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Determinants of Project Implementation Delay: The Case of Selected Projects Financed by Development Bank of Ethiopia

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Abstract

Completion of projects within schedule is a major contribution towards the competitive edge in organizations. This is based on the realization that the achievement of the targeted objectives is determined by the ability to deliver the targeted output within the stipulated time. Project implementation delay can be defined as the late completion of work compared to the planned schedule. Project implementation delay can be minimized only when its determinants are identified. The objective of this study is to identify the major determinants of project implementation delay and methods of minimizing project implementation delays. The research targeted projects financed by the Development Bank of Ethiopia. The independent variables causing project implementation delay are poor project initiation, poor project planning/design system, improper implementation, poor project monitoring, evaluation and controlling system, poor communication, improper project closure, and the dependent variable is project delay. The study considered 125 projects through stratified sampling method from projects financed over the last three years. Data were collected from randomly selected project managers using structured questionnaire and secondary data were also used. Data were analyzed using linear regression method. According to the findings, a strong, positive and significant relationship was observed between all delay factors considered as independent variables and project delay. Among the six delay factors (poor project initiation, poor project planning/design system, improper implementation, poor project monitoring, evaluation and controlling system, poor communication and improper project closure), poor project initiation was identified and concluded as the determinants with the highest influence on project completion delay. So that any business initiators should select project those are more familiar and interesting for them and scope of project should be established, controlled and must be clearly defined and be limited.

Keywords: Project Financing, Project Implementation and Project Completion Delay, Development Bank of Ethiopia.

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1. Introduction

Projects are considered delayed when their stipulated completion durations have not been achieved. The inability to complete projects on time and within budget continues to be a chronic problem worldwide and is worsening (Ahmed et al, 2002). According to Ashley et al (2008) the trend of cost overrun is common worldwide and that it is more severe in developing countries. The subject of completion of project is therefore a universal concern that affects all parties to a construction project. It is thus in the interest of the project management as an emerging profession to address all the factors that affect completion of construction project. Indeed the idea of EPC contracts was conceived to partly transfer the risks involved in project implementation largely to the contractor charged with implementing it. The contractor usually has a limited ability to claim additional money which is limited to the circumstances where the project company has delayed the contractor or has ordered the variation of the works (McNair et al, 2011).

Delay could be defined as an act or event that extends the time required to perform the tasks under a contract. It usually shows up as additional days of work or as a delayed start of an activity (Sweis et al, 2007). Projects have a variety of reasons to experience delay. An investigation to find out the reasons for the delays was conducted in Hong Kong where a questionnaire was developed on factors that were identified in previous findings. The analysis of the findings indicated the difference in perception of the factors that was between the key stakeholders of the project. There was general agreement about the relative importance of delay factors such as unforeseen ground conditions (Kumaraswamy et al, 1998). The delays can be controlled by improving productivity and factors that affect productivity are dealt with the purpose of further increasing productivity and thereby reducing delays. The

conclusion of the investigation is ranking of the factors and factor categories that are considered by various project stakeholders. The areas of disparity between the stakeholders are indicated by their experiences, prejudices and ineffective communication. Thus the project scope factors can be supported by effective communications between all stakeholders.

According to Abdalla et al (2002) projects encounter massive delays and thereby overshoot the initial time and cost estimates which in turn result in extensive delays providing a platform for claims and disputes. A survey done with the objective of finding the most important reasons for delays as per the traditional contracts indicate that contractors and consultants agreed that owner interference, inadequate contractor experience, financing and payments, labor productivity, slow decision making, improper planning, and subcontractors are among the top ten most important factors. According to Assaf et al (2006) in construction, delay could be defined as the time overrun either beyond completion date specified in a contract, or beyond the date that the parties agreed upon for delivery of a project. It is a project slipping over its planned schedule and is considered as common problem in construction projects. In some cases, to the contractor, delay means higher overhead costs because of longer work period, higher material costs through inflation, and due to labour cost increases. Time, cost and quality are the basic of successful construction which include also the safety and it environment. Time and cost had parallel relationship which the increasing of the time will make the increasing of the cost. Then, the controlled of time is really important for avoid any loss to the contractor. The time that already discuss is the period which is the schedule for the activities from beginning until finish the process of planning.

Delay implementation of projects and cost increase are common phenomena in projects worldwide. However, these are especially severe in developing countries. Implementation delay gives a project a difficult start, unduly long time taken for project implementation results in time-overrun which is invariably followed by cost overrun. Cost-overrun has the ill effect of affecting the financial viability of the project. The problem of cost-overrun will get more compounded if the finance necessary to meet the increased cost cannot be arranged in time. Any delay in arranging for the finance needed to meet the cost overrun will only further tend to increase the cost and this may land the project in trouble leading eventually to the death of the project and the project may not take off (Adhikarib, 2002). Delays are endemic to the construction projects in Ethiopia. By examining 15 completed projects in different region of the country, the delay encountered in most projects range from 20.66% to 50% of original contract time. Project delays are the major causes of claims for time extension and associated cost (Abdissa, 2003). The authors further pointed out that the most common causes of delays and their associated costs, us shortage of spare parts, untimely payment, poor planning and control, increase in scope (design changes/extras), differing soil and site conditions, limited access to the site (partially or totally) not ready for work to progress, unusual and long rainy weather condition, war and instability, Poorly equipped contractors and public sector agencies lack of motivation, and lack of experience in project management.

1.2. Statement of the Problem

It is clearly stated in the Bank's credit policy that the major aim of the Development Bank of Ethiopia is to extend medium to long-term loans for investment projects in the priority areas set by the Government. All projects financed by the bank were approved taking into consideration the project

appraisal and its implementation schedule however, a good number of projects have not been executed in line with the designed implementation schedule. This trend has cause for influence on project operational successfulness and the loan recovery performance of the bank significantly (Development Bank of Ethiopia, 2008). As it has been observed that most DBE financed agricultural and industrial projects implementation schedule lag behind from what was planned in the feasibility studies submitted by the project owners to the Bank and on revised appraisals studies of the Bank and as a result ,there is frequently request for an additional loan for missing items and incomplete construction works and loan repayment rescheduling request by most huge and large sized projects due to delayed of implementation schedule derived mainly from external and internal causes (Development Bank of Ethiopia, 2008). In addition to this, currently it is common to watch foreclosure advertisement of different Banks on newspaper and television window every day and this simply indicate that the failure of many projects. Case example, Past Service projects like Hotels, Schools, and Hospitals and Agricultural project financed by DBE still under foreclosure (Development Bank of Ethiopia, 2011).

This situation resulted great apprehension on the part of potential investors not to look for Bank finance with the perception that credit is the main cause for project failure. Moreover, the failure of projects increases sunk cost of the country irrespective of their ownership since fixed investments of most projects are purpose oriented and require high switching cost. Understanding the prevailing perception in the country, Development Bank of Ethiopia has set zero tolerance for project failure in the year 2010 E.C.

According to Assaf and Al-Hejji (2006) some key causes of delay according to clients are contractor's improper planning, contractor's poor site

management, subcontractor issues, and skilled labor supple and productivity; contractors are insufficient client's payments for completed and ongoing work, acquiring difficulties for work permit and approval, and availability and failure of equipment. When large projects deviate from their objectives (either in cost, completion time, performance, safety or environmental effects), the damage caused obviously transcends out of the contracting parties and affects the project stakeholders and the public at large. Emphasizing the completion time deviation factors as they are very common in our country's construction industry, lack of justified methodologies in quantifying and analyzing delays happens to be the greater challenge (Abebe, 2003). This is because, not also the delays come from a variety of sources, and they also have different effects and implications resulting in complex ramifications, creating considerable difficulty to practitioners in the claim resolution (Kumaaswany, 1997). A critical review of literature suggested that the reason for the continuing difficulty with delay claim resolution can be attributed to a number of problems including lack of uniformity in the application of delay identifying methodologies, lack of sufficient guidance from contacts and poor planning practice. In lights of these problems conducting this research on the case Bank is to determine delay factors in project implementation and also to adopt an appropriate framework for improving delay analysis and administration methods. The study focused projects financed between January 2012 to December 2014 in the core process of the Bank at Corporate level i.e. Credit Process was selected.

1.3. Research Objectives

The general objective of this study is to find out the main determinants of project implementation delay for project financed by development Bank of

Ethiopia specifically at head office. The specific objectives of the research are:

❖ To examine the relationships between poor project initiation and completion of projects.

❖ To investigate the relationships between poor planning and design system and completion of projects.

❖ To find out the relationships between improper implementation and completion of projects.

❖ To investigate the relationships between poor project monitoring, evaluation and controlling system and completion of projects

❖ To examine the relationships between poor communication and completion of projects.

❖ To investigate the relationships between improper project closure and completion of projects.

1.4. Research Hypotheses

The hypothesis was developed from literatures that reviewed in empirical review (Chan and Kumaraswamy 1997; Wambugu, 2013; Theodore, 2009; Dainty et al, 2003; Bilczynska and Wojcik, 2014; Oyetunji and Anderson, 2006). Based on reviewed literatures the research hypothesis was identified as follows;

H1: Poor project initiation has a significant negative impact on project completion.

H2: Poor project planning/design has a significant negative impact on project completion.

H3: Improper implementation has a significant negative impact on project completion.

H4: Poor project monitoring, evaluation and controlling system have a significant negative   impact on project completion.

H5: Poor communication expected to affect project completion negatively.

H6: Improper project closure expected to affect project completion negatively.

2. Literature Review

2.1. The Concept of Project Implementation Delay

Project success can be defined as meeting goals and objectives as prescribed in the project plan. A successful project means that the project has accomplished its technical performance and maintained (Yaw et al, 2003). Delay could be defined as an act or event that extends the time required to perform the tasks under a contract. It usually shows up as additional days of work or as a delayed start of an activity (Sweis et al, 2007). According to Aibinu et al (2002) delay is a situation when the contractor and the project owner jointly or severally contribute to the non-completion of the project within the agreed contract period. Delays in construction projects are frequently expensive, since there is usually a construction loan involved which charges interest, management staff dedicated to the project whose costs are time dependent, and ongoing inflation in wage and material prices. According to Assaf et al (1995) delay in construction could be defined as the time overrun either beyond completion date specified in a contract, or beyond the date that the parties agreed upon for delivery of a project. It is a project slipping over its planned schedule and is considered as common problem in construction projects. In some cases, to the contractor, delay means higher

overhead costs because of longer work period, higher material costs through inflation, and due to labor cost increases.

Project delay can also defined as a discrepancy where actual completion of the project exceeds the planed period according to the contract (Chabota et al, 2008). According to Larry (2002) project schedule is characterized by client urgent demand of project completion, client preference of speed over cost and quality, and the balance of project managers among project scope, budget and resource available. Thus the ascertainment of the period of project delay serves as basic information from the appointment of responsibility, which may be a highly complex operation in cases with concurrent causes. In this respect, when a delay claim occurs, it is very important to assign responsibility and magnitude to delays, and it is often difficult to analyze the ultimate liability in delay claims (Kraiema and Dieknam, 1987).

Odeh and Battaineh (2002) found that contractors and consultants agreed that owner interference, inadequate contractor experience, financing and payments, labor productivity, slow decision making, improper planning, and subcontractors are among the top ten most important causes of construction delay in Jordan. And also as research conducted in Zambia road construction identified fourteen major causes of schedule variation (Chabota et al. 2008). Similar study conducted in Ethiopia showed severe delay in construction projects (Zinabu, 2016). Effective time control is challenged by different factors. According to Olawale and Sun (2010) the top five factors inhibiting effective project time control in descending order are: design changes, inaccurate evaluation of projects time/duration, complexity of works, risk and uncertainty associated with projects and ill-performance of subcontractors and

nominated suppliers. Kasimu and Abubakar (2012) discussed that conducted delay study in the Nigerian construction industry and identified the top five factors that influence delay in ascending order as improper planning, lack of effective communication, design errors, shortage of supply like steel, concrete and slow decision making. Mengistu (2010) discussed that project controlling supportive techniques and software are not applied well for the control of actual and planned activities in the Ethiopia construction sector and recommends the significance of training requirement for the concerned project staff. Similarly, Abadir (2011) found out that among the knowledge areas of project in Ethiopia, project time management is considered the critical one with only 24% projects managed well.

2.1.1. Classification of Project Implementation Delay

Theodore (2009) mentioned that there are four basic ways to categorize type of delays with their discussion:

1. Critical or non-critical
2. Excusable or non-excusable
3. Compensable or non-compensable
4. Concurrent or non-concurrent

In the process of determining the effect of a delay on the project, the analyst must determine whether the delay is critical or noncritical. The analyst must also assess if delay are concurrent. Delay can be further categorized into compensable or non-compensable delays.

2.1.1.1 Critical Versus Non-Critical Delays

Delays that affect the project completion, or in some cases a milestone date, are considered as critical delay. And delays that do not affect the project completion, or a milestone date, are non-critical delays. If these activities are delayed, the project completion date or a milestone dater will be delayed. The determining which activities truly control the project completion date depends on the following:

1) The project itself

2) The contractor's plan and schedule (particularly the critical path)

3) The requirement of the contract for sequence and phasing

4) The physical constraint of the project, i.e. how to build the job from a practical perspective.

2.1.1.2 Excusable versus Non-Excusable Delays

All delays are either excusable or non-excusable. An excusable delay is a delay that is due to an unforeseeable event beyond the contractor's or the subcontractor's control. Normally, based on common general provisions in public agency specifications, delays resulting from the following events would be considered excusable delays: General labor strikes, Fires, Floods, Acts of God, Owner-directed changes, Errors and omissions in the plans and specifications, Differing site conditions or concealed conditions, Unusually severe weather, Intervention by outside agencies and Lack of action by government bodies, such as building inspection. Non-excusable delays are events that are within the contractor's control or that are foreseeable. These are some examples or non-excusable delays: Late performance of sub-contractors, Untimely performance by suppliers, Faulty workmanship by the contractor or sub-contractors, a project-specific labor strike caused by either the contractor's unwillingness to meet with labor representative or by unfair labor practices.

2.1.1.3 Compensable Delays versus Non-Compensable Delays

According to Theodore (2009) compensable delay is a delay where the contractor is entitled to a time extension and to additional compensation. Relating back to the excusable and non-excusable delays, only excusable delays can be compensable. Non-compensable delays mean that although an excusable delay may have occurred, the contractor is not entitled to any added compensation resulting from the excusable delay. Thus, the question of whether a delay is compensable must be answered. Additionally, a non-excusable delay warrants neither additional compensation nor a time extension. Authors such as Barrie (1992), Paulson (1992) and Mubarak (2005) stated that excusable non compensable delays are normally beyond the control of either owner or contractor such as unusual weather conditions, natural disasters, wars, national crises, floods, fires or labor strikes. They add that usually the contractor is entitled to a time extension, but not additional compensation. Trauner et al (2009) discussed that if a delay is compensable or non-compensable basically depends on the issues of the contract. The contract determines the types of delays in detail and for which delay the contractor is entitled to extension or monetary compensation.

2.1.1.4 Concurrent delays

The concept of concurrent delay has become a very common presentation as part of some analysis of construction delays. According to Theodore (2009) the concurrency argument is not just from the standpoint of determining the project's critical delays but from the standpoint of assigning responsibility for damages associated with delays to the critical path. Owners will often cite concurrent delays by the contractor as a reason for issuing a time extension without additional compensation. Contractors will often cite concurrent delays

by the owner as a reason why liquidated damages should not be assessed for its delays. Unfortunately, few contract specifications include a definition of concurrent delay and how concurrent delays affect a contractor's entitlement to additional compensation for time extension or responsibility for liquidated damages.

In analyzed concurrent delays, each delay is assessed separately and its impact on other activities and the project duration is calculated. There are some guidelines for concurrent delays classification. Firstly, if excusable and non-excusable delays occur concurrently, only a time extension is granted to the contractor. Next, if excusable with compensation and excusable without compensation delays occur concurrently, the contractor is entitled to time extension, but not to damages. Lastly, if two excusable with compensation delays occur concurrently, the contractor is entitled to both time extension and damages.

According to Lee et al (2007) concurrent delays may be generated by the contractor or by the owner, but if it happens that both parties are responsible, and these delays overlap then neither party can be able to retrieve damages. According to Theodore (2009) Concurrent delays could be caused by the delaying effects of events that were either excusable (i.e. the events for which the employer takes the risk of time and for which extensions of time should be granted to the contractor) or culpable (i.e. events for which the contractor takes the risk of time). Delay in implementation of projects and cost increase are common phenomena in projects worldwide. However, these are especially severe in developing countries. Delayed implementation gives a project a difficult star. Unduly, long time taken for project implementation results in time-overrun which is invariably followed by cost overrun. Cost-overrun has the ill effect of affecting the financial viability of the project. The problem of

cost-overrun will get more compounded if the finance necessary to meet the increased cost cannot be arranged in time. Any delay in arranging for the finance needed to meet the cost overrun will only further tend to increase the cost and this may land the project in trouble leading eventually to the death of the project and the project may not take off (Adhikarib, 2002).

2.2 Empirical Review

Different researchers in different countries investigate factors influencing project completion from different perspectives. In this sub section, the mythology used and findings identified on studies conducted on project completion influencing factors are reviewed.

2.2.1 Project Initiation and completion of projects

Chan and Kumaraswamy (1997) have determined and evaluated the factors causing delays for construction projects in Hong Kong. They have identified 83 hypothesized delay factors and grouped them into eight categories. The main reasons for delay were analyzed and ranked according to different groups classified on the basis of (a) role of the parties in the local construction industry (i.e. whether clients, consultants and contractors) and (b) the type of projects. They collected data from 167 local construction organizations and analyzed it by using the relative impact index method in order to rank the determinant delay factors for different types of construction projects. The results indicate the principal and common causes of delays are: Improper define the project scope and Lack recruit appropriate staff , unforeseen ground conditions, low speed of decision making involving all the project team, Poor job description for a project manager, Lack of comprehensiveness of feasibility study and Analysis client initiated variations and necessary variations of works.

2.2.2 Project planning and completion of projects

Project planning comes into play at the shakedown phase in project development. Poor project planning can easily bring down response strategies where they are at the threshold or the completion stage. Achievements should be measured against project goals. The progress of the response strategies should be monitored actively through set milestones and targets. Two criteria may be used; project management based criteria should be used to measure against completion dates, costs and quality. Then operational criteria should be used to measure against the production system. Monitoring and feedback include the exchange of information between the project team members and analysis of user feedback. There should be an early proof of success to manage project. Reporting should be emphasized with custom report development, report generator use and user training in reporting applications (Sumner, 1999).

Project implementation are generally takes various stages. The first stage is usually project initiation where the project is identified and a feasibility study carried out to establish the viability and build a business case. The second stage is the project planning stage and in here the project design is carried out, resources and finances allocated. Project execution which is the third phase involves implementing the designs within the allocated resources in the set duration and to the set specification and quality. Project closure involves handing over the final product to the customer, handing over the as is built drawings, giving the operation and maintenance plan, terminating the contracts and informing all stakeholders that the project is closed. If project completion date has been frozen without arranging inputs and proper planning, this can lead to hasty and unsystematic work towards the end of the project (JHA et al., 2006). Failure to clearly comprehend the project, all its

aspects can lead to works being executed erroneously and the attendant correctional steps to remedy the errors will cause project delay. The consequences are actually 14 grave, ranging from litigation to claims and disputes, to outright abandonment of the project (Olatunji, 2010). When a project delay can no longer be absorbed by the client, the project is abandoned. It helps then to predict and identify problems in the early stages of construction (Hussin and Omran, 2011). Planning stage is therefore very key to success of construction project. Delivery of materials on site will quite affect the project progress. If that supply does not ensure that quality materials are delivered on site then it will cause delay of project completion (Wambugu, 2013). This is because material not meeting the quality of design will most likely be rejected and the process of getting the right material will be taking more project implementation time. When materials are lacking on site it means that the employees will not have work to do. This is quite demoralizing and will affect the project delivery negatively. This is largely a product of poor planning in the construction project. Indeed material availability is the most frequent problem that leads to delay in majority of the countries as identified by Olatunji (2010). Second to this is inadequate planning methods and ineffective coordination of resources. Failure at the conceptual planning and design stages, Inadequate resource and finance allocation, inadequate estimation of project completion schedule , lack of complete and proper design and specification of projects at right time may lead to significant problems in the successive stages of the project. Koushki et al., (2005) in a study carried in Kuwaiti illustrates that owner who carried out pre-planning phase prior to the commencement of the planning phase experienced shorter time delays that their counterparts who did not. The amount of time delay also increased with an increase in pre-planning time period. Sambasivan and Soon (2007) identify contractors improper planning as one of the causes of project

delay. If a contractor fails to come up a workable work program at the initial stages, this will affect project timely completion. A similar observation is made by Jagboro and Aibinu, (2002) in Nigeria. Equally emphasizing on the need for proper planning of construction project is (Pakir et al 2012) in a study carried out in Sudan. McMinimee et al (2009) stated that it was clear that investments in advance planning and project development paid off. Mojahed (2005) states that proper planning in all phases and components of construction project are necessary to avoid re work which in turn leads to delay in project completion.

Wideman (2001) concludes that the success of the execution phase of the project is highly depended upon the quality of planning in the prior planning phase. Wambugu (2013) observes that planning affected the timely completion of rural electrification projects in Kenya and that the 15 qualities and importance of project planning had been considered a major cornerstone of every successful project. Tabishl and Jha (2011) in a study carried out in Singapore conclude that comprehensive site investigation helps in sound planning which in turn helps in clarifying the scope and developing a thorough understanding. This also helps minimize change of scope during construction.

2.2.3 Project implementation and completion of projects

Projects are influenced by a multiple of factors which can be external or internal to the organization responsible for its management and execution. These include poor project management, inadequate opportunities for potential beneficiaries to participate in project identification and design, poor linkages between project activities and project purpose, insufficient attention to external environment during project design, among others. It has also been

recognized that projects were likely to succeed when account was taken of socio-economic context in which they operated (Batten, 1957).

According to Theodore (2009) the causes of delay are categorized into 7 groups. The first group has discus the causes of delay occurred by client. Those are poor communication and coordination, delay in progress payments by owner, change orders by owner during construction, slowness in decision making process, delay to furnish and deliver the site, late in revising and approving design documents, delay in approving shop drawing and sample materials, Suspension of work, and conflicts between joint-ownership of the project. Second group categories of causes is delay occurred by contractor. Those are: difficulties in financing project by contractor, conflicts in sub-contractors schedule in execution of project, rework due to errors during construction, conflicts between contractor and other parties (consultant and owner), poor communication and coordination, ineffective planning and scheduling of project, improper construction methods implement, delays in sub-contractors work, inadequate contractor's work, frequent change of sub-contractors, poor qualification of the contractor's technical staff, and delays in site mobilization

The third group causes of delay is delays occurred by consultant. Those are: delay in approving major changes in the scope of work, poor communication and coordination, inadequate experience of consultant, mistakes and discrepancies in design documents, delays in producing design documents, unclear and inadequate details in drawings, insufficient date collection and survey before design, and un-use of advanced engineering design software. Fourth group causes of delay is delay occurred by materials. Those are: shortage of construction materials in market, changes in material types and

specifications during construction, delay in material delivery, delay in manufacturing special building materials, and late procurement of materials.

