DETERMINANTS OF INNOVATIVE AND NEW PRODUCT/SERVICE DEVELOPMENT

THE CASE OF ETHIOPIAN MICROFINANCE INSTITUTIONS

By

TEGEGN, Temeliso Abebe

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

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ABSTRACT

Despite vast researches conducted on Ethiopian microfinance institutions, there are still limitations on outreach and access to finance and provision of tailored and customized service to the clients. Evidently, today's globalized and information technology era demands innovative approaches and provision of tailor made and customized financial services. Similarly, customized delivery systems should be imperative elements of the financial institutions. Microfinance institutions by their very nature are dealing with the rural segment of the population which accounts majority Ethiopian population.

Poor people need efficient, affordable and tailor-made financial services which are also accommodating modern technologies to be easily accessible at door steps of individual clients. However, such innovative and modern approaches of financial services are not exercised well in Ethiopian microfinance institutions and even their outreach is also limited to fully address financial needs of the majority of rural people.

At this juncture, the study had explored the major factors affecting innovative and new product/service development efforts of Ethiopian microfinance institutions. Moreover, the research had tried to discover which factor (i.e., internal and external) had more effect and their relative importance were also evaluated on the innovative approaches and new product/service developments of Ethiopian microfinance institutions. Finally, the researcher believed that the result of the study would give some policy implications to mitigate factors that hinder the innovative efforts of microfinance institutions and it would also help to foster an enabling environment for inclusive finance.

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LIST OF ABREVATIONS

AML/CFT:	Anti-Money Laundering and Combating Financing of Terrorism
AEMFI:	Association of Ethiopian Microfinance Institutions
CGAP:	Consultative Group to Assist the Poor
FDRE:	Federal Democratic Republic of Ethiopia
GOV:	Government
GPFI:	Global Partnership for Financial Inclusion
MFIs:	Microfinance Institutions
MIS:	Management Information System
MSE:	Micro and Small Enterprise
NBE:	National Bank of Ethiopia
NGOs:	Non-governmental Organizations
UNESCO:	United Nations Educational Scientific and Cultural Organization

CHAPTER ONE

1. INTRODUCTION

It should be underlined that financial institutions and financial intermediation activities have an impact on economic development, poverty alleviation, and also one aspect to narrow income inequality (Levine, 2004). As a result microfinance institutions can play a major role in fighting poverty and bringing the poor to the arena of financial inclusion and providing various range of financial services in a more innovative and cost-effective way.

Microfinance is one of the best and effective tools in fighting poverty, particularly in developing countries. Microfinance has been gaining attentions of government, policy maker, international organizations, and donors. It is also the best choice in providing various ranges of microfinance services to the rural people and the poor who have limited access to conventional banking services.

Microfinance institutions' efforts to develop new products tailored to their clients are gaining momentum in today's globalized and information technology era. Microfinance institutions are also considered as a good ground in flourishing branchless banking in the form of mobile and agent banking financial service modalities.

In addition, poor people should have access to various ranges of financial services apart from provision of loans. To this end, microfinance institutions can play a vital role in reaching the poor and meet the demand for financial services.

1.1. Statement of the Problem

Currently, there are 35 microfinance institutions in Ethiopia serving around more than 4.6 million clients by providing loan, saving and different types of financial services in rural and urban settings (National Bank of Ethiopia).

Moreover, microfinance institutions had exerted some efforts in meeting the demands of the poor by providing innovative and tailored financial products and services and supporting government endeavor by increasing access to finance and financial inclusion in Ethiopia. However, it is argued that the sector has a limitation in diversifying its outreach and increase access to finance in the country and meet the expectation of the client, government, and other stakeholders.

It is noted that government of Ethiopia has keen interest to enhance financial inclusion and increasing access to finance in the country. Conversely, the sector has problems of limited financing sources apart from saving mobilization. It is also expected that in future the financing sources in the form of donations and concessionary credits to finance microfinance loan may not be available. In addition, it is also Ethiopian government's intention that microfinance institutions should fully satisfy loan financing needs from internal sources, meaning that the financing source should come from shareholders contribution and saving mobilization. Hence, these limited financing resources can hamper outreach and profitability of the sector. So that the sector should need to explore internal capacity and external environment to innovatively address the challenges facing the sector and being financially viable to deal with the financial need of the poor people and increase coverage of access to finance. So it is evident that innovative financial service delivery system is a mandatory condition for Ethiopian microfinance institutions.

1.2. Research Objectives

The research had tried to identify and study factors that influence innovative and new product/service development approaches of the Ethiopian microfinance institutions. Accordingly, by identifying major factors and measuring their degree of influence, the research would attract the attention of main actors in the sector such as microfinance institutions, the central bank, the microfinance institutions network (i.e., AEMFI) and other relevant stakeholders of the sector. In effect, the research will help policy makers to devise the right policy alternatives in order to mitigate the challenges imposed on the sector and foster enabling environment for innovation and enhance access to finance in Ethiopia.

1.3. Research Questions

The research is examining the following major factors affecting innovative and new product/service development approach of Ethiopian microfinance institutions. Thus, the research questions are analyzed in relation to internal and external factors.

Internal Factors

1. Does corporate governance (i.e., board size and board competency) of microfinance institutions affect innovations and product/service development effort?
2. Does ownership structure of Ethiopian MFIs have an effect on innovation?
3. Years of experience (age) in the microfinance sector have an effect on innovation?
4. Availability of qualified human resource (professional mix) in the MFI sector affects innovation and new product/service development?
5. Does financial capacity (i.e., capital position) affect microfinance institutions' innovation and new product development?

External Factor

6. Does regulatory and supervisory system affect innovation and product/service development effort of the MFI sector?

1.4. Methodology

The research is using quantitative, qualitative as well as descriptive research methodologies to evaluate relationship as well as the effect of each factor on innovative approaches of Ethiopian microfinance institutions. Depending on the availability of data quantitative approaches were employed to test the capital position, human resource, corporate governance, regulatory environment and years of experience in relation to innovation.

1.5. Hypothesis

Internal factors i.e., financial capacity, human resource, corporate governance, ownership status and years of experience have a relationship with innovativeness of microfinance institutions. At the same time innovative and new product/service development related with external factor i.e. regulatory and supervisory system.

1.6. Scope of the study

Ethiopian financial sector includes Bank, Insurance, Microfinance and Capital Goods Finance Companies. To this end, the research is limited to studying determinants of innovation and new product and service developments of the Ethiopian microfinance institutions.

CHAPTER TWO

2. BACKGROUND OF THE STUDY

2.1. Literature Review

According to CGAP "microfinance refers to the provision of formal financial services to poor and low-income (and, for credit, in particular, non-salaried) people, as well as others systematically excluded from the financial system." (CGAP, 2012). It is also defined as offering loan, saving, insurance and other services to those who cannot pledge collateral to the conventional banks (Samer, Majid, Rizal, Muhamad, Halim-Sarah, & Rashid, 2015). Various literatures underlined that "microfinance is a tool to fight poverty" and it has also positive impact on poverty reduction (Samer, Majid, Rizal, Muhamad, Halim-Sarah, & Rashid, 2015; Hadj & Ben, 2015; Khandker, 2005; Berhane & Gardebroek, 2011). Moreover, microfinance institutions are providing innovative and "flexible financial services to the rural and urban poor" (Carolina, & Michael, 2011).

Innovation and new product development have been playing a determining role in any organization (Frame & White, 2004). It has brought about greater opportunities for organizations to be successful in terms of being sustainable in the market, profitable as well as beating competitors. Similarly, innovation is also well suited for financial institutions, (i.e., microfinance institutions). Therefore, innovative approach should be one of the approaches in financial institutions so as to be flexible and efficient in their service delivery and also to satisfy customer demand in a more profitable way (Oyewole, 1993; Frame & White, 2004).

Innovation involves creating new services/products, changing delivery channels, changing internal service provision and also includes changing organizational structure (Aziz & Hadia

2009; Frame & White, 2004). In a broader way Schrieder and Heidhues (1995) as cited in (McGuire & Conroy, 2000) classified "financial innovation" into the following categories:

"Financial system innovations": it is the overall financial system changes; it can be expressed as a structural change of the finance sector.

