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

Addis Ababa University

College of Business and Economics

Department of Management

A Research Submitted In Partial Fulfillment of the Requirements for the Award of the Degree of Masters in Business Administration

By

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DECLARATION

I hereby declare that this work entitled **"Determinants of project Implementation Delay" in the case of selected Project financed by Development Bank of Ethiopia.** is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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Advisor's Approval

This Research project has been submitted for examination with my approval as a University advisor.

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MBA Program

This is to certify that the research project prepared by Yichalem Tilahun entitled: "**Determinants of Project Implementation Delay" in the case of selected Project financed by Development Bank of Ethiopia**." and submitted in partial fulfillment of the requirements for the degree of Master of Business Administration in Management complies with the regulations of the university and meets the accepted standards with respect to originality and quality.

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External Examiner Signature & Date

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Abstract

Project implementation delay can be defined as the late completion of work compared to the planned schedule. Projects are used in all economic and non-economic fields as means of organizing the activity, aiming the achievement of desired objectives. The main goal of this paper is to find out the main determinants of project implementation delay project financed by development Bank of Ethiopia specifically at head office. The researcher was engaged in simple random sampling technique by giving equal chance and 282 were selected the projects that financed by Development Bank of Ethiopia. Data was collected through Questionnaires. The study used both descriptive and inferential statistics to analyze study results. The independent variables explained the dependent variable by 84.5%. The findings of the study revealed that improper project closure, poor project initiation, poor controlling, poor communication, poor evaluation, poor project planning and poor monitoring are positively related with project delay or negatively related with project completion time. The study also recommended that the practices that lead to reduction in delay on implementation of projects financed by Development Bank of Ethiopia are use of efficient project-specific activate, assigning well trained workers for specific tasks, good project planning and controlling, monitoring and evaluation should be considered.

Key words and Phrases: Project Financing, Project Implementation, Project Delay and DBE

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List of Acronyms

DBE - Development Bank of Ethiopia

SPSS - Statistical package for social science

DBB - Design Bid Build

EPC - Engineering, Procurement, and Construction

CHAPTER ONE

1. INTRODUCTION

This research study tries to assess and address in the determinants of project implementation delay for the case of selected projects financed by development bank of Ethiopia. A project passes through a cycle involving different stages including implementation. A project is completed within time and within budget by satisfying the customer requirements, it is said to be a successful project. Project implementation delay can be defined as the late completion of work compared to the planned schedule. Delay implementation of projects and cost increase are common phenomena in projects worldwide. The inability to complete projects on time and within budget continues to be a chronic problem worldwide and is worsening (Ahmed et al., 2002). Azhar and Farouqui (2008) observe that the trend of cost overrun is common worldwide and that it is more severe in developing countries.

Development Bank of Ethiopia (DBE) is one of the state-owned financial institutions engaged in providing short, medium and long term credits over the last 107 years. The Bank has been playing central role in promoting the over-all economic development of the Country since its establishment. In it's over a century old service, DBE has established recognition at the national and international levels. Nationally, it is the sole Bank with reputable experience in long-term investment financing. Internationally, it is recognized as an important on lending channel for development programs financed by bilateral and /or multilateral sources. The recent focus of the government in relation to the revised credit policy of DBE is to provide medium and long term loans for investment projects in the Government priority areas such as Commercial Agriculture, Agro-processing, Manufacturing Industries, Mining and Extractive Industries preferably, export focused as well as lease financing for Small and Medium Enterprises

The mission of DBE is "The Development Bank of Ethiopia is a specialized financial institution established to promote the national development agenda through development finance and close technical support to viable projects from the priority areas of the government by mobilizing fund from domestic and foreign sources while ensuring its sustainability. The Bank earnestly believes that these highly valued objectives can best be served through continuous capacity building, customer focus and concern to the wider

environment". The vision of DBE is "100% Success for All Financed Projects by 2020" To achieve its vision and mission, identifying factors which are the determinants of project implementation delay, hence the causes of project implementation delay and effects on the overall performance of the bank is energetic. DBE undertakes project supervision and follow-up activities using both on-site and off-site supervision methods. The purpose of project follow-up is to ensure that the financed projects are properly implemented and operating. Project follow-up also helps to provide technical assistance as and when required. All projects financed by the Bank should, therefore, be properly followed up and complete follow-up reports completed on the project at least twice a year.

Credit Directorate should be made frequently based on a project's implementation schedule at least quarterly or at any time before every disbursement. It should clearly show the progress of the project implementation in terms of time, cost and fulfillment of terms and conditions set. Project Follow-up and Loan Collection Directorates of the Bank review progress of projects which are under implementation commencing from disclaimer signing by collecting status and periodic follow-up reports from the directorates and give feedback based on the review (with special focus on projects whose implementation is delayed). (Loan Manual of DBE).

1.1. Background of the study

According to Aon (2012), a project refers to a series of action, arranged in a defined sequence or relationship that produces predefined output or effect and it always has a start and an end. Projects are used in all economic and non-economic fields as means of organizing the activity, aiming the achievement of desired objectives. Infrastructure refers to economic services from utilities such as electricity, gas, telecommunications and water and transport works such as roads, bridges, urban transit systems, seaports and airports which are central in promoting economic activities in the country. Good infrastructure helps in providing economic services efficiently, promoting economics (Abdalla and Otieno, 2018).

Globally, Projects implemented by the governments in states like Texas for example include: modern community hospitals, mobile hospitals units, residential buildings, feeder roads, interconnecting railway lines, water projects, tourism project construction, waste management, agricultural projects, and housing units.

Many projects have been unsuccessful in meeting the set benchmarks of cost & time. The major is the project being affected & completed late from originally planned & accordingly recurrence issue is indicative that the problem is not solved completely (Müller & Jugdev, 2012). Delay as referred in construction is prolonged construction period and disruptions of events that disturb the construction programme. Delay is one of the most common, noteworthy, and difficult issues which affect the time factor in civil engineering development ventures. Indeed, even with mechanical advances, furthermore, showing signs of improvement comprehension of undertaking the executives by administrators, a time delay is a primary factor. It is required for a point by point evaluation to perceive the delay factors and pick the exact and right activities to diminish the effect of delays on the length of the projects (Changiz, 2012).

Project delays negatively affect road infrastructure development in developing countries. Unfavourable consequences of project delays involve cost overrun, contractual disputes, arbitration, and quality non-conformities. Despite these risks, literature shows that delays are still a prevalent problem in construction management.

Identifying and selecting viable projects is not the end by itself. Once a project is selected after going through a rigorous appraisal process, promoters must also decide the way in which the capital projects will be financed. Projects can be financed using either owner's equity or debt. After securing the finance, the implementation plan should be prepared and the implementation of the project should be undertaken. During implementations, continuous monitoring and evaluation should start side by side (Mersha, 2017).

This study will investigate the factor that affects implementation delay of financed projects by the Development Bank of Ethiopia. All projects financed by the bank were approved taking into consideration the project appraisal and its implementation schedule however, a number of projects have not been go in line with the schedule implementation time. Project implementation process may be effective if some very important factors are kept in minds that are urgent in a project management system (Development Bank of Ethiopia, 2008)

This study was examining the determinants of project implementation delay by focusing on DBE financed projects. For this reason, the researcher is motivated to investigate the determinants of project implementation delay with reference to the bank under consideration.

1.2. Statement of the Problem

The role of the project in fostering economic growth and development has been established in the growth literature (Calderon, 2008). Some studies contend that the poor state of the project is one of the major impediments preventing economies in Sub-Saharan Africa from leapfrogging from their current economic status into modern industrial economies (Calderon, 2008). Pena (2008) noticed that the state of infrastructure in Sub-Saharan Africa lagged the global average by 30% due to deplorable conditions and massive backlogs across different countries and sectors thereby leading to loss in economic growth.

There have been many more failures than successes in the implementation of projects especially in the developing countries (World Bank, 2012). At the implementation stage most projects fail and this has given concern to governments as well as the citizens. Implementation of development projects being the most crucial of all the stages of policy is not devoid of certain factors that influence it, some of these factors are: wrong priority; shortfalls in resource availability, inadequate assessment of targets, wrong scheduling of time for project completion, inadequate project identification, formulation and design and faulty conceptualization of policy.

In the punctual construction project implementation, it can be stated that it is profitable for both parties; thus, a good company will always attempt to implement it based on the determined time or attempt to minimize the delay by choosing corrective action that needs to be done and make a decision based on analysis from some delay factors. Therefore, a review is needed to identify and analyse the factor that affects the project delay.

Project delay is one of the basic problems in developing countries like Ethiopia. Most of the causes for not completing projects on time are associated with financing, implementation and controlling issues.

As it has been observed most DBE financed projects implementation schedule was delayed 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).

Different empirical works have been carried on the factors affecting of the project implementation delay in developed and in developing countries in a given project for instance a study by Ajibade Ayodeji, et al. (2006), Haseeb (2007), Amade (2012), Sunjka and Jacob (2013), Edward Njenga (2013), Indhu and Ajai (2014), David et al (2016), Tesfaye (2016), Deresse (2017), Durdyev (2017), Paul and Oluseye (2017), Abdalla and Moses (2017), Shumank et al (2018), Guillermo et al (2019), Ochenge et al (2018), Nenny and Kustamar (2019), Hubert (2018) and Reuben et al (2019). From these empirical work most of them were conducted on project implementation delay on construction projects and mega projects. Therefore, to the best of my knowledge none of the empirical works have been conducted on the determinants of project implementation delay in DBE financed projects. Therefore, this study intended to fill this gap.

1.3 Research Question

The questions in this research that can be formulated from the statement of problem are as follows:

1. What factors affect the delay of the Project financed by the development bank of Ethiopia?
2. What is the most dominant factor which affects the delay of projects in the development bank of Ethiopia?

1.4 Research objectives

1.4.1 General research objective

This research was aimed at to analyse the determinants of delay in project implementation. To achieve the aims, the specific objectives have been identified as following:

1.4.2 Specific research objective

i. To analyze the factors which affect the delay of Project financed by the development bank of Ethiopia?
ii. To analyze the most dominant factor affecting the project in development bank of Ethiopia

1.5. Significance of the Study

Development Bank of Ethiopia is one of the state owned banks facing project implementation delays in its projects (Jilcha et al., 2019). Delays can lead to many negative effects such as

lawsuits between clients and banks, owners and contractors, increased costs, loss of productivity and revenue, and contract termination. To minimize the problems, empirical analysis of factors causing delay is necessary.

This study will help project professionals increase the success of projects completion by managing well the factors that will help their successful completion. The architects, engineers, quantity surveyors, project managers and site agents may benefit from this study by applying the results of its findings while carrying out construction projects**.** The government will be aware of the factors that cause delay in projects and ways of addressing those delays so as the roads construction process is harmonized therefore efficiency in the production of this gold infrastructural facility

1.6. Scope and Limitation of the Study

With regard to the scope of the research is mainly focus on literature review and questionnaire survey. The study was limited to focus on examining the determinants of project delay that project development financed by Development Bank of Ethiopia. The study is focused on at the head office of the Development Bank of Ethiopia. The project was financed in the interval from January, 2016 to December 2018 for three consecutive of three years. According to the Development Bank of Ethiopia annual report, the approved projects in January, 2016 -December 2018 for consecutive of three years are 2195. However the study was excluded Regional and Branch office data as large scale projects mostly financed by head office. Additionally, study was made on the status of active projects under implementation in the Credit Directorate of the Bank, and those projects which face the problem and created in the PRLR Directorate.

1.8. Organization of the Study

The rest of this study is organized as follows; Chapter two of the study consists of the literature review with information from other articles which are relevant to the researcher. Chapter three entails the methodology to be used in the research. Chapter four has given the insights of data analysis, the findings and discussions of the study. Then lastly in chapter five, the study has given a summary of findings, discussions, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Definition and Concept of Project

A project is a complex, non-routine, one-time effort limited by time, budget, resources, and performance specifications designed to meet customer needs (Gray, and Larson, 2008.) Project management is a set of tools, techniques, and knowledge that, when applied, helps to achieve the three main constraints of scope, cost and time, (Charvat, 2003.) It is important as it applies to the managerial process and has its tools that give managers a good opportunity to succeed in achieving objectives. A project manager can reform everything right from a project management perspective but the project can still fail depending on its success criteria to help to ensure project success.

2.1.1 The concept of delay

Financial related delay in a project is mainly faced by the client, such as cash flow, but the contractor and other stakeholders of the project are the main reason for delay. The significant effect of this delay is nothing, but cost and time overrun, but time overrun has more impact as compared to cost overrun. This could be the impact of the inability of the contractor to reach deadlines, error in implementing design and drawing correctly, etc. It was noticed that arbitration had no more prolonged effect of delay as they were already implementing risk management and hence resulted in fewer numbers of claims and disputes or any court proceeding in relation to a contract (Oyewobi et al., 2016).