The fifth group identified as causes of delay is delays occurred by equipment. Those are: equipment breakdowns, shortage of equipment, low level of equipment-operator's skill, low productivity and efficiency of equipment, and lack of high-technology mechanical equipment. The six group identified as causes of delay is delays occurred by labor. Those are: Shortage of labors, working permit of labors, low productivity level of labors, and personal conflicts among labors. The final group identified as causes of delay is delays occurred by external factors. Those are: effects of subsurface conditions (e.g. soil, high water table, etc.), delay in obtaining permits from municipality, hot weather effects on construction activities, traffic control and restriction at job site, accident during construction, changes in government regulations and laws, delay in providing services from utilities (such as water, electricity), and delay in performing final inspection and certification by a third party.

A study conducted in Korean, the causes of delay in mega projects are classified into five categories: insufficient planning, difficulties in acquiring right of way, inefficiency of project management and monitoring system, conflicts between organizations, and strong public resistance. All of the direct or indirect participants tend to maintain different interests in the same project, making it extremely difficult to properly align them for project success. The sheer size and complexity of the project can easily lead to inefficiency and low productivity. Even though these causes, normally found in Korean mega projects, can be repetitive in any construction project, they tend to bring poorer results than those of smaller projects in both size and complexity (Han et al, 2009).

Likewise, Al-Momani (2000) conducted a quantitative analysis of construction delays by examining the records of 130 public building projects constructed in Jordan during the period of 1990-1997. The researcher presented regression models of the relationship between actual and planned project duration for different types of building facilities. The analysis also included the reported frequencies of time extensions for the different causes of delays. The researcher concluded that the main causes of delay in construction projects relate to designers, user changes, weather, site conditions, late deliveries, economic conditions, and increase in quantities. Moreover, Assaf et al (1995) for example, provide a concise summary of the methodologies used by transportation agencies to establish the contract duration used for highway construction projects, and also provide a schedule guide for field engineers during construction. Similarly, Mohammed & Isah (2012) conducted a review on project delays in developing countries during planning and construction stages. In their study they found that the delay and cost overruns of construction projects are dependent on the very early stages of the project.

2.2.4 Monitoring, Evaluation, and Controlling system and completion of projects

The competence of the project manager during project implementation will also affect the timely completion of a project. Positive attitude of project manager and project participants has emerged to be the most important success attribute for quality compliances at project sites (JHA and IYER, 2006). The authors additionally observed that some of the attributes are with high importance are all related to the project manager. For example effective monitoring and feedback by the project manager, project managers technical

capability, leadership quality of the project manager, effective monitoring and feedback by the project team members and authority to take day to day decisions by the project managers' team at site. Furthermore, the success of project hinges on the efficacy of the project team in managing the process (Olatunji, 2010). This indicates adequate capacity of the project manager as well as the project team to ensure proper inspection and investigation of work done on site. A weak link in the process such as a lack of project management experience, could adversely affect timely execution/ timely completion of the projects (Dainty et al, 2003) as cited by Olatunji (2010). When there is no proper inspection/supervision, quality control is greatly compromised. Chism and Armstrong, (2010) agree by stating that inspection and workmanship standards are quite important to achieve quality. Fapohunda and Stephenson, (2010) state that to achieve the pre-determined project objectives, the construction site manager should have a significant influence over cost, time, scope and quality which make it paramount for the manager to have ability of exercising authoritative and absolute control.

Wambugu (2013) concluded in a study that inadequate supervision and inspection of work in construction project led to rework in instances of poor workmanship and this led to delay in project timely completion. This also leads to project cost overrun and may result to project abandonment. Inadequate site inspection is one of the factors identified as causing project delays 16 in timely completions according to (Jagboro and Aibinu, 2002). Mojahed (2005) states that occasion of rework are mainly attributed to incompetent craftsmen because of insufficient working skills and knowledge of drawings or to incompetent supervisors because of lack of experience leading to deficient supervision. The study clearly emphasized the impact of management and supervision on the overall success of the construction

project. If there is no proper supervision, workers will tend to take break whenever they desire and work will tend to delay. Timely inspection is of great importance to ensure effective operation, material quality, and timely progress of the project schedule. Subsequent activities on a construction schedule may not be carried out before the required inspection is carried out on the preceding activities. Chai and Yusof (2013) identify poor site management and supervision as ranking high in the order of causes of construction project delay.

2.2.5 Communication in project teams and completion of projects

Communication plays an important role in leading, integrating people, and taking decisions to make a project a success. There must be shared project vision, where the project manager identifies the interests of all relevant stakeholders and ensures that there is buy in to the project (Yang et al, 2009). According to (Zwikael 2009) once the project objectives are set and the scope clarified, there must be constant update as the project progresses. Progress on activities assigned to individuals or groups needs to be monitored with a view to achieving overall goals. These updates must be communicated to the relevant parties. Newton (2005) believes that a detailed communication plan is necessary for the effective dissemination of information. To this end, frequent project meetings are necessary. Apart from consulting with the community, local direct involvement is a key element for project success. Given the relatively high unemployment rates in South Africa, consideration must be given to local residents. This could include sourcing materials from local suppliers and employing local residents. It is advisable to use an influential community member as a liaison between the project manager and the community (Teo, 2010). Finally, proper handover procedures need to be

developed. This is an important consideration, given that the construction industry is being increasingly viewed as a service industry (Karna et al, 2009)

Project communication management ensures timely and appropriate generation, collection, dissemination, storage, and disposition of project information. Open and clear communications are required among planners, implementers, and all levels of the organization for project success. It includes having a communication plan, information distribution path, progress reporting, and information sharing system for management and customers (Kwak & Ibbs, 2002). Project communication management should also include methods and techniques to build trust and relationships among team members, as well as propagate desirable personal behaviors and clear communication rules.

Several research findings indicate that, in case of many projects, activities in the field of communication management are disordered, supported mainly by project managers' intuition or neglected (Paasivaara & Lassenius, 2003; Adera, 2013). Research on project communication management in industrial enterprises in Slovakia revealed that in 66% of them no written document (methodology, process steps) to manage project communication has been prepared (Samakova et al., 2013).

2.2.6 Project closure and completion of projects

Project delivery system will also affect project timely completion or not. Project delivery system refers to the various processes required in materializing the goals and objective of a client into a project through integrated project team efforts (Chen et al, 2011) the same authors also state that the project delivery system acts as a management function of the owner in project execution. It is quite important that the right choice on the project

delivery system is made. The decision made in the selection of the project delivery system for a project impacts all phases of execution of the project and greatly impacts the efficiency of project execution (Oyetunji and Anderson, 2006). The choice of the project delivery system largely depends on the funding available. A funding agency will most likely determine the project delivery system that will be able to guarantee the cost control and in the end the project control. This choice is based on past practices, traditions and experiences, advice of consultants, funding sources and constraints. Other project stakeholders' views will also be factored. When the project is closed, ensure that any outstanding tasks in the project plan that are to continue after the project is closed are included in the formal project close tasks which are addressed in the Close phase. These outstanding tasks may need to be included in post-project implementation planning and may have an impact on the business outcomes and benefits realization from the project.

However in a case where the owner needs professional design services and construction services, design bid build may be the preferred option. Design Bid Build (DBB) gives the owner a high degree of control. The owner can also closely monitor projects. It is also applicable if the owners are public owners and must account in detail for expenditures. The manager uses procedures that will guide on how best the resources will be best used during the construction process with the aim of achieving timely and efficient application in the construction process. Wambugu (2013) avers that a construction manager will generally be trained in the management of construction processes. Yet another project delivery system is the Design Build (DB). In this type the owner contracts a single entity to provide the design and implement the design. This system enables the owner to deal with a single contact and so eliminate the various conflicts that occur when a team

of consultants in design team on one hand differ with the contractor on the other hand. In DB the design builder makes many of the decisions that the owner would otherwise be required to make in DBB. There is therefore a quite delegated authority by the owner. There are variations in the type of design build arrangements. They may be lease develop operate where the owner gives the operator a long term lease to develop, operate and then revert to the owner. Public private partnership is another arrangement for project implementation where a public sector authority enters into a contract with a private party. The private party provides a public service or project and assumes a substantial financial, technical and operational risk in the project. In a typical case a private sector consortium forms a special company vehicle called "a special purpose vehicle" (SPV) to develop, maintain and operate the asset in the contracted period. The PSV then signs the contract with the public entity and then signs a contract with sub-contractors to construct the project and then maintain it.

Turnkey contracts or engineer procure construct projects. In these contracts, the owner prepares the principle and basic design of the construction on a functional basis (FIDIC, 1999). The owner 18 exercises limited control over and should in general not interfere with the contractors work. A feature of this type of contract is that the contractor has to prove the reliability of the project after completion at the turn of the key (FIDIC, 1999).

2.3. Methods of Minimizing Delays in Project

When construction delay occurs, there is no question that the owner suffers financially, but the extent which the owner can recover its loss of income from the contractor, and more importantly minimizing the risk that such delays will occur, depends largely on how the construction contract was

drawn up. Based on several studied of projects success factors and ratifications of delays in construction projects, a total of 11 methods have been identify as follows:

Table: 2.1. Methods of Minimizing Delays

1	Effective strategic planning (Majid, 2006)
2	Use of up- to- date technology(Majid, 2006)
3	Proper material procurement (Majid, 2006)
4	Proper emphasis on past experience (Majid, 2006)
5	Accurate cost initial estimates (Majid ,2006)
6	Sit management and supervision (Long, 2008)
7	Proper planning and scheduling of project(Majid, 2006)
8	Complete and proper design and specification of projects at right time (Assaf, 2006)

2.4. Research gaps

After an in depth review of theoretical and empirical literatures the student researcher has reached to a conclusion that there is no literature available on the factors influencing completion of projects in Ethiopian Country especially for industrial project. This study therefore aimed to investigate the actual factors influencing of project completion in Ethiopian Country the case are project financed by DBE.

2.5. Conceptual Framework

This is also captured in the conceptual framework which is a tabulated relationship between the independent variables and dependent variable. The conceptual framework of the study was developed from different authors findings (Chan and Kumaraswamy 1997; Wambugu, 2013; Theodore, 2009;

Dainty et al, 2003; Bilczynska and Wojcik, 2014; Oyetunji and Anderson, 2006). The study was guided by the following conceptual framework.

Independent variables   (Critical Delay factors)

Poor project initiation

Poor planning/Design System

Improper Implementation

Poor project monitoring, evaluation and control system

Poor communication

Improper project closure

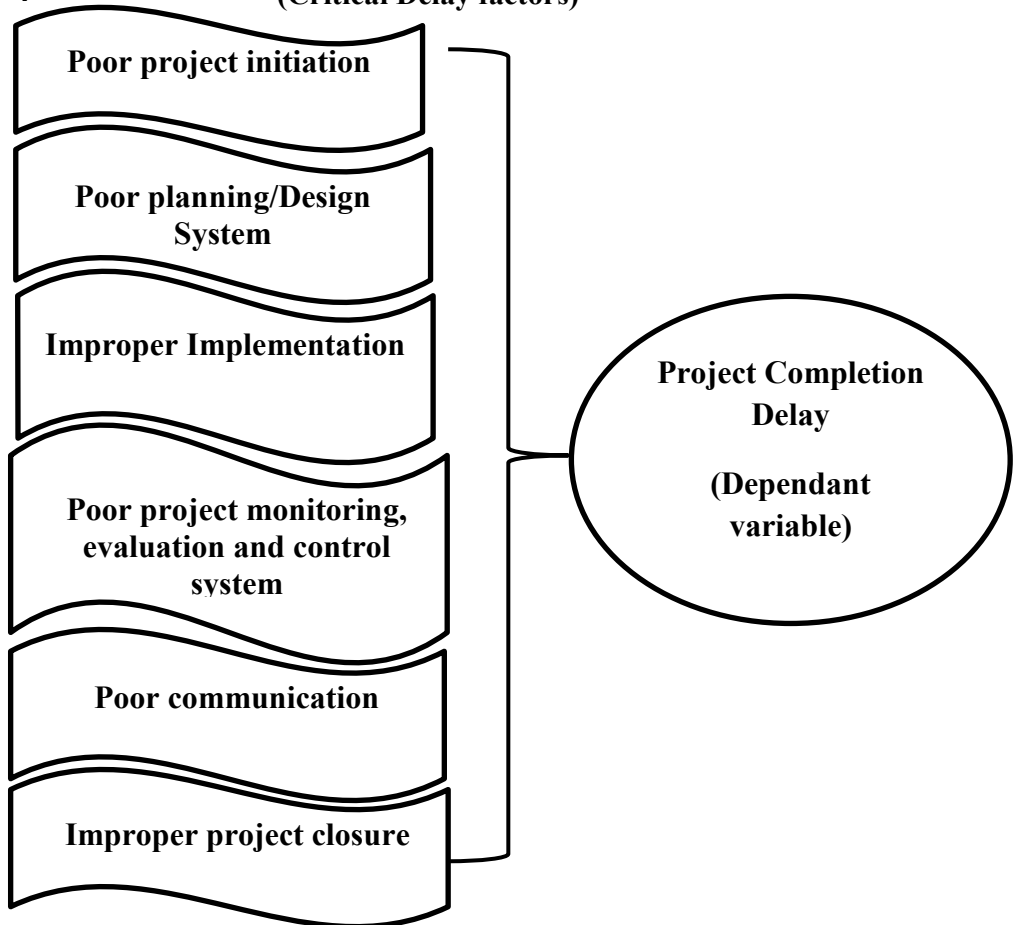Project Completion Delay

(Dependant variable)

Figure 2.2 *Conceptual framework of the study*

3. Research Methodology

3.1. Research Approach and Design

The study intends to assess the determinants of project implementation delay of the case bank. The cause and effects (causal) relationship between variables

are assessed throughout the study. This makes it appropriate for the study to implement explanatory research design. In this study both qualitative and quantitative data types were collected. This leads for the study to use a mixed research approach which combines both qualitative and quantitative research methods.

3.2. Study Population and Sampling

DBE is a project-based lending institution. Projects financed by the Bank are carefully selected and prepared through appraised, and they are closely supervised and systematically evaluated. In this study, the population are industrial projects financed by the head office (corporate level). The head office is engage in financing mega project. The study considered project financed by the Bank between January 2012 and December 2014. The total number of project financed for during the mentioned period were 232. From these only 50 projects were completed successfully on scheduled time and the remaining 182 projects experienced delays in their implementation. However, even if the implementation delay occurred in project financed by DBE, the time of delay is different from project to project. Therefore, the total population of the study are 182 projects with their time of delay since the bank schedule project implementation time on monthly based. It is very expensive in terms of money and time to collect data from these entire projects or contacts. Sekarar (2003) presented a simplified formula to calculate sample sizes of finite population. A 95% confidence level is assumed for this formula to determine the sample size, at e=0.05 and the sample size for the study is determined as follows:

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

where 'n' is the required sample size,

N is the population size and

E is the level of percision

Applying the above formula, $n = \dfrac{182}{1+182(0.05)2} = 125.085 = 125$ rounding to nearest integer. Hence the sample size for this research included 125 projects financed by Development Bank of Ethiopia. Therefore, the project managers of 125 projects are considered to be the population of the study.

3.3. Data Type and Source

For the completion of this study, both primary and secondary types of data are used. The primary data for this research is acquired from sample respondent project manager who are selected from the project financed by case bank. The secondary data was used (referred) from project file or recorded documents by case bank.

3.4. Data Collection Instruments and Data Collection Procedure

The instrument of data collection employed was a questionnaire. The questionnaire has part I giving the background information of the respondent. They were also requested to state Company/Project currently you manage. Part II ranking of determinants mentioned based on their contribution in project delay. Part III of the questionnaire sought the data on previous projects that the respondent had handled. The specific data asked included project initiation, project planning/Design system, implementation, project monitoring, and evaluation and controlling system, communication, project closure related issues. Also asked was the reason for each project delay. A last question sought the respondents' personal opinion on the cause of projects completed delay.

Because of the pre-determined sample population and the nature of the study, the sampling methodology used was non-probability. Purposive or judgmental

sampling and snow-balling sampling methodologies were therefore applied in this study. The sampling procedure was also guided by the records available on the registered professionals in the construction industry who formed the population. The identified project managers were issued with the questionnaire. When they recommend fellow project managers that the researcher could give questionnaires they were further requested to fill the research questionnaire.

3.5. Data Analysis Method

After collecting data from primary sources it was appropriately checked. In addition to that in-house editing was made by the researcher to detect errors committed by respondents during completing the questionnaires. Then the edited data was coded and manually enter in to the computer. In the study both qualitative and quantitative methods of data analysis techniques was employed. Analysis of data in this research was done by using statistical tools like correlation and multiple regressions. In the study six hypotheses were analyzed using methods of statistical inference. Multiple regression analyses were also conducted to determine by how much percent the independent variable i.e. delay factors explain the dependent variable which is project implementation delay. Tables were employed to present the data and statistical package for social science (SPSS) version 24 were used to support the analysis. Base on the conceptual model of the study expressed in Figure 2.1. Mathematically the relationship between delay factors and project completion is expressed in the multiple regression equation as:

$Y = X_0 + X_1 \text{ (PI)} + X_2 \text{ (PPD)} + X_3 \text{ (I)} + X_4 \text{ (MECS)} + X_5 \text{ (C)} + X_6 \text{ (PC)} + e$

Where: Y= PD= Project Delay.

                PI = Project Initiation.

                PPD = Project Planning/Design system.

I   = Improper Implementation.

MECS = Project Monitoring, Evaluation and Controlling system

C   = Poor Communication.

PC = Improper Project Closure

X_0 = the constant parameter.

X_1 = Coefficient of Project Initiation.

X_2 = Coefficient of Project Planning/Design system.

X_3 = Coefficient of Improper Implementation.

X_4 = Coefficient of Project Monitoring, Evaluation and Controlling.

X_5 = Coefficient of Poor Communication.

X_6 = Coefficient of Improper Project Closure.

e = error term

In accordance with the above mathematical model the constructed hypothesis were tested by considering significance level of each constant parameter in multiple regression analysis.

4. Result and Discussion

4.1. Ranking of Delay Factors

Table 4.1 shows the ranking of the delay factors based on the mean values. The factors with mean values exceeding 3.8 present a fairly high agreement of the respondents. Based on the ranking, the three most influential factors of project completion are: Poor Project Initiation (PPI) (mean = 3.847); Poor Project Monitoring, Evaluation and Controlling System (PPMECS) (mean = 3.661); and Poor Project Planning/Design System (PPPDS) (mean = 3.657). It is easy to find that PPI is the factor having the highest value of the means. The information delays and lack of information exchange between the parties are serious problems when the project is running and encountering with deadline or important milestones. These problems lead to the different understanding

about the project objectives between the parties. Conflicts can occur when the information is not updated in time to one of the parties. The old information could be done by the contractor. Completed works could not meet the owner's requirements, also caused schedule delays and cost overruns. The two factors that have the lowest means with comparing to other factors are: (IPC) improper project closure (mean = 3.592), and (II) improper implementation (mean = 3.567).

Table 4.1: Ranking of Delay Factors

Code	The Delay Factors	Mean	Rank
PPI	Poor project initiation	3.847	1
PPMECS	Poor project monitoring, evaluation and controlling system	3.661	2
PPPDS	Poor project planning/Design system	3.657	3
PC	Poor communication	3.616	4
IPC	Improper project closure	3.592	5
II	Improper implementation	3.567	6

Source: Own survey result (2017)

4.2. Relationship between Project Implementation Delay Factors and Project Delay

The regression analysis was conducted to know by how much the independent variable explains the dependent variable. In this study, regression was employed to examine the effect of the independent delay factors such as poor project initiation, poor project planning/design system, improper implementation, poor project monitoring, evaluation and controlling system, poor communication and improper project closure on dependent variable project delay.

The Multiple regression analysis model the relationship between the independent variable and dependent variable. The coefficient of determination (R^2) ad correlation coefficient (R) shows the degree of association between

the two. The results of the analysis indicates that R^2=0.943 and R = 0.971 that indicates that there is a positive relationship between independent variable (poor project initiation, poor project planning/design system, improper implementation, poor project monitoring, evaluation and controlling system, poor communication and improper project closure) and dependent variable (project delay).Therefore, to make sure that there is low co-linearity, the values of Tolerance and VIF (Variance Inflation Factor) should be checked. According to Pallant (2007), tolerance indicates to what extent the independent variables do not explain much of the variability of a specified independent variable and the value should not be small (more than 0.10) to indicate the absence of co-linearity. In addition to that, VIF, the inverse of tolerance value, should have a value of less than 10 to avoid any concerns of co-linearity (Pallant, 2007). Hence, the values in the Table 4.4 below indicate low co-linearity because all Tolerance values are above 0.1 and all VIF values are less than 10. Therefore, these tests reflect that the variables used in the study are free from multi co-linearity.

The results of regression analysis indicate positive and significant relationship between the project delay factors and project delay. This means the predictive variables (independent variables) such as poor project initiation, poor project planning/design system; poor project monitoring, evaluation and controlling system, poor communication and improper project closure jointly determine the dependent variable project delay. The adjusted R-Square (R^2 = 0.943) shows the explanatory power of all variables involved in the study. Hence poor project initiation, poor project planning/design system; poor project monitoring, evaluation and controlling system, poor communication and Improper project closure jointly determine (explain) 94.3% of the variance in project delay. Whereas 5.7% of the project implementation delay/project

completion delay was explained by the variables which were not included in the study.

Table 4.2: Determinants of Project Implementation Delay (n=125)

Variables	Unstand. Coeff.		Stand. Coeff.	t	Collinearity Statistics	
	B	**Std. Error**	**Beta**		Tolerance	VIF
Constant	1.349***	0.10		13.44		
Poor project initiation	0.235***	0.04	0.24	5.93	0.29	3.41
Poor project planning /design system	0.176*	0.03	0.07	2.12	0.49	2.03
Poor project monitoring, evaluation and controlling system	0.469***	0.04	0.55	10.85	0.12	5.38
Poor communication	0.361***	0.04	0.47	10.21	0.23	4.33
Improper project closure	0.140***	0.03	0.17	4.47	0.33	3.0

***Significant at p<0.01 and **Significant at p<0.05*

Source: Own Survey (2017)

The values of the unstandardized Beta Coefficients (*β*) indicate the effects of each independent variable on dependent variable. Furthermore, the values of the unstandardized Beta Coefficients in the Beta column of the Table 4.10 above, indicate which independent variable (determinants of delay) makes the strongest contribution to explain the dependent variable (project delay), when the variance explained by all other independent variables in the model is controlled. The *t* value and the sig (*p*) value indicate whether the independent

variable is significantly contributing to the prediction of the dependent variable.