"Financial institution innovations": It is institutional transformation, or fundamental or overall structural and organizational level changes.

"Process innovations": Re-engineering newer type of business process or system to bring about dramatic or incremental changes. It is mostly linked to advancement in technology.

"Product innovations": designing of new products or services, this may includes "credit, savings, insurance, leasing", branchless banking or mobile and agent banking or other financial products.

Even though, Schrieder and Heidhues categorized overall system and legal regulatory change as innovation. However, Song, Yan, Peng & Zheng (2015) argued that financial innovation and supervisory changes may occur in a coupling relationship, implying that financial innovation of financial institutions may occur in response to supervisory development and/or vice versa.

There are a number of factors affecting innovations and new product/service development; researchers in the area had identified by developing a framework for product development and has emphasized more on internal (organizational) aspects such as "governance, customer orientation, organizational culture, organizational capacity and resources and strategic orientation" (Kapoor & Guarav, 2013).

Arguably, others give more emphasis on key and comprehensive factors such as corporate governance which includes board of directors, senior management, policies, ownership structure, systems etc. (Ledgerwood, Earne & Nelson, 2013; Mersland & Strom, 2008). Particularly good corporate governance is a key to enable microfinance institutions to achieve their major objectives (CGAP, 2012). In addition, ownership status of MFIs, board expertise and board activities are main determinants to increase outreach and operational efficiency of MFIs (Tchuigoua, 2015; Servin , Lensink & Berg , 2012).

Moreover, the other main internal factor is a human resource which determines the capacity of the financial institutions' innovative capability. Similarly, Ledgerwood et al., (2013) stated that product development needs the capacity of the microfinance institutions in the form of skilled human resource. Hence, innovation and new product/service development efforts depend on the quality (level of expertise) and quantity (availability) of skilled human resources. Moreover, the internal resource should be retained; incentivized and appropriate system should be in placed on human capital development. Moreover, success and failure of innovative and new product/service development of financial institutions is also basically depend on financial institutions' customer centered and customer oriented approaches of its service delivery (Aziz & Hadia, 2009). To this end, microfinance institutions need to be more flexible in providing various ranges of services to their clients. However, provision of flexible service delivery can be derived through creating conducive and fertile learning environment (internal business environment) for more innovative ideas in dealing with financial intermediation activities.

It is also argued that innovative approaches have been in one way or another linked to the profitability of the financial institutions. Hence, profitability may also be the result of financial institutions' successful innovative approaches (Nejad, 2016; Meyer, 2002). Additionally,

innovative and new product development needs internal capacity. And the internal capacity could be microfinance institutions' financial strength and their ability to generate profit and augment their capital position. In many instances, microfinance institutions' strength (i.e., ability to generate additional capital and value for the owners) can be measured through "Return on Asset, Return on Capital, Operational Efficiency and Operational Self-sufficiency ratios" (CGAP, 2003). In effect, microfinance institutions innovative and new product/service development could be affected by the internal capacity of the institution in terms of their capital structure. Since financially strong organization can be explained by its capital balance and its growth prospect. So that most financial institutions having strong capital base have the capacity to innovate and develop new financial products and services so as to augment and diversify financial inclusion.

Provision of innovative financial products and services are not only affected by internal forces but also external factors, for instance: increased innovative and new product development is also the result of advancement in new technologies and information technology (Nejad, 2016). The use of mobile phone penetration and mobile network infrastructure has also basic input in mobile banking and branchless banking technology for financial institutions. In the absence of the appropriate infrastructure, it is not possible to modernize and automate the financial sector as a whole.

On the other hand, the external factor can also be expressed by way of supervisory and regulatory aspects (Aziz & Hadia, 2009). The regulatory environment can affect microfinance sector through regulations and directives issued by the regulatory authority (i.e., Central Bank or Specific Regulatory Agency) could impact financial products/services delivery channels and even development of innovative approaches of microfinance institutions (Ledgerwood et al.,

2013). The regulatory requirement could be in the form of licensing and registration of financial institutions or granting license to provide specified financial services. In addition, the central bank or regulatory authority may require financial institutions to seek approval before delivering new financial services and/or impose some other requirements i.e., "consumer protection and Anti-money laundering and combating financing of terrorism (AML/CFT)" requirements (Isern,Porteous, Hernandez-Coss & Egwuagu, 2005; Federal Democratic Republic of Ethiopia Proclamation No. 780/2013). But, Song W. et. al., (2015) underlined that innovation and supervision has "coupling relationship" and development of one may give rise to the other. However, others viewed that financial innovation may occur as a result of overcoming restrictive regulatory requirement (Oyewole, 1993). But financial innovation may also be negatively affected by regulation and the regulation may inhibit financial innovation. Therefore, regulation is termed as "a two-edge sword" (Frame & White 2004).

In many instances, regulatory environment needs to have a proportional regulation which takes into account both prudential regulations and should have a room for innovation and new product/service development. However, others argued that there is a "negative relationship between prudential regulation of MFIs and their profitability" and outreach (Robert, Demirguc – Kunt, & Jonathan, 2011). Though regulations and supervision could have an effect on microfinance institutions but the extent and degree of regulation and supervision effect is not yet empirically justified and no economic theory developed regarding the optimum level of supervision of microfinance institutions (Chaves and Gonzalez-Vega, 1992). This implies that regulatory issue is more of qualitative aspects and it depends on a given country's macroeconomic, political and social perspectives. Effective regulation of financial institutions should be designed in a way to strike the balance between innovation and prudential regulation

of financial institutions. However, as the supervisory approach getting more stringent it could affect efficient operational activities of microfinance institutions and would make access to finance effort of microfinance institutions too costly (Ledgerwood et al., 2013).

Alternatively, the regulatory environment is a necessary element for financial sector development by way of initiating financial inclusion and strengthening internal control environment of financial institutions (Kassa, 2010 and CGAP, 2012). Moreover, the regulatory approach should be somehow adaptive to the current situation and should also be tailored to the capacity of the financial intuitions.

It is considered that regulatory and supervisory system should go one step further and develop the infrastructure and the legal and regulatory framework. Hence, regulations are central in creating new fiancial products and services by microfinance institutions. In effect, regulatory frameworks should be designed in a way to allow for innovative approaches of microfinance institutions (Ledgerwood et.al, 2013).

Comparatively, the other issue of an external factor might be customer demand and competition; customer prefers an institution which is more client-centered, flexible and more market-oriented towards satisfying the demand for the financial products and services. As result, financial institutions need to revise existing financial delivery system and look for more innovative approaches. (Wright, Cracknell, Mutesasira & Hudson, 2005). Moreover, it is argued that, in order to be more competent and to maintain market share in a given product or service sector, a company should be innovative on its approaches of product and service delivery channels (Bátiz-Lazo. and Woldesenbet, n.d).

However, according to a recent report, the proportion of Ethiopians who have a bank account is around 22% (Demirguc-Kunt, Klapper, Singer, Oudheusden, 2015). This implies that there is still very high potential demand for financial services and there is unmet demand of 78% for financial services. Moreover, Ayele, (2015) & Amha, (2002) confirmed that the demand for financial services outweigh the pressure of competition within Ethiopian microfinance sector. Hence, this indicates that supply side or intuitional capacity is weak in meeting the demand for financial services.

2.2. Why Innovation and new product and service development?

According to a recent study, globally around "2 billion people do not have access to any financial services". Moreover, it was reported that 50% of poorest people in developing world do not have any formal bank account or "do not use formal financial services" (World Bank, 2016). As a result, the current global agenda and issue is financial inclusion and access to finance for poor people.

In the previous G20 summit, "financial inclusion" initiative was considered as the main agenda item. More importantly, innovation is one of the principles of G20 for enhancing "financial inclusion" (Global Partnership for Financial Inclusion (GPFI), 2014 & Culpeper, 2012).

Similarly, microfinance institutions have been given a high responsibility of bringing the poor at the heart of financial inclusion. In order to make financial inclusion more practical innovative approaches should be given priority (Alliance for Financial Inclusion (AFI), 2011). Innovative approaches can make far-reaching financial service more affordable to the poor and the financial service would become more efficient and effective. Currently, in various part of the

world mobile platforms are used as a good channel to bring excluded segment of the population to the financial arena (Demirguc-Kunt et al., 2015).