2.2 Theoretical Review Project Delay

2.2.1 Contingency Theory

Theory by Fred Edward Fiedler asserts that when managers make a decision, they must take into account all aspects of the current situation and act on those aspects key to the situation at hand. Each construction project is unique and with its own complexities and therefore should be managed according to its specific characteristics and environment in that particular period of time (Sawega 2015). The contingency theory recognizes this aspect and attempts to identify practices that best suit the unique demands of different projects. This theory rejects the idea of one best way to manage projects because of the varying management situations.

According to Mutema (2013), contingency theory takes into account the interaction and interrelation between the organization and the environment.

This theory recognizes that there are a range of contextual variables also referred to as risk factors which influence the project objectives differently. Examples of these variables are: external environment, technology, organizational structure and size, cost, culture, people involved and strategy. Contingencies for both budgets and schedules provide the project manager with the estimating caution they need to protect their projects from cost and time overruns (PMI 2006). Effectively allocating these contingencies can help project managers control much of the project's uncertainties.

2.2.2 General Systems Theory

Theory by Von (1971) asserts that a system is a collection of parts unified to accomplish an overall goal. If one part of the system is removed, the nature of the system is changed as well. For example, a functioning car is a system if you remove the carburetor you no longer have a working car. A project can also be viewed as a system with inputs, processes and outputs. Any project success is dependent on the harmonious interaction of its parts and therefore the project team must be able to put this into perspective. Improvement methods by Memon et al (2013) indicates that failure of different parties to a project to work seamlessly leads to infighting that eventually derails the completion of a project.

2.3 Types of delay

Zaki Kraiem, Et Al. (1987), Delays can be classified according to liability by three major types: Compensable, Excusable and Non-excusable

Compensable

Compensable Delay is those which is within the control of, is the fault of, or is due to the negligence of the owner. These delays can occur under different situations. They can be caused by the owner's failure to furnish the site to the contractor by an agreed date, faulty design, or incomplete drawings and specifications. There are many other ways in which a contractor could be delayed by the owner, such as changes in scope, suspension of work, differing site conditions, late delivery of owner supplied materials, and the owner's failure to disclose information vital to the contractor. For this type of delays, the contractor is entitled to a time extension and damages for extra costs associated with the delay. The contractor

must prove that the delays are attributable to the government, and it resulted in an overall delay in project duration. He also needs to confirm that the delays were out of his control. When he goes for recovery of the delay, he needs to prove his point and give a proper reason. If the delay entitled to the government is non-compensable, then he is not entitled to get compensation (Ansah & Sorooshian, 2018).

Excusable

Excusable Delays are delays that occur due to circumstances that are not attributable to the contractor and are out of control of the contractor or the third party for whom the contractor is responsible. According to the situation, an extension of time for performance or, in some cases, the contractor is given delay damages by the client. This includes delay by the client and delays which are already excused in contract document and includes delays which are unforeseeable by both the parties at the time of contracting (Ansah & Sorooshian, 2018). Excusable Delay is the failure of the construction management party in fulfilling the accomplishment time as in the agreed contract. The causes of the delay in the project are design problem, workers change by project owner, weather influence/not in a normal condition, workers conflict, and natural disasters Nenny and Kustamar (2019); Excusable Delays are those which occur when the contractor is delayed by occurrences which are not attributable to either the contractor or owner. Three major elements can represent the excusable delays:

- ✓ Unforeseen events.
- ✓ Events beyond the contractor's control.
- ✓ Events without fault or negligence.

Non-Excusable delays are due to some faults of the contractor or the third party for whom the contractor is responsible. As the contractor is liable for the delay, he is not entitled to get an extension of time or compensation. This reflects the inability of the contractor. In this case, the contractor is liable to pay owner delay damages or liquidated damages (Ansah & Sorooshian, 2018 and Nenny and Kustamar (2019).

A non-excusable delay is delay caused by the contractor or its suppliers, through no fault by the owner. The contractor is generally not entitled to relief and must either make up the lost time through acceleration or compensate the owner. Therefore, non-excusable delays usually result in no additional money and no additional time being granted to the contractor. Excusable delays are divided into two: compensable and non-compensable delays.

Compensable delays are caused by the owner or the owner's agents. While non-compensable delays are caused by third parties or incidents beyond the control of both the owner and the contractor. These delays are commonly called “acts of God” because they are not the responsibility or fault of any particular party. (Wa’el Alaghbari 2007; Saleh Al Hadi Tumi 2009).

Non-Compensable delay

Non-Compensable delays usually are due to acts of God, fires, unusually severe weather, strikes, floods, etc. There is always misunderstanding whether to consider delay due to weather under non-compensable suspension or not, but it only takes into consideration severe weather conditions. That means only that type of weather is found which is not anticipated at that time in that place. Non-compensable delays that are entitled to the contractor, and hence no time extension is given. But the contractor by proving his point that the delay was out of his control and asking for compensation but still he is not entitled to get money. The contractor is given a time extension, and he has to pay liquidated damages(Ansah & Sorooshian, 2018).

Concurrent Delays

Concurrent delay is a result of one event which is delayed. It reflects a complicated situation where one or more delays occur at the same time, but the contractor is not entitled to claim an extension of time or loss and expenses for every setback. There may arise a situation where two or more delays rise independently at the same time, but together, they affect the completion period of the project. But if the client is entitled to any of those delays, then the contractor can claim for the loss and expenses (Ansah & Sorooshian, 2018).

2.3 Effects of Delays

The effect is nothing but change. The result may occur due to the impact of delay in the project. This effect can be a substantial financial cost for both client and contractor. Mostly it includes arbitration, time overrun, cost overrun, disputes, litigations, and may the project be stalled forever (Amoatey et al., 2015). Delay in any project primarily results in time overrun as the contractor will need an extension irrespective of whether the delay is attributable to the client or contractor. Still, it is not necessary that the cost overrun is borne by the client only.

The delay will also lead to cost overrun for the contractor as he is required to pay penalties for delays. But the client will also lose his revenue from the project due to this delay.

2.4 Factors affect project delay

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

2.4.1 Project Financing

The two main sources of finance available to a firm are shareholders fund and loan funds. Chandra (2009) recommends that a firm should use more equity under each of the following conditions; the tax rate applicable is negative, business risk exposure is higher, dilution of control is not an important issue, the assets of the project are mostly intangible and the projects have many valuable growth options. He further recommended that a firm should use more debt under the following condition; the tax rate applicable is high, business risk exposure is low, dilution of control is an issue, the assets of the projects are mostly tangible and the project has few growth options. In addition to the above standard source of finance, leasing, venture capitalist, international market, international organization, local government and other miscellaneous sources can be used.

2.4.2 Project Initiation and completion of projects

Odoyo (2013) investigated a study that assessed the factors affecting implementation of community projects At Kimira – Oluch Smallhaolder Farm Improvement Project (KOSFIP) in Homa Bay County, Kenya. The study used a case study research design to collect data from 3,000 households in the project's area of coverage. However, there was minimal interference with project implementation from the community as 93.7% of the respondents felt that community members were not a hindering factor. Finally, there was a weak positive linear relationship between local leaders' support for implementation of the KOSFIP project and their strong belief in hand-outs.

Alaghbari (2018) the study intends to identify the most significant factors causing delay in construction projects in Sana'a- Yemen. A survey questionnaire was structured and

distributed to architectural and structural engineers who were working on construction projects. The results showed that the group of financial factors ranked first among the five groups. The top five factors causing delay of construction projects are delay in receiving progress payments by contractors, financial difficulties faced by clients, inadequate experience of contractor/ consultants, poor site management and supervision, and Lack of sufficient cash for project implementation, and lack of sufficient cash for project implementation.

2.4.3 Project planning and completion of projects

John et al (2017) investigated a study to determine factors contributing to financial distress and developed a conceptual framework to illustrate the relationship between financial distress and project delay. A questionnaire survey collected data on factors that contributed to financial distress and delays in highway infrastructure delivery. In total, 78 responses were obtained, and factor analysis revealed that factors associated with payment, project financing, cash flow, economic issues, project planning and cost control influenced project delays. The research identifies the importance of efficient public and private policies to engender financial sustainability among construction firms in developing countries.

2.4.4 Project implementation and completion of projects

The implementation phase for industrial projects which involves setting up of manufacturing facilities consists of several stages. These include establishing the financial, organizational and legal basis for the implementation of the project, technology acquisition and transfer, including basic engineering, detailed engineering design and contracting, including tendering, appraisal of bids & negotiations and Acquisition of land (UNIDO, 1991). Translating an investment proposal into a project is complex, time consuming and risk taking activity. Delays in implementation can lead to substantial cost and time overrun. For speedy implementation at a reasonable cost, the following are helpful. First, the major reasons for the delay of projects are insufficient formulation of projects. If the necessary homework in terms of preliminary studies and comprehensive and detailed formulation of the project is not done in advance, many surprises and shocks are likely to spring on the way. The second solution is assigning specific responsibility to project managers for completing the project within the defined time frame and cost limit and finally use of network techniques like PERT and CPM will enhance the monitoring and follow up easier (Chandra, 2009).

Nenny and Kustamar conducted a study on the factors affecting project delay in building development projects, 2) analyse the most dominant factor affecting project implementation delay in the building development project, 3) determine the actions that should be done on the dominant risks in affecting project implementation delay.

Rauzana (2016) investigated a study on the causes of delay and time performance in construction projects. The success of a construction project depends on the cooperation between the parties involved, namely the building owners, contractors and project planners. Many factors could hinder the implementation of construction projects. The success of carrying out construction projects on time without any obstructions in the implementation is one of the most important goals. Project construction experience obstacles and constraints in implementation is a condition that is very undesirable, because it would be very detrimental to all parties. Every construction project has a specific implementation plan, when the implementation of the project should begin, when to be solved and how it will be carried out, and how the provision of resources. The problem will arise if there is no appropriateness between the plans that have been made with the actual reality.

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

Making careful evaluation before selecting an investment is only the first step. As situations change, new variables come out and fresh opportunities may arise. The organization needs to modify its original plan and incorporate new development, and alter the course of action necessary to attain the best result. Therefore, as soon as implementation begins; control should become the dominant concern of the project manager. Project control involves a regular comparison of performance against targets, a search for the cause of deviation and a commitment to check adverse variances. It serves two major purposes. First it ensures regular monitoring of performance and second it motivates project personnel to strive for achieving project objectives on time using the allocated resource (Chandra, 2009).
Monitoring of projects is done at the implementation stage as well as at the operation stage.
There are numerous monitoring and control techniques each having their own merits and demerits. Therefore the choice of these techniques should be based on the balance between the advantages and disadvantages of having a given project control system.

Any delay on one of the above mentioned stages would have a negative effect on the successful completion of the project, especially during the start-up phase. In order to avoid

this, effective planning and balanced organization of the various activities are necessary, and can be achieved only by careful planning and scheduling. There are several tools used to plan and schedule activities in a project. For small projects with few activities, a bar chart showing when a particular activity would begin and when it would end is a fairly simple tool for drawing up the implementation schedule. For most complex projects which consist of numerous activities and are fairly large, networking techniques are required.

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Hubert and Mulyungi (2018) conducted a study to establish the influence of monitoring and evaluation planning on project performance in Rwanda a Case of selected NGOs in Gasabo District. Descriptive survey design was used by 72 NGOs based in Gasabo district, Kigali. From each NGO two respondents (M&E Specialist & Finance Manager) were picked purposely hence the total target population was 144 respondents. A sample size of 106 respondents was determined using Yamane's formula. Findings indicated that all participating institutions were privy to the M&E plans developed by AVU. On average, 92% of the respondents gave plausible reasons why they thought M&E planning influences project performance in reference to the projects under study. Spearman correlation showed a positive significant correlation coefficient of 0.8 between M&E planning and project performance.
Mersha (2017) carried out a study to examine how capital projects in Ethiopia are financed, implemented and monitored. To achieve this objective, primary data was collected using self-administered questionnaires from 109 large private and public owned business organizations

found in Addis Ababa, Ethiopia. The finding of the survey indicated that most projects are financed using either internal sources or borrowing from banks. The use of stock and bond to finance capital projects is very much limited because of the absence of a capital market. Further, the main reason for project delay includes lack of foreign exchange and not properly making project design at the beginning. Most firms use traditional methods to schedule, monitor and control capital projects. Modern project scheduling and monitoring techniques such as CPM and PERT are rarely used in Ethiopian firms.

2.4.6 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. Mohammad and Sandeep (2019) carried out a study on exploring significant factors causing delays in construction in the Northern Region of India. These delays lead to the distrust among the people and the organization and show their incapability in implementing the projects. A reasonable questionnaire was prepared for the survey based on the factors causing delays taken into consideration from literature review. The questionnaire listed the 31 factors causing the delays and was distributed among the 50 professionals working in the construction industry. The factors were rated on a scale of rating 1 to 5. The data from the rating 1 to 5. The data from the questionnaire was analysed statistically. The Relative Importance Index method was used to find out the most significant factors causing delays. The result obtained from the survey revealed that the major causes for delays are; delays in payments, design errors, poor site management, lack of expertise in project management, contract duration, change in material prices, corruption, and poor estimation. This research focuses on top ten factors which create a major impact on the delays in construction projects.