The study's hypothesis testing was made based on β, t, and P values. Hence using those coefficient results, the proposed hypotheses for this study were tested as follows.

Hypothesis 1: Poor project initiation has a significant negative impact on project completion.

The results of multiple regressions, as presented in Table 4.5 above, revealed that poor project initiation had a positive and significant effect on project delay with (β =0.235, t = 5.934 & p <0.05). Thus, the proposed hypothesis was accepted. This statistics infer that if the owner of the project increased its focus to project initiation by one %, then its project delay would decreased by 23.5%. Therefore, poor project initiation had a negatively affect the project completion time. The findings agree with Chan and Kumaraswamy (1997)who argues that the factor that always happen relate to the poor project initiation are: improper define the project scope , lack recruit appropriate staff, unforeseen ground conditions, low speed of decision making involving all the project team, poor job description for a project manager, lack of comprehensiveness of feasibility study and Analysis.

Hypothesis 2: Poor project planning/design has a significant negative impact on project completion.

The results of multiple regressions, as presented in Table 4.5 above, revealed that poor project planning/design had a positive and significant effect on project delay with values (β=0.176, t = 2.199, p < 0 .01). Thus, the proposed hypothesis was accepted. Here also the beta coefficient implies that if the

attention is given to poor project planning/design by one %, by keeping the other variables constant its project delay would decreased by 17.6%. Therefore, poor project planning/design had a negatively affect the project completion time. The findings concur with Olatunji (2010), Wambugu (2013) and Sambasivan & Soon (2007) that points out the factors always happen relate to poor project planning/design are; inadequate resource and finance allocation, inadequate estimation of project completion schedule , lack of complete and proper design and specification of projects at right time, contractors improper planning.

Hypothesis 3: Poor project monitoring, evaluation and controlling system have a significant negative impact on project completion.

The results of multiple regressions, as presented in Table 4.5 above, revealed that poor project monitoring, evaluation and controlling system had a positive and significant effect on project completion with values ($\beta = 0.469$, t = 10.854, p <0.01). Thus, proposed hypothesis was accepted. In this case the beta coefficient describe that keeping the other variables constant , in this model a one % change in the overall project monitoring, evaluation and controlling system, the consequence would be made change time in project completion by 46.9 %. Therefore, poor project monitoring, evaluation and controlling system had a negatively and significant effect on project completion. The findings concur with Chism and Armstrong (2010) and Kwak & Ibbs (2002) that points out the factors always happen relate to poor project monitoring, evaluation and controlling system are; no proper inspection/supervision, poor quality control, inadequate supervision and inspection of work, inadequate site inspection, lack of effective monitoring and feedback.

Hypothesis 4: Poor communication expected to affect project completion negatively.

The results of multiple regressions, as presented in Table 4.5 above, revealed that poor communication had a positive and significant effect on project completion with values (β=0.361, t = 10.212, p < 0 .01). Thus, the proposed hypothesis was accepted. Here also the beta coefficient implies that if communication is changed by one %, by keeping the other variables constant its project completion would increase by 36.1%. Therefore, poor communication had a negatively and significant effect on project completion. This finding is also supported findings of by (Bilczynska and Wojcik, 2014 and Kwak & Ibbs, 2002) in which identified that distance and lack of face-to-face communication, lack of common rules, misinterpretation of written text, lack of communication expectations, lack of communication plan, information distribution path, progress reporting, and information sharing system for management have a negatively and significant influence on project completion time.

Hypothesis 5: Improper project closure expected to affect project completion negatively.

The results of multiple regressions, as presented in Table 4.5 above, revealed that improper project closure had a positive and significant effect on project completion with values (β=0.140, t = 4.466, p < 0 .01). Thus, the proposed hypothesis was accepted. Here also the beta coefficient implies that if the project closures improper differ by one %, by keeping the other variables constant its project delay would increase by 14%. Therefore, improper project

closure had a negatively and significant effect on project completion. The findings concur with Oyetunji and Anderson (2006) that points out the factors always happen relate to improper project closure are inadequate project delivery system and incomplete a post implementation review.

Generally the results of multiple regression analysis supported the six hypotheses constructed to test a positive and significant influence that each determinants have on project delay.

Table 4.3. Summary of hypothesis testing for regression

Hypothesis	Outcome
H1: Poor project initiation has a significant negative impact on project completion.	**Accepted**
H2: Poor project planning/design has a significant negative impact on project completion.	**Accepted**
H3: Poor project monitoring, evaluation and controlling system have a significant negative impact on project completion.	**Accepted**
H4: Poor communication expected to affect project completion negatively	**Accepted**
H5: Improper project closure expected to affect project completion negatively	**Accepted**

Source: Own Survey (2017)

5. Conclusion and Recommendations

5.1. Conclusion

The study concludes that poor project initiation, poor project planning/design system, poor project monitoring, and evaluation and controlling system, poor communication and improper project closure was affect the project completion negatively. This is in line with (Chan and Kumaraswamy 1997;

Wambugu, 2013; Theodore, 2009; Dainty et al, 2003; Bilczynska and Wojcik, 2014; Oyetunji and Anderson, 2006) who found that poor project initiation, poor project planning/design system, poor project monitoring, and evaluation and controlling system, poor communication and improper project closure are critical factors in project implementation delay. Lack of project planning/design system seems to be the main constraint which project completion. It has also shown that improper implementation; the constraints of building materials, labor, and construction equipment's have been unable to provide adequate funding to a reasonable and affordable standard schedule time.

The results of this study revealed that poor project initiation, poor project planning/design system, poor project monitoring, and evaluation and controlling system, poor communication and improper project closure negatively influences project completion. Hence, it can be concluded that project completion time scheduled was affected due to poor project initiation, poor project planning/design system, poor project monitoring, and evaluation and controlling system, poor communication and improper project closure negatively. Regarding the relative influence of an individual component of delay factors on project completion is concerned; the result of multiple regression coefficient shows that poor project initiation is the most dominant factors in determining the project completion. The study also concludes that the practices that lead to reduction in delay on implementation of projects financed by DBE are use of efficient project-specific activate, assigning well trained workers for specific tasks, good project planning and controlling, conflict resolution during project implementation, establishment of good governance, good public accountability, management and good forecasting of

work plan, estimation project duration, assigning specific tasks to project teams and also assigning projects to specific teams.

5.2. Recommendation

Aligned with the above conclusion, the researcher proposes the following corrective measures that should be considered by concerned stake holders in order to reduce project implementation delay regarding DBE financed projects. These include:

- ❖ As finding of the study shows poor project initiation is the most determinants of project delay so that any business initiators should select project those are more familiar and interesting for them and scope of project should be established, controlled and must be clearly defined and be limited. This includes the amount of the systems implemented and amount of projects process reengineering needed.

- ❖ As far as planning/design system, monitoring, and evaluation and controlling system, communication and project closure should be improved to have basic indicators for project implementation as opposed to the current practice where mostly observation and project manager appointed staff are solely relied on to certify a project as duly completed. In addition an individual or group of people who participate in those activities should be given responsibility to drive success in project implementation.

- ❖ Further, there should be stringent monitoring and evaluation at all stages of project implementation including concept and design stages, thorough project feasibility studies, formulation of appropriate planning, monitoring of procurement process, adequate and proper design of projects, proper specialization of duties, tasks and

responsibilities, transparency and accountability of workers, proper closure of project and capacity building for staff.

❖ As far as those determents are identified as factors for project delay the lending bank and project owners should be committed to improve the deficiency and to enhance the project completion against its time schedule.

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Determinants of Micro and Small Scale Enterprises Advancement into Medium scale Enterprises: The case of Nifas Silk Lafto Sub-city, Addis Ababa

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Abstract

The purpose of this study is to examine the determinants of micro and small scale enterprises advancement into medium scale enterprises. The study used explanatory research design and the total population of the study was 1180 MSEs. Stratified random sampling procedure was used for the selection of 299 MSEs from Nifas Silk Lafto Sub-city. Data were collected by using structured questionnaire from the selected respondents and analyzed by using regression technique. The study shows that the major source of finance for MSE is personal saving. The study shows most of the MSEs are legally sole proprietorship and majority of them complained for insufficient loan to run their businesses. The findings of the study revealed that credit access; marketing and administrative factors affected positively the advancement of small scale microfinance to medium scale enterprises at 5% level of significance. Based on the findings the researcher recommends that locality based approach for solving problems of MSEs through prioritizing the challenges as per their severity; enhancing capacity of the MSE development agency through provision of skill and business training; improving local business environment through provision of sufficient work premises at appropriate location & facilitating access to credit from financial institutions are the major issues.

Keywords: *Micro and Small Enterprises, Advancement, Determinants, Nifas Silk Lafto Sub-city, Addis Ababa*

1. INTRODUCTION

1.1.Background of the Study

From global point of view, Micro and small scale enterprises (MSEs) play a vital role in economic development, as they have been the primary sources of Job/employment creation, output growth and the central focus of the industrial development strategy, not only in less developed countries (LDCs) but also in developed countries. A study conducted by Syed and Mohammed (2009) showed that the MSEs play a vital role in the progress of the economy of the

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developed nation due to the fact that it reduces the unemployment problems by using lower capital per employment, avoid extra costs for development of industrial infrastructure, reducing the risk of the investments, check imbalance between different sections of the economy and maximize the use of locally available resources.

According to the study of Boaten (2012), the dynamic role of MSEs in developing countries as "necessary engines for achieving national development goals such as economic growth, poverty alleviation, employment and wealth creation, leading to a more equitable distribution of income and increased productivity is widely recognized." In an attempt to accelerate growth rates in low-income countries, particularly in Africa, many development partners and donors have made the promotion and development of MSEs a major concern. This shows that MSEs are seen as essential facilitator for economic growth, job creation, industrial development and poverty alleviation, equitable distribution of income both in developed and developing countries. Micro and small scale enterprises are the main source of employment in developed and developing countries comprising of over 90% of African business operations and contributing to over 50% of African employment and GDP (Okafor, 2006).

Micro and small scale enterprises are important both to the individual and to the nation. To the individual they provide employment and raise the standard of living of both employers and employees. To the nation, they complement large scale modern sector enterprises, they utilize agricultural and other raw materials that would have gone to serve limited or closed markets that warrant only small scale production, and they mobilize resources. Left out of the mainstream formal mobilization channels and they provide the necessary plat form for take-off into large scale modern production (Bwisa, 2011). While the

contributions of small businesses to development are generally acknowledged, Micro and small scale enterprises face many obstacles that limit their long term survival and development. Research on small business development has shown that the rate of failure in developing countries is higher than in the developed world (Arinaitwe, 2002). Past statistics indicate that three out of five businesses fail within the first few months of operation (National Statics Bureau of Ethiopia, 2007).

In Ethiopia until 1997, there were no organized policy and support systems catering to the development of the MSEs sector, so structural, institutional, and policy barriers were not being addressed. Premises, markets, finance, supply arrangements, regulatory barriers and legitimization of entrepreneurial activity are among the most urgent (ILO, 2005). Recognizing the significance of this sector, the Ethiopian Government issued the National Micro and Small Enterprises Strategy in 1997 and established the Federal Micro and Small Enterprises Development Agency in 1998. The country"s industrial policy in 2003 and the poverty reduction strategy in 2006 have singled out MSEs as major instruments to create a productive and vibrant private sector and reduce poverty among Rural and urban dwellers.

The Micro and Small Enterprises Sectors contribute to the economy of nations" by creating employment opportunities, production of goods and services and other value added activities. The five year Growth and Transformation Plan envisages ensuring faster and sustained development of the industrial sector and enabling the sector to gradually play a key role in the economy. To this end, particular emphasis is given to the promotion of micro and small enterprises as well as supporting the development of medium and large scale industries. In Ethiopia, especially in Oromia Regional states, small businesses increasingly face competition not only from their peers but also

from large corporations participating in niche markets once regarded as a preserve for small businesses (Ntakobajira, 2013). According to Amyx (2005), one of the most significant challenges is the negative perception towards SMEs. Potential clients perceive small businesses as lacking the ability to provide quality services and are unable to satisfy more than one critical project simultaneously. Lack of planning, improper financing and poor management have been cited as the main causes of failure of small enterprises (Longenecker, 2006). The advancement of small scale to medium scale enterprises, changes overtime in their employment and output shares, market orientation and location are usually thought to be related to many factors, including the level of economic development, changes in real income per capita, population growth, and progress in technology. Given this thought, the most important question which to address in this paper would be assessing the determinant factors that limit the advancement of Small Scale to medium scale enterprise in Nifas Silk Lafto Sub-City.

1.2 Back ground of the organization

Historically, Addis Ababa was founded in 1887 by emperor Menilik II and Empress Taitu. Addis Ababa was chosen as the residence of the emperor because of its thermal spring at a spot known as *Filweha*. In terms of climate, its average elevation is 2,500 meters above sea level, and has a fairly favorable climate and moderate weather conditions. Geographically, the city is located between 8055' and 9005' north latitude and between 38040' and 38050' east longitude, while its total area is 54,000 hectares with a total population of more than 3 million. Besides, for political and administrative reasons, the city is made to be structured at three layers of government: city government at the top, 10 sub-cities administrations in the middle and 116 *woreda* level administrations at the bottom (AACMSEDA, 2011:42).

Specifically, the study area covers *nifas silk lafto* sub-city. The *nifas silk lafto* sub-city occupies a total area of 58.76 square kilometers with a total population of 316108 and percentage of the total city population 11.54. Currently, the sub-city has a total of 13 *woredas,* 128 *sub- woredas,* 397 *sefer,* and 1059 *blocks.* Population density (people/km^2 5379.344.The neighboring boring sub cities are Akaki-Kality, Bole, Kirkos, Lideta and Kolfe- Keranio (Addis Ababa city administration integrated land information center, 2014:6-10 first edition).

1.3 Statement of the problem

Starting a business is like bringing up a child. As a child needs proper nurture and nourish to grow, the same analogy is true in starting and growing a business. It‟s clear that in the initial stage the economic development of small scale business is very slow, as results of this entrepreneur tend to have less initiative and drive to the desired target. Gradually, in visualizing the development pace they become more innovative and enthusiastic (Siva, 2012). Hence, developing a business requires ample trial time, strong commitment and awareness of the opportunity that the environment provides so as to achieve the intended goal. The Ethiopian government adopted the national Micro and Small Enterprise Development Strategy for the first time in November 1997 E.C. The policy identified a number of constraints hampering the development of MSEs. The policy serves as guideline to all stakeholders to stimulate the establishment of new enterprises and enabling the existing ones to grow and become more competitive. This policy identified un-favorable legal and regulatory frameworks, underdeveloped infrastructure, poor business development services, limited access to finance, ineffective and poorly coordinated institutional support as the key constraints that hinders the

development of the sector (Federal Democratic Republic of MSEs Development Strategy, 1997).

In addition, the reviewed empirical studies with regard to the sector focused on socio-economic determining factors of MSEs Success and its major challenges and constraints (Solomon, 2004). Most studies, in academic and non-academic institution, focus on factors that hinder the growth of MSEs and the outcome of the program in aggregate forms. Regarding the role of micro and small enterprises in the process of industrial development, empirical studies fail to investigate the transitional development of small scale enterprise to medium scale enterprises. For instance, the research conducted by Solomon (2004) also tried to analyze growth determinants of MSEs and found that product diversification is a major determinant factor for the growth of small enterprises in Addis Ababa. The finding revealed that business experience is associated with new start-ups calls for the promotion of the culture of apprenticeship and intern experience sharing for the young as a possible area of intervention in employment generation schemes to minimize the extent of unemployment. The researcher holdup to see MSEs contribution in the development of medium scale enterprise by solving their challenges and using their opportunities. From the above mentioned studies, it is possible to learn that factors which determine advancement of Small Scale to medium scale enterprise which are not studied in depth. Therefore, this study tries to assess factors affecting advancement of Small Scale to medium scale enterprise in Nifas Silk Lafto Sub-City and also tries to identify challenges and prospects for the sector and come up with policy recommendations which will be relevant for MSEs advancement from small to medium scale enterprise.

1.4 Objectives of the Study

- To investigate factors that affects the advancement of socioeconomic characteristics of Micro in to Medium scale enterprises.
- To investigate MSEs specific determinant factors that affect their advancements.

1.5 Conceptual Definitions

Small and Micro Enterprises may be defined as businesses with a small number of employees. The legal definition of "Micro and Small" often varies by country and industry, but is generally under 100 employees in the United States while under 50 employees in the European Union. In Ethiopia, the Ministry of Trade and Industry (2006) adopted official definition of Micro and small enterprises as follows:

Micro enterprises: are business enterprises found in all sectors of the Ethiopian economy with a paid-up capital (fixed assets) of not more than Birr 20,000, but excluding high-tech consultancy firms and other high-tech establishments.

Small enterprises: those business enterprises with paid-up capital of above 20,000 and not exceeding birr 500,000 and excluding high technology consultancy firms and other high technology establishments.

Large and medium enterprises: by default, are those enterprises with more than birr 500, 000 in paid up capitals.

MSE"s can also be distinguished using the number of people that work under them. Generally, micro-enterprise is one with fewer than 10 employees; a small enterprise is one with 11-50 employees; and large and medium

enterprises are those with more than 50 employees (Stevenson and Onge, 2005).

2. LITERATURE REVIEW

2.1. Theoretical Review

2.1.1. The Concept of Micro and Small Enterprise

A consensus and universally accepted definitions of small scale enterprises have not been well documented in the literature. Perhaps, this could be due to the fact that the classification of businesses requires a subjective and quantitative judgment (Ekpenyong, 1992). Small scale enterprises as other concept in the field of economics and management has been relatively dynamic which largely depends on the unique roles the SMEs are expected to play in the growth and development process of their respective economies. These conceptual definitions also change overtime due to variations in some macroeconomics fundamentals such as price level as well as technological advancement. Some of the criteria often adopted in defining small scale include: the staff strength, the size of the business concern, capital requirement, and ownership structure (Oshaghemi, 1999).

In defining small and medium enterprises to suite a particular circumstance, individuals, institutions and governments have adopted several conceptual framework. Prior to 1992 in Nigeria, both the federal government and its agencies had adopted varying definitions at the one time or the other occasioned by the modification in their development strategy. Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) defines these enterprises as those whose total investment was between 100,000 naira and 2 million naira excluding land but including working capital. Similarly, the decree establishing the National Economic and Reconstruction Fund(NERFUND) in 1989 defined SMEs as those whose fixed assets

excluding land but including cost of project do not exceed N10 million. However, in 1992, when the National Council on Industry unified these definitions, small scale enterprises (SSEs) are characterized as those business with fixed assets amounting to N1 million but not exceeding N10 million. In 1996, this definition was revised to reflect those enterprises with total cost of above N1 million but not exceeding N40 million naira inclusive of working capital but excluding cost of land. Apart from these definitions, SMEs are by nature identified by some or all of the following yardsticks: separation of ownership from the management thus making policy decisions based on the management structure; existence of formal relationship between employer and employees; adoption of labor-intensive technique of production or fabricated technology; limited access to financial capital which is a major factor that constraints expansion; greater reliance on local resources hence their output have low import content either in capital or raw material inputs; and they are widely dispersed in major sectors of the economy particularly in manufacturing transportation, communication etc.

Definition of micro, small and medium enterprises could be seen from several aspects. Small and medium enterprise sector plays an important role, especially when linked to the amount of labor that can be absorbed by SMEs. Besides having a strategic role for development, SMEs also serve as a means to distribute evenly results of the development that have been achieved. Tambunan (2010) asserts there are some definitions of micro and small enterprises. BPS using the approach of classifying the amount of labor in the business, namely: (a) Enterprises Households have 1-5 workers, (b) Small businesses have 6-19 workers, (c) medium businesses have 20- 99 labor, and

(d) large businesses have more than 100 workers. Furthermore, micro-enterprises according to Decree of the Minister of Finance Number 40 /

KMK.06 /2003 is a family-owned productive enterprises or individuals with the sale of a maximum of Rp 100 million per year, and the number of proposed credit maximum of Rp 50 million. Whereas small enterprise is an economic enterprise productive that stands alone, conducted by an individual or business entity that is not a subsidiary or not a branch of the company owned, controlled, or be a part either directly or indirectly from medium or large businesses that meet the criteria namely: (a) has a net asset more than fifty million rupiahs up to at most five hundred million rupiah not including land and buildings; or (b) has an annual sales turnover more than three hundred million rupiahs up to at most two billion five hundred million rupiahs.

SME has no standard definition. SMEs have been identified differently by various individuals and organizations, such that an enterprise that is considered small and medium in one country is viewed differently in another country. Some common indicators employed in the various definitions include total assets, size of the labor force employed, and annual turnover and capital investments (Baenol, 1994). In addition, no single definition of SMEs exists among officials of multilateral development institutions. Micro enterprises are business enterprises found in all sectors of the Ethiopian economy with a paid-up capital (fixed assets) of not more than Birr 20,000, but excluding high-tech consultancy firms and other high-tech establishments. Small enterprises those business enterprises with paid-up capital of above 20,000 and not exceeding birr 500,000 and excluding high technology consultancy firms and other high technology establishments. Large and medium enterprises by default are those enterprises with more than birr 500,000 in paid up capitals. MSE‟s can also be distinguished using the number of people that work under them. Generally, micro-enterprise is one with fewer than 10

employees; a small enterprise is one with 11-50 employees; and large and medium enterprises are those with more than 50 employees (Stevenson and Onge, 2005).

According to Gebreeyesus (2009 citied from Dababneh and Tukan, 2007), the characteristic of MSEs not only reflects the economic patterns of a country but also the social and cultural dimensions. These differing patterns are noticeably reflected within different definitions and criteria of MSEs adopted by different countries: whereas some refer to the number of employees as their distinctive criteria for MSEs, others use invested capital, and some other use a combination of the number of employees, invested capital, sales and industry type. Rigorously defining small business has always been difficult, even controversial. The term covers a variety of firms and most writers use it rather loosely based on their purpose of study. As Gebreeyesus (2009) adopted the definition of small business from Peterson et al. (1986) „a small business is one which is independently owned and operated, and which is not dominant in its field of operation". Researchers and other interested parties have used specific criteria to operationalize the small business as a construct: value added, value of assets, annual sales, and number of employees. The latter two criteria are most often used to delimit the category.

In the case of Ethiopia, there is lack of uniform definition at the national level to have a common understanding of the MSE sector. While the definition by Ministry of Trade and Industry (MoTI) uses capital investment, the Central Statistical Authority (CSA) uses employment and favors capital intensive technologies as a yardstick.

The definition used by MoTI, which uses capital investment as a yardstick, has been developed for formulating micro and small enterprise development strategy in 1997 (MoTI, 1997:8-21). .According to MoTI:

- Micro enterprises are those businesses enterprises, in the formal and informal sector, with a paid up capital not exceeding Birr 20,000 and excluding high tech consultancy firms and other high tech establishments.