Innovation in microfinance sector is very important in many ways; through innovation microfinance institutions can dramatically reduce costs. In most cases the highest cost proportion of microfinance institutions is operating costs (Hug, 2014); unlike conventional banks that provide relatively larger loans, microfinance institutions are mainly dealing with smaller loans designed to provide financing sources for an active poor segment of a society. Hence, smaller loans for larger number of loan clients would increase operating and administrative costs such as: salary for loan officers, client screening, loan follow-up and other loan delinquency management issues. These major cost drivers can increase the overall costs of the loan and other financial services to the microfinance institutions (Wiedmaier-Pfister et al., 2008).

On the other hand, the increased cost per unit of the loan would result in increasing the price of the loan(interest rate on loan) to cover expenses and earn smaller margin of profit. The increased interest rate on loan would in one way or another can create a burden on the borrower and may lead to loan delinquency. Hence, microfinance institutions should seek for innovative ways to provide financial services in a more cost-effective way.

Proximity or distance from the financial access point is one of the key factors for financial outreach and access to finance. It is costly for a client to easily access the branch due to distance and absence of transportation infrastructure, particularly in rural areas (GPFI, 2015). Hence by strengthening innovative approaches microfinance institutions can dramatically reduce costs associated with new branch opening; and helps to develop more convenient service delivery channels by using modern approaches (e.g. mobile banking and agent banking). These

innovative approaches help to make efficiency and effectiveness of payments services such as bill and utility payments, cash transfer service, check the status of the loan and saving balance, etc. As a result, innovative approaches, if well developed and implemented can improve the efficiency of microfinance institutions and help to diversify outreach and increase financial access to unbanked segment of the population.

2.3. Theoretical Foundations

2.3.1. The Critical Microfinance Triangle

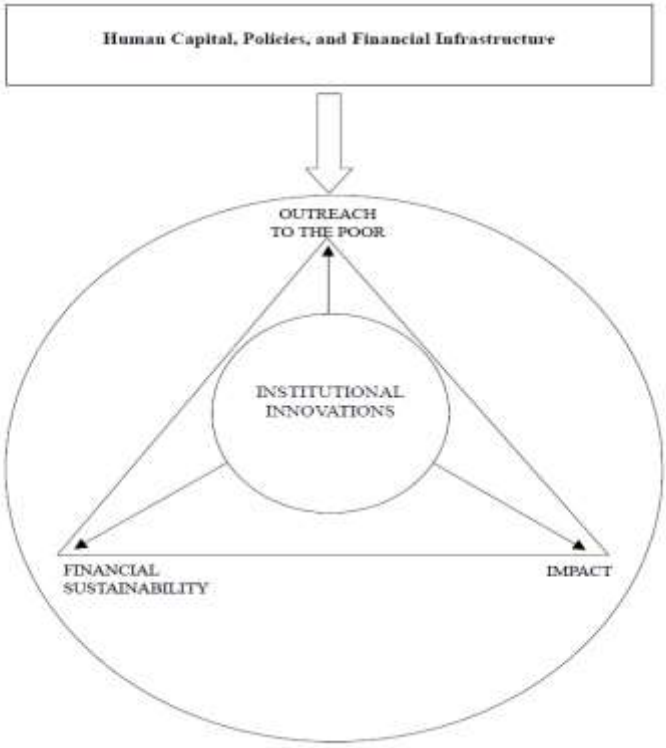
According to Meyer (2002), innovation is central to the microfinance business; he identified that innovation could be in the form of technology and policy formulation to design demand-driven financial services and products. It is also the creation of an efficient services delivery system and organizing activities and services on client perspective in order to diversify outreach and would make services accessible to unbanked clients in the rural and urban setting. Hence, the issue of 'critical microfinance triangle' is focusing on internal organizational structure, financial services, and products development approaches (See figure1). In addition, Meyer (2002) argued that institutional innovations (i.e., the internal circle) can be measured by three performance indicator of impact, financial sustainability, and outreach. Financial sustainability mainly related with the profitability of the microfinance. In addition, financial sustainability takes two forms: the first "Operational Self-Sustainability" related with covering operational administrative and transaction costs; on the other hand, "Financial Self-Sustainability" according to Meyer, is the higher standard and the MFI should cover the cost of fund and other subsidies with internally generated income. So that microfinance innovative approaches can be measured by outreach and this implies that how innovative financial products/services of microfinance

institutions addresses the loan demand of clients and how many loan clients are served by a given microfinance institution.

Meyer noted that the outer circle includes human capital, policies, and financial infrastructure which could, directly and indirectly, affect the internal circle i.e., institutional innovative approach either positively or negatively. The external factor, particularly the financial infrastructure includes regulatory and the supervisory systems and/or tools designed by regulatory authority or government could also have an effect on innovation.

According to Meyer the main impediments to increasing outreach to clients is associated with lack of efficient service delivery system and absence of appropriate financial products and services of Microfinance Institutions. This is more related to the internal capacity of the microfinance institutions in terms of availability of skilled human resources, financial capacity, and also corporate governances.

Figure 1 Critical Microfinance Triangle



Source: Meyer 2002

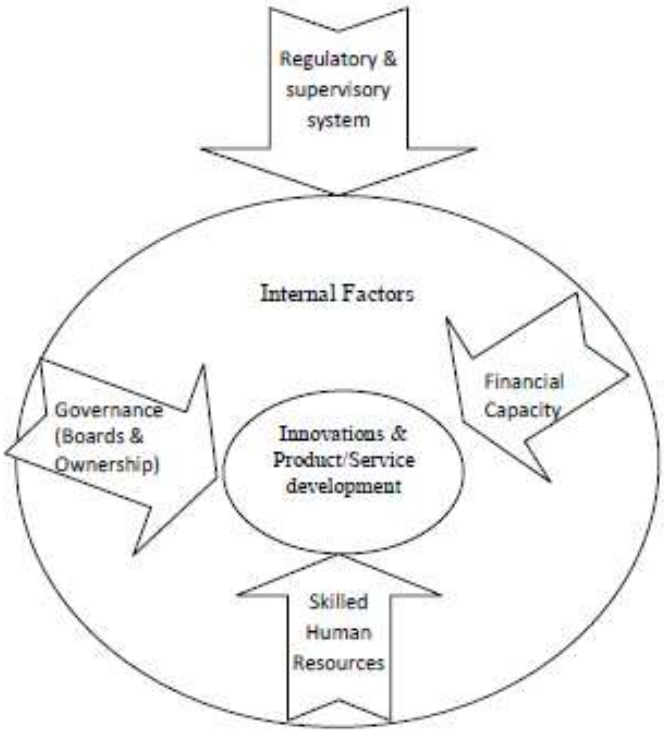
2.3.2. Core Capabilities and Core Rigidities Theory

Innovation and new product development at organizational setting should be based on two major aspects: "Core Capabilities and Core Rigidities Theory". Core capability is defined as a set of knowledge which are major distinguishing factors and competitive advantage of a given organization over its competitors. From core capability perspective knowledge sets are classified as "(1) employee knowledge and skills (2) technical systems. (3) Managerial systems. (4) Values and norms". One of the major features of core capabilities is they are firm specific values or norms. On the other hand, "Core Rigidities" are exactly the other side (flip side) of "core capabilities" (Leonard-Barton, 1992). The idea of core rigidities argued that the existing or past knowledge may have negative impact on innovative and new product development of a company.

Hence, the above theoretical backgrounds underlined that innovation should be based on organizational or internal capabilities, skills, and dynamics. The research framework is also basically focusing on those theories i.e., “Critical Microfinance Triangle” and “Core Capability and Core Rigidity theory” which can be applied to innovation and new product/service development approach of microfinance institutions.

The theoretical frameworks to some extent are adapted in the research to study determinants of microfinance institutions innovative or new product/service development approaches. As a result, some major influential factors affecting the innovative and new product development of microfinance institutions are included as shown below (figure 2).

Figure 2 Research Framework for Innovative and New Product development



2.4. Overview of Ethiopian Microfinance Institutions

Ethiopian Microfinance sector had started its origin following issuance of the first proclamation on microfinance business, in 1996 (later revised in the year 2009). Subsequent to issuance of the proclamation, various microfinance institutions were licensed by National Bank of Ethiopia to operate in various part of the country. Among the licensed microfinance institutions, Regional Government Owned and NGO backed microfinance institutions were the first to join the new sector in the country. Before 1996, government, cooperatives, and NGOs had introduced program interventions and provided micro-credit services to rural and the urban poor community at the subsidized interest rate (Amha, 2000).

