

**DETERMINANTS OF PROJECT IMPLEMENTATION DELAY:
THE CASE OF PUBLIC PROJECTS FINANCED BY
DEVELOPMENT BANK OF ETHIOPIA JIMMA DISTRICT**

*A Thesis report submitted to the school of graduate studies of Jimma University
in partial fulfillment of the requirements for the complete in masters of
development economics masters of Science in development economics (MSc.)*

BY:

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**JIMMA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
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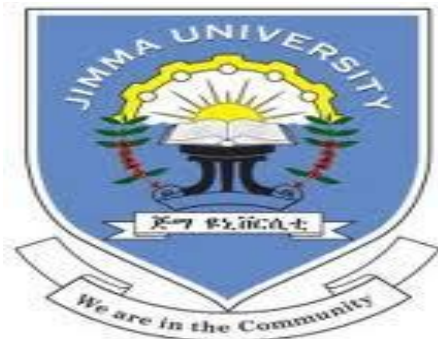
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Under The Guidance Of

Dr. Leta Sera (PhD)

And

Ms. Mihret Wolde (MSc)



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JIMMA UNIVERSITY

MSC PROGRAM

JULY, 2021

JIMMA, ETHIOPIA

CERTIFICATE

This is to certify that the thesis entitled “Determinants of project implementation delay: the case of projects financed by Development Bank of Ethiopia Jimma district” submitted in partial fulfillment of the requirements for the degree of Master's with specialization in Development Economics, the Graduate Program of the Department of Economics and has been carried out by Mr. Tilahun Mamuye under our guidance and supervision. To the best of our knowledge, it is an original work and not submitted earlier for any degree either at this University or any other University.

Therefore we recommend that the student has fulfilled the requirements and hence hereby can submit the thesis to the department.

Dr. Leta Sera (PhD),	_____	_____
Name of major advisor	Signature	Date
Ms. Mihret Wolde (Msc),	_____	_____
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EXAMINERS' APPROVAL SHEET SCHOOL OF GRADUATE STUDIES

We, the undersigned, member of the Board of Examiners of the final open defense by, Mr. Tilahun Mamuye have read and evaluated his thesis entitled “Determinants of project implementation delay: The case of public projects financed by development bank of Ethiopia Jimma district)”and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirements for the degree of Masters in Development Economics.

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DECLARATION

I, Tilahun Mamuye, declare that this thesis entitled “Determinants of project implementation delay: the case of projects financed by Development Bank of Ethiopia Jimma district” is outcome of my own effort and study and that all sources of materials used for the study have been duly acknowledged. To the best of my knowledge, this study has not been submitted for any degree in this University or any other University. It is offered for the partial fulfillment of the degree of Masters of Science in Development Economics.

By: Tilahun Mamuye Senbetu

Signature: _____

Date: _____

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ACRONYMS AND ABBREVIATIONS

ADLI	Agricultural Development Led to Industrialization
ANOVA	Analysis of Variance
BSC	Balance Score Card
CBE	Commercial Bank of Ethiopia
CCP	Corporate Credit Process
CSF	Critical Success Factors
DBE	Development Bank of Ethiopia
G.C	Gregorian calendar
GDP	Gross Domestic Product
KYC	Know Your Customer
LPM	Linear Probability Model
NBE	National Bank of Ethiopia
NPL	Non-performing Loan
OLS	Ordinary Least Square
PF	Project Finance
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
SME	Small and Medium Enterprises
UNDP	United Nation Development Program
UNIDO	United Nation Industrial Development Organization
VIF	Variance Inflation Factor
WB	World Bank

ABSTRACT

The main aim of this thesis was to identify the determinants of private project implementation delay financed by DBE Jimma District by taking into account the factors emanated from Project specific and external factors. The study used both qualitative and quantitative data. Primary and Secondary data was used as evidence for the study. In case of census, the study has selected all the financed projects (152) ranging from July, 2015 – June, 2020 for consecutive of five years. Based on this, 135 of agricultural projects and 17 agro-processing projects were selected from the total financed projects at DBE Jimma district. Data collected were analyzed through descriptive statistics and by Binary Logit Model. The study found that poor project management and poor feasibility study of the projects have positive and statistically significant effect on project implementation delay. Therefore, the bank's project appraisal officers shall have the required project appraisal and analysis competencies and skills. They should get the required trainings so that projects are properly appraised and all the appropriate investment components of the project are incorporated in the project analysis. Concerning project management problem of the projects, the bank has to impose project owners to recruit the required human resources as per the suggestion by the banks appraisal study with stipulated number, knowledge and experience requirements of human resources. Moreover concerned government bodies are also expected to do the same in addition to providing training in order to change the wrong perceived mind of local project owners, because employment creation and sustainability of projects to generate national GDP are among the main goal of the projects established with all investment policy privilege.