Al-Hazim and Salem and Hesham (2017) investigated a study on the Delay and Cost Overrun in Infrastructure Projects in Jordan. The aim of this study is to investigate the factors that may cause overrun of the planned cost, allocated resources and scheduled time of infrastructure engineering projects in Jordan. To achieve the goal of this study, final reports of a sample of 40 public infrastructure projects implemented during the period from 2000 to 2008 were collected and analyzed. The final reports were collected from the Ministry of Public Works and Housing (MPWH) of Jordan, which administers the public infrastructure projects in the capital Amman. The analysis showed that delay and cost overrun of infrastructure projects were caused by 20 factors according to the records in the collected final reports of projects.

The results showed that Terrain and Weather conditions are the top factors causing completion delay and cost overrun in infrastructure projects in Jordan.

2.4.7 Post Implementation Audit

Post implementation audit is the control process aimed at making an overall revision of all those activities concerning the management of an investment proposal, from its initial stage, to its implementation up to the end of its life. Post audit is different from a simple project monitoring in terms of scope and degree of completeness. Its main objective is to learn what worked and did not work in a project and more importantly, transfer this knowledge to future projects. Post project audit should be viewed as proactive events that can both improve future project management endeavors as well as help to identify new opportunities and markets (Azzone & Maccarrone, 2001).

2.4.8 Project closure and completion of projects

2.5 Empirical review

Ajibade Ayodeji Aibinu, Et Al. (2006), this study assesses the causes of delays by focusing on actions and inactions of project participants and external factors. The study analyzed quantitative data, and data obtained from a postal questionnaire survey of construction managers to assess the extent to which 44 identified factors contributed to overall delays on a typical project they have been involved with. The factors were finally categorized into client-related; contractor-related; quantity surveyor-related; architect-related; structural engineer related; services engineer-related; supplier-related; subcontractor-related; Delays not caused by the project participants demarcated as “external factors”.

Haseeb, (2007), the main objective of this study is the identification of factors of delay and their effects on the success and completion of projects. The most common factors of delay are natural disasters in Pakistan like floods and earthquakes and some others like financial and payment problems, improper planning, poor site management, insufficient experience, shortage of materials and equipment etc. It is mostly seen that delay problems are cause of dispute, negotiation, lawsuit, total desertion, litigation and abandonment. The parties included in contract through claims agree on the additional capital and extra time linked with construction delay.

Amade (2012) conducted a study on the factors constraining the implementation of Public Private Partnerships (PPPs) Projects in the Nigerian construction industry. The study sampled the opinion of fifty-five selected project professionals who had worked on PPPs related construction outfits in the Federal Capital Territory, Abuja, Nigeria. The score of respondents to the factors were analyzed using descriptive and inferential statistics and factor analysis as the major tool. Results of the analysis among others show that the Dearth of transparency in partnership arrangements is the most critical and impeding factor constraining the implementation of PPPs projects in the Nigerian construction industry. This is followed by in that order, lengthy bidding processes associated with PPPs, cost overruns, differences in interests and expectations of the stakeholders, inappropriate feasibility studies by contractor/consultants, excessive risks associated with PPPs, forecasting errors, lack of support and political will, inability of the public sector to appreciate partnerships in a PPP environment, not enough due diligence, poorly defined sector policies and public oppositions.

A study by Edward Njenga (2013), On Factors Influencing performance of Monitoring and Evaluation of Development Projects (A Case Study of Machakos District), found that monitoring and evaluation budget, stakeholders participation, M&E plan, source of funding (donor) and training in M&E had a positive relation with the probability of implementing M & E which was significant at 95% confidence level. However, M & E guidelines were found to have no effect on implementation of M&E. Based on the results the study concluded that performance of Monitoring and Evaluation is important in providing the feedback mechanism of economic development interventions.

Indhu and Ajai (2014) investigated on the delay factors and the effect on the project completion by doing a case study in on-going projects. By analysing the reasons for delay, possible recommendations were given. The major factors identified in this case study are delays due to contractor, client and also due to nature’s act like rain. The most important causes were delays in contractor's payments, shortage of material in construction, change in material, the weather condition, shortage of manpower (skilled, semi-skilled and unskilled labour), frequent change of staff, poor site management and improper management of the engineers. Some of the delays are delay in submission of drawings, space constraints, and delay in payment by client, delay in material supply and local problems like strikes. The major effects of delay are cost impact, reduced labour productivity, postponement in work,

change in labour allocation etc. Not all delays can be rectified, but few of them can be overcome by improving management responsibilities**.**

David et al (2016) investigated a study on financial distress and highway infrastructure delays. In developing countries, delays in highway infrastructure projects caused by financial distress-related factors threaten the construction industry's capacity to contribute optimally to economic development. A questionnaire survey collected data on factors that contributed to financial distress and delays in highway infrastructure delivery. In total, 78 responses were obtained, and factor analysis revealed that factors associated with payment, project financing, cash flow, economic issues, project planning and cost control influenced project delays. The research identifies the importance of efficient public and private policies to engender financial sustainability among construction firms in developing countries.

Tesfaye (2016) conducted a study on the effectiveness of project management processes on Performance of construction projects: case study analysis in selected companies in Addis Ababa. The researcher used questionnaires to collect data from respondents. The research result revealed that 70% of planning and 88% of quality, time, cost and communication processes were applied in a successful project as compared to a failed project. Based on these research findings the researcher concluded that planning processes from the process group and Quality, Time, Cost and Communication processes from the subject group are effective in realising success of a project.

Deresse (2017) investigated a study on Project Financing, Implementation and Control Practice a Study on Selected Business Organizations in Ethiopia. Project delay is a common problem especially in developing countries like Ethiopia mainly because of problems in the implementation and control. The main objective of this study is to examine how capital projects in Ethiopia are financed, implemented and monitored. To achieve this objective, primary data was collected using self-administered questionnaires from 109 large private and public owned business organizations found in Addis Ababa, Ethiopia. The finding of the survey indicated that most projects are financed using either internal sources or borrowing from banks. The use of stock and bond to finance capital projects is very much limited because of the absence of a capital market. Further, the main reason for project delay includes lack of foreign exchange and not properly making project design at the beginning

Durdyev (2017) investigated a study on Causes of delay in residential construction projects in Cambodia. This study was to fill an important knowledge gap by identifying the various attributes for construction project delay, using the residential building projects as a starting point. Feedback from a survey administered to the contractors and consultants was analysed using Relative Importance Index (RII). Results showed that shortage of materials on site; unrealistic project scheduling; late delivery of material; shortage of skilled labour; complexity of project; labour absenteeism; late payment by the owner for the completed work; poor site management; delay by subcontractor; accidents due to poor site safety are ranked by the contractors and consultants as the main causes of project delays in Cambodia. Construction frontline players are recommended to put their efforts on the identified key factors in relation to their magnitudes of influence.

Paul and Oluseye (2017) investigated a study on Effects of Project Cost Overruns and Schedule Delays in Sub-Saharan Africa. The study undertakes an exploratory approach drawing from a wide range of secondary information and materials obtained from policy documents, study reports and peer-reviewed articles. The findings show that cost overrun and schedule delay in infrastructure procurement can have a damaging economic effect ranging from allocative inefficiency of scarce resources, further delays, contractual disputes, claims and litigation to project failure and total abandonment. The study recommends project management capacity-building for infrastructure developers, project managers as well as a number of innovative control mechanisms such as reference class forecasting, public-private partnership and computer-aided cost estimating tools including artificial neural networks, data mining, building information modelling as well as fuzzy neural inference model, genetic algorithms, and stochastic simulation to curb the menace of the problem.

Al-Hazim et al., (2017) conducted a study on the factors that may cause overrun of the planned cost, allocated resources and scheduled time of infrastructure engineering projects in Jordan. To achieve the goal of this study, final reports of a sample of 40 public infrastructure projects implemented during the period from 2000 to 2008 were collected and analysed. The final reports were collected from the Ministry of Public Works and Housing (MPWH) of Jordan, which administers the public infrastructure projects in the capital Amman. The analysis showed that delay and cost overrun of infrastructure projects were caused by 20 factors according to the records in the collected final reports of projects. The results showed

that Terrain and Weather conditions are the top factors causing completion delay and cost overrun in infrastructure projects in Jordan.

Abdalla and Moses (2017) investigated a study Determinants of Implementation of County Government Projects: A Case of Infrastructural Projects Inkilifi County, Kenya. The study analysed the determinants of project implementation in Kilifi County specifically. The study adopted a descriptive survey design using questionnaires which were a quick way of obtaining information and cost effective within a short period of time over a target population of 60 from three sub counties in Kilifi County and the return rate was 83.33%. Purposive sampling technique was used to target all the target population because of technical knowhow with data collected analysed using statistical packages for social sciences (SPSS) 20.0.Spearman Rank Coefficient was used to test the hypotheses .The findings of the study showed that Project managers‟ competency to be an effective strategy in implementation of infrastructure project in Kilifi County with community participation in project implementation of the infrastructural projects builds trust and reduce resistance to implementation of the projects by the local community in Kilifi County.

Shumank et al (2018) investigated a study on identification of delay causing factors in the Indian real estate project: an APH-based approach. The aim of the study was identifying the project participant and attributes that lead to delays in the schedule of real estate projects. In this process, we apply the hierarchical analytical process to identify the actor and the causes that result in an overrun. Our findings suggest that to a significant extent delays occur due to contractors under the influence of distinct factors discussed in the study.

Guillermo et al (2019) conducted a study on Delay causes in road infrastructure projects in developing countries. The study aimed to: a) classify and determine the level of influence of the delay causes; b) find the relationship between delay causes and country's development; and c) propose recommendations for mitigating the most critical causes in developing countries. A systematic literature review provided a sample of 14 primary studies from Africa (50%) and Asia (50%). Based on this sample, the study found that developing countries, with a GDP per capita ($US2018) <= $ 2,000, may experience different delay causes depending on the economic and the geographical contexts. In African countries with a Global Competitiveness Index -GCI <= 56, road projects may experience delays due to financial issues of the project owner, as well as delays due to equipment/material issues of the project

supplier/subcontractor. On the other hand, in Asian countries with a GCI between 62 and 49, road projects may experience delays due to financial issues of the project contractor, and delays due to planning issues of the project designer/consultant. According to these economic contexts, this study proposes a frame of causes and mitigation actions as a contribution to the risk analysis of road projects in developing countries.

Ochenge et al (2018) investigated a study on the effect of project monitoring and evaluation on performance of road infrastructure projects constructed by local firms in Kenya. The study sought to establish the effects of project monitoring and evaluation on performance of road projects. The study was carried out in the Lake Basin Region, Kenya. The study covered 41 road projects. The study concludes that project monitoring and evaluation has a significant effect on performance of road projects.

Nenny and Kustamar (2019) conducted a study on project delay risk factors of building development in human settlements division of east Kutai regency's public works service office. The objectives of the study were: The objectives of this research are 1) analyze the factors affecting project delay in building development projects, 2) analyze the most dominant factor affecting project implementation delay in the building development project, 3) determine the actions that should be done on the dominant risks in affecting project implementation delay.

Hubert (2018) conducted a study on influence of monitoring and evaluation planning on project performance in Rwanda: a case of selected non-governmental organisations in Gasabo district. Descriptive survey design was used; the targeted population of the study was 72 NGOs based in Gasabo district, Kigali. From each NGO two respondents (M&E Specialist & Finance Manager) were picked purposely hence the total target population was 144 respondents. Findings indicated that all participating institutions were privy to the M&E plans developed by AVU. On average, 92% of the respondents gave plausible reasons why they thought M&E planning influences project performance in reference to the projects under study. Spearman correlation showed a positive significant correlation coefficient of 0.8 between M&E planning and project performance.

Reuben et al (2019) investigated a study on Impact of project monitoring and evaluation practices on construction project success criteria in Ghana. Monitoring and evaluation (M&E)

of projects is a very important aspect of project execution and management. The questions were developed through critical review of literature and complemented with a pilot interview on the subject. This paper utilized a partial least square–structural equation modelling to establish the impact of project M&E practices (constructs) on project success based on the hypothesis. Results showed that M&E practices had a positive statistical significant relationship with construction project success criteria. The findings of this study may be useful to organizations in determining M&E techniques that are relevant and contribute highly to project success. This may go a long way to increase productivity and accelerate the rate of successful project delivery.