However, at the outset, the program intervention had mixed both humanitarian and financial aspects and it had its own problems of loan follow-up and weak repayment rate. As a result, the borrowers had begun to consider those microcredit services and loan disbursements made by government and NGOs as handouts and donations that may not be repaid back. It had contaminated the credit discipline of many communities and it was also unsustainable. Moreover, the program had lack professionalism and also demonstrated low level impact on the livelihood of the intended beneficiaries. (Kassa, 2010).

Accordingly, the government of Ethiopia, cognizant of the above fact had reacted with the situation and issued the first proclamation and streamlined financial service delivery through regulated microfinance institutions. As a result, those NGOs already engaged in micro-credit services had devised a strategy for transforming the donor funded micro-credit program into regulated microfinance institutions as the proclamation requires MFI business license to engage in any financial service delivery activities. Similarly, National Bank of Ethiopia had been issuing

various directives and regulatory policies in relation to microfinance business from time to time considering the expansion of the business and the associated volume of financial activities.

As stated earlier, only 22% of the total demand for financial services is met by the Ethiopian financial sector (Demirguc-Kunt et al., 2015). In addition, donations and concessionary credits from internal and foreign sources channeled to the microfinance institutions had been draining from time to time. Thus, it needs the concerted effort of microfinance institutions other stakeholders to curve the adverse situation and broaden the services and satisfy the demand. Apparently, Government of Ethiopia has shown commitment to increase financial inclusion and access to finance in the country, as a result, it has developed national financial inclusion strategy with support and technical assistance of World Bank group with a view to increase financial inclusion. Similarly, Government of Ethiopia has given high responsibility to commercial banks and microfinance institutions to strengthen the service delivery system to broaden their outreach particularly in rural areas where access to finance and financial access points were very limited. Hence, this implies that microfinance institutions need to strengthen internal capacity so as to develop cost effective financial delivery approaches.

Regarding capability, the literacy level in some way or another may affect financial inclusion efforts undertaken so far. In year 2015, the literacy rate of Ethiopian population was 49% and still rural population literacy level remains a problem. (UNESCO, 2015). However, innovative approaches and the modern system can pass a barrier of illiteracy level and make access to finance attainable by including those excluded from the formal financial arena (GPFI, 2015).

2.4.1. Ownership Structure

Ethiopian microfinance sector based on its ownership structure can be classified into three: Regional Governments and City Administrations Owned Microfinance Institutions, NGO backed

Microfinance Institutions and Private Investors Owned Microfinance Institutions. Out of the total 35 microfinance institutions: there are 11 regional government and city administrations owned, 19 NGO backed and 5 private investors owned microfinance institutions are operating in Ethiopia.

2.4.2. Financial Products and services

Ethiopian microfinance institutions basically provide different types of financial products and services to their clients.

Loan Products: Broadly microfinance institutions provide loan for difference sectors such as Agriculture, Trade, Manufacturing, Service and another sector. Product wise, microfinance institutions are providing different kinds of loans such as an individual loan, Employee loan, Enterprise loan, Consumption loan, MSE, Food Security etc.

Savings: Saving products generally divided into compulsory and voluntary savings.

Compulsory saving: is saving used as collateral in case of loan default. Mostly compulsory or forced saving is a smaller percentage of loans.

Voluntary saving: is a saving product voluntarily made by the borrower or non-borrower clients of the microfinance institutions. The voluntary saving may include time and demand deposit too.

Insurance: microfinance institutions use credit life insurance to recover loan default and loss in case of death of the borrower.

Cash Transfer service: microfinance branches and their agents are used as a good channel for cash transfer services.

Mobile and Agent banking service: Currently, 7 microfinance institutions had started providing mobile and agent banking services for cash transfer, bill payment, balance notification and other financial transaction related activities using mobile devices.

Other Financial services: Interest-free banking (mostly for Muslim community). Few microfinance institutions introduced the service in some parts of the country.

2.4.3. Major Developments of Ethiopian Microfinance Sector

Microfinance sector has shown tremendous growth progresses starting from 1996. For instance, over the last 5 years, the loan portfolio of the sector surged to Birr 26.7 billion as at December 31, 2016 from its position of Birr 10.3 billion as at December 31, 2012. Similarly, Total Asset, Capital, and Profit of the sector had also exhibited growth of 166.3%, 22%, and 114.6%, respectively, over the last 5 years. With regards to outreach and financial service delivery, the microfinance sector had been serving 4.6 million loan clients with its 1,711 branches and sub-branches across the country. Currently, 31,101 workforces are engaged in the MFI sector and it has also created employment opportunity for the country.

Table 1 Major Indicators[1]

	December 2012 (A)	December 2016 (B)	Change in Percent (B-A)/A
Total Asset (In million Eth. Birr)	14,719.3	39,196.9	166.3
Gross Loan (In million Eth. Birr)	10,282.3	26,728.7	159.9
Total Deposit (In million Eth. Birr)	5,962.0	20,248.6	239.6
Total Capital (In million Eth. Birr)	7,639.2	9,322.1	22.0
Profit (In million Eth. Birr)	320.4	687.6	114.6
Number of MFIs	30	35	16.7
Number of Branches/sub-branches	1,213	1,711	41.1
Number of Clients	2,853,818	4,580,961	60.5

Source: NBE

[1]As at December 31,2016, 1USD= Ethiopian Birr 22.0516

Additionally, Ethiopian microfinance sector categorized as big, medium and small microfinance institutions depending on loan size, branch and saving volume. As a result top-five regional governments owned microfinance institutions are categorized under big sized microfinance institutions. On the other hand, most NGO backed microfinance institutions are categorized under medium sized group. Small sized microfinance institutions include all other categories. Therefore, the research had tried to use the abovementioned groupings (i.e., Government, NGO and Private) for fair comparison purpose

2.4.4. Challenges of Ethiopian microfinance Sector

Ethiopian microfinance sector had been faced with varying types of challenges; for instance: problems of corporate governance (mainly due to lack of real stake of ownership); lack of loan funds, skilled human resources, limitation on automation (MIS usage) to make financial and operational activities of MFI business. These are main problems that the sector is facing and they have real implication on operational as well as financial performances of the MFIs. Apparently, those underlying challenges need concerted efforts of all stakeholders; otherwise, it may not only affect innovative efforts but also hamper sustainability of the sector (Amha, 2000).

CHAPTER THREE

3. RESEARCH METHODOLOGY

The researcher had tried to explore the relationship and impact of internal and external factors affecting innovation in Ethiopian Microfinance Institutions. This section discusses the research methodology, nature of data, sampling technique, type of data etc used for the study.

3.1. Nature of Data

The study explores the factors affecting innovativeness of Ethiopian MFIs to diversify outreach and increase financial inclusion in the country. The nature of data used for the study is quantitative and it employs panel data by integrating cross-sectional and time series data. The time series is used to explore the effect of the variables used for the study through time.

3.1.1. Population, Sample and Sampling Technique

Currently, 35 MFIs are licensed by National Bank of Ethiopia (NBE) and operating throughout the country. The sample frame employed in the study is the population. Thus, the study used all MFIs operating in the country over the last five years and providing financial and operational data and excluding MFIs that do not have at least 5 years financial and operational data. As a result the study has 150 observations.

3.1.2. Data Sources and Collection Methods

The study used secondary data which was gathered from the National Bank of Ethiopia (NBE) as well as Association of Ethiopian Microfinance Institutions (AEMFI).

3.2. Method of Data Analysis

Descriptive statistics, correlation analysis and also regression analysis were employed by the researcher to make inferences about innovation in Ethiopian MFI sector. The study used IBM SPSS Statistics /Version 20/ software to analyze the data. Descriptive statistics for explanatory and explained variables is used to check whether there is a significant variation in the data set. A

correlation analysis is also needed to observe the direction and magnitude of relations among variables. However, correlation analysis does not give assurance for causal relation between the explanatory and explained variables. Finally, regression analysis was applied to make inferences about the variables to test the hypotheses.