- Small enterprises are those business enterprises with a paid up capital of above Birr 20,000 and not exceeding Birr 500,000 and excluding high tech consultancy firms and other high tech establishments.

On the other hand, CSA (2005:34-35)categorizes enterprises into different scales of operation on the size of employment and the nature of equipment. This include:

- Establishments employing less than ten persons and using motor operated equipment are considered as small scale manufacturing enterprises.

- Enterprises in the micro enterprise category are subdivided into informal sector operations and cottage industries: Cottage and handicraft industries are those establishments performing their activities by hand and using non power driven machines. The informal sector is defined as household type establishments or activities, which are non-registered companies and cooperatives operating with less than 10 persons. All enterprises employing ten or more workers are grossly considered as medium and large enterprises.

In light of the above definitions and taking into consideration the Ethiopian situation, micro and small enterprises (MSEs) may be defined in the following way:

- Micro enterprises are business activities that are independently owned and operated, have small share of the market, are managed by the owner and employing five or less employees.

- Small businesses are those enterprises that employ 6 to 49 employees. They share the same characteristics with micro enterprises in other aspects.

- Medium scale enterprises are those enterprises which have a relatively higher share of the market, are independently or jointly owned or managed by the owner or by appointed executives and employ 50 to 99 persons.

- Those enterprises that employ more than 100 persons could be considered as large enterprises.

Nevertheless, there is lack of clarity, inconsistency, lack of organized information and consistent historical data is lacking in Ethiopia. The features that distinguish MSEs from larger scale enterprises include greater owner influence, dominance of one person, more subjective decision due to centralization of decision making, close contact of the top management with employees at lower levels and greater concern with financial matters due to difficulty of attributable funds etc. (Gebreeyesus, 2009).Clusters under the umbrella of MSEs are numerous activities – street vendors, shop keepers, construction, wood and metal work, food processing, textile and garments, urban farm, municipality service , bars, shops, groceries, hairdressers, wholesale and retail traders, export-import traders and small scale industries etc. Most of these enterprises in the country are largely confined to trade and services and to small scale manufacturing and handicrafts, which constitute an important subset of small scale enterprises. The definition of small scale industries adopted by the Federal Micro and Small Enterprises Development Agency (FeMSEDA) in proclamation 124/97 is as follows:

A small scale manufacturing activity and engineering service establishment is a manufacturing establishment -except handicrafts- which has a fixed location within urban center; uses either manually operated machinery and equipment move power driven machinery and equipment and engaged in the mechanical-chemical transformation of substances into new products and in the fabrication, assembly, reconstruction, alteration and repair activity; employs at least one person other than the owner/owners, unpaid family workers and/or apprentices; and has fixed assets of value not exceeding Birr 200,000 excluding investments made on land and buildings. MSEs are defined in a variety of ways using various factors. These factors include number of employees, volume of sales, and the capital value of the business (Zemenu& Mohammed, 2014). In Ethiopian, the MSE development strategy defines MSEs according to the number of employees and capital (FeMSEDA, 2010).Micro Enterprise under the industry sector (manufacturing, construction and mining) is an enterprise operates with 5 people including the owner and/or their total asset is not exceeding Birr 100,000. Under service sector(retailer, transport, hotel and Tourism, Information Communication Technology (ICT) and maintenance service)Micro enterprise are an enterprise operating with 5 persons including the owner of the enterprise and/or the values of total asset is not exceeding Birr 50,000. Small Enterprises in the industrial sectors are an enterprise operating with 6-30 persons and/or with a paid up capital of total asset Birr 100,000 and not exceeding Birr 1.5million. Similarly, in the service sector, small enterprises are an enterprise operating with 6-30 persons and/or with a paid up capital of total asset Birr 50,000 and not exceeding Birr 500,000 (FMSEDA, 2012).

United Nations Industrial Development Organizations (UNIDO) gives alternative definition for developing countries. Accordingly, it defines micro enterprises as the business firms with less than 5 employees and small

enterprises as the business firms with 5-19 employees (UNIDO, 2002:53). The United States of America, the Small Business Act issued in 1953 stated that, small business is one which is independently owned and operated and not dominant in its field of operation. The act also further stated that, number of employees and sales volume as guideline in defining small business (Majo &Radwan, 2010). In the same country, a committee for economic development (CED) has explained that small business is characterized by at least two of the key features: management is independent (usually the managers are owners), capital is supplied and an individual or small group holds ownership and the area of operation is mainly local (workers and owners are in one home country). According to Kayanula and Quartey (2000:16) in Malawi, the official definition of enterprise sizes is based on three criteria namely the level of capital investment, number of employees and turnover. An enterprise is defined as small scale if it satisfies any two of the three criteria, that is, it has a capital investment of USD 2,000 - USD 55,000, employing 5-20 people and with a turnover of up to USD 110,000 (using 1992 official exchange rate).

2.1.2. Role of the MSE Sector

MSEs have been recognized as engines of growth and development throughout the world (Munyori & Ngugi, 2014). The MSE operations worldwide plays a pivotal role by adding value to the economy by creating jobs, enhancing income, lowering costs and adding business convenience (Fatoki, 2012; Katua, 2014). MSEs are now widely recognized as a major component in the growth and development of emerging economies. They are found to be one of the most reliable economic development and livelihood strategy, especially during economic turbulence (Kamoyo et al., 2014). The importance of MSEs in general and new businesses in particular makes a significant contributions in addressing socio economic problems such as

unemployment, poverty, income inequalities, political stability and economic growth among others (Musara & Gwaindepi, 2014).In Ethiopia, the MSE has prioritized for economic growth, employment generation and building an industrial economy. The MSE sector serves as vehicle of development and broadens employment opportunities at urban center. The elements of the sector are taken as the major productive forces in the manufacturing sector and serve as incubation hubs for developmental investors. MSEs play great role in utilizing local resources and are labor intensive (FMSEDA, 2012). According to the Central Statistic Authority (2003), almost 50% jobs created in Ethiopia are attributable to MSE of which 974,676 micro and 31,863 are small enterprises, which accounts for99.40% and 0.46% respectively. In addition, micro enterprises and small enterprises provide employment opportunities to 89.75% and 0.91% respectively.

SMEs contribution in economy is extended as impact to other sectors, and hence SMEs serve as engine of economic growth. SMEs counter-balance the monopoly, and hence reduce the capacity of big companies controlling the market. SMEs generate to a greater extent the technical innovation applicable in the economy. The significance of SMEs in Kenya is reflected in the 2014 Economy Survey, which indicated that 83% of 800,000 jobs created in 2014 were in the informal sector that is dominated by SMEs(Thinji & Gichira, 2017).

2.1.3. Determinants of Growth of SMEs

In spite of the major role, the significance and contributions of the small-scale enterprises to the national economy, this set of enterprises are still battling with many problems and certain constraints that exist in promoting their development and growth. For instance, (International Labor Organization, 1994) study shows that inadequate entrepreneurial talent affects the

development of small-scale manufacturing and processing industries. While large-scale industries are established with expatriate capital, small-scale industries need to have a domestic entrepreneurial and industrial base. Other problems that hinder the advancement of small-scale enterprises are the persistent low level of technology, the shortage inadequate entrepreneurial skills of operators and the absence of an effective management technique. Small-scale enterprises tend to concentrate on traditional industries where low entry barriers, low minimum production scales, and relatively large labor force are the potential advantages.

However, the traditional industries have not been immune to the recent technological revolution taking place in the field (Adubifa, 1990). Hanshom (1992) and McCormick (1998) stated that African small enterprises are found to be unorganized in production activities. Low capital investment on capital goods and lack of division of labor in production makes these enterprises remained week. It is a clear fact that many micro, small and medium-scale enterprises are dying out owing to lack of financial support from the government and other citizens. Mills (1990) stated that the major pre-occupation of all developing countries these days is simply how to improve social, economic and political status of the people. According to Uma (1974), it involves the improvement of the living standards of the mass of the low income population and making the process self-sustaining. Improving the living standard of the people involves the setting of priorities in the mobilization and the use of resources available. In some rural areas, the working and living conditions of women for instance, have not been able to be ameliorated by many recent programs designed to improve their economic status. Many writers have pointed out the detrimental effects on women of technological and socio-economic changes in the process of development (Dey, 1975; Zeidenstein, 1975; Palmer, 1978; Whitehead 1985; Stevens

1985). There has not been a total consideration and enough provisions for some rural entrepreneurs in the development process. Many of these entrepreneurs are left out in the provisions of the government toward the advancement of their enterprises. SMEs globally face difficulty in accessing finance from conventional financial institution. However, International Finance Corporation and World Bank efforts at improving their financial problems reveal contextual finance problems requiring homegrown strategies to manage and overcome this predicament. Most SMEs have difficulty accessing loans from banks; most credit officers lack an in-depth understanding of SMEs business cycles, and are averse to lending to them (Du & Banwo, 2015).

Limited access to finance faced by SMEs has drawn considerable attention from both academics and practitioners for many decades. Literature on this subject suggests that better financial access for SMEs contributes to economic growth, reduced income inequality and reduced poverty (World Bank, 2008). Small enterprises and most of the poor population in Sub-Saharan Africa have very limited access to deposit and credit facilities and other financial services provided by formal financial institutions. For example, in Ghana and Tanzania, only about 5–6 percent of the population has access to the banking sector (Basu, Blavy & Yulek, 2004)**.**Other studies have in developing economies have found funding as the major problem of SMEs. These studies have made varying recommendations, but SMEs continue to be constrained by funding as suggested by the empirical studies cited earlier on. Whereas some countries have set up small business equity markets to help raise equity capital, others have set up state grants and develop a list of business angels to assist small businesses. Park*et al*. (2008) further argued that SMEs face financing gaps probably because of a combination of reasons originating from both the supply and demand sides. The supply side refers to providers of

finance (financial institutions and investors), while the demand side is composed of SMEs who require financing from financial institutions and other providers of finance. The financing gap for SMEs is most prominent in capital market financing. Most countries, including the developed ones, have problems in SME financing through capital markets (Park *et al*., 2008: 1).

Women face startup difficulties such as lack of a source of initial capital. Many women find their initial financing by way of borrowing from formal sources. However, the major difficulty for entrepreneurs, especially for women, is accessing credit due to collateral requirements of the banks. Even if they can access financial credit, the money borrowed is rarely sufficient to address the financial gap or expand their businesses (Wasihun& Paul, 2010).Entrepreneurship is recognized as an important driver of economic growth, productivity, innovation, and employment. Entrepreneurship is related to the functional role of entrepreneurs and includes coordination, innovation, uncertainty bearing, capital supply, decision-making, ownership, and resource allocation in their organization (Munyori & Ngugi, 2014). Most of the prevalent areas in which MSE faces a problem are sales or marketing, human resource management, and general marketing research and training (Kefale & Chinnan, 2012).

Marketing problem has been widely acknowledged as being the most important of all activities and critical for the survival and growth of MSEs. However, many studies found owner/managers of MSEs as having a very limited understanding of the marketing concept generally to be little more than advertising and public relations and lacking adequate marketing skills. Specifically, MSEs frequently encountered problems in promotion and marketing research. These problems include the selection of promotional media, low purchasing power of customers, advertising, con-tent design and

format of the promotional materials, market size, location and addresses of potential customers (Kefale & Chinnan, 2012). According to Useem (2001: 297), it is essential to support and guide small business enterprises in the early stage of establishment by providing them with supervisory and skills-related support and supervision. White (2005: 41-42) has found that small and medium-sized enterprises often experience costly bureaucratic and administrative challenges. In South Africa, small and medium-sized enterprises are set up with minimal support and guidance from the national Government although the duty of the national Government is to create an enabling economic environment. The study was conducted against the background of the need to obtain vital information that explains why more than half of all newly established small and medium-sized enterprises fail in the first three years of their establishment. The legal and regulatory system that calls for complex registration and licensing requirements demands tedious and costly reporting practices imposing heavy costs on MSEs and hence reduce their profitability of the business. Unpredictable government policies coupled with grand corruption, high taxation pose great threat to growth of MSEs. They are disincentive to increasing the size of business operations (Nganwa, 2013). Many African countries do not have a legal and regulatory framework that supports growth of MSE sector. Unpredictable government policies coupled with grand corruption, high taxation pose great threat to growth of MSEs. They are disincentive to increasing the size of business operations. In the case of Uganda, an extensive number of outdated and cumbersome laws and regulations had increased the transaction costs of MSEs, thereby hampering their economic performance and growth. In Ethiopia, the complexity of the customs system and the many forms and declarations required had a negative impact on the general business climate, diverting entrepreneurs" efforts from more productive tasks (Nganwa,

2013).Small and micro enterprises face problems of policy and regulatory frameworks, and structural and institutional indiscretions, lack of smooth supply of raw materials and lack of working premises, lack of sufficient capital, and marketing problems. These problems call for government intervention by recognizing and paying due attention to the promotion and development of MSEs. It is also important to formulate strategies in a way to address the challenges of unemployment, economic growth and equity, and overall poverty in the country. Numerous studies have shown persistence of poverty and the unparalleled level of unemployment that characterizes Ethiopia in general and urban areas in particular.

2.2. Empirical Literature

Eshetu and Zeleke (2008) conducted a longitudinal study to assess the impact of influential factors that affect the long-term survival and viability of small 25 enterprises by using a random sample of 500 MSEs from 5 major cities in Ethiopia. According to this research, that lasted from 1996-2001, the factors that affect the long term survival of MSEs in Ethiopia are found to be adequacy of finance, level of education, level of managerial skills, level of technical skills, and ability to convert part of their profit to investment. The findings of the study revealed that businesses that failed, during the study period were characterized by inadequate finance (61%), low level of education (55%), poor managerial skills (54%), shortage of technical skills (49%), and inability to convert part of their profit to investment (46%).(ibid). According to the study of Mulugeta (2011) ,the critical problems of MSEs has recognized and classified in to market-related problems, which are caused by poor market linkage and poor promotional efforts; institution-related problems including bureaucratic bottlenecks, weak institutional capacity, lack of awareness, failure to abide policies, regulations, rules, directives, absence of training to executives, and poor monitoring and follow-up; operator-related

shortcomings like developing a dependency tradition, extravagant and wasting behavior, and lack of vision and commitment from the side of the operators; MSE-related challenges including lack of selling place, weak accounting and record keeping, lack of experience sharing, and lack of cooperation within and among the MSEs and finally society-related problems such as its distorted attitude about the operators themselves and their products. In addition to the above study, Workeneh (2007) in his study entitled Constraints of Micro and Small Enterprise in addressing employment opportunity found that MSEs operators in Addis Ababa face lack of adequate training, unfavorable regulatory policy of the government institutions, problem of premise, and inadequate training in the area of marketing and bookkeeping affect the performance and contribution of the sector.

Abebe (2011) analyzed the relation between personal related success factors and business related factors on the performance of MSEs in Addis Ababa. This is with a view to identify these personal and business related factors that have a favorable relation to the performance of the enterprises business performance. Primary data, through structured questionnaire, were collected from the samples of 73 MSEs randomly selected from among those industries engaged in Food and Beverage; Textile and Garment, Wood and Metal, and Merchandise and Retail shop. Data were analyzed using descriptive and inferential statistics with the aid of Statistical Packages for Social Science (SPSS). Also, analysis of variance was carried out to examine the variation in the performance of enterprises related to the variation in each of the independent variables of the study. The ANOVA result indicates there is no significance variation on the performance of MSEs in relation to the variations to each of the eight independent variables of the study. But the descriptive statistics result shows better performance for enterprises owned by individuals with better education level, have prior management and industry experience.

In addition it also shows better performance for those enterprises that uses planning and record keeping.

Goshu (2015)examined the determinants of MSE growth in terms of profitability of MSE business in Nekemte town. The total population of the study was 504 MSEs operating in five sectors which are used as a stratum. Proportional stratified sampling technique was used for the selection of 96 MSEs from the strata. The study shows that the major source of finance for MSE is personal saving. It is only less than one fourth of the respondents that are borrowed loan from MFI. The study shows that MFI loan term is too short to run the business. Most of the respondents are characterized by low level educational status and lack work experience. Most of the MSEs that are operating in government shade complain for its sufficiency and suitability of the location for running business. The result of regression analysis shows that sources of finance for MSE operators, loan term that MSEs borrowed from MFI, previous business experience of the operators, marketing skill of members of the business, source of raw materials of the MSE, and major customers of the product or services of MSEs affects positively the growth of profitability of MSEs business significantly at 1% level of significance. Managerial skill of the respondents and suitability of the location of the business positively determine the growth of MSE in terms of the profitability of MSE business significantly at 5% level of significance. Also, educational status of MSE operator affects negatively the growth of MSE significantly at 5% level of significance in the study area. These findings corroborate the need for integrated approach towards the growth of MSE sector. Based on the findings the researcher recommends that locality based approach for solving problems of MSEs through prioritizing the challenges as per their severity; enhancing capacity of the MSE development agency through provision of skill and business training; improving local business environment through

provision of sufficient work premises at appropriate location & facilitating access to credit from financial institutions are the major once.

Tefera et al. (2013) aimed to investigate the growth determinants of MSEs based on a survey covering 178 randomly selected MSEs from Mekelle city, Tigray regional state of Ethiopia through the test of four main hypotheses that are formulated concerning the role of gender of owner, initial investment on the firm, location and sector in which the firm operates as a main determinants of growth of an enterprise. Semi-structured questionnaire and interview were used to collect data, and the binary choice model which is logistic regression was used to identify factors that significantly affect the growth of MSEs using change in employment size since startup as a measure of firm growth in which about 76.4% of MSEs are found survival and the remaining 23.6% are growing. The binary choice logit model result shows that there is a significant gender difference on the growth of MSEs with male owner growing faster than those owned by female. In addition, the initial investment on the firm, the location and the sector in which the MSEs operates matter a lot for the growth of these enterprises. Hence, government and non-government organizations that are concerned with unemployment reduction and poverty alleviation through the promotion and development of MSEs need to take these factors in to account to accomplish better result and increase the potential contribution of MSEs to the economic growth of the country.

Gebreeyesus (2007)investigated the key determinants of success and particularly employment expansion among micro-enterprises based on a survey covering 974 randomly selected businesses in six major towns in Ethiopia. Firm"s initial size and age are inversely related with growth providing evidence that smaller and younger firms grow faster than larger and older firms and consistent with the learning hypothesis but contrary to the

Gibrat‟s law. Entrepreneurs with some business experience and high school complete and with some college years grow faster. Firms in manufacturing and service sectors, located at traditional market and those male-headed grow rapidly than their counterparts. Firms with business license also grow faster than those operating without license. In the absence of formal source of credit, informal networks such as, trade credit and other informal sources enhance business expansion. Policies and support programs that aim at promoting MSEs, therefore, need to take account of the heterogeneity nature of these enterprises and entrepreneurs.

Alemayehu & Gecho (2016) find out factors that determine growth of Micro and Small Enterprises and to assess current status of Micro and Small Enterprises in terms of employment and capital growth. Out of 148 Micro and Small Enterprises in the study area, 100 Micro and Small Enterprises (MSEs) were selected as a sample using stratified and simple random sampling technique. They were stratified based on the sector they are operating. The data were analyzed using descriptive statistical tools including mean, percentage and standard deviation. The binary logit model was applied to identify determinants of MSEs growth. The study used employment and capital as growth indicators. Growth rate for the two indicators was computed by the change of natural logarithm of employment or capita over the life of enterprise. After calculating growth rate, Micro and Small Enterprises were grouped into two categories growing and non-growing. The finding of the study shows that out of the total sample 40% of Micro and Small Enterprises are growing and 60% of Micro and Small Enterprises are non-growing in terms of employment. In terms of capital 69% of Micro and Small Enterprises are growing and 31% are non-growing. The model result indicated that out of 19 explanatory variables, 10 variables were found to be significant in determining Micro and Small Enterprises growth. Factors found to be
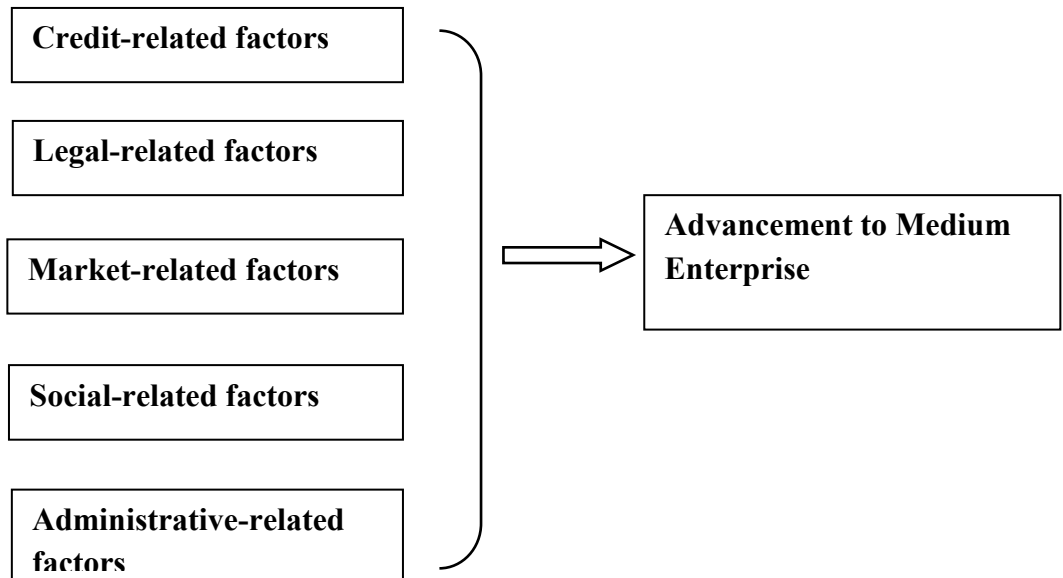
significant for employment growth were: entrepreneurship training, location of enterprise, motivation of owner, market linkage, and access to finance, access to water. Factors found to be significantly influencing capital growth were: education level of owner, motivation of owner, number of owners, initial employment size, and social network. Hence, government and non-government organizations that are concerned with the promotion and development of MSEs need to take these factors in to account to accomplish better result and increase the potential contribution of MSEs to the economic growth.

Abera (2012)investigated factors affecting the performance of MSEs with a special emphasizes on textile and garment, food processing and wood and metal work sectors in Arada and Lideta sub-cities, Addis Ababa. For the sake of achieving the objectives of this study, questionnaires were analyzed using statistical analysis such as descriptive and inferential analyses. The information gleaned through questionnaire from a sample of 237 operators and face-to-face interviews were conducted with 20 operators of MSEs. The empirical study elicited eight major challenges which seem to affect performance of MSEs in sub-cities which include: inadequate finance, lack of working premises, marketing problems, inadequate infrastructures, poor management practices, and technological, entrepreneurial and politico-legal problems including bureaucratic bottlenecks system. The findings further indicate that, there exists linear and positive significant ranging from substantial to strong relationship was found between independent variables and dependent variable. Moreover, the selected independent variables may significantly explain the variations in the dependent variable at 1% level of significance. Based on findings, recommendations to government bodies, to operators of MSEs and suggestions for other researchers are forwarded.