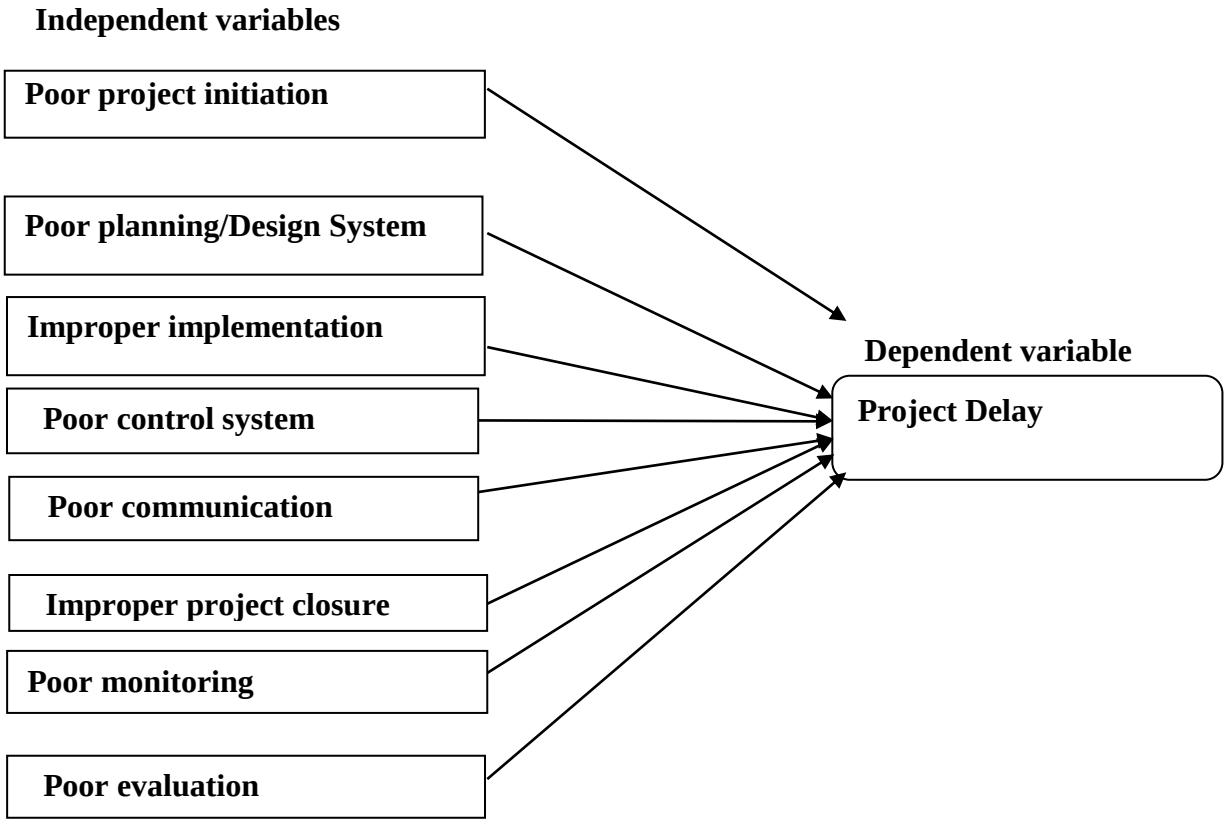
2.4. Research gaps

The reviewed literature revealed various studies in different parts of the world. Therefore, in relation to the above, the chapter has highlighted the literature that is existing in relation to the delay of projects in the construction industry. The chapter has reviewed the literature in relation to the four objectives and the factors have been looked at from the global perspective down to the study scope area. Among the highlighted factors include: improper Project poor Closure, poor Project Initiation, poor Implementation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning and poor Monitoring that are considered to be independent factors while delay in projects implementation is taken to be the dependent variable. The chapter also highlights the conceptual framework, relationship between variables and research gaps. This study therefore aimed to investigate the actual factors influencing project completion in Ethiopian Country; the case is a project financed by DBE.

2.6 Conceptual Frame work

This is also captured in the conceptual framework which is a tabulated relationship between the independent variables and dependent variable. The study was guided by conceptual framework.

Figure 2.2: Conceptual framework for project delay



Source: own formulation and literature

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives the details of the research approach. The research design is explained and illustrated. The target population is described as well as data collection instruments. Also included in the chapter is data collection procedures, methods of data analysis, operationalization of variables and ethical issues observed in the research.

3.2 Research Approach and Design

The type of research approach which researchers adopted for this research is quantitative research of explanatory research type which is an attempt to connect ideas to understand cause and effect, meaning researchers want to explain what is going on. And also in order to answer the research questions and achieve the stated objectives, the study used a combination of research designs. As it is clearly indicated in chapter one the two research questions are all about examining the determinants of project implementation delay. Therefore, in order to analyze the existing situation under consideration, causal research design was employed. Explanatory design sought to give a causal relationship between delay of projects which is the dependent variable and the independent variables being: improper Project poor Closure, poor Project Initiation, poor Implementation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning and poor monitoring. The type of research employed was descriptive in type. The researcher also used a cross sectional survey because the data will be collected at one point in a time to compare main determinants of project implementation delay of the case bank.

3.3 Study Population

Study population as described by Borg and Grall (2009) is a universal set of study of all members of a real or hypothetical set of people, events or objects to which an investigator wishes to generalize the result. The study population of this study was all delayed projects financed by Development bank of Ethiopia from the period January, 2016-December 2018 and which is 955 delayed projects. Thus, in the current study the populations (projects) for this study purposely only consider the head office (corporate level) financed project, because

the under consideration corporate levels are engaged in mega project financing and have relevant information related to the research input. Because the selected workers are workers tagged for project finance to give close technical support by the selected office. The main aim of choosing this type of population is to be able to get current and past information from people who have participated in the implementation of projects and thus experienced the implementation delay challenges that the projects face.

3.4 Sampling method and Sample size

This section presents the methods and techniques that were used for sampling, the procedure of sampling and eventually how the final study sample was reached from the target population and the details of how data was obtained, processed and analyzed. As information obtained from working unity, the approved projects `the period ranging from January, 2016-December 2018 for consecutive of three years are 2155. From these approved projects only 1200 projects are completed successfully on schedule time and the rest means 955 projects recorded delay in their implementation. Uma Sekarar (2003) stated that a simplified formula to calculate sample sizes of finite population, which is used to determine the sample size for this particular study. A 95% confidence level is assumed for this formula to determine the sample size, at e=0.05 and the sample size is determined by the following formula.

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

where 'n' is the required sample size,

N is the population size and

E is the level of percision

Applying the above formula, $\mathbf{n} = \frac{\mathbf{955}}{1+955(0.05)2}$= 281.9188 =282

It is very important to choose a sample that is truly representative of the population so that the conclusion derived from the sample can be generalized back to the population of interest so the researcher used random sampling by giving equal chances from each project to one person and who is at managerial level and related position. Each project manager has discussed on the questionnaire with their employee's member and he dispatched it for the researcher after compiling their response and summarizing it into a common sense.

3.5 Data Type and Source

The study employed both qualitative and quantitative data. The qualitative data are those plans that were collected through an interview whereas quantitative data are the objective items which were collected through questionnaires. Regarding the data source, the study used primary sources collected directly or indirectly from the project owner and contacts. Primary sources of data are projects of the samples.

3.6 Data Collection Instruments

The instruments used in this study included questionnaires. Primary data was collected by the use of questionnaires. The questionnaires were used to collect data from the respondents in the coast region. The questionnaire was divided into subheadings that touched on the basic information of the respondents, the items on objectives as discussed in the literature. Piloting was done to test the validity and reliability of the instruments. For the purpose of data collection, the researcher used closed-ended questionnaires and structured interviews. Closed-ended questionnaires were used.

3.7 Data Collection Procedure

After approval of the Proposal by the Addis Ababa University to collect data, the researcher coordinated the data collection process after seeking permission from the organization. The researcher and research assistants administered the questionnaires to the respondents face to face. A self-administered, structured questionnaire was used to gather data from the project owner or contract.

3.8 Data Analysis

3.8.1 Data Analysis

In the study both qualitative and quantitative methods of data analysis techniques were employed. Analysis of data in this research was done by using both descriptive and inferential statistics. Causal analysis is concerned with the study of how one or more variables affect changes in another variable. It is thus a study of functional relationships existing between two or more variables.

3.9 Validity and Reliability Test

3.9.1 Validity Test

Validity refers to the appropriateness of the inferences made about the results of an assessment. Inferences being conclusions derived from empirical evidence bearing on score meaning (Messick, 1989). It is the extent to which the questions on the instrument and the scores from these questions represent all possible questions that could be asked about the content or skill (Creswell, 2005). It ensures that the questionnaire includes an adequate set of items that tap the concept. The more the scale items represent the domain of the concept being measured, the greater the content validity.

3.9.2 Reliability Test

Reliability reflects consistency and reliability over time. Furthermore, reliability is seen as the degree to which a test is free from measurement errors, since the more measurement errors occur the less reliable the test (Fraenkel & Wallen, 2003). The more errors found in an assessment the greater its unreliability, and vice versa. Reliability is a very important factor in assessment, and is presented as an aspect contributing to validity and not opposed to validity. The reliability refers to a measurement that supplies consistent results with equal values (Blumberg et al., 2005). It measures consistency, precision, repeatability, and trustworthiness of a research (Chakrabartty, 2013). Cronbach's alpha reliability coefficient normally ranges between 0 and 1. However, there is actually no lower limit to the coefficient. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Based upon the formula _ = rk / [1 + (k -1)r] where k is the number of items considered and r is the mean of the inter-item correlations the size of alpha is determined by both the number of items in the scale and the mean inter-item correlations. George and Mallery (2003) provide the following rules of thumb: "_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable.

Table 3.1: Reliability test

	Reliability Statistics				
No	Variable Name	Cronbach's Alpha Value	Cronbach's Alpha based on standardized items	No of items	(α) reliability ranges
1	Poor project initiation	0.646	0.632	7	Acceptable
2	Poor planning/Design System	0.850	0.852	8	Good
3	Improper implementation	0.869	0.868	8	Good
4	Poor project monitoring	0.880	0.877	4	Good
5	Poor project evaluation	0.617	0.618	4	Acceptable
6	Poor control system	0.883	0.883	3	Good
7	Poor communication	0.832	0.833	2	Good
8	Improper project closure	0.705	0.705	2	Acceptable
9	Project Completion Delay	0.630	0.631	4	Acceptable
	Overall	0.948	0.948	42	Excellent

Source: Own computation using SPSS of the survey, 2020

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSIONS

4.1 Overview

In this chapter, the data collected using questioner and presented based on the objectives of the study set above. The data was found to be important to explain the Determinants of Project Implementation Delay. The data collected was keyed and analyzed by simple descriptive analysis using Statistical Package for Social Scientists (SPSS) version 20.0 software. The data was presented through frequency tables and narrative analysis. The chapter presents data in different sub-sections that are in relationship with the objectives and the items asked in the questionnaire. The descriptive analysis consists of central tendency measurements (frequency and frequency distribution, percentage, valid & cumulative percentages). Also, tabular explanations are used with the help of SPSS. ANOVA, Correlation, and multiple linear regression analysis were used.

The data were collected using five point Likert scale which is non-parametric in nature was converted in to parametric one by computing the sum and taking the average of each variable.

4.2 Demographic information of the respondents

As depicted in Table 4.1 below, out of 282 respondents, 73.4 % of them were male and the remaining 26.6 % were female respondents.

Table 4.1 shows that few respondents (6.7 %) have in the age group of below 30 while the majority of the respondents (66.3%) have in the age group of 30 - 40. 13.5 % of the respondents have in the age group interval of 40 - 50. From the total respondents above 50 age group have 13.5 %. Based on their age status, it can be said that most of the respondents have found in the 30 - 40 age group.

Table 4.1: Demographic information of the respondents

Items		Frequency	Percent	Cumulative Percent
Gender	Male	207	73.4	73.4
	Female	75	26.6	100.0
	Total	282	100.0	
Ages of the Respondents	Below 30	19	6.7	6.7
	30 – 40	187	66.3	73.0
	40 – 50	38	13.5	86.5
	Above 50	38	13.5	100.0
	Total	282	100.0	
Education Level	Diploma	19	6.7	6.7
	Degree	94	33.3	40.1
	Masters and Above	169	59.9	100.0
	Total	282	100.0	
Experience	1 – 4	130	46.1	46.1
	5 – 8	95	33.7	79.8
	Above 9 years	57	20.2	100.0
	Total	282	100.0	

Source: Own computation and survey, 2020

Table 4.1 above shows that one respondent (6.7 %) has an educational level of Diploma while the majority of the respondents (59.9 %) have acquired masters and above. 33.3 % of the respondents have a first degree from the total sample. Based on their educational status, it can be said that the respondents have the ability to understand.

As can be seen from table 4.1, more than 46.1 % of the respondents have experience of between one and four years. 33.7 % of the respondents have worked 5 to 8 years. 20.2 % of the respondents have worked as a project manager above 9 years.