3.3. Discussion of Variables and Model

3.3.1. Dependent Variable:

Outreach level (i.e., Natural Logarithm of clients) used as proxy to measure innovativeness in a microfinance institutions. Therefore, the study had used outreach of MFIs (i.e., NLCLIENT) as a dependent variable in the model. In many cases innovativeness is difficult to measure (Napoli, 2008), the study had tried to shade new light in measuring innovation through outcome i.e. outreach (client number).

3.3.2. Explanatory/Independent Variables

Explanatory variables (independent variables) are variables that are internal and external determinants for innovation in the Ethiopian microfinance institutions. The independent (explanatory) variables of the study are capital position, human resources with first degree and second degree of educational qualifications, board size, board qualification, number of directives issued, ownership structure (i.e. Government, or NGO owned MFIs), Age of MFIs.

Capital Position (LnCAPITAL)

The study used one of the internal factors, which is capital position (financial capacity) for measuring innovation. Availability financial resources have a direct relationship with innovation thereby increasing outreach level of MFIs.

Staff with First and Second Degree Educational Qualification (DEGREE & MASTERS)

The researcher expects that availability of qualified human resources have some sort of relations with innovativeness and new product developments in the MFI sector. Thus, the study had used to test whether any relation of innovation and human resources with first degree (DEGREE) and second degree (MASTERS) of educational qualifications in the Ethiopian MFI sector.

Board Size (BOARD) and Board Competency (BODMA)

Corporate governance has an impact on performance, viability as well as innovativeness of any given organizations. In this study, the researcher had tried to explore relationship and its impact on innovation of Ethiopian MFIs. In effect, the study had used board size (i.e., BOARD), which is the number of board members in the MFIs during the period under review. And also the study had tried to associate board competency, which means board members with second degree of educational qualification (BODMA) has any relationship or impact on MFI's innovation.

Regulatory and Supervisory tools (DIRECTIVE)

One of the determining external factor in the Ethiopian Microfinance sector is regulatory and supervisory tools (DIRECTIVE) issued by the central bank (i.e. NBE). The researcher expects that there is significant association with innovation and regulation in the MFI sector.

Ownership Structure of MFIs (NGO, GOV and Private)

Ethiopian MFI sector ownership structure divided into three; which is MFIs owned by NGOs, MFIs that are owned by regional government or city administration owned or MFIs that are owned by private investors. So that the study categorized NGO owned MFIs as (NGO) and government owned as (GOV).

Age of MFIs (MFIYEAR)

The age of MFIs tells something about the experience gained through operation; efficient service delivery, competition in the market etc. had some relationship with innovative approaches of Ethiopian MFIs. So that the researcher expects that age of MFIs (MFIYEAR) has association with innovativeness and new product development of MFIs.

3.4. Model Specification

The research had tried to identify the model to measure outreach level as a proxy for measuring innovativeness in microfinance institutions using explanatory variables of capital position, human resources with 1st and 2nd degree educational qualifications, board size, board competency, and number of directives issued and age of MFIs. The model had also included two dummy variables of NGO and Government (GOV) owned MFIs, respectively. Accordingly, the research had employed pooled ordinary least square (OLS) regression analysis to analyze the relationship between the explanatory and the outcome variables. Therefore, the model had shown below specified to include the outcome and explanatory variables in the study.

$$LNCLIENT_{it} = \beta + \beta_1(LnCAPITAL_{it}) + \beta_2(DEGREE_{it}) + \beta_3(MASTERS_{it}) + \beta_4(BOARD_{it}) + \beta_5(BODMA_{it}) + \beta_6(DIRECTIVE_{it}) + \beta_7(NGO_{it}) + \beta_8(GOV_{it}) + \beta_9(MFIYEAR_{it}) + \varepsilon_{it}$$

Where:

i:	subscript i indicates individual characteristics of MFIs
t:	time index
NLCLIENT:	Natural Logarithm of total numbers of clients (outreach level)
LnCAPITAL:	Natural Logarithm of total Capital
DEGREE:	No. of Employee (human resources) of Ethiopian MFIs with First Degree
MASTRES:	No. of Employees (human resources) of Ethiopian MFIs with MA Degree
BOARD:	No. of board members in Ethiopian MFIs (Board size)
BODMA:	Board members with MA/MSC degree educational qualification
DIRECTIVE:	No. of Directives issued by regulatory body (i.e. NBE)
NGO:	No. of MFIs owned by NGOs
GOV:	No. of MFIs owned by government
MFIYEAR:	Age of MFIs operating in the market

CHAPTER FOUR

4. RESULTS AND DISCUSSIONS

Chapter four includes three areas, namely: descriptive statistics, correlation analysis and linear regression analysis. The first part deals with descriptive statistics which analyses the study variables by using mean, standard deviation and highest and lowest values. Next part presents the correlation analysis which explains the relationship of the dependent and independent variables. The last part discusses the effect of the explanatory variables on the outcome variable by applying linear regressions analysis using SPSS.

4.1. Descriptive Statistics of Variables

This section is discussing the summary statistics of each variables of the study. The variables include the explanatory and explained variables. The explained variable is used to study the innovation of microfinance institution by its outreach level (i.e., number of clients of MFIs). The explanatory variables include both internal and external factors which are: capital position, availability of qualified human resources having MA and BA degree, board size, board competency, directives issued by the regulatory authority, ownership status (i.e., whether the MFIs are owned by NGO or Government) and age of MFIs. The descriptive statistics result of the study uses mean, highest and lowest values, standard deviation and number of observations. Table 2 below summarizes the results of the variables included in the study.

Table 2 Descriptive Statistics Summary

	N	Minimum	Maximum	Mean	Std. Deviation
NLCLIENT (outreach or client number)	150.00	1.95	14.13	9.56	2.40
LnCAPITAL (Natural Logarithm of total capital)	150.00	4.62	15.17	10.42	2.10
DEGREE (MFIs' staff with 1st Degree)	150.00	1.00	1266.00	101.76	210.53
MASTERS (MFIs' staff with 2nd Degree)	150.00	.00	22.00	2.57	3.30
BOARD (No. of board members in MFIs)	150.00	3.00	10.00	6.39	1.56
BODMA (board members having 2nd degree)	150.00	.00	9.00	2.79	2.01
DIRECTIVE(No. of directives issued)	150.00	22.00	29.00	26.89	2.64
NGO (No. of MFIs owned by NGOs)	150.00	.00	1.00	.56	.50
GOV (No. of MFIs owned by government)	150.00	.00	1.00	.32	.47
MFIYEAR (Age of MFIs operating in the sector)	150.00	2.00	20.00	14.49	4.93
Valid N (listwise)	150.00				

Source: SPSS output result of the descriptive statistics

As presented in the table 2 above, the average value of the natural logarithm of the total number of clients which measures innovativeness of MFI in the study is 9.56 having the highest and lowest values of 14.13 and 1.95, respectively. The standard deviation suggests that the outreach level varies by 2.40 from its mean value of 9.56; it also indicates that there is no wide dispersion in the outreach level of the Ethiopian Microfinance institutions.

One of the explanatory variables (i.e., internal factors) of innovation in Ethiopian MFI sector is capital position (i.e. LnCAPITAL). The mean capital position for Ethiopian MFIs is 10.42 with a highest and lowest capital size of 4.62 and 15.17, respectively. The standard deviation is 2.1 and it implies that the capital value deviates from the mean (10.42) by 2.1; it also shows that the dispersion is not wider regarding capital position of the Microfinance Institutions.

Apart from financial resources the level and availability of competent human resources were considered as an explanatory variable of innovativeness of MFIs. On average 102 (Mean = 101.76) and 3 (mean =2.57) employees of Ethiopian MFIs having first degree and second degree

of educational qualifications, respectively. The level of human resources of Ethiopian MFIs shows the minimum number of 1 and maximum number of 1,266 staff with first degree. The same had also the minimum and maximum number of null and 22 having second degree, respectively. It suggests that the competency of human resources of Ethiopian MFIs as measured by staff having first and second degree is low since its mean values are only 102 and 3, over the last 5 years period, respectively. The standard deviations indicate that Ethiopian MFIs employed staffs having first degree vary by 210.52 from the mean of 102. Similarly, the standard deviations having second degree vary by 3.30 from its mean value of 3.0 (Mean=2.57). The standard deviation of 210.52 and 3.30 suggests that there is a wider dispersion of the availability of human resources having first and second degree of educational qualification among Ethiopian MFIs.