Hamu (2017)identified factors determining the financial performance of MSEs with a special attention to manufacturing, service, construction and trade sectors in Asella Town. The information gleaned through the questionnaire from a sample of 134 operators and face-to-face interviews were conducted with 12 operators of MSEs and 2 respondents from officers; i.e. process owner and another from expert working at the center of office of Asella Town Job Creation and Food Security. Furthermore the approach that was followed in this particular study was quantitative and qualitative. The technique applied was a standardized closed-ended questions and face-to-face interview. In addition, the data those were collected and analyzed using a statistical package for social sciences where tables were utilized for presentation of the results. The findings revealed that MSEs lacked financial support, technological, customer relationship and marketing skills in order for them to be competitive and well performed. The findings further revealed that the government was not doing enough in terms of the financial performance of SMEs in Asella town as most of the respondents were complaining about the stringency of the government support and regulations pertaining to MSEs. Hence the government bodies and other stake holders have to work in collaboration in order to solve problems of finance, working place, marketing and government support.

2.3. Conceptual Framework

The conceptual model focused on the credit and marketing factor challenges the enterprises, social factors and legal and administrative factors constrained the advancement of micro enterprises to medium enterprises. The frame work has an important basis for application to examine the nature of response by the enterprises. The variables in the framework included Independent and dependent variables.

Credit-related factors

Legal-related factors

Market-related factors

Social-related factors

Administrative-related factors

Advancement to Medium Enterprise

Source: Researcher's own construction (2017)

3. RESEARCH DESIGN AND METHODOLOGY

3.1. Research Approach and Design

A mixed method approach is used to answer the research questions because this type of research design blends elements of qualitative and quantitative research approaches to provide a broader and/or deeper understanding of a central phenomenon. This process was accomplished by collecting and analyzing qualitative and quantitative data at specified phases within a single study. The core premise of this methodological design was that use of a combination of qualitative and quantitative approaches had resulted in a more complete understanding of the research topics understudy than either approach would in isolation (Creswell & Plano Clark, 2011; Greene et al., 1989). Furthermore, explanatory research design was employed to answer the stated research questions.

3.2. Source of Data and Data Collection Methods

The study was conducted by collecting data from both primary and secondary sources. Primary data was collected from the respondents based on a structurally designed questionnaire. It was included both closed ended and open-ended questions. Secondary data was collected from different related literatures which are both written and unwritten. In order to get sufficient and reliable data that represents each micro and small scale enterprises in the town were collected from the staffs and also written documents of each MSEs were reviewed. In the data gathering operation, questionnaire was employed for selected enterprises. Most of the primary data were intended to be collected using structured questionnaires (with close-ended questions) giving out for the overwhelming majority workers in the enterprises. The structured interview is used to get information from officials and leaders in the enterprises. Therefore, the data collection instruments employed to this study was structured questionnaires. The *Nifas silk Lafto* sub-city was purposely chosen among the 10 sub-cities of Addis Ababa, as a study area for this research. This is because it is claimed by the government of Ethiopia, that the MSE sector is a prime strategy to economic development in urban areas. Second, the sub-city was selected based on their nearness and convenience to collect data in short time. Although there are different sectors in which the MSE operators have been engaged in *Nifas silk Lafto* sub-city, the sectors selected for this research is MSEs such as manufacturing (metal work, wood work, pottery, and weavers), which is strata 1, construction, service (strata 2), urban agriculture (strata 3), and trade (strata 4) sector because of the following rationales. First, the sectors are selected because of largest concentration in number compared to other sectors in the sub-city. This made the sector more and easily accessible for the data collection. Second, it is difficult to reach the

operators/or owners managers of some sectors like municipality service, parking and others.

The instruments used in this study were designed based on the objectives of the study and research questions. A five point Likert scale (strongly agree, agree, undecided, disagree, strongly disagree), which is ranging from 1(Strongly disagree) to 5 (Strongly agree), questionnaire was developed according to the principles of questionnaires by making simple, clear, and short. Both the instruments were designed in such ways that can utilize the information to make this study feasible. As a result of this the questionnaires were developed both in English and Amharic languages. The main purpose of using Amharic language was addressing those respondents who cannot understand English language.

3.3. Sampling Design and Sampling Procedure

The study was employ stratified random sampling method to select the intended institutions. This is because the population for the study does not have a homogenous group. Kothari (2004) pointed out; stratified random sampling is commonly used probability sampling method if the population from which a sample is to be drawn does not have a homogenous group. The population was stratified in to a number of non-overlapping sub population (strata) and sample items are selected from each stratum. With this technique the strata‟s are sectors of MSEs such as manufacturing (metal work, wood work, pottery, and weavers), which is strata 1, construction, service (strata 2), urban agriculture (strata 3), and trade (strata 4). In this study to select the sample size, list of population were formally developed and registered MSEs until April 2017 by Nifas Silk Lafto Sub-City Micro and Small scale Enterprises Development office were obtained. The total population of the study constitutes 1180 from which (180) medium scale enterprises and (1000)

micro and small scale enterprises. The sample size selected here was considered as representative of MSEs and SMEs and also large enough to allow for precision, confidence and generalibility of the research findings. According to Yemane (1996) sample size determination formula, it is possible to determine the sample size, expressed as decimal 0.95 for 95 % confidence level and as decimal 0.05 for 5% precision levels.

$$n = N / 1 + N (e)^2$$

Where: n is number of respondents =299

N = population size =1180

e = sampling error/level of precision = 0.05

The total sample size of respondents based on the above sample size determination is 299. This total sample size is proportionally distributed to each stratum. Accordingly, 299 respondents will selected from the total of 1180 MSEs and SMSs. These 299 respondents will selects on proportional basis. Therefore, [(180/1180) x 299] = 46 SMEs out of 180, [(1000/1180) x 299] =253 MSEs out of 1000 were selected.

3.4. Data Analysis

The data collected was analyzed using descriptive statistics (measures of central tendency and measures of variations) and logistic regression tools. To these effects, depending on the nature of basic research questions and data collected, descriptive statistics such as percentage, frequencies, mean and standard deviation and logistic regression were used to analyze the data collected through questionnaires.

3.4.1. Model Specification

In this study MSEs are assumed to be either advanced or not advanced. Hence, the binary choice logistic regression model that assumes dichotomous dependent variable which takes either 1 or 0 value depending on Y^* is used, The logit model based on cumulative logistic probability function is used in this study since it is believed to offer better explanation on underlying relationship between firm growth and the factors affecting on it. The dependent variable in this case is dummy variable since Micro and small scale enterprises are assumed to be either advanced or not. Hence the binary logistic regression model which helps to test the determinants of firm growth can mathematically be specified as follows:

$$Pi = E(Y=1|Xi = \beta 0 + \beta iXi$$

Where Y=1 means growth of a firm

Xi is a vector of independent variables

βo is the constant and βi, i =1, 2…n are the coefficients of the independent variables to be estimated.

$$Pi = E(Y = 1/Xi = \frac{1}{1 + e^{-(\beta o + \beta iXi)}}$$

$$Pi = \frac{1}{1 + e^{-Zi}} = \frac{e^{Zi}}{1 + e^{z}}$$

Where $Zi = \beta 0 + \beta iXi$

If Pi is the probability of being surviving and (1-Pi), the probability of growth of a firm

$$1 - Pi = \frac{1}{1 + e^{Zi}}$$

Therefore, we can write this equation as:

$$\frac{Pi}{1-Pi} = \frac{1+e^{Zi}}{1+e^{-Zi}} = e^{Zi}$$

Later $\frac{Pi}{1-Pi}$ is the odds ratio of growth of enterprise with the ratio of the probability that a given firm grow to the probability that a firm grow. Then, if we take the natural logarithm of equation (e) we obtain:

$$Li = Ln(\frac{P(i)}{1-P(i)}) = \ln(e^{\beta o} + \sum_{i=1}^{m}\beta iXi) = Z_{(i)c}$$

If the disturbance term Ui is taken in to account the logit model becomes

$$Li = Z(i) = \beta o + \sum \beta iXi + Ui$$

Consequently, Li, which is the log of odds ratio, is called logit or logit model (Gujarati, 2004). Hence, the above Logit Model is employed to estimate the effect of the hypothesized explanatory variables on advancement of enterprises.

4. RESULT AND DISCUSSION

4.1. Results of Descriptive Statistics

Two hundred ninety nine questionnaires were distributed across the SME and MSE sectors of the Nifas Silk Lafto Sub-City, out of which 280 were completed and collected back successfully, representing 93.65% response rate. The analysis was done based on 280 responses.

4.1.1 Employment and Legal Ownership of the Enterprises

The legal ownership statuses of the establishment were classified in to five Sole ownership, Joint ownership, Family business and Cooperative. 44.29

percent of the enterprises were established as sole ownership, 17.14 of them were join ownership, and 29.64 percent of the sample enterprises were established as cooperative, 2.14 was established as family business. Overall the sampled enterprises were created a job opportunities for 2134 employees; likewise, 29.64 percent of the enterprises create a job opportunity for 1 to 5 employees, 57.5 percent of the enterprises create a job opportunity for 6 to 10 employees 10.71 percent of the enterprises create a job opportunity for 11 to 15 employees and the rest 2.14 percent of the enterprises were created a job opportunity for more than 15 individuals. In addition to these, out of the total enterprises 86.07 percent of them were small scale enterprises and the rest 13.93 were medium scale enterprises. Micro enterprise, according to the strategy in use, consist of employees (including the owner or family) not greater than 5 and while small scale enterprise is an enterprise which has 6-30 employees (Federal Democratic Republic of Ethiopia, 2011).

Initially, 52.86 percent of the respondents start their business with their own personal saving, 17.14 percent of them initially funded by family, 13.57 percent of the sample enterprises were funded by microfinance institutions; the rest were starts their business through borrowing from relatives and friend. The constraint of finance for MSE affects their advancement directly or indirectly. There are studies which support this finding. Lack of financial resources is often reported as the major obstacle and limiting factor that is experienced by SMEs in developing countries. Therefore, funding is a problem (Millicent & Reginald, 2014:61). Moreover financial institutions find it difficult to provide funding to SMEs because most small businesses do not have assets to secure collateral securities (Moaisi, 2005:18). However, according to Wiese (2014:37), the ultimate source of finance was gained through sole ownership, spouse/partner salary, income from another job, cooperative and family business contributions.

4.1.2 Descriptive Statistics Results for Independent Variables

1)   Credit-related Factors

This factor concerns services delivered on the financial institutions. Accordingly, more than 48 percent of the respondents replied that they were not satisfied with the financial access given by Micro finances and other lending institutions; whereas 29 percent of them had positive response. More than half of the respondents also confirmed that the amount of loan size borrowed from MFI& other lending institutions were not sufficient to operate their business, on the other hand around 17 percent of the respondents agreed that the loan was sufficient. In conformity with the finding, according to Terfasa et al., (2016:30) the problem of access to finance is more severe for MSEs as the loan requirement of microfinance institutions (MFIs) is complicated. A large proportion of both micro and small enterprises do not apply for a loan or credit due to cumbersome bureaucracy, limited working premises, and high collateral requirement.

To wind up, such constraint of finance for MSE affects their advancement directly or indirectly. There are studies which support this finding. Lack of financial resources is often reported as the major obstacle and limiting factor that is experienced by SMEs in developing countries. Therefore, funding is a problem (Millicent & Reginald, 2014:61). Moreover financial institutions find it difficult to provide funding to SMEs because most small businesses do not have assets to secure collateral securities (Moaisi, 2005:18). Likely, 66 percent of the sampled respondents said that they didn't have the opportunity to get machinery and equipments. The mean score of this variable was 2.48 which approach to disagree level, which suggests that the enterprises are challenged by credit and loan related problems.

Table 4.1 Description Credit-related factors

List of Items	Responses in %					Mean
	1	2	3	4	5	
I am satisfied with the financial access given by Micro finances and other lending institutions	19.29	28.21	22.86	24.64	5	2.67
The amount of loan size borrowed from MFI& other lending institutions are sufficient	18.57	36.07	27.50	17.86	0	2.44
I have access to appropriate machinery and equipment	36.79	29.29	11.07	8.57	14.29	2.34
Column % and overall mean	**74.65**	**93.57**	**61.43**	**51.07**	**19.29**	**2.48**

Note: 1= Strongly Disagree, 2= Disagree, 3=undecided, 4=Agree, 5=Strongly Agree

Source: Own Result (2017)

2) Market-related Factors

More than 37 percent of the respondents also mentioned that they didn't have access to different business trainings about demand forecasting; however, around 54 percent of the respondents mentioned that they had access to different business trainings. Around 65 percent of the respondents also conclude that they didn't have an access to information to exploit business opportunities; on the other hand, 26 percent of the respondents confirmed that they had access to exploit business opportunities. More than 68 percent of the respondents also replied that there was not fair competitions in the market place where they engaged in; whereas, close to 30 percent of the respondents confirmed that they have observe fair competition in the market. Moreover, more than 66 percent of the respondents replied that there was no adequate infrastructure such as power and water supply which helps to operate their business; on the other hand close to 27 percent of the respondents feel that adequate infrastructure were there in their business surrounding. In addition to

these, close to 46 percent of the respondents said that they didn't get the necessary inputs and raw materials which help them produce their product. The mean score of this variable was 2.77 which approach to disagree level, which suggests that the enterprises are challenged by market and marketing related problems.

Table 4.2 Description market-related factors

List of Items	Responses in %					Mean
	1	2	3	4	5	
I have access to promotion to attract potential users	11.79	25.36	15.36	33.21	14.29	3.12
I have access to different business trainings	12.86	24.29	8.57	38.21	16.07	3.20
I have an access to information to exploit business opportunities	25.36	37.86	10.71	20	6.07	2.43
There is fair competitions in the market place	22.86	45.36	2.14	21.79	7.86	2.46
Adequate infrastructures are available	25.71	40.71	5.71	23.21	4.64	2.40
I have access to necessary inputs	14.29	32.50	1.07	41.07	11.1	3.02
Column % and Overall Mean	**113.87**	**208.08**	**46.56**	**181.49**	**65**	**2.77**

Note: 1= Strongly Disagree, 2= Disagree, 3=undecided, 4=Agree, 5=Strongly Agree
Source: Own Result (2017)

3) Social-related Factors

Social factors concerns how the entrepreneurs are interacting with the society and community. Accordingly, only 20 percent of the respondents feel that they didn't have social acceptability, whereas, the rest majority (69%) feel that they are socially accepted entrepreneurs. Close to 57 percent of the respondents also mentioned that they had a better contacts and networks with outsiders, on the other hand around 36 percent of the respondents said that they didn't have good business networks. Almost all (93%) of the respondents replied that the attitude of the societies towards

their products and services was positive. Likewise, close to 85 percent of the respondents confirmed that they had access to clear division of duties and responsibility among employees and also they had a positive relationship with the workforce. The results of the mean score suggest that the businesses activities of the enterprises are accepted by the society, meaning that the communities are willing to buy and use their products.

MSEs had got a special focus by the government, it comprised the largest share of total enterprises and employment in this sectors. In recognition of the important role MSEs have to play in generating income and creating job opportunities and reducing poverty, the government drafted its first Micro and Small Enterprise Development Strategy in 1997.

Table 4.3 Description of Social-related Factors

List of Items	Responses in %					
	1	2	3	4	5	Mean
I have a better of social acceptability	5.36	15.36	10.36	34.29	34.64	3.775
I have a better contacts(networks) with outsiders	3.21	32.86	7.14	24.29	32.50	3.5
I have no prejudice or class biases	17.14	22.86	4.29	25	30	3.29
The societies attitude towards my products/services is positive	0	7.14	1.07	29.29	62.50	4.47
I have access to clear division of duties and responsibility among employees	5.36	1.07	7.14	23.57	62.86	4.37
I have a positive relationship with the workforce	3.21	1.07	1.07	39.64	55	4.42
Column % and Overall Mean	**35.28**	**82.36**	**34.07**	**180.1**	**282.5**	**3.97**

Note: 1= Strongly Disagree, 2= Disagree, 3=undecided, 4=Agree, 5=Strongly Agree

Source: Own Result (2017)

4) Legal-related Factors

Legal factors concerns about how the enterprises are connected with and supported by government. More than 75 percent of the respondents

confirmed that they have never encountered political intervention from regulatory bodies. Furthermore, around 78 percent of the respondents said that they had accessible information regarding government regulations that are relevant to their business, and also they were beneficiary of government incentives. In addition, half of the respondents comply that the tax levied on their business was not reasonable, whereas, 44 percent of them replied that the tax was reasonable and fair. This variable has got a mean score of 3.44 which fall in the range of neutral and agree, however, it considered as agree since it is greater than 3.2. Hence, although considerable amount of respondents had reservation on legal; overall respondents or entrepreneurs more or less are comfortable with the current legal services of government offices. For this study, it is not the direct intervention of political involvement but rather the politically relevant social capital, which means a particular social capital, is produced as the consequence of political expertise and information that is regularly communicated within individual network social relations.

Table 4.4 Description of Legal-related Factors

List of Items	Responses in %					Mean
	1	2	3	4	5	
I have never encountered political intervention	1.07	10.71	14.64	58.57	15	3.75
I have access to information about government regulations	16.07	3.21	2.14	56.07	22.50	3.65
Tax levied on my business is reasonable	20.71	30.71	3.93	24.64	20	2.92
Column % and Overall Mean	**38.85**	**46.63**	**23.71**	**143.28**	**62.5**	**3.44**

Note: 1= Strongly Disagree, 2= Disagree, 3=undecided, 4=Agree, 5=Strongly Agree
Source: Own Result (2017)

There is no doubt that there is a direct or indirect benefit of legitimate political participation (Huntington, 1968). Not only that, for the sake of the success of businesses, they must update with new policy and strategy made by both national and city administration government.

5) Administrative-related Factors

More than 55 percent of the respondents didn't agree that they had business assistants and supporters from government bodies; whereas, around 32 percent of the respondents agree with this concern. Around 44 percent of the respondents said that they had encountered bureaucracies and red tapes, while 56 percent of them disagreed.

Table 4.5 Description of Administrative-related Factors

List of Items	Responses in %					Mean
	1	2	3	4	5	
I receive support from government bodies	30	16.43	12.14	15.17	25.71	3.33
I have never encountered bureaucracies	32.13	26.35	10.11	17.33	14.08	2.99
I am beneficiary of government incentives	35.71	18.21	1.07	4.29	40.71	3.90
I have never faced unfavorable working environments	41.43	30.71	2.14	14.29	11.43	3.05
Column % and Overall Mean	140.27	93.7	28.46	55.08	96.93	3.31

Note: 1= Strongly Disagree, 2= Disagree, 3=undecided, 4=Agree, 5=Strongly Agree
Source: Own Result (2017)

More than 75 percent of the respondents replied that they are a beneficiary of government incentives; and around 53 percent of the respondents feel that they have never faced unfavorable working environments. Conversely, close to 46 percent of the respondents replied that they have faced unfavorable working environments. The mean score of this variable was 3.31which approach to disagree level, which suggests that the enterprises are not getting good administrative services.

4.2 Factors Affecting Advancement of Micro Enterprises
4.2.1 Test of Important Assumption

1) Multicolliniarity test: Multicollinearity is a problem that happens when the explanatory variables have significant association. A VIF test was used

to test the assumptions of multicollinearity. The result of the test indicates the highest VIF is 2.76 which indicate the model performed with no major multicollinearity problem among the explanatory variables (Table 4.6).

Table 4.6 Multicollinearity Test Result

Variable	VIF	1/VIF
Admin	2.76	0.362583
Marketing	2.42	0.413708
Social	1.89	0.528365
Legal	1.33	0.749693
Credit	1.11	0.903129
Mean VIF	1.90	

Source: Own Estimation Result (2017)

2) Heteroskedasticity Test: The assumption of Heteroskedasticity states that the variance of each disturbance term u_i conditional on the chosen values of the explanatory variables should be some constant number (Gujarati 2003). In order to test the problem Breusch-Pagan test for was employed. Accordingly, the data is free from the problem of Heteroskedasticity since the p value is greater than 5% (Chi2 (1) = 4.47; Prob> chi2 = 0.344).

As projected in the theoretical sections, the key research question was to test how the anticipated variables affect the advancement of small scale enterprises to medium scale enterprises. Specifically, this study analyzes how credit and marketing factors, legal and administrative and social factors determine the advancement of small scale enterprises. Binary logistic regression model was used to estimate. The coefficient of determination (R^2) for the model was 0.5241 showing that the model explained 52.41% and the overall model is statistically significant. The results of the econometric model estimation revealed that credit, marketing and administrative factors had significant effect on the advancement of small scale enterprises; whereas, social and legal factors didn't show significant relationship with dependent variable. Accordingly, the variable credit had positively and significantly

associated with the advancement of small to medium scale enterprises. Furthermore, given all the other variables in the model held constant, odds ratio greater than one suggested that, credit factor more likely contribute for the advancement of small scale enterprises to medium scale enterprises, which means increasing the access of credit for microenterprises and increases the probability of small scale enterprises advancement to medium scale enterprises. Since the odds ratio of this variable is greater than one it is the indication of this variable plays very significant role to advance microenterprises to medium scale. In line with this study Hadiyati (2010) also mentioned that related to the development of micro and small enterprises difficulties in marketing and the tight competition are the main challenges of their development. One can understand from the stated literatures the marketing and credit facilities are the critical factor for the success of micro and small enterprises.

The other significant variable that influences the advancement of microenterprises is the access of organized market. The analysis shows that, the marketing factor influences positively and significantly the advancement of microenterprises. Given all other variables constant, increasing the access of marketing for microenterprises increases the probability of microenterprise advancement; furthermore, odds ratio less than one indicated that even if the variable marketing influences the advancement of microenterprises however, the extent of the influence is small as related to credit facility. Munizu, (2016) also mentioned that marketing is the critical success factor of micro and small scale enterprises. Financial problems, lack of managerial skills, workplace and marketing problems are among the problems the development of small and micro enterprises face (Gebremariam, 2017).