4.3 Descriptive statistics of Survey Data

4.3.1 Descriptive analysis

There are different determinant factors of project delay or factors intend to the project delay. This part explains the result of descriptive statistics calculated on the basis of variables included in the determinant factors of project delay questionnaires. This study mainly focuses on different factors. As stated in chapter three the likert scales were used to measure determinant factors of project delay.

Table 4.2: Poor Project Initiation related

Items	N	Mean	Std. Deviation
Lack of comprehensiveness of feasibility study and project Analysis	282	2.79	1.110
Improper define the project scope and work definition	282	2.93	.999
Lack of recruit appropriate staff	282	3.26	.998
Inappropriate layout of project office	282	3.27	.930
Poor job description for a project manager	282	2.99	1.154
Lack of awareness about business nature well	282	3.13	1.147
Lack of awareness about procedure of the funding institution	282	3.39	1.021

Source: Own computation and survey, 2020

As per table Table 4.2 above, expose the mean and standard deviation of the poor project initiation of project delay No Variable N Mean Std. Deviation. Lack of comprehensiveness of feasibility study and project Analysis (mean 2.79 and SD 1.110), improper define the project scope and work definition (mean 2.93 and SD 0.999), lack of recruit appropriate staff (mean 3.26 and SD 0.998), inappropriate layout of project office (mean 3.27 and SD 0.930), Poor job description for a project manager (mean 2.99 and SD 1.154), lack of awareness about business nature well (mean 3.13 and SD 1.147) and lack of awareness about procedure of the funding institution (mean 3.39 and SD 1.021). Generally, the respondents were neutral on the Poor Project Initiation of project delay. Therefore, based on the forgoing discussion it can concluded that Poor Project Initiation is a crucial factor that affect then project performance to complete on the proposed time.

Table 4.3: Poor Project Planning/Design related

No	Items	N	Mean	Std. Deviation
1	Inadequate estimation of project completion schedule	282	3.93	.574
2	Lack of complete and proper design and specification of projects at right time.	282	3.52	.959
3	Lack of recognized in advance the resources needed to carry out projects to cover unseen costs while planning the project	282	3.40	1.083
4	Lack of clarity of design and work specification	282	3.05	1.061
5	Lack of proper estimation of the cost that will be needed to complete the project.	282	3.93	.775
6	Inadequate resource and finance allocation	282	3.66	1.014
7	Failure at the conceptual planning and design stages	282	3.26	.928
8	Identify contractors improper and lack of staff motivation	282	3.13	1.022

Source: Own computation and survey, 2020

Based on table 4.3 above, tells the mean and standard deviation of the Poor Project Planning/Design related considered in this study. Inadequate estimation of project completion schedule (mean 3.93 and SD 0.574), Lack of complete and proper design and specification of projects at right time (mean 3.40 and SD 1.083), Lack of recognized in advance the resources needed to carry out projects to cover unseen costs while planning the project (mean 3.05 and SD 1.061), lack of clarity of design and work specification (mean 3.05 and SD 1.061), Lack of proper estimation of the cost that will be needed to complete the project (mean 3.93 and SD 0.755), Inadequate resource and finance allocation (mean 3.66 and SD 1.014), Failure at the conceptual planning and design stages (mean 3.26 and SD 0.928) and Identify contractors improper and lack of staff motivation (mean 3.13 and SD 1.022). Generally, the respondents were agree on the Poor Project Planning/Design related of project delay. Therefore, based on

above discussion it can be concluded that most of the projects were delayed because of poor project planning or design.

Table 4.4: Poor Implementation related

No	Items	N	Mean	Std. Deviation
1	Improper materials procurement	282	3.00	1.098
2	Shortage of construction input	282	3.66	1.140
3	Change in material prices/price escalation	282	4.27	.855
4	Low productivity and efficiency of construction equipment	282	3.40	1.257
5	Absence quantity and quality of labors	282	3.33	1.196
6	Low working permit of labors	282	3.13	1.090
7	Lack of high technology mechanical equipment	282	3.73	1.004
8	Inefficient use of equipment	282	3.59	1.257

Source: Own computation and survey, 2020

Based on table 4.3 above, tells the mean and standard deviation of the poor implementation related considered in this study. Improper materials procurement (mean 3.00 and SD 1.098), Shortage of construction input (mean 3.66 and SD 1.140), Change in material prices/price escalation (mean 4.27 and SD 0.855), Low productivity and efficiency of construction equipment (mean 3.4 and SD 1.257), Absence quantity and quality of labors (mean 3.33 and SD 1.196), Low working permit of labors (mean 3.13 and SD 1.090), Lack of high technology mechanical equipment (mean 3.73 and SD 1.004) and Inefficient use of equipment (mean 3.59 and SD 1.257). Generally, the respondents were agree on the Poor Implementation related of project delay. Therefore, based on above discussion it can be concluded that most of the projects were delayed because of poor implementation.

Table 4.5: Poor Monitoring & Poor Evaluation related

No	**Poor Monitoring**	**N**	**Mean**	**Std. Deviation**
1	Continuously the organization review the process of budget allocation	282	3.26	0.927
2	Lack of effective monitoring and feedback	282	3.26	0.998
3	Lack of project management technical capability and experience	282	3.26	0.998
4	Inadequate leadership quality of the project manager	282	3.39	1.021
	Poor Evaluation related			
1	Continuously the management of the project review the budget	282	3.39	.798
2	Lack of site management and Supervision	282	3.12	1.143
3	Continuously the project review the process of budget allocation	282	3.13	.808
4	The project engages its stakeholders in making key budget decisions	282	3.20	.983

Source: Own computation and survey, 2020

Based on table 4.3 above, tells the mean and standard deviation of the Poor Monitoring & Poor Evaluation related considered in this study. Continuously the organization review the process of budget allocation (mean 3.26 and SD 0.927), Lack of effective monitoring and feedback (mean 3.26 and SD 0.998), Lack of project management technical capability (mean 3.26 and SD 0.998) and experience and Inadequate leadership quality of the project manager (mean 3.39 and SD 1.021). Therefore, based on above discussion it can be concluded that most of the projects were delayed because of Poor Monitoring.

Related to Poor Evaluation related; Continuously the management of the project review the budget (mean 3.39 and SD 0.798), Lack of site management and Supervision (mean 3.12 and SD 1.143), Continuously the project review the process of budget allocation (mean 3.13 and SD 0.808) and the project engages its stakeholders in making key budget decisions (mean 3.2 and SD 0.983). Therefore, based on above discussion it can be concluded that most of the projects were delayed because of poor evaluation.

Table 4.6: Poor Controlling, Communication and Project Closure related

No	**Poor Controlling**	**N**	**Mean**	**Std. Deviation**
1	Lack of control systems of project during implementation	282	3.06	1.181
2	Control of the budget activities is done by the departmental heads	282	2.73	.772
3	Inadequate communication, including progress tracking and reporting	282	2.93	1.122
Communication				
1	Poor communication between members of the project team	282	2.52	1.020
2	Lack of frequent coordination between parties involve	282	3.12	1.087
Project Closure related				
1	Lack of project closure report in term of time and quality	282	3.46	1.090
2	Incomplete a post implementation review	282	3.46	1.090

Source: Own computation and survey, 2020

As per the table 4.6 above tells the mean and standard deviation of the poor controlling, communication and project closure related considered in this study. Lack of control systems of project during implementation (mean 3.06 and SD 1.181), Control of the budget activities is done by the departmental heads (mean 2.73 and SD 0.772), inadequate communication, including progress tracking and reporting (mean 2.93 and SD 1.122). Related to poor communication; Poor communication between members of the project team (mean 2.52 and SD 1.020) and Lack of frequent coordination between parties involve (mean 3.12 and SD 1.078).

Based on the table above the mean and standard deviation of the project closure related considered in this study. Lack of project closure report in term of time (mean 3.46 and SD 1.090) and quality and Incomplete a post implementation review (mean 3.46 and SD 1.090). Therefore, based on the forgoing discussion it can be concluded that project completion time is crucially affect by poor communication and improper project closure related factor.

Table 4.7: Project delay related

No	Items	N	Mean	Std. Deviation
1	The project is highly delay as compared to the project schedule time	282	3.52	1.027
2	The project is highly delayed as compared to the total task that conducted in the project	282	3.33	1.016
3	The project is highly delayed as compared to other contemporary projects	282	3.52	.959
4	The delayed project will expected to accomplished in the rescheduled time	282	3.53	.889

Source: Own computation and survey, 2020

Based on Table 4.7 above tells us the mean and standard deviation of the project delay related. The project is highly delay as compared to the project schedule time (mean 3.52 and SD 1.027), the project is highly delayed as compared to the total task that conducted in the project (mean 3.33 and SD 1.016), the project is highly delayed as compared to other contemporary projects (mean 3.52 and SD 0.959) and the delayed project will expected to accomplished in the rescheduled time (mean 3.53 and SD 0.889).

Therefore, based on the forgoing discussion it can be concluded that the project is highly delay as compared to the project schedule time, as compared to the total task that conducted in the project, as compared to other contemporary projects and project will expected to accomplished in the rescheduled time.

4.4 Overall Descriptive statistics

As presented in the table below shows the descriptive statistics of poor project planning, improper, Project Closure poor implementation, poor monitoring and poor evaluation, Poor Project Initiation, poor Communication and poor Controlling

Table 4.8: Descriptive statistics.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Poor Project Initiation	282	2.29	4.29	3.1069	0.59625
Poor Project Planning	282	2.00	5.00	3.4810	0.74538
Poor Implementation	282	1.00	4.63	3.4108	0.78833
Poor Monitoring	282	2.00	4.75	3.2890	0.84617
Poor Evaluation	282	1.50	4.50	3.2092	0.64363
Poor Controlling	282	1.33	4.67	2.9054	0.93677
Poor Communication	282	1.33	5.00	2.9391	0.97271
Improper Project Closure	282	1.00	5.00	3.4574	0.95818
Poor Project delay	282	1.00	4.50	3.4761	0.88563

Source: Own computation and survey, 2020

As per Table 4.13 summary result above the mean value of poor project planning, improper, Project Closure poor implementation, poor monitoring and poor evaluation were ranked from first to fifth respectively. Poor Project Initiation, poor Communication and poor Controlling also ranked from sixth to eight respectively.

4.5 Correlation analysis

Table 4.9: Poor Project Initiation correlation

No	Items	**Project delay**	
		Pearson Correlation	**Pearson Correlation**
1	Lack of comprehensiveness of feasibility study and project Analysis	0.305**	
2	Improper define the project scope and work definition	0.094	0.117
3	Lack of recruit appropriate staff	0.150*	0.012
4	Inappropriate layout of project office	0.250**	0.00
5	Poor job description for a project manager	0.438**	0.00
6	Lack of awareness about business nature well	-0.085	0.152
7	Lack of awareness about procedure of the funding institution	0.243**	0.00

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

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

Source: Own computation and survey, 2020

Table 4.9 shows the correlation between all variables of poor project initiation factors and project delay. An important positive relationship was creating between poor project initiations variables of project delay: lack of comprehensiveness of feasibility study and project analysis (r = .0.305 at P≤.0.000), Lack of recruit appropriate staff (r = .150 at P≤.0.012), inappropriate layout of project office (r = .250 at P≤.0.000), poor job description for a project manager (r = .438 at P≤.0.000) and lack of awareness about procedure of the funding institution (r = .243 at P≤.0.000). The other two variables of poor project initiation factors; Improper define the project scope and work definition and lack of awareness about business nature well didn't have any statistical important connection with project delay. Generally, nearly all poor project initiation factors are found significantly linked with poor project intention.

Table 4.10: Poor Project Planning/Design correlation

No	Items	**Project delay**	
		Pearson Correlation	**Pearson Correlation**
1	Inadequate estimation of project completion schedule	0.725**	0.000
2	Lack of complete and proper design and specification of projects at right time.	0.422**	0.000
3	Lack of recognized in advance the resources needed to carry out projects to cover unseen costs while planning the project	480**	0.000
4	Lack of clarity of design and work specification	0.154**	0.000
5	Lack of proper estimation of the cost that will be needed to complete the project.	0.044	0.460
6	Inadequate resource and finance allocation	0.480**	0.000
7	Failure at the conceptual planning and design stages	0.495**	0.000
8	Identify contractors improper and lack of staff motivation	-0.129*	0.030

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

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

Source: Own computation and survey, 2020

Table 4.10 shows the correlation between all variables of poor project planning/design factors and project delay. An important positive relationship was creating between poor

project initiations variables of project delay: Inadequate estimation of project completion schedule (r = .0.725 at P≤.0.000), Lack of complete and proper design and specification of projects at right time (r = .0.422 at P≤.0.000), Lack of recognized in advance the resources needed to carry out projects to cover unseen costs while planning the project (r = .0.480 at P≤.0.000), Lack of clarity of design and work specification (r = .154 at P≤.0.000), Inadequate resource and finance allocation (r = .480 at P≤.0.000), Failure at the conceptual planning and design stages (r = .495 at P≤.0.000) and Identify contractors improper and lack of staff motivation (r = -0.129 at P≤.0.030). The other variable of poor project planning/design factors; Lack of proper estimation of the cost that will be needed to complete the project didn't have any statistical important connection with project delay. Generally, nearly all poor project planning/design factors are found significantly linked with poor project intention.