One of the explanatory variables of innovation (as measured by outreach of MFI) is governance of MFIs which represents board size and board members competency in a given MFI. The average size of board for Ethiopian MFIs is 6.39 members with a minimum board members of 3 and maximum board member of 10. The standard deviation is 1.56, implying that the MFIs' board members vary by 1.56 from the mean value of 6.39.

Regarding competency of board of directors of Ethiopian MFIs as measured by board members having second degree has a mean value of 3 (Mean= 2.79) with a minimum of null and maximum of 9 members. The standard deviation is 2.01; it implies that the dispersion is low in the competency level of board members of Ethiopian Microfinance Institutions. According to NBE Directives No. MFI/21/2012, the minimum educational qualification requirement of board of directors is college diploma; in this case, board members have fully satisfied the requirement prescribed by the regulatory authority.

The external factor for the Ethiopian MFIs' innovation is the regulatory and supervisory tools of the regulatory body. Ethiopian MFIs are regulated by directives issued by the regulatory authority (i.e., NBE), on average 27 (Mean =26.89) directives were issued by NBE. The number of directives issued by the regulatory authority reached a minimum of 22 and a maximum of 29 during the study period. The standard deviation is 2.64 from the mean of 27.

Table 2 has also examined the effect of MFIs' ownership status as a proxy for governance of MFIs on innovation. Ownership status of MFIs is a dummy variable which was assigned 1 when the ownership is NGO and assigned 0 when otherwise (i.e., GOV or Private). The table shows that 56% of Ethiopian MFIs are owned by NGO or NGO affiliates; while 32% of MFIs are owned by government (regional government or city administration) affiliated institutions and the remaining 12% of MFIs are owned by private investors. This shows that involvement of private investors in the Ethiopian MFI sector is minimal.

The other explanatory variable is MFIs experience in the in the sector. The Ethiopian MFIs have a mean of 15 (Mean =14.49) with a minimum of 2 and a maximum of 20 as measured by the years of experience in the sector. The standard deviation is 4.93, implying that the variability is lower in the years of experience of MFIs in the sector.

4.2. Correlation

This part shows the results and discussions of associations between of dependent and independent variables using correlation analysis. Though, correlation analysis does not support to infer whether there is a causal effect between variables but it shows the direction and strength of association between variables and it is also a precondition to run regression.

Appendix 2 presents the correlation matrix and correlation coefficients for the model which shows the relationship of the outreach (i.e., proxy for measuring innovation of MFIs by using Natural logarithm of clients) with capital position, staff (human resources) competency with 1st and 2nd degree of educational qualification, board size, board competency, number of directives issued, ownership status of MFIs and MFIs' year of experience in the finance sector.

On the basis of the correlation matrix, the independent variable (i.e., capital position) as measured by LnCAPITAL has strong relationship with outreach level (i.e., a proxy for innovativeness of MFIs). Implying that financially strong MFIs have the capacity to create innovative approach and diversify outreach level taking into account other factors too.

In addition, availability of human resources with first degree and second degree (Masters) of educational qualification has also strong positive relationship with outreach level and it is also statistically significant. This indicates that availability of skilled human resources in the MFI sector has positive relationship for innovative and new product development of efforts of Ethiopian MFIs. This also shows that availability of skilled human resources helps for innovativeness and new product development thereby helps to diversify access to finance in Ethiopia particularly in rural area where unbanked segment of the population is very high.

Regarding corporate governance, board size and board competency has positive relationship with outreach level. On the other hand, regulatory and supervisory tools (i.e. directives) issued by NBE have weak positive relationship at a significant level of (0.927). In addition, MFIs owned by NGOs have negative relationship with outreach. In contrast, MFIs that are owned by government have positive and statistically significant relationship with outreach level (i.e., NLCLIENT).

As can be seen from the correlation matrix, MFIYEAR which explains the MFI's experience in the sector has strong and positive association with outreach level (NLCLIENT) at a statistically significant level, implying that MFI's innovative approaches and affordable financial product developments can be learned through time which in turn helps to foster access to finance by increasing outreach level.

4.3. Regression Analysis

The study had tried to explore the effect of explanatory variables of capital position (i.e., LnCAPITAL), availability of skilled human resources (i.e. number of staff with 1st and 2nd degree) corporate governance (i.e. board size and board qualification) ownership structure (number of MFIs with NGO and/or government ownership), regulatory tools (i.e. number of directives issued) and experience of MFIs (i.e., MFIYEAR) on the explained variable of NLCLIENT, which is a natural logarithm of total number of clients (i.e., a proxy to explain the level of innovation of MFIs). The regression analysis helps to infer the effect of explanatory variables on explained variable of innovativeness of Ethiopian MFIs.

4.3.1. Diagnostic Tests

The data sets were tested for the linear regression model assumptions before running the regression analysis. Various statistical literatures suggest that assumptions of linear regression must be met before utilizing the estimation to reduce biases or errors in predicting results of the study. The researcher tests four assumptions whether or not they are met in the models. The linear regression model assumptions such as multicollinearity, heteroskedasticity, autocorrelation and normal distribution of residuals and their diagnostic tests were discussed below:

4.3.2. Multicollinearity

The degrees of multicollinearity among variables were measured by VIF. Thus, multicollinearity of variables higher than 10 indicate prediction of the model may leads to error and the variable needs to be removed. As shown in the appendix table that the VIF indicator for each variable is lower than 10. Generally, multicollinearity among variables is acceptable if VIF measure lower than 10. Hence, VIF (Variance Inflation Factor) is not a serious problem.

4.3.3. Auto Correlation Test

The autocorrelation assumption is made for the error terms that the residuals are independent from one another or it is a test for the assumption of independent errors. Auto correlation is depended on the order of the cases listed in the data set. As the model summary table (Table 3) below shows Durbin-Watson (DW) test of statistics for auto correlation assumption indicates 1.981. Generally, the critical values of Durbin-Watson value of 2 indicates that the errors are uncorrelated to one another, moreover, the rule of thumb assumes that Durbin-Watson values from 1.5 to 2.5 is commonly acceptable. The resulting test of Durbin-Watson value is 1.981 which is approximately 2; hence, the errors are uncorrelated to one another and auto correlation is not a serious concern.

Table 3 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.941[a]	.886	.878	.83602	1.981

a. Predictors: (Constant), MFIYEAR, GOV, DIRECTIVE, BOARD, BODMA, MASTERS, LnCAPITAL, NGO, DEGREE

b. Dependent Variable: NLCLIENT

4.3.4. Heteroskedasticity Test

It is assumed that the error terms in the model should not be heteroskdastic, meaning that the error terms should have constant variances. Statistical test for heteroskedasticity of error terms is made for the study. If there is heteroskedasticy in the model it makes the standard errors non-constant and erroneous results could be derived from the model. Koenker and Breusch-Pagan statistical tests were conducted for the model. As a result, Koenker test (which is more reliable statistical test than Breusch-pagan test) has the p value of 0.402 and the p-value is not

significant. This implies that there is no problem of heteroskedasticity and the error term variance is constant.

4.3.5. Normality Test

Table 4, below exhibits tests results for the normality test of the residuals. It tests whether residuals are normally distributed. The tests result in the table below shows the residuals have non- normal distribution pattern and normality assumption for the model was violated. However, normality assumption can be violated under the "law of large number "and "Central Limit Theorem" that the sample size is significantly larger (Glencross J. 1986). In this case the researcher had tried to study nearly the entire MFI sector within the study period. Hence, violation of normality assumption is not a serious concern due to large sample size and central limit theorem.

Table 4 Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.101	150	.001	.866	150	.000
Standardized Residual	.101	150	.001	.866	150	.000

a. Lilliefors Significance Correction

4.4. Regression Analysis

The model summary table below shows $R^2 = 0.886$, this implies that the explanatory variables explain 88.6% of the variation in the explained variable.

