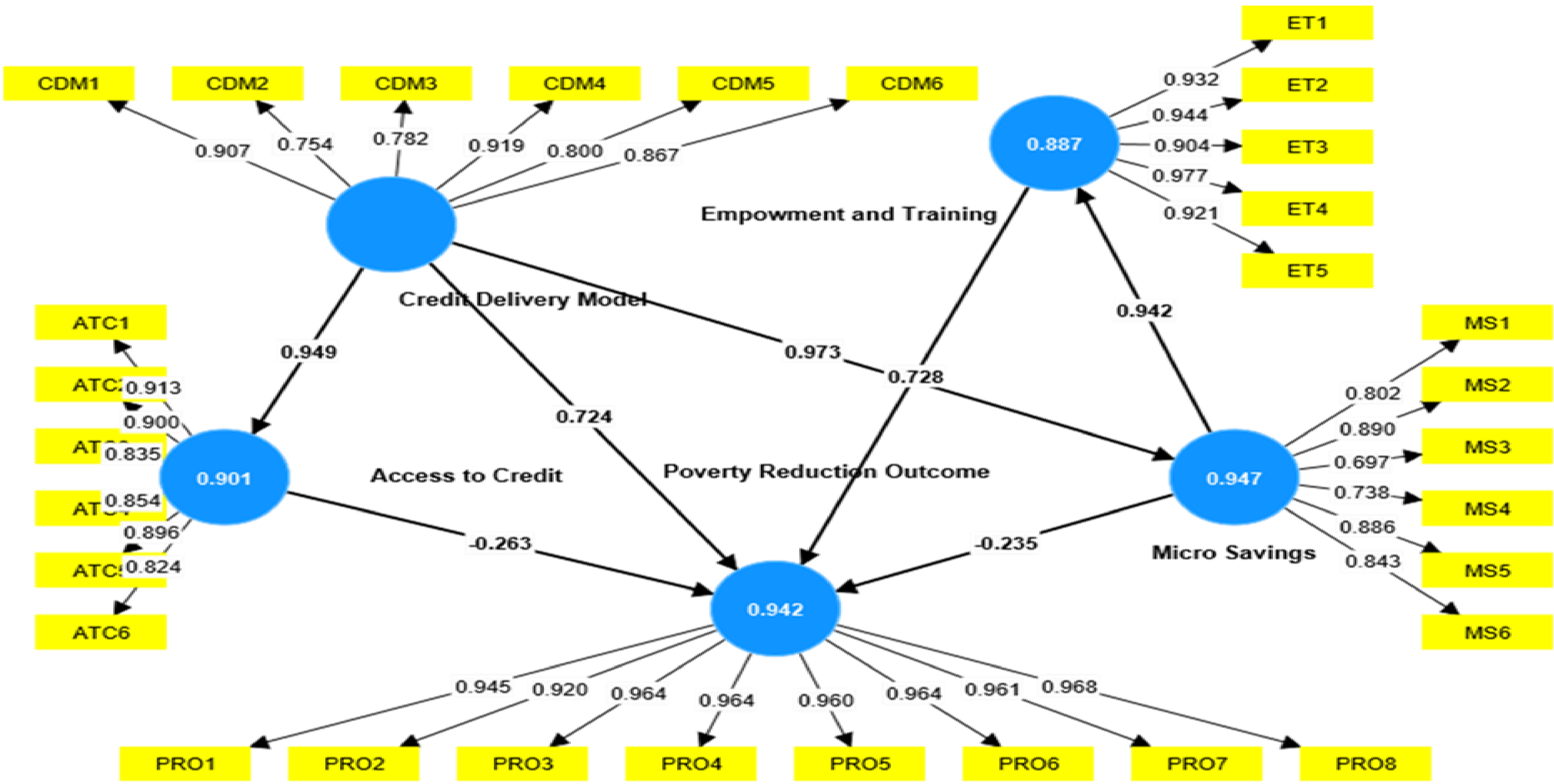
CDM1
CDM2
CDM3
CDM4
CDM5
CDM6
0.907
0.754
0.782
0.919
0.800
0.867
Credit Delivery Model
ET1
ET2
ET3
ET4
ET5
0.932
0.944
0.904
0.977
0.921
0.887
Empowerment and Training
0.942
0.973
0.728
0.949
0.724
ATC1
ATC6
0.913
0.900
0.835
0.854
0.896
0.824
0.901
Access to Credit
-0.263
Poverty Reduction Outcome
0.942
MS1
MS2
MS3
MS4
MS5
MS6
0.802
0.890
0.697
0.738
0.886
0.843
0.947
Micro Savings
-0.235
0.945
0.920
0.964
0.964
0.960
0.964
0.961
0.968
PRO1
PRO2
PRO3
PRO4
PRO5
PRO6
PRO7
PRO8