Key words: *Project Implementation, Project Completion Delay and Project Financing.*

Table of Contents

CERTIFICATE	ii
EXAMINERS' APPROVAL SHEET SCHOOL OF GRADUATE STUDIES	iii
DECLARATION	iv
ACKNOWLEDGEMENTS	v
ACRONYMS AND ABBREVIATIONS	vi
<i>ABSTRACT</i>	vii
LIST OF TABLES	xi
LIST OF FIGURES	xii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study	1
1.2 Statement of the Problem	4
1.3. Research question	7
1.4. Objectives of the study	8
1.4.1. General objectives	8
1.4.2. Specific objective	8
1.5. Significance of the Study	8
REVIEW OF RELATED LITERATURE	9
2.1 Theoretical Literature	9
2.1.1 Definition and Concept of Project	9
2.1.2 Project Classification	10
2.1.3 The Project Cycle	10
2.1.4 Definition and Concept of Delay	11
2.2 Empirical Review	12
2.2.1 Shortage of Finance	13
2.2.2 Poor Management	14
2.2.3 Cost Overrun	14
2.2.4 Project Feasibility Study	15
2.2.5 Elongated Credit Assessment Process	16
2.3 Conceptual Framework	16

CHAPTER THREE	18
RESEARCH DESIGN AND METHODOLOGY	18
3.1 Research Approach.....	18
3.2 Research Design.....	18
3.3 Description of the Study Area	18
3.4 Sampling Method and Sample Size.....	20
3.5 Data Type and Source.....	20
3.6 Econometric Model selection and specification	20
3.6.1 Model Selection	20
3.6.2 Definition of Dependent and Independent Variable	23
CHAPTER FOUR.....	25
RESULT AND DISCUSSION	25
4.1.1. Descriptive statistics	25
4.1.2. Lack of Finance.....	25
4.1.2 Poor Management.....	26
4.1.3 Cost Overrun.....	27
4.1.4 Poor Project Feasibility Study.....	28
4.1.5 Elongated Credit Assessment Process	29
4.2. Econometric Result	30
4.2.1. Multicollinearity Test.....	30
4.2.2. Heteroscedasticity Test	30
4.2.3. Binary Logit and Logistic Model Estimation Results and Interpretation.....	31
CHAPTER FIVE	36
CONCLUSION AND RECOMMENDATIONS	36
5.1. Conclusion	36
5.2. Recommendations.....	38
REFERENCE.....	39
APPENDICES	43
Appendix I.....	43
Appendix II Multicollinearity and Goodness of the model test	46
A. Result of Multicollinearity Test.....	46
B. Result of Goodness of the model and their classification.....	47

Appendix III: - Binary Logit, Logistic regression and Its Marginal effect Result 48

A. Logistic (Odds) ratio test of the Binary Logistic Regression 48

B. Logit model of coefficient test..... 49

C. mfx (marginal effect..... 49

Appendix IV. General Information of the analyzed Projects 50

Approved Loan, Planned and Actual Investment value of the analyzed Project 50

LIST OF TABLES

Table 3-2: Lists of variables, definition and measurement	24
Table 4-1: Existence of lack of Finance.....	25
Table 4-2: Poor management of Project	26
Table 4-3: Cost Overrun of projects	27
Table 4-4: Poor project feasibility study of projects.....	28
Table 4-5: Elongated credit assessment process on the financed projects.....	29
Table 4-6: Binary Logit, Its Marginal effect and Logistic regression summary result of estimation factor affecting project implementation delay.	34

LIST OF FIGURES

Figure 1: BaumCycle, (Source: The project cycle, Warren C. Baum, 1982)	11
Figure 2: Conceptual framework of the study	17

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

AON plc.. (2012) noted that a project is the product of tasks, arranged in a defined sequence that produces predefined output or effect and it always has a start and an end period. In its discussion it looks a project like a football hit from one point of the goal and aimed at achieving the objective immediately it enters the opponent's goal; adding up to a score. Nevertheless, World Bank (2014) asserted that most projects usually suffer delay and surpass the outlined contract sum (World Bank, 2014). Hence, taking these adverse consequences of project delay into account, Oyewobi (2011) argued earlier that ideally projects are supposed to run continuously without any delays and the responsibilities to keep this is the project manager and other stakeholders who are linked directly with the projects. Therefore, Within the project team there should be mechanism discouraging parties to the project from laxity that may lead to project delays within the project teams. (Oyewobi 2011).