Table 4.11: Poor Implementation correlation

No	Items	**Project delay**	
		Pearson Correlation	**Pearson Correlation**
1	Improper materials procurement	0.153*	0.010
2	Shortage of construction input	0.262**	0.000
3	Change in material prices/price escalation	0.256**	0.000
4	Low productivity and efficiency of construction equipment	0.159**	0.007
5	Absence quantity and quality of labors	0.210**	0.000
6	Low working permit of labors	-0.018	0.764
7	Lack of high technology mechanical equipment	-0.345**	0.000
8	Inefficient use of equipment	-0.272**	0.000

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

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

Source: Own computation and survey, 2020

Table 4.11 shows the correlation between all variables of poor implementation factors and project delay. An important positive relationship was creating between poor implementation variables of project delay: improper materials procurement (r = 0.153 at P ≤.0.000), Shortage of construction input (r = 0.262 at P≤.0.000), change in material prices/price escalation (r =

0.256 at P≤.0.000) and low productivity and efficiency of construction equipment (r = 0.159 at P≤.0.000) and absence quantity and quality of labors (r = 0.210 at P≤.0.000) and lack of high technology mechanical equipment (r = 0.210 at P ≤.0.000). The other variable of poor implementation; low working permit of labors didn't have any statistical important connection with project delay. Generally, nearly all poor implementation factors are found significantly linked with poor project intention.

Table 4.12: Poor Monitoring & Poor Evaluation correlation

No	Items	**Project delay**	
		Pearson Correlation	**Pearson Correlation**
1	Continuously the organization review the process of budget allocation	0.262**	0.000
2	Lack of effective monitoring and feedback	0.513**	0.000
3	Lack of project management technical capability and experience	0.322**	0.000
4	Inadequate leadership quality of the project manager	0.543**	0.000
No	**Poor Evaluation**		
1	Continuously the management of the project review the budget	0.691**	0.000
2	Lack of site management and Supervision	0675**	0.000
3	Continuously the project review the process of budget allocation	0.729**	0.000
4	The project engages its stakeholders in making key budget decisions	0.392**	0.000

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

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

Source: Own computation using SPSS and survey, 2021

Table 4.12 shows the correlation between all variables of poor monitoring & poor evaluation correlation and project delay. An important positive relationship was creating between poor monitoring variables of project delay: continuously the organization review the process of budget allocation (r = 0.0.262 at P ≤.0.000), lack of effective monitoring and feedback (r =

0.513 at P ≤.0.000), lack of project management technical capability and experience (r = 0.322 at P ≤.0.000) and Inadequate leadership quality of the project manager (r = 0.543 at P ≤.0.000).

In addition as per the table 4.12 above shows that there is a strong correlation between poor evaluations related factors and project delay and more specifically: continuously the management of the project reviews the budget (r = 0.691 at P ≤.0.000), lack of site management and supervision (r = 0.675 at P ≤.0.000), continuously the project review the process of budget allocation (r = 0.729 at P ≤.0.000) and the project engages its stakeholders in making key budget decisions (r = 0.392 at P ≤.0.000). Generally, all poor monitoring & poor evaluation factors are found significantly linked with poor project intention.

Table 4.13: Correlation of Poor Controlling, Communication, and Project Closure on project delay

No	**Poor Controlling**	**Project delay**	
		Pearson Correlation	**Pearson Correlation**
1	Lack of control systems of project during implementation	0.497**	0.000
2	Control of the budget activities is done by the departmental heads	0.213**	0.000
3	Inadequate communication, including progress tracking and reporting	0.486**	0.000
Communication			
1	Poor communication between members of the project team	0.378**	0.000
2	Lack of frequent coordination between parties involve	0.433**	0.000
Project Closure related			
1	Lack of project closure report in term of time and quality	0.405**	0.000
2	Incomplete a post implementation review	0.755**	0.000

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

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

Source: Own computation using SPSS and survey, 2021

Table 4.13 shows the correlation between all variables of correlation of poor controlling, communication, and project closure correlation and project delay. Important positive

relationships were creating between poor controlling , communication, and project closure variables of project delay: Lack of control systems of project during implementation (r = 0.497 at P ≤.0.000), Control of the budget activities is done by the departmental heads (r = 0.213 at P ≤.0.000), Inadequate communication, including progress tracking and reporting (r = 0.486 at P ≤.0.000), Poor communication between members of the project team (r = 0.378 at P ≤.0.000), Lack of frequent coordination between parties involve (r = 0.433 at P ≤.0.000), Lack of project closure report in term of time (r = 0.405 at P ≤.0.000) and quality and Incomplete a post implementation review (r = 0.755 at P ≤.0.000). Generally, all poor controlling, communication, and project closure factors are found significantly linked with poor project intention.

4.6 Overall Correlation analysis

Correlation is an analysis that measures the strengths of association between two variables. The value of the correlation coefficient varies between +1 and -1. When the value of the correlation coefficient lies around ± 1, then it is said to be a perfect degree of association between the two variables. The more the correlation coefficient value goes towards 0, the relationship between the two variables becomes weaker (Cohen& West, 2003). The Pearson's correlation coefficient analysis helped the researcher to better understand whether there was a positive relationship, negative relationship, or no correlation between dependent variable and independent variables. Thus, the strength and direction of relationship between variables was able to be analyzed by the researcher using Pearson correlation coefficient analysis. In addition, the researcher used it to measure whether there was a significant relationship between independent variables and dependent variable

Table 4.14: Correlation matrix of dependent and independent variables

Correlations										
		project delay	Project Initiation	Project Planning	Implementation	Monitoring	Evaluation	Controlling	Communication	Project Closure
Project delay	R	1	.352**	.729**	.579**	.482**	.893**	.462**	.459**	.660**
	Sig.		.000	.000	.000	.000	.000	.000	.000	.000
	N	282	282	282	282	282	282	282	282	282
Project Initiation	R	.352**	1	.574**	.415**	.728**	.307**	.365**	.420**	.567**
	Sig.	.000		.000	.000	.000	.000	.000	.000	.000
	N	282	282	282	282	282	282	282	282	282
Project Planning	R	.729**	.574**	1	.701**	.557**	.687**	.486**	.522**	.669**
	Sig.	.000	.000		.000	.000	.000	.000	.000	.000
	N	282	282	282	282	282	282	282	282	282
Implementation	R	.579**	.415**	.701**	1	.445**	.539**	.430**	.518**	.592**
	Sig.	.000	.000	.000		.000	.000	.000	.000	.000
	N	282	282	282	282	282	282	282	282	282
Monitoring	R	.482**	.728**	.557**	.445**	1	.540**	.683**	.537**	.791**
	Sig.	.000	.000	.000	.000		.000	.000	.000	.000
	N	282	282	282	282	282	282	282	282	282
Evaluation	R	.893**	.307**	.687**	.539**	.540**	1	.443**	.426**	.646**
	Sig.	.000	.000	.000	.000	.000		.000	.000	.000
	N	282	282	282	282	282	282	282	282	282
Controlling	R	.462**	.365**	.486**	.430**	.683**	.443**	1	.512**	.639**
	Sig.	.000	.000	.000	.000	.000	.000		.000	.000
	N	282	282	282	282	282	282	282	282	282
Communication	R	.459**	.420**	.522**	.518**	.537**	.426**	.512**	1	.610**
	Sig.	.000	.000	.000	.000	.000	.000	.000		.000
	N	282	282	282	282	282	282	282	282	282
Project Closure	R	.660**	.567**	.669**	.592**	.791**	.646**	.639**	.610**	1
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	
	N	282	282	282	282	282	282	282	282	282
**. Correlation is significant at the 0.01 level (2-tailed).										

Source: Own computation using SPSS and survey, 2020

Table 4.10: demonstrates the correlation analysis generated for all the variables to define correlation coefficients with a two tailed significance test. The identified independent variables improper Project poor Closure, poor Project Initiation, poor Implementation, poor

Controlling, poor Communication, poor Evaluation, poor Project Planning and poor Monitoring. The dependent variable here is project delay.

4.1 Regression Analysis

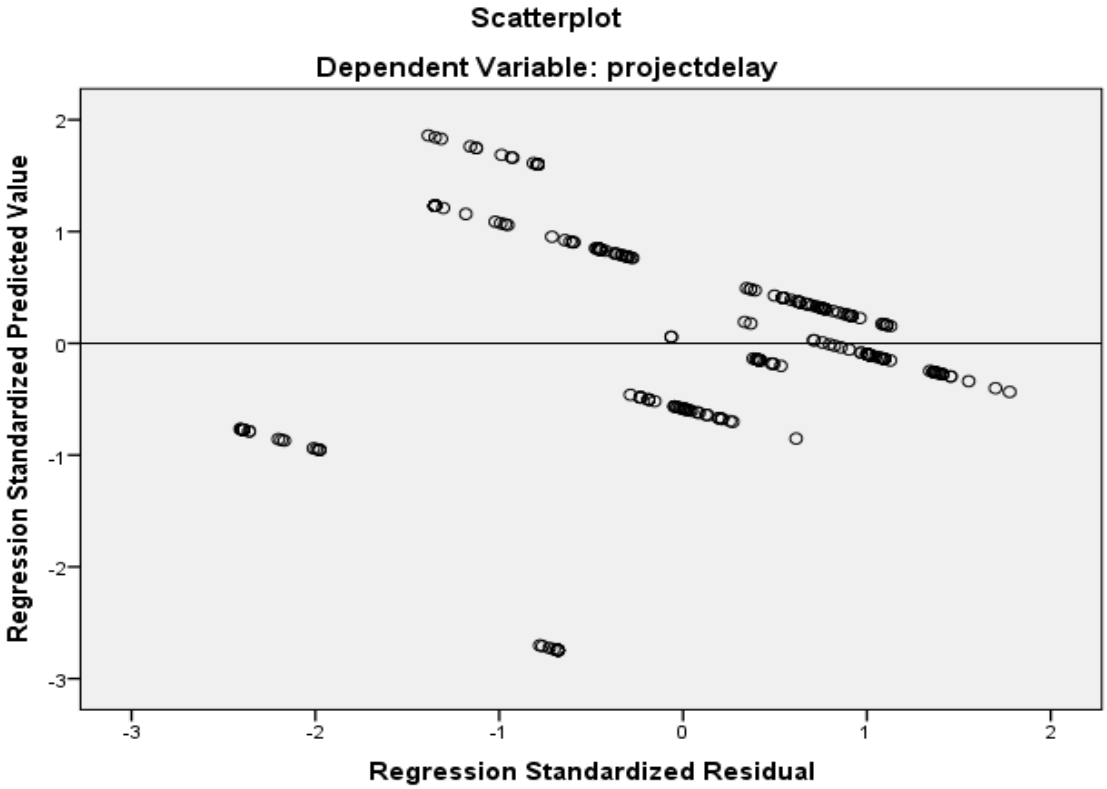
Regression analysis is a statistical measurement used for estimating the relationships among the dependent and independent variables. It enables to determine the strength of the relationship between variables and the predictive power of the independent variables on the dependent variable. In short, regression helps a researcher understand to what extent the change of the value of the dependent variable causes the change in the value of the independent variables, while other independent variables are held unchanged. Regression analysis is a way of statistically sorting out the variables that have indeed an impact. While there are many types of regression analysis, at their core they all examine the influence of one or more independent variables on a variable.

4.1.1 Diagnostic Tests of Assumptions of Classical Linear Regression Model (CLRM)

The Classical linear regression model such as homoscedasticity, autocorrelation, Multicollinearity, and normality were conducted and discussed below.

4.1.1.1 Homoscedasticity Test

This assumption of homoscedasticity is central to the linear regression model. It describes a situation in which the error term (that is, random disturbance in the relationship between the independent variables and the dependent variables) is the same across all values of the independent variables. Assumptions can be checked by a scatter plot diagram. The result plots the values the model would predict, against the residuals obtained. As the predicted values increase, the variation in the residuals should be roughly similar. The graph looks like a random array of dots. So, the model is homoscedasticity.



Source: Own computation, survey 2020

Figure 4.1 Homoscedasticity Test

4.1.1.2 Autocorrelation Test

Durbin-Watson statistic is used to test for the presence of serial correlation among the residuals. The residuals are not correlated if the Durbin-Watson statistic is approximately 2, and an acceptable range is 1.50 - 2.50. As it can be shown from the table below the Durbin-Watson statistic value is 1.986 and this value almost approaches 2 therefore, there is no autocorrelation problem in this model.