Table 5 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.941[a]	.886	.878	.83602	1.981

a. Predictors: (Constant), MFIYEAR, GOV, DIRECTIVE, BOARD, BODMA, MASTERS, LnCAPITAL, NGO, DEGREE

b. Dependent Variable: NLCLIENT

Moreover, the ANOVA table shows that the p value for F statistic is < .05 (p<.05). This means the independent variables are a significant predictor of outreach which is the proxy to measure innovativeness of MFIs. Hence, the p value in the ANOVA table explains the model is a good predictor of the outcome variable.

As the coefficient table (Table 6) below shows that capital position of MFIs as measured by natural logarithm of total capital (LnCAPITAL) has the most positive strength (β =.810) and it is statistically significant (p<.05) in relation to outreach level as measured by NLCLINET (i.e., a proxy for measuring innovativeness of MFIs) and increasing capital position of Ethiopian MFIs will augment outreach level by 81%. This implies that internal capacity, in terms of financial capacity of MFIs is significant in diversifying outreach level through investing in innovative and new product development activities in an effort to increase financial access and financial inclusion in Ethiopia. Thus, the hypothesis is accepted that capital position has significant impact for innovativeness of Ethiopian MFIs via diversifying outreach level.

Table 6 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.443	.890		.498	.619
	LnCAPITAL(Natural Logarithm of total capital)	.810	.059	.709	13.849	.000
	DEGREE (MFIs' staff with 1st Degree)	.003	.001	.250	3.542	.001
	MASTERS (MFIs' staff with 2nd Degree)	-.110	.053	-.152	-2.066	.041
	BOARD (No. of board members in MFIs)	.006	.047	.004	.135	.893
	BODMA (board members having 2nd degree)	-.019	.039	-.016	-.491	.625
	DIRECTIVE (No. of directives issued)	-.059	.028	-.065	-2.101	.037
	NGO (No. of MFIs owned by NGOs)	.601	.246	.125	2.436	.016
	GOV (No. of MFIs owned by government)	.462	.283	.090	1.633	.105
	MFIYEAR (Age of MFIs operating in the sector)	.123	.020	.253	6.237	.000

The coefficient table above shows that availability of skilled human resources with 1st degree educational qualification in Ethiopian MFIs has positive coefficient (β=.003) and statistically significant ($p<.05$). So that availability of qualified human resource has influence on the outreach level of MFIs. Conversely, human resources with higher educational level with 2nd degree has negative coefficient (β= -.110) and statistically significant ($p<.05$). This implies that Ethiopian MFIs innovative approaches positively rely on human resources having first degree holders than masters degree holders. As the descriptive statistics shows that the availability of human resources with first degree educational qualification is higher than that of second degree holders; the data showed that the number is very low to make inferences about innovativeness. Thus, this finding suggests that further study should be required on influences of high skilled human resources on outreach level of Ethiopian MFIs.

Regarding corporate governance, the study had predicted that governance of MFI as measured by size of board members (BOARD) has positive and insignificant effect on innovative and new product development of Ethiopian MFIs. As the table above (Table 6) portrayed that the regression result of board size has the coefficient of (β= .006) and statistically insignificant at (p>.05). Similarly the study predicted that board qualification has negative and insignificant impact on innovativeness of Ethiopian MFIs. As the regression result showed that board qualification as measured by board members with second degree educational qualification (BODMA) has a negative coefficient (β= -.019) and insignificant at (p>.05). However, various studies underlined that board of an MFI has undue influence not only on innovative and new product development of MFIs but also on sustainability of the MFI's business by providing strategic direction and decision as well as guidance and control the performance of the executive management team. Nonetheless, the case of Ethiopian MFIs, in which its major shareholders are nominal (i.e., the shareholders have no real stake or real ownership of MFIs) could have negative effect on the MFIs' operation. In Ethiopian context a person or an entity should have a share (whether it is a nominal or real) in order to be elected as a board member of an MFI. The above descriptive statistics table shows that only 12% of the MFIs are owned by real shareholders and 88% of the MFIs are either owned by NGO or Government. The shareholders are mostly representative of NGO or GOV and this would seriously affect the governance of MFIs. Thus, shareholding status of MFIs is nominal and the shareholders have no real stake on operation MFIs.

External environment which is decisive factor in the financial sector is issuance of regulatory and supervisory instruments (i.e., DIRECTIVE) in order to maintain safe and sound MFI sector. In light to this, the regulatory body (i.e., NBE) has been issuing a number of

directives from time to time. The study predicts that DIRECTIVE has negatively and significantly affected outreach (i.e., a proxy for measuring innovativeness of MFIs). Table 6 shows that DIRECITVE has a negative influence of (β = -.059) and statistically significant value of ($p < .05$). This implies that the regulatory body has stringent financial policies and directives for innovative and new financial products/service developments in the MFI sector. Moreover, various studies showed that issuance of stringent policy would negatively affect innovativeness of the financial sector. Hence proportional regulations on various aspects of the MFI sector should be in placed to augment innovativeness in so doing to enhance financial inclusion and include the unbanked segment of the population with customized and affordable financial products and services using various technological platforms. In developing countries penetration of mobile and agent banking service is increasing in a faster pace; however, issuance of legal and regulatory framework is not commensurate with proposed service modalities. Thus, this needs the attention of government and other stakeholders in the sector.

Regarding ownership status, NGO owned MFIs have the higher positive strength and statistically significant effect on the outreach level (NLCLIENT) with the values of the coefficient (β=.601) and ($p<.05$). On the other hand, government owned MFIs have the positive coefficient of (β=.462) but statistically insignificant ($p>.05$). This implies that NGO owned MFIs have strong relationship on the innovativeness of the MFI business. At the outset, innovative financial services, for instance, micro credit and microfinance business evolved through mainstream NGO programs (Hiatt & Woodworth, 2006). The same is true in the case of the Ethiopian context that the evolution of innovative financial services (i.e., MFI business) was also started mainly as an integral part of NGO programs in the past before evolving into the MFI

business as the mainstream financial service. So that innovativeness in the MFI sector can be attributed to the affiliation to NGO.

Age of MFIs (MFIYEAR) has a positive and significant impact on outreach level (NLCLIENT). Table 6 exhibited that the regression result of age of MFIs (MFIYEAR) has positive coefficient of ($\beta = .123$) and statistically significant ($p < .05$). The result suggests that MFI having long operational experience in the sector tend to have higher outreach level. In addition, matured MFIs may take advantage of acquiring better knowledge and experience about the MFI sector. Hence, matured MFIs can have better opportunities to create innovative financial services and products; thus diversifying financial inclusion particularly to the unbanked segment of the population.

CHAPTER FIVE

5. Conclusion and Recommendations

The research had tried to study determinants of innovation in MFIs that have a potential to diversify financial inclusion and access to finance to unbanked segment of the population; mainly those residing in the rural areas of Ethiopia. This part has two sub topics; the first one is conclusion and followed by recommendations. In addition, this chapter has also suggested additional recommendation for future research.

5.1. Conclusion

From the research result it is found that all internal and external factors do not have same effect on outreach level of MFIs (i.e., NLCLIENT) which is a proxy for measuring innovativeness of MFIs. Subsequently, the following conclusions are drawn from the above analysis:

The mean value of outreach level of MFI is 9.56 which is a proxy for measuring innovation and new financial product and services development of Ethiopian MFIs. The average capital position of Ethiopian MFIs has a value of 10.42. Regarding qualified and skilled human resources, the MFI sector had relatively higher number of first degree holders than second degree holders. Concerning governance, Ethiopian MFIs have the average size of board members governing the affairs of the MFIs equals to 6.39; and as to competency of board members, on average 3 board of directors had masters degree (second degree). Moreover, the average numbers of directives issued by the regulatory body is around 27. The study had also identified ownership structure that 56% of Ethiopian MFIs are owned by NGOs while the share of government and private investors accounting for about 32% and 12%,respectively. Moreover, the average year of experience of Ethiopian MFIs is around 15 years.

The correlation analysis indicates that capital position, availability of skilled human resources, board competency, government ownership of MFIs and years of experience have positive and significant association with outreach level of MFIs. Whereas, board size and directive issuance have positive but insignificant relationship with outreach level. On the other hand, NGO ownership has negative and insignificant correlation with outreach level.