Construction is part of facility and infrastructure provision; it is part of the development process. Delays in Project implementation can be caused by several parties; owner, contractors or other parties (Zetta, 2018).As a result, identifying the causes for the delay of projects should be sared responsibility among parties involved in implementation. Concurrently, delays occurred in Projects may sometimes lead the parties into complicated situations. Therefore, understanding and identifying the causes and types of project delays are essential. Categorized project delays further could be implicated in schedule delays analysis methods in order to solve delays liability problems. The methods produce different results; hence, the schedule delay analyst should understand the anticipated results that can be accepted by all construction projects parties. However, a clause discussed concurrent delay liability is highly recommended to support the solving of delays in concurrency problems.

Projects are considered delayed when their stipulated completion scheduled time have not been achieved. The inability to complete projects on time and within budget continues are chronic problems worldwide and is worsening (Ahmed 2012). Implementation delay gives a project a difficult start, unduly long time taken for project implementation results in time-overrun which is invariably followed by cost overrun. According to Abdalla (2012) projects encounter delays and overshoot the initial time and cost estimates which in turn result in extensive delays providing a platform for massive delay and disputes.

According to Assaf and Al-Hejji (2006) in construction, delay could be defined as the time overrun either beyond completion date specified in a contract, or beyond the date that the parties agreed upon for delivery of a project. It is a project delay over its planned schedule and is referred as common problem in construction projects. In some cases, to the contractor, delay means higher overhead costs because of higher material costs through inflation, longer work period and labor cost escalations. Time, cost and quality determine successful construction which includes also the safety and its environment. Time and cost have parallel relationships by which the increasing of the time will make the increasing of the cost and vice versa. Then, the controlled of time is really important to avoid any loss to the contractor. The time discuss is the period which is the schedule for the activities from the beginning until the completion of the process of planning.

On the other hand, a project manager will claim that if the project is finished within budget, on schedule, within scope and with the specified quality it is a success. However, while defining project success and success indicators in front phases may be a complex process it is far easier to assess what is a project failure (Hallgrim et al., 2013). In this case, OGC (2005) listed eight common causes of project failure which give an indication of where efforts should have been taken on improving success rates. Out of the eight causes one is dealing with project management skills, while the rest is concerning clients activities. OGC lists client activities as lack of strategic links between the project and the organization's strategic priorities, lack of clear senior management and leadership, lack of engagement with stakeholders, too little attention to breaking development, evaluation of project proposals driven by initial price rather than long term value for money, and lack of understanding and lack of contact with the supply industry. The last cause was lack of effective integration between clients, the supplier team and the supply chain.

Economic growth and development have great importance in developing countries. The scarce capital, the lack or shortage of resources lay on emphasis upon concentration of efforts and resources for economic development. Even in developed countries it had been necessary to establish the specialized development banks, whose primary task was to finance and promote investment projects. Also in developing countries the question arises whether the existing financial institutions (e.g., Commercial banks) should be vested with the responsibility to finance development or new specialized development institutions should be created. Specialization is warranted by the fact that other financial institutions often lack the qualified personnel and the developing countries monetary policies are not efficient enough, where as the view is held that new institution should be created. Accordingly, after World War II, particularly in the past two decades a lot of development banks were founded in many developing countries.

There are different definitions of Development Banks. Diamond (1957) claims that development banks are specialized financial institution, whose main task is to promote and finance the private projects. First of all, he means promoting and financing development projects. But experiences in developing countries and other source of special literature show that the activities of development bnks exceed beyond financing of the private projects. Hence, according to the definition of Janssens (1965), development bank is the institution that grants medium and long-term loans in developing economy.