Table 4.7 Estimation Results of the Logit Model

Number of obs = 280		LR chi2(5) = 2.71			
Log likelihood = -111.67358		Prob> chi2 = 0.0341			
		Pseudo R2 = 0.5241			
Variables	Coef.	Std. Err.	Z	P>z	Odds ratio
Constant	0.65	0.98	0.66	0.509	0.52
Credit-related factors	0.05	0.08	0.57	0.0366	1.05
Market-related factors	0.01	0.06	0.19	0.0478	0.99
Social-related factors	0.05	0.05	0.96	0.338	0.95
Legal-related	0.07	0.09	0.78	0.436	.094
Administrative -related factors	0.05	0.08	0.59	0.0453	1.05

Source: Own Estimation Result (2017)

The regression result revealed that administrative-related variable was also positively and significantly associated with small scale enterprises advancement. Given all the other variables in the model held constant, an odd ratio greater than one suggested that administrative factors are more likely determines the advancement of small scale enterprises to medium scale enterprises. The other variables which were hypothesized are the social factor. On the other case all the other variables in the model held constant, an odd ratio less than one suggested that legal and social factors are less likely determines the advancement of small scale enterprises to medium scale enterprises. In line with this study Abeiy, (2017) concluded that business startup environment and registration process found to be simple and easy, but still there is confusion on the administrative issues among MSE operators regarding VAT registration, getting TIN identification number and Certification of competency application. Enterprises considered these issues as challenging tasks that makes business start up in the sector very tough. Majority of MSE operators rated infrastructure access has not been improved and hugely affecting their performance; getting working premises is still a time consuming and challenging task for them(Abeiy, 2017). The other two variables legal and social factors didn't show a significant association with microfinance advancement.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This research was carried out to investigate the determinants of small scale enterprises advancement to medium scale enterprises. Explanatory research design and logistic regression was used to analyze the data. The descriptive analysis suggested that there was a problem of sufficient loan, business related trainings, fair competition in the market place and in adequate infrastructure such as power and water supply. Apparently, the enterprises are boarding from government offices bureaucratic services and unreasonable taxes. Furthermore, the regression analysis suggested that credit access; marketing and administrative factors are the main determinant factor for the advancement of micro and small enterprises to medium scale enterprises. On the other hand, results also reveal, MSEs that comes to business with higher initial investment shows better growth than those MSEs that started business with lower initial investment. Previous researches in the country made the same conclusion, finance as one of the main factors that affect starting, success, performance and growth of MSEs (Habtamu, 2007, Admasu, 2012, Berhane, 2011,Mulugeta, 2011).MSEs do not have enough access to loan to start and they need to have pre- credit compulsory saving before acquiring business loan. Supporting this, the major source of startup finance and working capital is own saving, family and friends followed by microfinance and "equb" (Selamawit *et al*., 2014).

The finding shows that majority of MSEs operators in the study area do not have convenient working places. Because of this, the MSEs operators do not perform their business related activities effectively and efficiently. And also, the location of the working premises is not suitable for attracting new customers. This means the working places restricts access to market. Finally,

the research clearly illustrates that, even if the degree of those critical factors are not uniform across the enterprise, most of the factors are considerably common for all enterprise. It has been noted that the factors that are prevalent to the financial performance of businesses such as credit, administrative, and marketing factors had very high effect on the determinant of small scale enterprise advancement into medium scale enterprise in the research area.

5.2 Recommendations

The nature of determinants of MSE advancement identified in the study varies in their complexity and severity. Majority of the problems can be solved by the collaborative effort of support institutions and other stakeholders. A major recommendation that the researcher suggest to minimize severity of determinant factors that affects the advancement of MSE is described as follows.

- MSE support program should have to be based on the identified critical factors. Major problems like insufficiency loan and financial access, access to different business trainings about demand forecasting, creating market access and value chain and relate and lack of working capital.

- MSE development agency and municipal services should undertake detailed study on the suitability of the location and the sufficiency of work premise size along with nature and type of business before constructing the premises for MSE.

- MFI institution are member of MSE support institution and has to provide credit service for organized MSE through adjusting loan term based on the nature of the business and its capacity of revenue generation.

- Sufficient managerial and marketing skill training has to be provided for MSE to change the traditional way of operating and marketing business in to the modern types of production and marketing.

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Impact of Microfinance on Poverty Reduction: The Case of Gasha Microfinance Institution

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Abstract

Microfinance can be a critical element of an effective poverty reduction strategy especially for developing countries. More than ever after the success of the Grameen Bank, the system has been duplicated in the different parts of developing world. Ethiopia is also one of the countries where microfinance has been given due consideration as a safety net for the poor to help them overcome the adversities of poverty. The services provided by microfinance institutions is desired to enable the poor to smoothen their consumption, manage their risks better, build their assets gradually, develop their micro enterprises, enhance their income earning capacity, and enjoy an improved quality of life. This study evaluates the impact of Gasha microfinance institution S.Co in the reduction of poverty. For quantitative analysis both treatment and control respondents were drawn with 220 clients (100 treatments and 120 controls) clients using simple random sampling techniques in Gasha. Descriptive statistics and econometric model were applied for analyzing quantitative data. PSM method was employed to analyze the impact of the microfinance services on poverty reeducation. Consequently the objective of this study is to find out the impact of microfinance towards poverty with a particular reference of Gasha micro finance Institution S.Co. With the above objectives in mind, the research work employed questionnaires, key informants, and focus group discussions to obtain primary data. In addition, secondary sources of data have also been collected from different literature and Gasha annual progress report. The contribution of Microfinance is analyzed based on income, saving, expenditure for health, expenditure for children school, asset accumulation, decision making power, business management skills along with the strength and weakness of the institution among others. The finding indicates that Gasha has made positive contributions to the wellbeing of its client. However, all of Gasha clients are already been involved in a business activity that can generate income for the repayment of the loan. The study revealed that the aim of MFIs to reach out the poorest section of the population has not been achieved due to targeting problems. It was, again, uncovered that, microfinance try as much as possible to reduce the risk involved in giving out unsecured loans. One of their ways of trying to achieve this is by group lending which automatically sideline the poorest since the groups are formed based on the income level of the individual.

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1. INTRODUCTION

1.1 Background of the Study

Poverty is a condition in which low-income people are unable to meet the basic needs of life. This situation leads to many fold difficulties like decreased health status, high illiteracy rate, decreased quality of life etc., and the difficulties force poor people to commit heinous crimes and sometimes commit suicide. Poverty is defined as a situation of having no enough money to meet the basic need of human beings. Zaman (2000) defined poverty in terms of land and he described the ultra-poor as people having less than ten decimals of land and the moderate-poor households as having greater than ten decimals of land. Hulme and Paul (1997) categorized poor into two groups the core poor who have not crossed a minimum economic threshold and whose needs are essential for financial services that are protection, and those above this threshold who have a demand for promotional credit. Moreover, they have discussed that a minimum economic threshold is defined by characteristics such as the existence of reliable income, freedom from pressing debt, sufficient health to avoid incapacitating illness, freedom from imminent contingencies and sufficient resources (such as savings, non-essential convertible assets and social entitlements) to cope with problems when they arise. Weiss et al (2003) defined poverty as an income (or more broadly welfare) level below a socially acceptable minimum and microfinance as one of a range of innovative financial arrangements designed to attract the poor as either borrowers or savers.

Accordingly, the Ethiopian government has made poverty reduction in rural and urban areas as one of its primary concerns among various development plans. In Ethiopia, urban centers which are characterized by lack of adequate employment opportunities, inadequate income, social and political instability

etc., are the government's priority intervention areas in the poverty reduction. As a result, different urban based development program are taking place throughout the nation; one among these is microfinance service in urban areas (Wolday, 2006). The largest proportions of the population do not have access to financial services. Petty trading business operation is severely constrained by lack of finance. As part of this initiation, the National Bank of Ethiopia issued the proclamation number 40\1996 (Gebrehiwot and Mulat, 2005) and revised the proclamation on 626/2009 aiming to provide licensing and supervision of microfinance business (AEMFI, 2010). Microfinance is created in response to the missing credit market for the poor. In the developing countries, most recently for instance, governments are also incorporating microfinance in their strategies towards achieving the Millennium Development Goals that involves halving extreme poverty by the target date, which is 2015(Wolday, 2008). Given the complex nature of poverty together with the current microfinance intermediation approach, it is however, becoming increasingly difficult to judge whether such microfinance services should be advocated as a means of poverty alleviation.

1.2   Statement of the Problem

Gasha Microfinance institution Share Company was licensed in 1998 with ETB 200,000 paid up and ETB 800,000 subscribed capital, and having 756 shareholders with the primary objective of to help poor, particularly women, help themselves by creating access to financial services.   As of June 2015 it has over 14,000 clients   and its services are provided through 6 branch and sub branch offices located in Addis Ababa, Bishoftu and Adama and their environs. Despite the fact that Gasha microfinance have been providing financial services to the poor in a bid to reduce poverty in the target intervention areas, its impact on poverty has not yet been studied.

The literature on the study of impact of microfinance services on poverty reduction provides mixed results. Some literature argues that microfinance services has brought positive impact to the life of clients, boost the ability of poor individuals to improve their conditions and have taken advantage of increased earnings to improve their consumption level, health and build assets (see for example, Murdoch and Haley, 2001; D'Souza, et al 2007). Other studies such as Hulme and Mosley (1996) and Chowdhury (2009) have shown that microfinance services played insignificant impact towards poverty reduction. The authors argued that poor households do not benefit from microfinance; it is only non-poor borrowers (with incomes above poverty lines) who can do well with microfinance and enjoy sizable positive impacts. They go on arguing that the vast majority of those with starting incomes below the poverty line actually ended up with less incremental income after getting micro-loans.

Most poor people do not have the basic education or experience to understand and manage even low level business activities. Karnani (2007 as cited in Chowdhury, 2009: 37) stated that "most people do not have the skills, vision, creativity, and persistence to be entrepreneurial". Pollin (2007 as cited in Chowdhury, 2009: 2) has also a similar view, and puts it in the following words: "micro enterprises run by poor people cannot be broadly successful simply because they have increased opportunities to borrow money along interest rates charged by microfinance institutions, which are undermining the benefits of borrowers". The credit policy for the poor involves many practical difficulties arising from operation followed by financial institutions and the economic characteristics and financing needs of low-income households

(Shastri 2009). Access to credit can contribute to a long-lasting income and an improvement of the social and economic situation of women (Sarumathi and Mohan, 2011). Even though there are ample literatures on microfinance as an antipoverty tool in Ethiopia, no studies have been endeavored so far to identify the impact of Gasha microfinance institution in reducing poverty. Thus, there are gaps in literatures and knowledge regarding to the issue under discussion. Therefore, this study aims to analyze the impacts of Gasha Microfinance services on poverty reduction in Ethiopia. It explores the benefits gained from using micro-financing services as a mechanism to reduce poverty and pave ways to meet MDGs poverty in the country. The specific objectives of the study are:

1   Investigate the impact of microfinance services of Gasha on the economic status of the clients in terms of income, saving and asset accumulation,

2   To examine the impact of Gasha micro-financial service on the psycho-social empowerment of clients in terms of participation in decision making power, and business management skill.

2. REVIEW OF RELATED LITERATURE

2.1 The Concept of Microfinance

Microfinance is a form of financial development that has primarily focused on alleviating poverty through providing financial services to the poor. Most people think of microfinance as being about micro-credit i.e. lending small amounts of money to the poor. Microfinance is not only this, but it has also a broader perspective which also includes insurance, transactional services, and importantly, savings (Barr, 2005). According to Otero (1999), microfinance is "the provision of financial services to low income poor and very poor self-

employed people". These financial services according to Ledgerwood (1999) generally include savings and credit but can also include other financial services such as insurance and payment services. Schreiner and Colombet (2001) define microfinance as "the attempt to improve access to small deposits and small loans for poor households neglected by banks." Therefore, microfinance involves the provision of financial services such as savings, loans and insurance to poor people living in both urban and rural settings who are unable to obtain such services from the formal financial sector.

Microfinance is the provision of financial services such as loans, savings, micro leasing, micro-insurance and payment transfers to economically active poor and low income households to enable them engage in income generating activities or expand their small businesses. Again, MF is defined as a financial intervention that focuses on the low-income group of a given society. The intervention primarily involves credit services and may also include savings, insurance on credits and savings (Khawari, 2004). Dejene (2003) defined microfinance based on its main characteristics: it is targeting of the poor, promoting small business, building capacity of the poor, extending small loans without collaterals, combining credit with savings, and charging commercial interest rates. Generally microfinance helps low income people reduce risk, improve management, raise productivity, obtain higher return on investment, increase their income, and improve the quality of their lives and those of their dependents (Robinson, 2001). The term microfinance means providing very small loans to help the poor's engaged in productive activities or develop their tiny business (the microfinance gate way, 2008). According to CGAP (2008), microfinance is a supply of loans, savings, and other basic financial services to the poor, including working capital loans, consumer credit, pension, insurance, and money transfer services. Similarly, Hossain

(2002) defines microfinance as, practices of offering small, collateral free loans to members of cooperatives who otherwise would not have access to capital necessary to begin small business or other income generating activities. Microfinance implies providing the poor with savings, credit and insurance facilities to set up or expand income generating activities relating to petty trade, agriculture allied activities and thereby to increase household income security. Microfinance are established based on social collateral rather than physical collateral to increase the general well-being of the poor in the urban areas (Schreiner, 2001). Ledgerwood (2002) defined microfinance as a term that refers to the provision of financial services to low income clients, including the self-employed. Some Microfinance Institution (MFI) also provides insurance and payment services. Moreover, MFI's also provide social intermediation and social services. Thus, according to Ledgerwood, microfinance often includes both financial and social intermediation.

2.1.1   Products and Services of Micro-financial institutes

Since the 1970s, microfinance has much expanded and now includes a wide range of financial products and services. Ledgerwood (1999) have stated that there are four broad categories of products/ services that may be provided to microfinance clients namely,

(i) *Financial intermediation* or the provision of financial products and services such as savings, credit, insurance, credit cards and payment services; (ii) *Social intermediation* or the process of building the human and social capital required by sustainable financial intermediation for the poor; (iii) *Enterprise development services*, non-financial services that assist micro entrepreneurs include business training, marketing and technology services, skills development and subsector analysis; and (iv) *Social services or non-financial services* that focus on improving the wellbeing of micro

entrepreneurs include health, nutrition, education and literacy training. However, the degree to which MFI provides each of these services depends on whether it takes a minimalist or integrated approach. Many MFIs provide savings and credit services without getting involved in related development activities. However, many scholars argues that integrating financial with non-financial services is usually seen as essential in addressing the causes of poverty identified in a particular area or by a particular group of people; it is rarely the case that savings and credit activities alone will reduce poverty (Harper 2003; Johnson and Rogally 1997; Ledgerwood 1999).

2.2 The Link Between Poverty Reduction and Microfinance Services

Poverty remains a matter of growing concern in many developing countries of the world. Today, as other continents continue to register sustainable economic growth and development, Africa is not only lagging behind but is trapped in a vicious circle of borrowing and donor dependency syndrome which some critics point out as one of the causes practically sabotaging real development. Africa has perpetually failed to focus its development efforts on the optimum utilization of the immense natural resources that many countries are endowed with to turn it into wealth to propel their economies and people towards a high level of economic and social development and as a consequence eliminate pervasive poverty. Although Africa is not the only poorest continent, it is the only region where poverty is constantly on the increase. As a result millions of people live each day in abject poverty. Children go without food, their bodies stunted by malnutrition which is wide spread. As a result of this condition the lives of the majority of Africans to be deplorable and an insult to their dignity. Therefore, there is need to change these conditions in order to make poverty history in Africa (World Bank, 2000).

Lack of access to credit is generally seen as one of the main reasons why many people in developing economies remain poor. The inability of conventional banks to address the financial demand of the poor put the consensus that reached to design new strategies for delivering financial services to the poor. The microfinance institutions mainly designed to provide banking services and mobilizing small savings. Currently, there are 33 MFIs licensed and engaged in providing microfinance services to the poor in different parts of the Ethiopia. Properly channeled microfinance services provide the poor households with an opportunity to increase income, increased employment, increase smooth consumption, own resources such as livestock, get self-employed in the informal sector, empower women, improve nutrition and expenditure on health, improve the potential for educating children, use new technologies and inputs of agriculture (Zaid, et al 2001). According to Parker (2000), poverty has always been a concern of microfinance; and some microfinance institutions use methodologies that target the very poor as a separate client groups, while others are based on non-targeted financial services for all those who lack access to formal credit institutions. Sound practice in microfinance institutions is based on the ability to provide appropriate financial services to individuals and households that are otherwise excluded from the financial system. According to Chekol (2002), the changes of indicators show the movements at different levels toward or away from greater economic security are believed to suggest the impact of microfinance interventions in expanding options for poor women and men in relation to the broader development goals of poverty alleviation and economic growth. According to AIMS (2000), domains of household security include income, assets and expenditures. The same study identified

that microfinance impact at household level leads to increased income, increased assets and increased welfare.

2.3 Studies on Impact of Microfinance Services on Poverty Reduction

Impact of microfinance examines two sets of indicators– economic and social indicators at different levels. Economic indicators are normally measurements for microfinance impact as income level and patterns of expenditure, consumption and assets. Social indicators are used to measure the impact of microfinance which became popular in the early 1980s as educational status, access to expenditure on health services, nutritional levels, anthropometric measures and contraceptive use (Hulme, 2000). Despite the variation in the methods used and the results of studies conducted in various countries, the main impact of microfinance are on change in income, expenditure, assets, educational status, and expenditure on health as well as gender empowerment Many studies in different disciplines used different approaches to assess impact. Khandker (1999) studied the impact of three micro credit institutions in Bangladesh on selected households. The study found that the most important effect of borrowing from a micro-credit provider is its impact on per capita expenditure. The study pointed out that the participation in group-based microfinance shows positive and significant impacts for school enrollment, asset holdings, consumption, nutritional status and household net worth of participants in all three participants. Ledgerwood (1999) pointed that successful microfinance institutions contributing to poverty reduction are particularly effective in improving the living status of the middle and upper segments of the poor. The impacts of microfinance services on income has been analyzed at the individual, household and enterprise levels. Studies conducted in various countries by Hulme and Mosley (1996) found strong evidence of the positive relationship between access to a credit and the

borrower's level of income. The authors indicated that the middle and upper poor received more benefits from income-generating credit initiatives than the poorest. They also discovered that the profit for self-employed activities of households can be increased by participant participation.

Expenditure is another indicator to measure the impact of microfinance. A study by Pitt and Khandker (1998) showed that the clients of the participants could gain from participating microfinance participants in many ways. Income per capita consumption could be increased by accessing a loan from a microfinance participant. Khandker (2003) also conducted research on the long-run impacts of microfinance on household consumption and poverty in Bangladesh by identifying types of impact in six household's outcomes as Per capita total expenditure; per capita food expenditure; per capita non-food expenditure; the incidence of moderate and extreme poverty; household non-land assets. Mosley (2001) pointed out that there was positive impact of microfinance on asset levels. He further stated that accumulation of asset and income status was generally highly correlated, which led to extreme correlation between income poverty and asset poverty. Coleman (2006) investigated the impact of microfinance borrower welfare in Northeast Thailand. He found that there was a slight impact of participant loans on clients' income level. However, he discovered that the village bank had a positive and significant impact on the accumulation of women's wealth, particularly landed wealth but this result included bias from measured impact.

Holvoet (2004) investigated the effects of microfinance on childhood education by examining microfinance participants in India and showed that loans to women had a significant positive impact on schooling and literacy for girls, whereas it remained mainly unchangeable in the case of boys. Pitt and Khandker (2003) found that a credit to the participants provided by a

microfinance institution like the GB could grow school enrolment for children. They found that credit lending to women had a significantly positive impact on schooling of children. Chowdhury and Bhuiya (2004), studied the impact of a microfinance participant, in Bangladesh, and found that both member and nonmember had improved in educational performance. However, the member households benefited much more than poor non-member households. Indicators related expenditure on health issues are also applied as proxies to examine the impact of microfinance. Chowdhury and Bhuiya (2004) found that microfinance participant, led to a good improvement in child survival and nutritional status.

Microfinance also leads to the empowerment of women. Hashemi et al. (1996) studied two main microfinance participants in Bangladesh. They noted that the participation of the participants had important positive impacts on economic security, ability to make small and large purchases, involvement in major household decisions, and relative freedom from domination by the family and awareness on current issues different dimensions of women's empowerment. In another study, Pitt and Khandker (1998) found that the behavior of poor households was significantly changed in case of women's participation in microfinance participant in Bangladesh. It, for example, could be seen that every 100 additional unit credit provided to women by the microfinance participants increased yearly expenditure for household consumption by 18 unit, whereas that provided to men from the same participants grew yearly household consumption expenditure by 11 unit. Assessing microfinance impact has been the main concern of development specialists in order to know whether or not providing financial services to the poor has reduced poverty then improve household income. Khandker (1999) argued that the immediate impact of having access to credit from a micro

finance participant is on employment and income in turn which may have impact on other outcomes such as consumption, nutrition, and education. Hulme (2000) identified three elements of the framework for the study of impacts. The first is the specification of levels at which impacts are assessed. The second is the specification of the types of impact that are to be assessed. The third is models to be used for the study. Impacts can be assessed at different levels. The common units of assessment are the household, the enterprise or the institutional environment within which agents operate.

According to AIMS (2000), impact occurs at the levels of household, enterprise, individual and community. At the household level, microfinance contributes to net increase in household income, asset accumulation and labor productivity. Income invested in assets such as saving and education increases household economic security by making it possible to meet basic needs. This relationship clarifies paths of impact by which microfinance interventions can contribute to the goals of poverty alleviation and economic growth, and thus, households improve their economic well-being. The framework by Ledgerwood (1999) defines domains of impact indicators to measure impact at the household, enterprise, individual and community levels. At the household level, income, assets, consumption expenditure and basic services are indicators of impact assessment. At the enterprise level, five domains of development include the resource base, production process, management, markets and financial performance. At the individual level, three domains of well-being include independent control of resources, leverage in households' decision-making units and community participation. At the community level, four domains of development include net changes in employment and income, forward and backward linkages, social networks and civil participation. Robinson (2001) in a study of 16 different MFIs from all over the world

shows that having access to microfinance services has led to an enhancement in the quality of life of clients, an increase in their self-confidence, and has helped them to diversify their livelihood security strategies and thereby increase their income.

Remenyi and Quinones (2000) household income of families with access to credit is significantly higher than for comparable households without access to credit. They further found that in Indonesia a 12.9 per cent annual average rise in income from borrowers was observed while only 3 per cent rise was reported from non-borrowers (control group). Remenyi notes that, in Bangladesh, a 29.3 per cent annual average rise in income was recorded and 22 percent annual average rise in income from no-borrowers. Sri-Lanka indicated a 15.6 rise in income from borrowers and 9 per cent rise from non-borrowers. In the case of India, 46 per cent annual average rise in income was reported among borrowers with 24 per cent increase reported from non-borrowers. The effects were higher for those just below the poverty line while income improvement was lowest among the very poor.

There are studies in Ethiopia that were designed to indicate the impact of microfinance on the life of the clients. Bourchgrevink *et al.* (2003) clearly indicated that credit has brought positive impacts at household level in Tigray. Kejela (2004) conducted a research work using proportionate pilling exercise and financial return to labor and capital with the purpose of identifying opportunities for economic diversification in Central Tigray. He indicated that financial returns to labor and capital are positive for some cereal crops, vegetable and animals. According to this study, there is need for MFIs to focus on these activities in an attempt to reduce poverty in Central Tigray. There are also other studies that attempted to examine the impact of MFIs in improving the life of the poor. For instance, Mengistu (1998), Berhanu

(1999), and Teferi (2000) tried to see the impact of microfinance on poverty reduction in Ethiopia. However, these studies did not employ the desired methodologies to clearly indicate the impact of microfinance on poverty reduction. This is because they all used loan repayment performances as the best indicator for improvement in income of the clients.