Table 4.15:Autocorrelation Test

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.919[a]	.845	.840	.35376	2.002
a. improper Project poor Closure, poor Project Initiation, poor Implementation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning, poor Monitoring					
b. Dependent Variable: project delay					

Source: Own computation and survey, 2020

4.1.1.3 Multicollinearity Test

Multicollinearity is the situation in which the independent variables are highly correlated each other. The multicollinearity problem is defined as the association between two or more explanatory variables through a strong linear relationship in which the effect of the dependent variables cannot be separated from that of the explanatory variables. The problem of linear multicollinearity is also described through the concept of "orthogonality": when the explanatory variables are orthogonal (not linked to each other), all the eigen values are equal to one; if one of these eigenvalues is less than one, especially when it is equal to or near zero, than it is not orthogonal, leading to the problem of linear multicollinearity. The problem multicollinearity can be checked using "Tolerance" and "VIF" values for each predictor variable (Robert, 2006). The VIF is a measure of the reciprocal of the complement of the inter-correlation among the predictors. The decision rule is a variable whose VIF value is greater than 10 indicates the possible existence of a multicollinearity problem. Tolerance (TOL) defined as 1/VIF, it also used by many researchers to check on the degree of collinearity. The decision rule for tolerance is a variable whose TOL value is less than 0.1 shows the possible existence of a multicollinearity problem (Gujarati, 2004).

Based on the test result below all the variance inflated factor (VIF) values are less than 10 and also all the tolerance value greater than 0.1 therefore, in this model there is no high multicollinearity problem. Multicollinearity problem it is not a matter of existence rather it is a matter of degree.

Table 4.16: Test of Multicollinearity

Variables		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Poor Project Initiation	0.317	3.153
	Poor Project Planning	0.276	3.617
	Poor Implementation	0.458	2.182
	Poor Monitoring	0.179	5.589
	Poor Evaluation	0.394	2.541
	Poor Controlling	0.431	2.320
	Poor Communication	0.563	1.777
	Improper Project Closure	0.252	3.972

Source: Own computation and survey, 2020

4.1.1.4 Normality test

Multiple regressions require the residuals to be normally distributed. Checking the normality assumption is necessary to decide whether a parametric or non-parametric test needs to be used. Different ways are suggested in literature to use for checking normality. Skewness and kurtosis values are one of them. The absolute values of skewness and kurtosis less than 1.0 as slight non normality, the values between 1.0 and about 2.3 as moderate non normality, and the values beyond 2.3 as severe non normality." Similarly, Bulmer (1979) pointed skewness, in absolute values, between 0 and .5 shows fairly symmetrical, between .5 and 1 shows moderately skewed and larger than 1 shows highly skewed distribution. The kurtosis and skewness results are shown in the appendix.

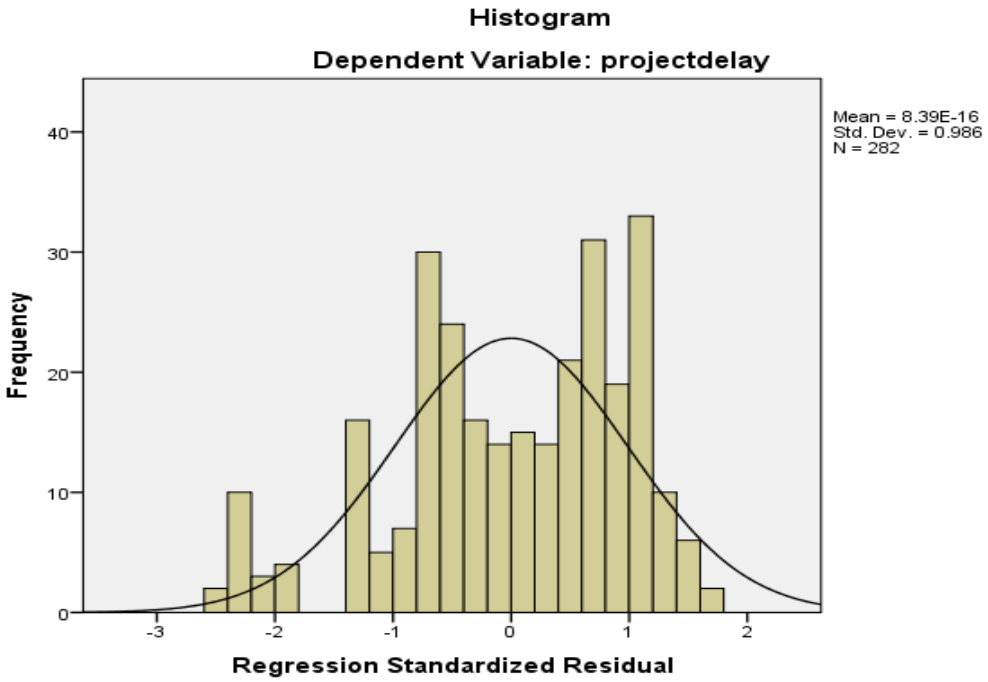


Figure 4.2: Normality Test

4.1.1.5 Test of linearity

Standard multiple regression can only accurately estimate the relationship between dependent and independent variables if the relationships are linear in nature. If the relationship between independent variables and the dependent variable is not linear, the results of the regression analysis will under-estimate the true relationship. This under-estimation carries two problems: increased chance of a Type II error for that independent variable, and in the case of multiple regression, an increased risk of Type I errors (over-estimation) for other independent variables s that share variance with that independent variables. A preferable method of detection is examination of residual plots (plots of the standardized residuals as a function of standardized predicted values, readily available in most statistical software) Osborne 2002 and Waters (2002). Figure 4.3 shows scatterplots of residuals that indicate linear relationships.

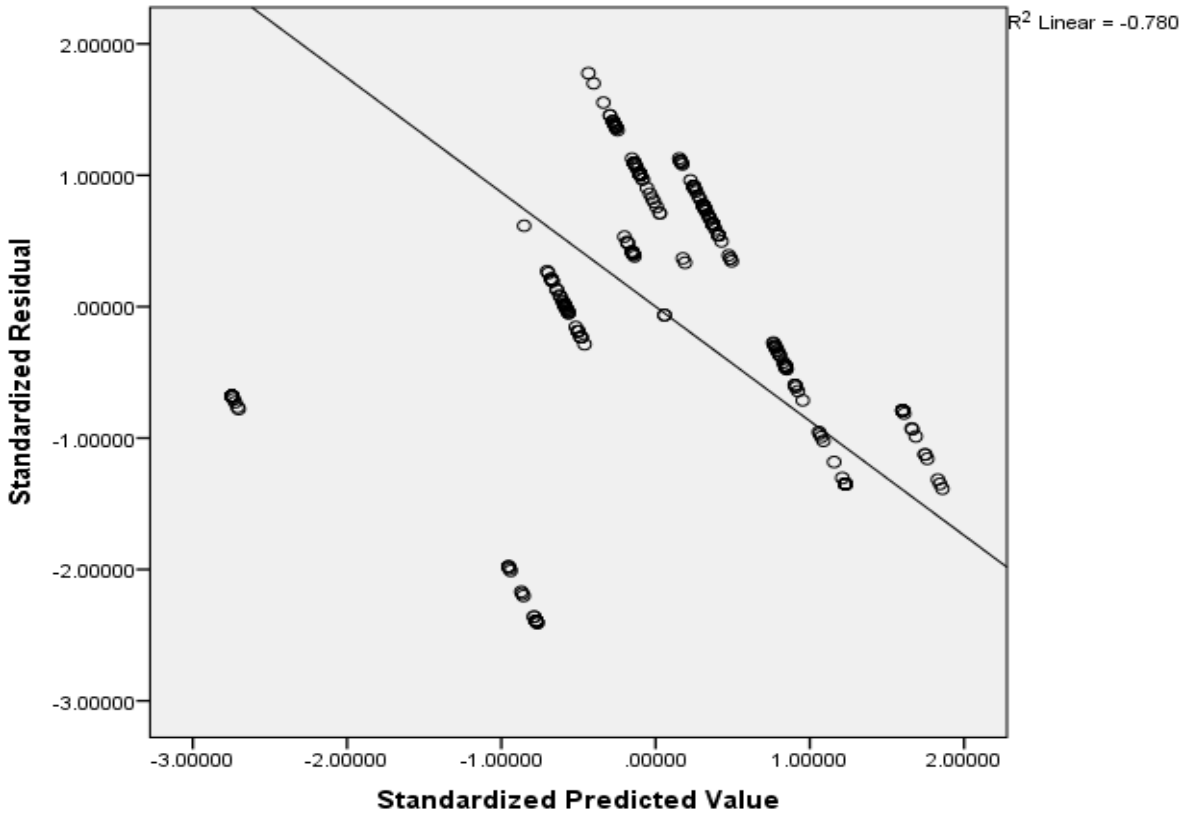


Figure 4.3: Linearity test

4.1.2 Regression Result Analysis and Discussion

Overall, the entire model passed the four diagnostic tests in accordance with Classical Linear Regression Assumptions (CLRM). The next part will present the results of the regression output to analyze the determinants of project delay. With the help of multiple linear regression analysis, model summary, ANOVA, and Beta coefficient were determined, and the regression model was developed.

Model Summary: In the model summary below (table 4.17), the multiple correlation coefficients R, indicates a very strong correlation of 0.919 between project delay and the eight independent variables. The multiple coefficient of determination or R^2 is 0 .845 and this value reveals that the model accounts for 84.5 % of the variation in the project delay is explained by the employed explanatory variables but the remaining 14.5 % of the variation is unexplained by this model.

Table 4. 17: Model Summary

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.919[a]	0.845	0.840	0.35376
a. Predictors: (Constant), improper Project poor Closure, poor Project Initiation, poor Implementation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning, poor Monitoring				
b. Dependent Variable: project delay				

Source: Own computation and survey, 2020

ANOVA Model Fit: The model's overall fit can be examined with the help of ANOVA. As per, Table 4.18 of this study shows that the value of R and R2 found from the model summary is statistically significant at (F=186.013) with the corresponding p-value is 0.00 and it can be said that overall the model is significant. There is a meaningful relationship between project delay and the explanatory variables.

Table 4.18: ANOVA table

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	186.235	8	23.279	186.013	0.000[b]
	Residual	34.166	273	0.125		
	Total	220.401	281			
a. Dependent Variable: project delay						
b. Predictors: (Constant), improper Project poor Closure, poor Project Initiation, poor Implementation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning, poor Monitoring						

Source: Own computation and survey, 2020

Table 4.19: Regression output

Coefficients [a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.857	0.148		-5.804	0.000
	Poor Project Initiation	0.198	0.063	0.133	3.153	0.002
	Poor Project Planning	0.135	0.054	0.114	2.508	0.013
	Poor Implementation	-0.011	0.040	-0.010	-0.291	0.771
	Poor Monitoring	0.343	0.059	0.328	5.820	0.000
	Poor Evaluation	1.061	0.052	0.771	20.300	0.000
	Poor Controlling	0.105	0.034	0.111	3.046	0.003
	Poor Communication	0.016	0.029	0.018	0.558	0.577
	Improper Project Closure	0.168	0.044	0.182	3.823	0.000
a. Dependent Variable: project delay						

Source: Own computation and survey, 2020

Standardized Beta Coefficient: It is the coefficients that can explain the relative importance of explanatory variables. These coefficients are obtained from regression analysis after all the explanatory variables are standardized. As can be seen from table 4.18 above the standardized coefficient of evaluation is the largest value followed by monitoring, Project Closure, Project Planning, controlling and Project Initiation two to six respectively. The larger the standardized coefficient, the higher is the relative effect of the factors to the project delay.

Unstandardized Beta Coefficient ($\boldsymbol{\beta}$): As it is defined in chapter three, the unstandardized coefficients ($\boldsymbol{\beta}1$ up to $\boldsymbol{\beta}8$) are the coefficients of the estimated regression model. Hence, by including the error term (ε), the model for employee performance can be written as;

$$\mathbf{Y_i} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\mathbf{X_{1i}} + \boldsymbol{\beta_2}\mathbf{X_{2i}} + \boldsymbol{\beta_3}\mathbf{X_{3i}} + \boldsymbol{\beta_4}\mathbf{X_{4i}} + \boldsymbol{\beta_5}\mathbf{X_{5i}} + \boldsymbol{\beta_6}\mathbf{X_{6i}} + \boldsymbol{\beta_7}\mathbf{X_{7i}} + \boldsymbol{\beta_8}\mathbf{X_{8i}} + \boldsymbol{\epsilon_i}$$

$$\widehat{\mathbf{Y}}_\mathbf{i} = -0.857 + 0.198\mathbf{X_{1i}} + 0.135\mathbf{X_{2i}} - 0.011\mathbf{X_{3i}} + 0.343\mathbf{X_{4i}} + 1.061\mathbf{X_{5i}} + 0.105\mathbf{X_{6i}} + 0.016\mathbf{X_{7i}} + 0.168\mathbf{X_{8i}}$$

The intercept ($\boldsymbol{\beta}0$) is the point on the vertical axis where the regression line crosses the Y axis. The value of $\boldsymbol{\beta}0$ is -0.857 which means the expected value of project delay is -0.857 when all the eight explanatory variables assume zero value.