The regression result had showed that capital position has strong positive effect on outreach level of MFIs. Thus, the research result concludes that at statically significant level ($p<.05$) the financial resources in the form of higher capital position supports innovativeness of the MFI sector.

Availability of human resources with first degree educational qualification has positive impact on MFI's innovativeness; whereas, human resources having masters degree in the MFIs sector has negative and significant effect. This is may be due to the fact that availability of human resources with first degree is higher than that of the human resources with second degree.

Board size has positive but insignificant influence on outreach level. Moreover, board competency has negative and insignificant influence on outreach level of Ethiopian MFIs. This might be due to the fact that most board members did not have real stake on MFIs and most board members of the MFIs are nominal shareholders and they had been working as a board of directors in MFIs is considered as to discharging their social responsibility.

The regression result had showed that directives that had been issued by the regulatory body (i.e., NBE) have negative and significant effect on the innovativeness of Ethiopian MFIs. The directives have been issued by the regulatory body are stringent for innovativeness of MFIs and may inhibit access to finance and financial inclusion in the country.

NGO owned MFIs have positive effect on innovativeness at a statistically significant level, whereas, government owned MFIs have positive and insignificant effect on innovation. This implies that NGO affiliated MFIs have strong relation for innovation to diversity access to finance to the unbanked segment of the Ethiopian population. Provisions of smaller loans to rural people by NGOs were one part of the program interventions in the past.

The study found that age of MFIs has also a strong positive effect on outreach level of MFIs, at a statistically significant value. The research concluded that matured MFIs can take the advantage of acquiring knowledge and experience in the sector through time and have the opportunity to create affordable and innovative financial products and services in an effort to diversify outreach level.

5.2. Recommendations

The study had tried to identify major determinants that have an effect on innovativeness of Ethiopian MFIs taking evidence taken from Ethiopian microfinance sector. In light of the findings and conclusions drawn, the following recommendations were forwarded:

- Capital position has strong and positive influence for innovativeness of Ethiopian MFIs. Microfinance institutions should strengthen their capital position and should be financially viable to create innovative financial services and products to the potential clients. Microfinance institutions should broaden their shareholding base in order to increase their capital position and create enabling environment for innovative financial service delivery approaches.
- Ethiopian MFIs should work on attracting and maintaining qualified human resources; as the availability of skilled human resource has positive and significance impact for innovativeness of MFIs to increase financial inclusion in Ethiopia.
- The research had underlined that shareholding of MFIs should be based on real stake of MFIs; in return election of board members should also be based on real stake they have on financial undertaking of the microfinance institutions. Thus, the MFIs should work on increasing the size of board members from various disciplines with a view to flourish innovation.
- The regulatory body (i.e., NBE) should create enabling environment for innovation and new product development to increase financial inclusion. Proportional regulation which gives opportunities for both prudential regulation as well as innovation in the financial sector. Recently, in many developing counties, financial inclusion strategy development and coordination of financial inclusion is undertaken by central bank, hence the

regulatory body should review regulatory policies and directives and shorten financial product/services approval processes. It should also simplify bureaucratic steps to support innovativeness in the financial sector thereby increasing financial inclusion.

- The study had showed that the share of private investment in the MFI sector is very minimal as compared with NGO and government owned MFIs. Hence, government should devise strategy to attract private social investors in the MFI sector by using various awareness creation forums and diversifying investment opportunity to private investors. Involvement of private social investors in the MFI sector helps to augment saving mobilization; and also increases employment opportunity which in turn encourages private investment and also contributes for economic development of the country.

5.2.1. Recommendation for future Research

There are important determinant variables suggested in various literatures but not included in the models of the study due to non availability of data, for example, financial products (saving and loan) payment services, management related factors (internal control), technology, etc. Therefore, the research suggests further study should be made on these variables to see their effects on MFIs' innovation.

REFRENCE

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APPENDICES

APPENDIXE 1 COLLINARITY RESULTS

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.443	.890		.498	.619		
	LnCAPITAL(Natural Logarithm of total capital)	.810	.059	.709	13.849	.000	.312	3.209
	DEGREE (MFIs' staff with 1st Degree)	.003	.001	.250	3.542	.001	.164	6.106
	MASTERS (MFIs' staff with 2nd Degree)	-.110	.053	-.152	-2.066	.041	.151	6.602
	BOARD (No. of board members in MFIs)	.006	.047	.004	.135	.893	.853	1.172
	BODMA (board members having 2nd degree)	-.019	.039	-.016	-.491	.625	.772	1.295
	DIRECTIVE (No. of directives issued)	-.059	.028	-.065	-2.101	.037	.852	1.174
	NGO (No. of MFIs owned by NGOs)	.601	.246	.125	2.436	.016	.311	3.213
	GOV (No. of MFIs owned by government)	.462	.283	.090	1.633	.105	.267	3.747
	MFIYEAR (Age of MFIs operating in the sector)	.123	.020	.253	6.237	.000	.494	2.024

a. Dependent Variable: NLCLIENT

APPENDIX 2 Correlations

		NLCLIENT	LnCAPITAL	DEGREE	MASTERS	BOARD	BODMA	DIRECTIVE	NGO	GOV	MFIYEAR
NLCLIENT(outreach or client number)	Pearson Correlation	1	.893**	.643**	.682**	.133	.277**	.008	-.138	.454**	.695**
	Sig. (2-tailed)		.000	.000	.000	.105	.001	.927	.093	.000	.000
	N	150	150	150	150	150	150	150	150	150	150
LnCAPITAL (Natural Logarithm of total capital)	Pearson Correlation	.893**	1	.617**	.712**	.213**	.251**	.147	-.268**	.533**	.536**
	Sig. (2-tailed)	.000		.000	.000	.009	.002	.072	.001	.000	.000
	N	150	150	150	150	150	150	150	150	150	150
DEGREE (MFIs' staff with 1st Degree)	Pearson Correlation	.643**	.617**	1	.884**	.210*	.356**	.091	-.372**	.513**	.393**
	Sig. (2-tailed)	.000	.000		.000	.010	.000	.266	.000	.000	.000
	N	150	150	150	150	150	150	150	150	150	150
MASTERS (MFIs' staff with 2nd Degree)	Pearson Correlation	.682**	.712**	.884**	1	.220**	.251**	.160	-.272**	.425**	.463**
	Sig. (2-tailed)	.000	.000	.000		.007	.002	.051	.001	.000	.000
	N	150	150	150	150	150	150	150	150	150	150
BOARD(No. of board members in MFIs)	Pearson Correlation	.133	.213**	.210*	.220**	1	-.046	.090	-.297**	.234**	-.079
	Sig. (2-tailed)	.105	.009	.010	.007		.574	.274	.000	.004	.336
	N	150	150	150	150	150	150	150	150	150	150
BODMA (board members having 2nd degree)	Pearson Correlation	.277**	.251**	.356**	.251**	-.046	1	.134	.040	.102	.234**
	Sig. (2-tailed)	.001	.002	.000	.002	.574		.103	.629	.216	.004
	N	150	150	150	150	150	150	150	150	150	150
DIRECTIVE (No of directives issued)	Pearson Correlation	.008	.147	.091	.160	.090	.134	1	.005	-.027	-.106
	Sig. (2-tailed)	.927	.072	.266	.051	.274	.103		.952	.747	.195
	N	150	150	150	150	150	150	150	150	150	150
NGO (No. of MFIs owned by NGOs)	Pearson Correlation	-.138	-.268**	-.372**	-.272**	-.297**	.040	.005	1	-.774**	.201*
	Sig. (2-tailed)	.093	.001	.000	.001	.000	.629	.952		.000	.014
	N	150	150	150	150	150	150	150	150	150	150
GOV (No. of MFIs owned by government)	Pearson Correlation	.454**	.533**	.513**	.425**	.234**	.102	-.027	-.774**	1	.068
	Sig. (2-tailed)	.000	.000	.000	.000	.004	.216	.747	.000		.409
	N	150	150	150	150	150	150	150	150	150	150
MFIYEAR (Age of MFIs operating in the sector)	Pearson Correlation	.695**	.536**	.393**	.463**	-.079	.234**	-.106	.201*	.068	1
	Sig. (2-tailed)	.000	.000	.000	.000	.336	.004	.195	.014	.409	
	N	150	150	150	150	150	150	150	150	150	150

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).