In addition, Daba (2004) used logit model and descriptive statistics to examine the relation between participating in microfinance and the improvement in income. Then, he indicated that OCSSO has made positive contribution towards improving the income of the participant clients. He went on explaining that since the outreach is increasing as the years go by and the loan repayment performance has been 100% for several years, it is possible to argue that OCSSO is contributing to poverty alleviation. But, loan repayment performance cannot be taken as best indicator of improvement in levels of well being because there are people who intentionally commit default of repayment. In addition, people may be forced to pay the money they have borrowed although there is no improvement in their incomes. Berhanu (1999) also studied the impact of credit using descriptive analysis on enterprise income. In his study, he used improvement in living standard as proxy indicator for improvement in incomes of the poor. This again concentrates only on one dimension of well-being, that is income and ignored other important dimensions of well-being like education, expenditure on health, asset building. Getaneh (2005) conducted research using a before and after the participant analysis of impact on clients and shows that ACSI brought very little impact on poverty reduction and enterprise development.

Fiona (2000) and Zaid *et al*. (2001) conducted a research to examine the impact of DECSI on the life of the participant clients using secondary data as

well as descriptive analysis such as percentages; they indicated that DECSI has brought a positive impact on incomes of people in Tigray. Here, one can see the methodological problem the study might have faced in terms of depth of analysis, especially with respect to application of econometric methods. In addition, the findings of Tsehay and Mengistu (2002) on the impact of microfinance among poor women in Ethiopia indicates that the microfinance interventions have brought positive impacts in the improvement of economic status and empowerment of women microfinance participants. This study too used only Chi-Square analysis to investigate the impact of microfinance on poverty reduction. So, it is possible to say that the studies made so far in the field are not exhaustive enough to see the impact of micro-finance on the well-being of the poor in Ethiopia. Samson (2002) also conducted another study in Loume woreda. He used Multiple Linear Discriminant Analysis and indicated that consumption credit users were found to be characterized by greater affiliation to equbs. In addition, participants were found to spend the loan for grain purchase and emergency expenditure on health care, not for the stipulated purpose. This study was aimed at examining financial arrangements and determinants of household credit. Therefore, it was not purely an impact analysis.

On the other hand, Asmelash (2003) using simple descriptive statistical like ANOVA and Chi square conducted a research work in Tigray. He indicated that the credit provided to the poor has brought a positive impact on the life of the participant clients as compared to those who do not get access to microfinance services. He showed that microfinance has brought a positive impact on income, asset building, and access to schools and medical facilities but in all these study there were methodological problem especially econometric application like analyzing without correcting selection bias in the

study area.

3. RESEARCH METHODOLOGY
3.1   Research Approach and Design

The two main types of research approaches used in social sciences are: quantitative and qualitative research approaches. Quantitative research approach refers to the systematic empirical investigation of phenomena and quantitative properties and their relationships. That is to say, it emphasizes on collection of numerical data, which is a deductive approach (Bryman & Bell, 2003). Qualitative research approach refers to all non-numeric data or data that have not been quantified and can be a product of all research strategies (Saunders et al, 2009). It can range from a short list of responses to open-ended questions in an online questionnaire to more complex data such as transcripts of in-depth interviews or entire policy documents. (Saunders et al, 2009). Based on the above approach the researcher used a combination of both qualitative as well as quantitative research method. The researcher believes that using these two (mixed) methods simultaneously enables him to tackle the research problem under the study.

3.2   Data Sources and Data Collection Method

The research used both primary and secondary sources of data. Primary data collected to attain the research objectives regarding to the impact of Gasha service for the economic status of clients, its contribution on improving client's decision making power, self-esteem, and business management skill, and build up their asset as well as participants view of the strength and limitation of Gasha by using Survey/questionnaire, Focused Group Desiccation (FGD), and key informant interviews. In order to address the objective of outreach performance of Gasha Micro financial Institution secondary data source is obtained from unpublished Gasha documents as well

as key informant's interview with Gasha coordinators and project staffs. Data were collected through document review, survey, focus group discussion (FGD), and Key Informants Interviews (KIIs).

3.3   Population and Sampling

Gasha Micro finance Share Company (GMFSC) is a micro financing institution operating under the Ethiopian law. It was established in May 1998 by a local NGO called PRO PRIDE and over 756 clients organized under the savings and credit program of PRO PRIDE. It is led by a five member board of directors elected from among the shareholders. As of June 2015 GMFISC has over 14,000 clients and within this client's 4,125 are active clients (client with loan) and its services are provided through 6 branches and sub branch offices located in Addis Ababa, Bishoftu and Adama and their environs (Gasha, 2015). Gasha serves both rural and urban communities. However the majority of its clients are engaged in the food and drink processing (service) sector. This group represents 69% of total clients. About 36% of the clients hold both voluntary and compulsory savings; while 64% of total clients hold compulsory savings only. Significant numbers of clients have declared that their monthly income ranges between Birr 2,000 and 3,500. This group represents 77% of total clients. Moreover it has been observed that about 85% of the clients of Gasha earn less than Birr 2500 per month. The majority of clients of GMFSC (77%) are taking their loans by offering group guarantee as collateral. Salary, title deeds and Vehicle ownership certificates came as the next common mode of collateral by covering 23% of clients (Gasha, 2015). The institution has currently six branches which four are found in Addis Ababa and two found outside of Addis Ababa (Bishoftu and Adama). To increase the reliability of the study, the researcher is motivated on all of this six branches namely (Entoto, Merkato, Yeka, Kolfe Gojam berenda, Bishoftu and Adama).

The study population refers to the large groups of people or things (Ruane, 2005). The study population for this research are covered staff members, beneficiary from Gasha microfinance institutions and clients who are ready to get services from Gasha MFI in the near future but not yet received the services from Gasha microfinance institutions. In analyzing the impact of microfinance institutions on poverty reduction, focus has been given to the households which are access to and using microfinance services from Gasha more than three years. This population will give priority due to the needy of getting realistic evidence. In deed the total size of the population is 14,154 consisting of both male and female clients who are permanent resident in Addis Ababa, Bishoftu and Adama.

Determining the appropriate sample size is important in research undertaking. Thus, sample size depends on the total number of population, the level of confidence and the maximum deviation from true population that can be tolerated in the study. The study are used two groups of samples namely, experimental or treatment group and control group. Control group are used to avoid the problem of intervening variables (variables that are affecting the output of the research other than independent variables).The researcher applied a simplified formula provided by (Yamane, 1967) as cited by Yilma Muluken to determine the minimum required treatment group sample size at 95% confidence level, degree of variability= 0.5 and level of precision (e) = 10%.

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

Where n is sample size, N is the total number of study population 14,154

Where e is the level of precision

Using the total population of 14,154 and level of precision of 10%, the sample size will calculated as follows.

$$n = \frac{14,154}{1+ 14,154(0.10)^2}$$

$$n = \frac{14,154}{1+14154*.01} = \underline{100}$$

A total of 120 candidates who are in the training phase or incoming clients were selected as control group. To manage the research within the given time and limited budget, a total of 220 samples are selected. From the total sample size, The treatment group is composed of regular clients who are users of microfinance services at least for three years, whereas control groups are a clients in the training or incoming clients (clients ready to get service from Gasha in the near future but not yet in the pipe line at present). This is done to see whether the improvements in the income of the clients could easily be achieved without joining the microfinance participation. On the other hand, the participant of Key informant interviews and Focus Group Discussion are selected purposively. The selection criterion includes knowledge of micro-finance issues and beneficiaries economic, social situations prior to Gasha services, or are currently using Gasha services.

3.4   Methods of Data Analysis

Descriptive statistics like mean, variance, standard deviations, frequency distributions, and percentages were used to assess the socio economic situations of the sample respondents. From the statistical tools, Chi Square test was used for dummy variables to investigate the difference between the treatment and control groups. In addition the Propensity Score Matching (PSM) was used to estimate impacts of Gasha microfinance services on different indicators

of poverty reduction. Rosenbaum and Rubin (1983) pioneered propensity score matching methodology followed by many other improvements and applications. They define propensity score as conditional probability of treatment given pretreatment characteristics. Their argument is based on the fact that since assignment of subject to treatment and control groups may not be random, the estimation of the effect of treatment may be biased by the existence of confounding factors. They proposed propensity score matching as a way-out to correct the estimation of effect of the participant controlling for the existence of these confounding factors. Based on the idea that the bias is reduced when the comparison is performed using treatment and control who are as similar as possible.

This study applied the propensity-score matching method to match each treatment client with control clients who had (almost) the same probability of joining microfinance participant. A group of control client was selected in this way can then serve as an accurate control group to correct for selection bias. Propensity score is a conditional probability estimator, and any discrete model such as logit or probit can be used as they yield similar results (Caliendo and Kopeinig, 2008). This study employed logit model assuming logistic distribution of the sample mean and variances. The matching estimators are nearest neighbor, stratified, radius and caliper, and kernel matching method all conditional on propensity score. The propensity score model is expressed as:

$$P(x) = Pr\left\{D = 1/X_i\right\} = E\left\{D/X_i\right\} \ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

Where D = (1, 0) the indicators of improvement in income, it is the binary variable whether a participating clients income improve (improvement in income, 1= yes, 0 = otherwise) χ_i = is a vector of pretreatment covariate

propensity score to ensure that matching estimation is done on treatment and control clients that are as similar as possible for effective comparison. As a result given a population of units denoted by (*i*) if the propensity score $P(x_i)$ is known as average effect of treatment (AET) can be estimated as

$$AET = E\{Y1i - Yoi \,/\, Di = 1\} \qquad \text{...................................} 2$$

$$= \{E\{Y_{1i} - Y_{0i} \,/\, D_I = 1, P(xi)\}\}$$

$$= E \{ E \{Y_{1i} \,/\, D_I = 1, P(x_i)\} - E \{ Y_{0i} \,/\, D_i = 0\; P(x_i)\} \,/\, D_i = 1\} \text{........} 3$$

Where AET is the average effect of treatment

Y_{1i} and Y_{0i} are the potential outcome for the two counter factual situations of the treatment client and control client respectively. *P (xi)* is propensity score, D is client variable, where D= 1 if the clients participated in microfinance and 0 otherwise. This model works under two assumptions:

1) **The balancing assumption**: States that participation is shaped by pre participation characteristics or that the balancing of participants and control is through the propensity score. Therefore, if $P(x_i)$ is the propensity score then

$$D \perp X \,/\, P_{(X)} \qquad \text{...} 4$$

$\perp$ represents independence i.e. exposure to the program participant (*D*) is shaped by the participation covariates (*Xi*) the balancing assumption is thus the propensity score $P(D) = 1$, $Xi = P(xi)$.

2) **Conditional independence assumption**: Assume that selection is biased on observable covariate of the subject and treat all the covariates that influence participation and potential outcomes are simultaneously observed. It is expressed as

$$Y_1, Y_0 \perp D \,/\, P(xi) \text{...} 5$$

Where Y_1, Y_0 are potential outcomes with and without the program respectively, D_i is participation variable, $P(x)$ is propensity score. In other words, for a given propensity score exposure to program is random and therefore participant and control clients should be on average observationally identical (Caliendo and Kopeinig, 2008).

A logit model will applied to estimate propensity scores using a composite of predictors characteristics of the sampled clients (Rosenbaum and Robin, 1983) and matching were then performed using propensity scores of each observation. In estimating the logit model, the dependent variable is participation in microfinance services, which takes the value of 1 if a household participates in microfinance service and 0 otherwise. The mathematical formulation of logit model is as follows:

$$p_i = \frac{e^{z_i}}{1 + e^{z_i}} \dotfill 6$$

Where, P_i is the probability of a clients to participate in microfinance services,

$$Z_i = \alpha_0 + \sum_{i=1}^{n} \alpha_1 x_i + u_i \dotfill 7$$

Where I = 1, 2, 3....n
α_0 = intercept
α_i = intercept regression coefficient to be estimated
x_i = predictors or explanatory independent variable and
u_i = a disturbance term,
The probability that a household belongs to non-participant or control group is

$$1 - p = \frac{1}{1 + e^{z_i}} \dotfill 8$$

The mean impact of participant in microfinance is given by

$$I = \sum_{J=1}^{P} \left(Yij1 - \sum_{I=1}^{NP} Yij0 \right)$$
$$/P \quad \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots 9$$

Where, $Yij1$ is the post intervention income level of beneficiary j, $Yij0$ is the income level of the ith non-beneficiary matched to the jth beneficiary, P is the total number of participant or treatment client, NP is the total number of non-participant or control and I is income level in birr. Rosenbaum and Robin, (1983), the logit model via which the propensity score is generated include predictor variables that influence the selection procedure or participation in the program and the outcome of interest. Several factors guide selection of predictor variables. In this study, an explanatory variable of the logit model is identified using findings of previous empirical studies on impact of microfinance on household income level, and own field observation. The study includes as many explanatory variables as possible to minimize the problem of unobservable characteristics in the study.

3.5 Definition and Measurement of Variables

A combination of socio economic and demographic variables is used to explain client's participation in microfinance program as well as the outcomes in terms of poverty reduction.

The Dependent Variable of the Model: Participation in microfinance is a dummy variable indicating that whether a clients is treatment or control client, 1 for treatment participating household, and 2 other wise or control clients.

3.5.1 Description of Result Variables and Covariates

1. **Income of Clients (TOINCOM)**: Increasing income gives the households many options, increases consumption possibilities, allows the households the possibility of saving for future, reduces the weaknesses arising from future income failures and gives the children better educational opportunities. Hence, rising household income has a particular place in all poverty reduction programs including Gasha microfinance programs. Therefore, the impact of Gasha micro finance Institute on the income of its participants needs to be evaluated to see the extent to which microfinance programs have been successful in alleviating poverty.

2. **Saving of Clients (SAVR):** MFIs are spending much cost on awareness creation among their users so as to mobilize huge amount of saving and made that saving as a source of money for further lending (Meyer 2002). Saving culture of a people can play key impact in assuring sustainability of microfinance services. Savings can be used in case of emergencies, or to finance major purchases, investments or to smoothen out consumption.

3. **Assets accumulation (FIXA):** Assets accumulation plays a multitude of impacts among clients of microfinance service. The ways in which households use assets to smooth out consumption is a well-documented process. Households purchase assets when their income are better and sell them during the lean periods therefore assets also serve as a form of

saving. Besides an asset accumulation by borrowers is expected to have a positive impact on loan repayment performance having the perception that the assets will be under liability in case of default. In fact material assets which included other physical and financial assets like for instance land, housing, livestock, saving and jewelry, enable people to withstand shocks and expand their horizon of choices (World Bank, 2002). The researcher wants to evaluate the effectiveness of Gasha Micro-financial service on the level of asset accumulation of the clients.

4. **Decision Making Power:** Women's ability to influence or make decisions that affect their lives and their future is measured to be one of the important components of empowerments. Many microfinance institutions focus their attention on women's use of loan and ability to make decisions about loan based enterprises as the most direct impact of their program (Cheston and Kuhn, 2002). Thus, the measure of client's autonomy in the household decision making will constructed to capture client's empowerment status. It will be measured by the extent of their participation and impact in making decisions on issues such as expending money, use of profits from the loan based enterprise, puts loan enterprise income in the saving accounts , buying raw material and selling , using small items and use of loan. In such cases, the Gasha clients will asked whether they have made these decisions mostly alone, jointly with partner /children or spouses made them alone in both before and after the loan.

5. **Number of Clients:** in analyzing the effectiveness of microfinance in alleviating poverty, it is crucial to look at the outreaches performance of MFIs. It is argued that microfinance can play an important impact in poverty alleviation only if the extent of outreach is reasonably large (Tsegaye, 2005). Conversely, if MFIs are restricted to only few

geographical locations or serve only a small fraction of the population or the poor, their importance in poverty alleviation efforts would be limited (Mayoux, 1997). Outreach of microfinance sector can be looked at in numerous aspect among a few are the number of clients outreached and loan disbursed over the years

6. **Age (AGER):** It is continuous variable defined as clients age at the time of interview measured in years. Vigano (1993) noted that with increase in age, it is usually expected that participants get more stability and acquire experience. So we expect this variable to have a positive effect on performance. Hence age of the participant was hypothesized to have positively related to income. In other words, the probability of being microfinance treatment client increases with age.

7. **Sex (SEXR):** This is a dummy variable which takes a value 2 if the household head is female and 1 otherwise. Sex difference among microfinance clients play a significant impact in the economic performance of a given clients. Some empirical evidences demonstrated that sex is important in defining the economic impact of people in Africa (Dey, 1980). More specifically sex differentials can be related to access to microfinance services. This variable is included to differentiate between males and females in the use of microfinance. Women's are generally more likely to participate in small business and assumed to be microfinance client and in microfinance operation females are given priority. Therefore, in this study sex was expected to correlate positively when the participating household head is female.

8. **Marital Status (MARR):** this is a variable whether a household is engaged in marriage or not. Married individuals are more likely than single one`s to participate in microfinance services. Usually microfinance institutions provide small loan and other financial services

depending on individual's behavior and characteristics. Respondents will be ask about their marital status whether they are unmarried, married widow/widower or divorced in their life. The expectation of this variable will be positive relationship with income if a household is married and had family responsibility with participation in microfinance.

9. **Educational status (EDUR):** Household income is expected to be much higher when household head attain a higher level of education. According to Holvet (2004) education is an input in income since it provides the means of earning a higher income via enhancing earning capabilities. It is also a welfare outcome in itself as it allows individuals to participate in decision making that determine the well-being. Literate individuals may get more information about financial services in their residential area than individuals with no formal education.

10. **Family Size (FMSZR):** this variable refers to a total number of family members of the household make their life under one roof regardless of age and sex. Existence of large household size with limited income source could affect participation in microfinance. This indicates that it has positive impact on income. This is due to increased demand for consumption with limited income source. Therefore, the larger household size will become treatment household and it will have positive relationship on income generating ability of the household member.

11. **Dependency Ratio (DPRR):** continuous variable defined as number of dependent household members. This refers to total number of economically inactive members of a household whose age is below 18 years and above 65 years old. This variable tells us the proportion of household members who are dependent on the active members of the family. It was expected that the more the number of dependent in a

household the lower the income level would be because the per capita income lowers as the number of dependent increases.

4. RESULTS AND DISCUSSIONS

4.1 Descriptions of Characteristics of Sample Clients

This section discusses the characteristics of sample respondents by applying descriptive statistics such as mean, standard deviation, percentages, and frequency. Inferential statistics such as Chi square test (for categorical variables) and t-test (for continuous variables) are used for the two groups of sample respondents (programme participants and non-participants) so as to compare them with respect to some socio-economic, institutional and other characteristics that will shed light on the estimation of impact using PSM technique.

1. Association between Socio-demographic Characteristics of Clients and Income

Out of the total 220 respondents in the study area 73.18 % were female-headed and 26.82 % were male-headed households. Among male-headed households, 33.33 % were control clients and 19 % were treatment clients. Likewise, within female-headed households, 81 % and 66.67 % were treatment client and control client respectively. Among treatment clients 81 (81%) of them are female headed and 19 (19%) are male headed whereas among waiting clients only 33.33 % are male headed and 66.67 % are female headed. The statistical analysis showed that there was statistically significant difference in the sex of the household head between treatment and control client household heads at 5% of level of probability (Table 4.1).

Table 4.1 Comparison of Categorical Variable between Treatment and Control group

Variables	Treatment Client		Control Client		Total		X2
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**	
Male	19	19	40	33.33	59	26.82	
Female	81	81	80	66.67	161	73.18	
Total	**100**	**100**	**120**	**100**	**220**	**100**	**2.41**[***]
Unmarried	10	10	25	20.83	35	15.91	
Married	59	59	84	70	143	65.00	
Widow	17	17	4	3.33	21	9.55	
Divorced	14	14	7	5.83	21	9.55	
Total	**100**	**100**	**120**	**99.99**	**220**	**100**	**3.94**[***]

[***] Significant at $p<0.01$

Source: Authors' survey result (2017)

Table 4.1 shows that marital status of the respondents. The result indicates that the majority (78%) of the treatment client respondent and 85.83% of control clients were married. This shows that clients with household responsibilities (married individuals) were most likely to participate in microfinance services. It can also be assumed that married households are most likely to be involved in micro-enterprise activities, in part, because they can get initial capital and support from family. So it is fair to assume that these married household heads were most likely to get support in terms of capital and business ideas from their partners. It also goes with the belief that married individuals are considered to be more responsible and are more unlikely to break promises on their loans than unmarried individuals. This was pointed out by some of the members during the interviews when they were complaining about the default rates on their loans. Some of these members pointed out that unmarried individual just pack overnight and leave the area without anybody noticing their action. Marital status was statistically significant at 1%.

2. Comparison of Continuous Variable between Treatment and Control group

Table 4.2 shows the age distribution of respondents. Age ranged between 22 to 63 years old. The mean age of the head of the household was estimated to be 37.10. Most of the clients belong to the group of 31 to 45 years (40.45 %) followed by age group of 15-30 years (40.00 %) (Table 4.2). The t-test shows that age is statistically significant at 1% probability level. Level of education tends to determine where one works and income level. The respondents were divided into four groups with respect to educational attainment, including those having no formal education, primary school, secondary school and high school or more completed.

Table 4.2 Comparison of Continues Variable between Treatment and Control Client

Variables	Treatment	Control	Total Clients	Mean Diff	t-Value
Mean Age	39.37	35.21	37.1	4.16	2.81***
Mean Education	3.52	6.08	4.92	-2.56	-5.02***
Mean Family size	4.31	3.98	4.13	0.33	2.28**
Mean Dependency ratio	1.58	1.23	1.39	0.35	2.74***

*** Significant at $p<0.01$, ** Significant at $p<0.05$, and * Significant at $p<0.1$

Source: Authors' survey result (2017)

The majority of the respondents have obtained some education level and only 12.27% of the respondents were reported no formal education. Out of the total respondents, about 80% were treatment whereas about 60.83 % were the control clients were received a primary and secondary level of education. This shows the treatment group attained more primary and secondary education than control groups. The proportion of no formal educations for the treatment

clients is about 12% which is much nearly the same with that of the control clients (12.5%). This indicates that there is no difference in no formal education between treatment and control clients. Nearly 88 % of the treatment clients and 87.5% of the control clients have acquired primary, secondary and high school education. But the proportion of control clients (26.67%) with high school complete is by far greater than treatment (8%) clients (Table 4.2). Educational level of respondents has statistically significant influence on participation in microfinance services at 5% level. Sample Family size have an average size of 4.13 persons per household. The maximum Family size observed was 5 while the minimum was 1. The mean Family size of treatment client was 4.31 and that of control client was 3.97. Moreover, 10% of the sample households have less or equal to 2 Family members, 90% of the sampled Family size have more than 3 household members. This shows there is difference between the two categories under consideration. In addition, 90 % of the treatment client households, as well as more than 88% of control client households, reported to have three or more family members and the survey results show much variation in the average household size between the two group households. The t-test shows a statically significant difference in household size at 5% probability level (Table 4.2).