Among the eight factors, six of them are found to be a statistically significant effect on project delay. The significant variables are Project Closure, Project Initiation, Controlling, Evaluation, Project Planning and Monitoring. But implementation and communication were insignificant effect.

4.1.3 Discussion of the Regression Result

Project Initiation

As per the regression output of model one table 4.19 above, the coefficient of project initiation is positive and statistically significant at 1 percent level of significance. This implies that a one-unit increase in poor project initiation leads to 0.198 unit increase in project delay being other variables are constant. The positive relationship between poor project initiation and employee performance due to the fact that the factor that always happen relate to the poor project initiation are: improper define the project scope, lack recruit appropriate staff, 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. Therefore, poor project initiation had a negatively affect the project completion time.

Project Planning

The coefficient of project planning is positive and statistically significant at 1 percent level of significance. This implies that a one-unit increase in project planning leads to 0.135 unit increase in project delay being other variables are constant. Therefore, poor project planning/design had a negatively affect the project completion time. The positive relationship between poor project planning and project delay due factors that 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 contractors improper planning.

Poor Monitoring

Monitoring is the process of routinely gathering information with which to make informed decisions for project management. Monitoring provides project managers with the information needed to assess the current project situation and assess where it is relative to specified targets and objectives – identifying project trends and patterns, keeping project activities on schedule, and measuring progress toward expected outcomes. Monitoring can be carried out at the project, programme or policy levels. The coefficient of monitoring is positive and statistically significant at 1 percent level of significance. This implies that a one-unit increase in poor project monitoring leads to 0.343 unit increase in project delay being other variables are constant. The positive relationship between poor project planning and project delay due to the fact that the factors always relate to poor project monitoring; no proper supervision, poor quality control and inadequate supervision, inadequate site inspection, lack of effective monitoring and feedback from the project.

Poor Evaluation

Evaluation is the periodic assessment of the design, implementation, outcomes and impact of a development intervention. The results of multiple regressions, as presented in Table 4.18 above, revealed that poor evaluation had a positive and significant effect on project delay with values. Thus, the proposed hypothesis was accepted. Here also the beta coefficient implies that if the attention is given to Evaluation by one unit, by keeping the other variables constant its project delay would decreased by 1.06 unit.

Poor Controlling

The results of regression presented in Table 4.18 above, revealed that poor controlling had a positive and significant effect on project delay. Thus the proposed hypothesis was accepted. The coefficient of poor controlling is positive and statistically significant at 1 percent level of significance. This implies that a one-unit increase in poor project controlling leads to 0.105 unit increase in project delay being other variables are constant. Here also the beta coefficient implies that if the attention is given to controlling by one percent, by keeping the other variables constant its project delay would decreased by 10.5 percent.

Improper Project Closure

The coefficient of improper project closure is positive and statistically significant at 1 percent level of significance. This implies that a one-unit increase in improper project closure leads to 0.168 unit increase in project delay being other variables are constant. The positive relationship between improper project closure and project delay due to the fact that the factors always happen relate to improper project closure are inadequate project delivery system and incomplete a post implementation review.

CHAPTER FIVE

SUMMARY, CONCLUSION AND POLICY RECOMMENDATION

5.1 Introduction

This chapter presents the summary of findings, conclusion and policy recommendation based on the findings from the study. Summary of findings and conclusions from the estimated results is presented in the next section whilst section 5.4 presents policy implications on the basis of the findings of this study.

5.2 Summary

The main objective of the study is to find out the main determinants of project implementation delay in the case of development Bank of Ethiopia specifically at head office. Based on the literature review discussed in chapter two, eight variables have been established to the main determinants of project implementation delay. These variables are Improper Project Closure, Poor Project Initiation, Poor Implementation, Poor Controlling, Poor Communication, Poor Evaluation, Poor Project Planning and Poor Monitoring.

Before going to the main analysis of the study, a reliability test was administered to check whether the questionnaire is reliable or not. In this regard as per Table 3.2 illustrates all the questionnaires were reliable and acceptable with overall Cronbach's Alpha result 0.948.

Related to the demographic characteristics for the respondent's Table 4.1 specifies that the majority of the managers 73.4 % were male. Regarding their age level, the majority of them were between the age group of 66.3 % (30 - 40). Regarding educational level again illustrated that the majority of the employees were Masters and above degree holders. Moreover, Table 4.4 indicates that the majority of the managers have between 1 - 4 years of work experience in the organization.

According to the study of descriptive and correlation analysis to identify the cause factors which lead project delay the major outcome of the study are:-

Concerning Poor Project Initiation and planning/design the key reasons to why most projects determined to delay was; Lack of comprehensiveness of feasibility study and project Analysis , Inappropriate layout of project office, Lack of awareness about procedure of the funding institution, Inadequate estimation of project completion schedule, Lack of complete and

proper design and specification of projects at right time, Lack of clarity of design and work specification and Inadequate resource and finance allocation.

Regarding to poor implementation, poor monitoring & poor evaluation the key reasons to why most projects determined to delay was; Shortage of construction input, Change in material prices/price escalation, low productivity and efficiency of construction equipment, Absence quantity and quality of labors, lack of effective monitoring and feedback, Inadequate leadership quality of the project manager, lack of site management and Supervision and continuously the project review the process of budget allocation.

Related to Poor controlling, communication, and Project closure the key reasons to why most projects determined to delay was: Lack of control systems of project during implementation, inadequate communication, including progress tracking and reporting, Poor communication between members of the project team, Lack of frequent coordination between parties involve and Incomplete a post implementation review.

In addition, the result of regression analysis was made. In this regard Table 4.14 shows that the regression result of all the independent variables (Improper Project Closure, poor Project Initiation, poor Implementation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning and poor Monitoring) and dependent variable of project delay. The overall result shows that the model tested is significant ($p<0.000$) with the R square 0.845. This value indicates 84.5 % of the variation in project delay explained by the eight independent variables entered into the regression. The remaining 29.3 % of the variation in the project delay is unexplained by this model.

5.3 Conclusions

Project implementation delay can be defined as the getting late completion of work compared to the planned schedule Delayed implementation gives a project a difficult start, excessively long time taken for project implementation results in time-overrun which is invariably followed by cost overrun. Cost- overrun has the hard effect of affecting the financial viability of the project.

The DBE's Project Analysis Process: Project cycle activities typically include the following stages: identification, preparation and appraisal, related to pre-implementation, and monitoring and evaluation. At the appraisal stage, a decision is made on the suitability of a

project or program for Bank financing. The appraisal process involves evaluation of the following aspects of the project: technical feasibility, financial and economic viability, management capability, institutional capacity, social and distributional concerns, and environmental soundness. (ADB, Economic research papers No. 56)

The general objective of this study is to find out the main determinants of project implementation delay in the case of development Bank of Ethiopia specifically at head office. To address the problem the study aims to find answers to the following basic research questions.

- ✓ What factors affect the delay of the Project financed by the development bank of Ethiopia?
- ✓ What is the most dominant factor which affects the delay of projects in the development bank of Ethiopia?
- ✓ What are possible measures taken by the Development Bank of Ethiopia to exterminate delays in implementation?

Thus, on the basis of research questions and specific objectives the following conclusions were made.

Except poor Implementation, all determinant factors of project delay have a positive correlation with project delay. The correlation between the dependent variable (project delay) and independent variables (Improper Project Closure, poor Project Initiation, poor Implementation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning and poor monitoring) was strong and 0.919.

The multiple regression assumptions like multicollinarity, Autocorrelation, normality and Heteroskedasticity tests are met accordingly in model one and model two. The ANOVA test result in the model showed that the value of R and R2 obtained under the model summary part was statistically significant and overall significant. The multiple linear regression analysis of the independent variables and dependent variables shows that in the model out of four independent variables all variables are positively and statistically significant effect on project delay i.e Improper Project Closure, poor Project Initiation, poor Controlling, poor Communication, poor Evaluation, poor Project Planning and poor monitoring.

From the above result the researcher concluded that Improper Project Closure, Poor Project Initiation, Poor Controlling, Poor Communication, Poor Evaluation, Poor Project Planning and Poor Monitoring are the key factors that affect project delay.

5.4 Recommendation

Recommendations are made for some of the major causes of project delays determined from the study; these recommendations are considered as solutions to project delays in the DBE financed projects**.** These include.

- Any business initiator should select projects that 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 project process reengineering needed since poor project initiation is the most determinant of project delay.

- The study also recommended 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.

- 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. All assumptions on the project must be carried out at the planning stage; all relevant stakeholders must be involved at the planning stage of the project. Contractors must set up a framework for cash management at the planning stage, identify quality standards and work out modalities on how to satisfy them.

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Appendixes

Appendix 1: Structured questionnaire

Dear Respondents: - My name is Yichalem Tilahun and I am studying for a Master's Degree (MBA) in Financial Service at Addis Ababa University. Now I'm going to conduct a study on the **"Determinants of project Implementation Delay" in the case of selected projects financed by the Development Bank of Ethiopia.** I would like to express my deep appreciation for your generous time, honest and prompt responses.

Objective:- This questionnaire is designed to collect data about the "Determinants of Project Implementation Delay". The information that you offer me with this questionnaire is used as primary data in my study which I am conducting as a partial fulfillment of the requirements for the Masters of Degree (MBA) in Financial Service. Please note that confidentiality of your response is secured and used only for the purpose of this study.

Thank you in advance for your voluntary participation!!

Directions

No need of writing your name;

Put ''√ '' mark for your choice

PART I: Background Information

1. Sex of project manager: Male Female

2. Age of project manager: below 30 31- 40 41-50 above 50

3. Education level of the project manager:

   Certificate Diploma 1st Degree 2nd Degree and above

4. Experiences as a project manager: ----------Years going

PART II: Determinants of Project Implementation Delay

Please state your level of opinion for the determinants of project implementation delays by using the following rating scales: Please tick and fill in the blanks if you select others. Each scale represents the following rating:

1 = **strongly disagree** 2 = **Disagree** 3 = **Neutral** 4 = **Agree** 5 = **strongly agree**

<u>Questions:</u> Questions related to Determinants of delays

A. Project Initiation related

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Lack of comprehensiveness of feasibility study and project Analysis					
2	Improper define the project scope and work definition					
3	Lack of recruit appropriate staff					
4	Inappropriate layout of project office					
5	Poor job description for a project manager					
6	Lack of awareness about business nature well					
7	Lack of awareness about procedure of the funding institution					

B. Project Planning/Design related

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Inadequate estimation of project completion schedule					
2	Lack of complete and proper design and specification of projects at the right time.					
3	Lack of recognized in advance the resources needed to carry out projects to cover unseen costs while planning the project					
4	Lack of clarity of design and work specification					
5	Lack of proper estimation of the cost that will be needed to complete the project.					
6	Inadequate resource and finance allocation					
7	Failure at the conceptual planning and design stages					
8	Identify contractors improper and lack of staff motivation					

C. Implementation related

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Improper materials procurement					
2	Shortage of construction input					
3	Change in material prices/price escalation					
4	Low productivity and efficiency of construction equipment					
5	Absence quantity and quality of labors					
6	Low working permit of labors					
7	Lack of high technology mechanical equipment					
8	Inefficient use of equipment					

D. Monitoring

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Continuously the organization review the process of budget allocation					
2	Lack of effective monitoring and feedback					
3	Lack of project management technical capability and experience					
4	Inadequate leadership quality of the project manager					

E. Evaluation

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Continuously the management of the project review the budget					
2	Lack of site management and Supervision					
3	Continuously the project review the process of budget allocation					
4	The project engages its stakeholders in making key budget decisions					

F. Controlling

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Lack of control systems of project during implementation					
2	Control of the budget activities is done by the departmental heads					
3	Inadequate communication, including progress tracking and reporting					

G. Communication related

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Poor communication between members of the project team					
2	Lack of frequent coordination between parties involve					

H. Project Closure related

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	Lack of project closure report in term of time and quality					
2	Incomplete a post implementation review					

PART III: Questions related to project delay

3.1 Please state your level of opinion for the delay time of the project by using the following rating scales: Please tick and fill in the blanks if you select others. Each scale represents the following rating:

1 = **strongly disagree** 2 = **Disagree** 3 = **Neutral** 4 = **Agree** 5 = **strongly agree**

No	Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	The project is highly delay as compared to the project schedule time					
2	The project is highly delayed as compared to the total task that conducted in the project					
3	The project is highly delayed as compared to other contemporary projects					
4	The delayed project will expected to accomplished in the rescheduled time					

PART IV: Other Opinion of Respondents

1. What action do you think to be taken for effective project implementation?

   a) …….....

   b) ……..

   c) …….……

   d) ……...

   e) ……...

2. If you have other opinion/experience on determinants of delay in project rather than mentioned above kindly request to add here;

   a) ……

   b) ……

   c) ……