Fig 3. Measurement Model Assessment: Conceptual Model with items loading (Hair et al., 2022)

Items	Outer loadings	VIF	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
ATC1 <- Access to Credit	0.913	7.045	0.913	0.008	109.591	0.00	0.937	0.921	0.92	0.759
ATC2 <- Access to Credit	0.9	13.228	0.9	0.011	84.285	0.00				
ATC3 <- Access to Credit	0.835	5.756	0.835	0.009	91.556	0.00				
ATC4 <- Access to Credit	0.854	8.827	0.855	0.013	67.54	0.00				
ATC5 <- Access to Credit	0.896	10.761	0.897	0.012	74.921	0.00				
ATC6 <- Access to Credit	0.824	3.06	0.824	0.014	59.442	0.00	0.916	0.921	0.935	0.707
CDM1 <- Credit Delivery Model	0.907	4.642	0.906	0.011	86.188	0.00				
CDM2 <- Credit Delivery Model	0.754	3.961	0.755	0.022	34.525	0.00				
CDM3 <- Credit Delivery Model	0.782	4.787	0.783	0.018	42.557	0.00				
CDM4 <- Credit Delivery Model	0.919	8.265	0.918	0.007	127.634	0.00				
CDM5 <- Credit Delivery Model	0.8	6.153	0.799	0.023	34.443	0.00				
CDM6 <- Credit Delivery Model	0.867	3.633	0.868	0.011	76.644	0.00				
ET1 <- Empowerment and Training	0.932	14.707	0.931	0.009	98.689	0.00	0.964	0.917	0.972	0.875
ET2 <- Empowerment and Training	0.944	13.121	0.943	0.008	118.116	0.00				
ET3 <- Empowerment and Training	0.904	7.775	0.903	0.012	74.734	0.00				
ET4 <- Empowerment and Training	0.977	17.541	0.977	0.003	352.603	0.00				
ET5 <- Empowerment and Training	0.921	4.635	0.92	0.008	112.288	0.00				
MS1 <- Micro Savings	0.802	4.246	0.802	0.019	43.105	0.00	0.895	0.906	0.92	0.66
MS2 <- Micro Savings	0.89	4.447	0.89	0.01	87.289	0.00				
MS3 <- Micro Savings	0.697	6.946	0.697	0.023	30.55	0.00				

MS4 <- Micro Savings	0.738	8.979	0.738	0.022	32.891	0.00				
MS5 <- Micro Savings	0.886	3.372	0.886	0.011	77.821	0.00				
MS6 <- Micro Savings	0.843	3.662	0.842	0.017	48.627	0.00				
PRO1 <- Poverty Reduction Outcome	0.945	11.239	0.945	0.006	161.571	0.00	0.986	0.917	0.938	0.914
PRO2 <- Poverty Reduction Outcome	0.92	10.456	0.92	0.005	181.017	0.00				
PRO3 <- Poverty Reduction Outcome	0.964	15.231	0.963	0.005	192.836	0.00				
PRO4 <- Poverty Reduction Outcome	0.964	20.801	0.964	0.004	236.77	0.00				
PRO5 <- Poverty Reduction Outcome	0.96	24.114	0.96	0.004	213.928	0.00				
PRO6 <- Poverty Reduction Outcome	0.964	26.553	0.963	0.005	197.609	0.00				
PRO7 <- Poverty Reduction Outcome	0.961	30.685	0.96	0.005	186.319	0.00				
PRO8 <- Poverty Reduction Outcome	0.968	41.421	0.968	0.004	239.488	0.00				