The dependency ratio calculated as the ratio of household members without income to household income earners, reflects the economic activities of a household. Households with higher dependency ratio will be more financially stressed than those with lower ratios. As dependency ratio increases, the need for enough basic needs and financial resource is also increase. This indicates economically productive age has to support itself as well as additional persons for their livelihood. About 75% of the sample clients experience a dependency ratio between zero and one and 17.27% of the sampled clients involved with a

dependency ratio of 2, and 7.73% sample clients experiences 3 to 4 dependency ratio (Table 4.2). Dependency ratio is statistically significant at 1% probability level in influencing impacts of participation in microfinance.

4.2 Differences in Outcome/Impact Variables between Gasha Microfinance Beneficiaries and Non-beneficiaries

The main aim of this study is to assess the impact of Gasha microfinance on poverty reduction. The impact will be measure in economic status of clients like income, saving, and asset holdings of clients. The psycho-social empowerment of clients will be measured in terms of participation in decision making power, and business management skill. The impact would be measured by comparing the means of the treatment clients with control group (non-participants). The t-test statistic and chi square test was used to test for significance.

Table 4.3 Comparison of Outcome Variables between Beneficiary and Non-beneficiary Groups

Variable	Beneficiaries	Non-beneficiaries	t-Value
Mean Income	1120.19	607.84	4.83***
Mean Saving	383.38	222.19	4.56***
Mean Expenditure on Health	361.58	298.44	9.06***
Mean Expenditure on Education	706.84	556.76	10.4***

Source: Authors' survey result (2017)

***Significant at p<0.01

1) Mean Income Difference between Gasha Microfinance Services Beneficiaries and Non-Beneficiaries

One of the primary objectives of the MFI is to improve the income of the participating clients through the provision of financial services as a business startup and/or expansion loans. If we look at the descriptive statistics for the treatment and control groups, the mean income of treatment client is more than the mean income of the control clients (1120.19 versus 607.84). As indicated the mean difference in income level between the treatment and the control clients is 513 Birr. About 80% of the treatment household reported an improvement in their incomes from the time they accessed financial services from Gasha MFI where as 50.83% of control household respondent expressed an increase in income of the household during the same period with their counter part in treatment group. This shows income level of treatment group is more improved as compared to the control group. Increased incomes from the businesses were, therefore, channeled into enhancing facilities like furnishing house, children's education, food and expenditure on health. The table that present the result for the sample showed that there is statistically significant mean income difference between the beneficiaries and non-beneficiaries of Gash microfinance services.

2) Mean Saving Difference between Gasha Microfinance Services Beneficiaries and Non-Beneficiaries

The majority of the (74%) expressed that their participation in the Gasha have given them an opportunity to accumulate savings. However the saving ability of the control group is much less than their counter part (26%). If we look at

the descriptive statistics for the treatment and control groups, the mean saving of treatment client is more than the mean saving of the control clients (383.38 versus 222.19). As indicated the mean difference in saving between the treatment and the control clients is 161.19 Birr. This indicates that treatment group felt empowered because they owned their saving even though it was small, and they still could accomplish gender specific impacts and responsibilities within their households. The respondents appreciated Gasha savings arrangement because saving money at home is problematic due the risks involved such as theft, fire and the temptation to misuse, particularly when there is an additional income.

The FGD result show that many of the respondents have savings account in Gasha but are not aware of the amounts they have and the applicable interest rates. In some cases the clients withdraw all or some of their savings and they start to save all over again. There are also case where respondents feel that the money they have at hand before joining the Gasha is too little to be in a bank. A case in point in this regarded is statement quoted from 42 years old key informant client.

> Before joining the Gasha, I did not have a saving account. Since I had a very small amount of money, it was shameful to go to the bank and deposit it. In addition, I did not have the necessary knowledge of saving to do that. I now have a bank book opened with the Gasha which allows me to deposit my savings upon settlement of the loan (key informant interviewee).

This indicates that the Gasha helped them to earn money and open a saving account relieving them from the feeling of intimidated to deposit small money in their account. Nowadays they can save and deposit a small amount of

money starting from Birr one which they are able to do every time when they go to the Gasha to settle their loans.

3) Mean Health Expenditure Difference between Gasha Microfinance Services Beneficiaries and Non-Beneficiaries

Expenditure on health status of the respondent is a critical variable for the wellbeing of the client since a healthy client is more productive and resources that go to medication can be saved or invested in income generating activities, hence progress in income helps to come out of the poverty trap. Health is also an important ingredient in protecting the productivity of the household's effective use of the household scarce resources. Table 4.3 shows that the treatment client respondents about 92 % of the treatment client's respondents had the capacity to meet their medical expense while 8 % of the treatment clients were remain the same in ability to pay the private medical expenses after joining Gasha MFI. About 80.45% of both groups showed an improvement in their economic performance to cover their medical expenses while about 19.55 % of both groups remain the same in economic performance to cover medical expenses which seems to be explained by increasing cost of medication. Majority of the clients had a sick person in the family in the last three years. All the clients could afford to visit health centers and also could afford to pay the medical expenses every time a member of the household could fall sick. This indicates that participation in micro financing activity enabled the treatment clients to cover medical expenses whenever a family member faces sickness.

4) Mean Health Expenditure Difference between Gasha Microfinance Services Beneficiaries and Non-Beneficiaries

There were different questions asked to the clients about their expenditure on children's education. The first one sought to find out how many children are

in the household who were in the school age and how many attended school both boys and girls. 74% of treatment clients revealed an improvement in terms of covering their children's schooling expenses whereas that of control client is 70%. This shows there slight difference between the two categories. However, 30% of the control group and 26% of treatment group have no change in expenditure on children`s education. The respondents felt empowered due to the fact that they had a substantial contribution towards the education of their children. Apparently 71.82% of the respondents had children or grandchildren in school ranging from nursery (kindergarten) school age to higher education. The means expenditure for control households was less than that of the treatment households. The participating households had mean expenditure greater than the general mean expenditure for total sample of 220. The t-test (t = 10.40) showed that the difference in expenditure between the groups is significant.

5) Percentage Difference in Asset Accumulation between Gasha Microfinance Services Beneficiaries and Non-Beneficiaries

Assets accumulation plays a multitude of impacts among clients of microfinance service. The ways in which households use assets to smooth out consumption is a well-documented process. Households purchase assets when their income are better and sell them during the lean periods therefore assets also serve as a form of saving. Besides an asset accumulation by borrowers is expected to have a positive impact on loan repayment performance having the perception that the assets will be under liability in case of default. In fact material assets which included other physical and financial assets like for instance land, housing, livestock, saving and jewelry, enable people to withstand shocks and expand their horizon of choices (World Bank, 2002). As a result the researcher holds the position of evaluating the effectiveness of

Gasha Microfinance service on the level of asset accumulation of the clients. Out of all respondent 72.27 % of them affirmed that they have fixed and movable asset after joining the microfinance provision. However, 27.73% of them avowed that they didn't possess any movable asset after being the client of Gasha. Subsequently based on the survey result the impact of Gasha microfinance service provision on the respondent asset accumulation will be exhibited in the next table below.

Table 4.4 Asset accumulation of Beneficiaries after joining Gasha (% of respondents)

Outcome Variable	Treatment (N=100)%	Control (N=120) %	Total (N=220)%	X^2
Asset accumulation after joining Gasha				
Yes	91%	57%	72.27%	
No	9%	43%	27.73%	
Total	100%	100%	100%	4.21***

***, **, * significant at 1%, 5% and 10% probability level respectively Source: Authors' survey result (2017)

6) Percentage Difference in Psycho-social Empowerment between Gasha Microfinance Services Beneficiaries and Non-Beneficiaries

The treatment clients were asked whether participation in microfinance program has empowered them. The majority who answered to this question felt that their position in the family had been strengthened, had attained a real change in their lives and self–esteem when they compare themselves to the period before they joined microfinance. Many felt that they can look after their children and educate, afford a nutritious diet to the household and are no longer dependent on others shoulder. Some treatment clients said that with the income they get, have managed to buy housing furniture and fixture while others said that their voices are heard in the household, their contribution in

terms of income, their involvement in the decision making process has increased. On a business level, several participants have managed to set up their businesses and run. As a consequence of this their leadership and business skills have been enhanced. Generally, access to microfinance resources tends to improve participants bargaining position within and outside the household.

There are remarkable changes in the situation of treatment or participants accruing to microfinance intervention. Treatment clients have had their voices strengthened, they have managed to set up their businesses, they are no longer dependents on others and their leadership as their business skills has been enhanced. Moreover, they have gained more confidence that can enable them to stand in public and speak. Some of them have managed to join politics and have been elected on local councils namely Woreda. Now they can attend and speak freely in village meetings.

Table 4.5 Percentage Difference in Business Expansion & Decision Making between Gasha Microfinance Services Beneficiaries and Non-Beneficiaries Improvements

	Treatment	Control	Total	x^2
Impact Variable	(N=100)%	(N=120) %	(N=220)%	
Business expansion				
Yes	84	60	70	
No	16	40	30	
Total	100	100	100	6.69***
Decision making				
Improved	92	68	79	
Remain same	8	32	21	
Total	100	100	100	1.77*

***, * significant at 1%, 5% and 10% probability level respectively Source: Authors' survey result (2017)

Respondents in this study felt that microfinance services had a positive impact on their lives, because they saw an increase in their incomes, they had an opportunity to save money, they could contribute to children's education, and they were better able to purchase household assets. Additionally, most program participating respondents (92.5% Vs. 68%) reported that they felt empowered to decisions because their self-confidence was promoted, leading to an enhanced ability to exchange and learn new ideas from fellow group members. Some respondents believe they learned a lot through group interactions and through exchanging ideas with fellow members. Some of the group members who have had the opportunity to become group leaders such as a chairperson, a secretary and a treasurer in the group, felt empowered and confessed that being leaders within Gasha groups also had a spillover effect. Others have taken responsible social positions in their communities (Table 4.5).

It was apparent from respondents with participating clients that they saw the financial services they received from Gasha microfinance institution as a means to improve the well-being of the entire family and not just to themselves. The majority of the respondents (93%) recognized that self-confidence was raised because they were more in control of their lives, and the feeling of ownership and being successful. In summary microfinance program of Gasha have been empowering them by increasing their business skills, improving their self-esteem, and increasing their impact of decision-making in household and community through improved access to jobs, training, expanded businesses, supervision and group meetings.

4.3   Econometric Estimation Results for the Impact of Gasha Microfinance Services on Outcome Variables

4.3.1   Estimation of propensity scores

The logistic regression model was used to estimate propensity score matching for treatment and control client households. As, indicated earlier, the dependent variable is binary that indicate households' participation decision in the microfinance services. Results presented in Table 4.9 shows the estimated model appears to perform well for the intended matching exercise. The pseudo-R^2 value is 0.376. A fairly low R^2 value shows that program households do not have much distinct characteristics overall and as such finding a good match between treatment and control clients becomes easier. The pseudo- R^2 indicates how well the regresses explain the participation probability. After matching there should be no systematic differences in the distribution of covariates between both groups and therefore, the pseudo- R^2 should be fairly low (Caliendo and Kopeinig, 2008).

The results in Table 4.6 are generally unsurprising and reveal a number of significant covariates of program participation. The probability of a client's participating in microfinance tends to increase with sex being female, individual with married and hold family responsibility, large household size, self-employed or casual occupation, with household ability to save and decrease with the age, educational level and dependency ratio. Sex, family size and dependency ratio were all not statistically significant. This means that there is no relation between sex, family size and dependency ratio with participation in microfinance services. Looking at the result for the logit estimated sample in table 4.9 the intercept (0.755) is positive and significant, showing that the microfinance has positive impact on the reduction of poverty. Eight variables were hypothesized to explain factors affecting participation in microfinance. Out of these five of the variables were found to

be statistically significant at least at 5% while the three were less significant in explaining the variations in the dependent variable. The maximum likelihood estimates of the logistic regression model show that age, marital status, educational level, savings of client and income of clients are important factors influencing access to participation in microfinance in the study area (Table 4.6).

Table 4.6 Logit results of client's program participation

Participation	Coefficients	Std. Err.	Z
Age	0.0419^{**}	0.0164	2.54
Sex	0.2506	0.4551	0.55
Marital status	0.9104^{***}	0.2582	3.53
Education level	$- 0.1139^{**}$	0.0546	-2.08
Family size	- 0.0484	0.2110	-0.23
Dependency ratio	0.2813	0.2301	1.22
Saving of Client	-0.1696^{***}	0.0307	-5.51
Income of Client	0.0605^{***}	0.0108	5.58
Constant	0.7550^{**}	0.2425	3.11

Pseudo R^2 = 0.376
Log likelihood = -94.5613
LR chi^2 (8) = 114.04
Prob > chi^2= 0.0000

*** and ** Significance at 1% and 5% respectively.
Source: Authors' survey result (2017)

Again it is important to emphasis that all the variables with weak predictive ability included in the logit regression can be still helpful to minimize bias in estimating casual effect in propensity score matching, since the ultimate goal is to not to predict selection in to treatment but to balance covariates and get closer to the observationally identical non participants. Looking into the

estimated coefficients (table 4./), the results indicate that participation in microfinance is significantly influenced by five explanatory variables. Education level and savings of clients are found to have strong and positive relationship with client's participation in the microfinance. The level of significance is at 1% for marital status, saving of client and income of clients, 5% for age and educational level. By contrast age, marital status and income of client has a strong and negative effect on household participation in microfinance service at 5%, 1% and 1% significant level respectively.

The result of the logistic regression model is used to estimate propensity scores for matching treatment client with control client. As indicated earlier, the dependent variable in this model is a binary variable indicating whether the client was a participant in the microfinance. The model is estimated with Stata 14 computing software using the propensity scores matching algorithm developed by Leuven and Sianesi (2003). In the estimation data from the two groups; namely, treatment and control client were pooled such that the dependent variable takes a value 1 if the household was treatment client (in the program) and 2 otherwise. Propensity score matching is a way to "correct" the estimation of treatment effects controlling for the existence of these confounding factors based on the idea that the bias is reduced when the comparison of outcomes is performed using treated and control subjects who are as similar as possible. Since matching subjects on an n-dimensional vector of characteristics is typically unfeasible for large n, this method proposes to summarize pre-treatment characteristics of each subject into a single-index variable (the propensity score) which makes the matching feasible (Shadure, 2009).

The extent to which this bias is reduced depends crucially on the richness and quality of the control variables on which the propensity score is computed and the matching performed. To be more precise, the bias is eliminated only if the exposure to treatment can be considered to be purely random among individuals who have the same value of the propensity score. The propensity score matching (PSM) model were employed to estimate income improvement effects of access to MFIs and loans used for productive business purposes. This model compensates for endogenous binary treatment effects or sample selection bias associated with access to MFIs. Despite some limitations e.g. arising from the unobservability of potentially important determinants of participation in microfinance program, significantly positive effects of MFI access on the multidimensional welfare indicator were confirmed by the model, a result which suggests that MFIs play a significant impact in improving income level. We found that the results from the propensity score matching model were similar to those derived by kernel matching in the PSM model (Shadure, 2009).

Propensity score matching (PSM) constructs a statistical comparison group that is based on a model of the probability of participating in the treatment, using observed characteristics. Participants are then matched on the basis of this probability, or propensity score, to nonparticipants. The average treatment effect of the program is then calculated as the mean difference in outcomes across these two groups. The validity of PSM depends on two conditions: (a) conditional independence (namely, that unobserved factors do not affect participation) and (b) sizable common support or overlap in propensity scores across the participant and nonparticipant samples (Shadure, 2009).

4.3.2   Impact of Gasha Microfinance Services on Poverty Reduction

1) Impact on income of the client

Table 4.7 presents results from the PSM model that was estimated for comparison purposes with the treatment effect model results. Three matching estimators, the inverse-probability weights, the nearest neighbor and the propensity-score matching algorithms were employed for all out come variables as robustness checks. The three estimators result indicate that microfinance has a significant impact on the income of clients. Participants got more monthly income as compared to non-participants. In this respect, the difference between participants and nonparticipants in total monthly income is significant at 1% significant level. ATT results of these algorithms show that participation in the microfinance program increased income of the household by birr 493.31, birr 461.63 and birr 465.49 for inverse-probability weights, nearest neighborhood and propensity-score matching respectively. The average income estimated using the inverse-probability weights matching algorithm is higher than that of the other two matching algorithms. Moreover, there is a slight difference in the average monthly income difference of participant and their counter factual between the results of these algorithms and result of simple t-test (table 4.3) ranging from birr 19.04 to birr 50.72 for inverse-probability weights and nearest neighborhood matching algorithms. This indicate that, the difference revealed with these algorithms is the only difference with participation to microfinance or not and the difference between the result of these algorithms and the result of t-test is the difference with un observable factors. Comparing the results across the different matching methods indicate that the estimated microfinance impact is robust.

Table 4.7 Impact of Gasha Microfinance Services on Poverty Reduction

Outcome Variable	Matching Method	*ATT*	*Std.Err*	*z-value*
Income of Clients	Inverse-probability weights	493.31***	116.53	4.23
	Nearest Neighborhood	461.63***	115.33	4.00
	Propensity-score matching	465.49***	117.34	3.97
Savings of Clients	Inverse-probability weights	155.06***	38.93	3.98
	Nearest Neighborhood	143.90***	38.57	3.73
	Propensity-score matching	144.66***	39.06	3.70
Expenditure on Health	Inverse-probability weights	80.40***	8.31	9.68
	Nearest Neighborhood	82.49***	9.86	8.37
	Propensity-score matching	78.80***	10.80	7.29
Expenditure on Children education	Inverse-probability weights	161.11***	16.39	9.83
	Nearest Neighborhood	135.77***	29.10	4.67
	Propensity-score matching	166.33***	19.20	8.66

*** significant at1% probability level
Source: Authors' survey result (2017)

2) Impact on Saving level of Beneficiaries

Table 4.7 shows that participants save more as compared to non-participants. The ATT result of the above three algorithms revealed that participants' saving status is significant at 1% significant level. Results show that participation in the microfinance program increased the amount of saving of the non-participant by birr 155.06, birr 143.895 and birr 144.66 based on the ATT results of Inverse-probability weights, Nearest Neighborhood and Propensity-score matching algorithms respectively. This means that the amount of saving of treatment client is higher with these figures compared to control clients. All of these figures are smaller compared to the difference of saving between participant and non-participant simple t-test (table 4.3) which is 161.19. This indicates the robustness of the PSM method and this is the reason why the researcher choices this method.

3) Impact on Health Expenditure

Table 4.7 demonstrates that participants‟ expenditure on health is higher as compared to nonparticipants. This indicates that participants have an access to get health treatment for his/her household member. In this respect, the difference between participants and non-participants is significant at 1% probability level. Results show that participation in the microfinance program increased expenditure on health of the household by birr 80.398, birr 82.49 and birr 78.8 using ATT results of Inverse-probability weights, Nearest Neighborhood and Propensity-score matching algorithms respectively. The differences between these results and t-test result ranges from 15.66 to 19.35 for Propensity-score matching and Nearest Neighborhood respectively. Indicating the most robustness of Propensity-score matching algorithm compared to other methods and conservativeness of t-test. This difference comes from the impacts of un observable variables to the researcher. So, the difference between participant and non-participant because of microfinance participation is the result of these algorithms with the best one is the result of Propensity-score matching algorithm.

4) Impact on Children's Education Expenditure

Table 4.7 reveals that participants expend more for education as compared to non-participants. In this respect, the difference between participants and non-participants is significant at 1% probability level. Results show that participation in the program increased expenditure on education of the household by birr 161.112, birr 135.77 and birr 166.63 for ATT results of Inverse-probability weights, Nearest Neighborhood and Propensity-score matching algorithms respectively. From these results, results of propensity score matching is higher indicating its conservativeness compared to other two.

5. CONCLUSIONS AND RECOMMENDATIONS
5.1 Conclusion

In this study, the survey analyzed the impact of microfinance on poverty reduction of participants in Gasha micro finance conducted on 220 clients using the technique of propensity score matching. The study used a comprising approach of a treated and a control group. The treated group is composed of clients who participated at least for three years, and the control group is made up of new program entrants or potential clients waiting for the service. The study applied recent advances in propensity score matching methods to assess the impact of microfinance on poverty reduction. Since a baseline survey or randomizations are not feasible options in this case, the study is well suited to matching methods. For the purposes of comparison the study presented estimated results with treatment and control groups separately. There are several attractive features associated with propensity score matching, including the potential to allow for heterogeneous impacts, while optimally weighting observed characteristics when constructing a comparison group. The technique is well suited due to its flexible (non-parametric) nature, not imposing exclusion restrictions or ad hoc assumptions about the functional form of impacts. The method eliminates selection bias due to observable differences between treatment and controls. Although a very limited data set was used, permitting to match on a wide range of household characteristics, the likelihood always remains of latent unobserved factors being correlated with microfinance participation and outcome variables.

In the study area, respondents from the treatment category were found to register an increased income for the last three years in comparison with control group. With respect to client's income improvement, participation in microfinance services definitely has a positive impact for low-income earner

clients. Most of the clients intimated that their participation in the microfinance program has brought about an increase in income level, increase in savings, and increase in total expenditure. The impact in decision making of most of the clients has increased significantly since joining the program. The study also established that through the training and education the field officers offer to their clients before loan dispersed, helps them manage and run their businesses well. The leadership positions the female clients occupy in their various groups has helped build their leadership skills.

5.2 Recommendation

Depending up on the findings of this study, the following recommendations are forwarded. The MFI should be encouraged to give loans to individuals who are not accepted at the group level due to low or no income generation or business activity apart from farming, to uphold the fundamental objective of the MFIs. The MFI should also provide microcredit to the poor who have good business plans to start up their own businesses thereby alleviating them from poverty and not only target the productive poor. To fully achieve their impact of reaching out to the poorest, MFIs must move to the countryside where poverty is endemic in Ethiopia and elsewhere in the developing countries. They can still operate in some area in poor communities and be profitable since the clients are ready to pay whatever interest rate they charge them as they are being provided with a tailor-made products and services they need on a continuous basis.

Finally, sustainable development and poverty reduction objectives can only be successful through the implementation of practical and sound development instruments and strategies. Provision of microfinance is one of the most essential instruments of tackling the problem of poverty and under development. Therefore, such institutions should gain all necessary supports

from the government, the public, funding institutions, and other development stakeholders. The government also can do more in reducing poverty by providing the rural areas with good infrastructure and social amenities to attract more microfinance activities to the extreme poor in those deprived areas. It is only through working together that we can tackle the challenges of poverty in Ethiopia.

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