In our country, Development Bank of Ethiopia is a specialized development financial institution, operating since 1909. The bank is mandated with the provision of development credit to government priority area projects that is Commercial Agriculture projects, Manufacturing, Agro-processing industries and Mining and Lease Financing Service for Small and Medium Enterprises (SME). The Development Bank of Ethiopia (DBE) is one of the two state-owned banks in the country. Even if the Bank has providing finance over the last 110 years it was reestablished on September 19, 1994 by the Proclamation No. 200 of 1994 and Proclamation No. 25 of 1992 with an authorized capital of Birr 250,000,000, of which Birr 62,500,000 was paid in cash and in kind. As a development bank, it is entrusted with the objectives of medium and long-term financing of development projects in agriculture and industry. In the last three decades, the

bank's balance sheet has expanded dramatically as its annual loan disbursement to development projects has grown both in volume and number (Development Bank of Ethiopia, 2019).

Currently the Bank is facing a serious problem of delay in implementation of public/government projects for timely commencement of operation. Project implementation delay is a major problem facing DBE financed projects. It is endemic and its economic challenge and social impacts were discussed. Poor of feasibility study studied by the bank i.e. inadequate investigations and project formulation, frequent changes in scope and revision of drawings due to inadequate project preparation are also the other causes of delay (Belay, 2017). According to Tadesse, 2017, the practices that lead to in delay on implementation of projects financed by DBE are poor project initiation, poor project planning/design system, poor project monitoring and evaluation and controlling system, poor communication and improper project closure negatively influences project completion.

1.2 Statement of the Problem

Project implementation delay affects the economies throughout the world. It retards the development in all other related fields. According to Assaf and Al-Hejji (2006) some key causes of project delay are improper planning, poor management and skilled labor supply and productivity; contractors are insufficient client's payments for completed and ongoing work, acquiring difficulties for work permit and approval, and availability and failure of equipment. When projects deviate from their objectives (either completion time, performance in cost, safety or environmental effects), the damage caused transcends out of the contracting parties and affects the project stakeholders and the public at large. Give emphasis to the completion time deviation factors as they are very common in our country's construction industry, lack of justified methodologies in quantifying and analyzing delays happens to be the greater challenge (Abebe, 2003).

Construction project delay is commonly occurring in the world. The delay can be caused by several parties; owner, contractors or other parties (Zetta, 2018). As a result, identifying delay responsibility among parties is required to be achieved. Concurrently in Project delay sometimes occurs and leads the parties into complicated situations. Therefore, understanding and identifying the causes and types of delays are essential to be done. Categorized project delays further could be implicated in schedule delays analysis methods in order to solve delays liability problems.

The methods produce different results; hence, the schedule delay analyst should understand the anticipated results that can be accepted by all construction projects parties. However, a clause discussed concurrent delay liability is highly recommended to support the solving of delays in concurrency problems.

Abdurezak and Neway (2019) the main construction project delay causes are client, consultant, contractor, resource and external related causes. The study summarized views of consultants, clients, and contractors on the relative importance of the factors that cause delays in public building construction projects in Addis Ababa. The researcher studied the owner's respondent's delay factors are ranked from one to four: i) Poor Project management system, ii) late start & resource mobilization to site, iii) difficulty in project financing and v) Shortage of availability of imported construction materials on market. For consultants the most important delay factors are: difficulty in project financing, delay to furnish and deliver the site to the contractor, delay in issuance of designs and working drawings and slow in decision making. According to the contractor's perceptions the top four delay causes are: financing problems and delay in issuance of designs, difficulty in project financing (poor financial system), and delay in progress payments for completed works and working drawings.

Project success is reaching the planned objectives in compliance with predetermined conditions of cost, time and performance (Beleiu, Crisan, & Nistor, 2015). Project success was recognized to be a complex concept encompassing many attributes (Mir & Pinnington, 2014). Critical success factors are things that must be done if a company is to be successful (Imtiaz, et al., 2013). CSF refers to conditions or variables that have a significant impact on the success of a project, when they are properly managed, sustained and maintained (Alias et al, 2014). CSF are used to support and measure the success of a strategic approach for implementation of projects intended to ensure the success of the project and support the proper allocation of limited resources.

Success factors are inputs to management system which can lead directly or indirectly to project success in an organization (Shafiq Lutaaya, 2019). These are Project Management Actions, Project Procedures, Human Factors, Project Related Factors, and External Issues. In the past, the traditional view of project management, if you completed the project and adhered to the competing constraints or the triple constraints of time, cost, and performance, the project was successful. Perhaps in the eyes of the project manager the project appeared to be a success. But

in the eyes of the customer the project might be regarded as a failure (Kerzner, 2014).As a project manager, you are ultimately responsible for delivering a successful project.

Failing to complete the project on time is of course not the single most serious problem in different sector in Ethiopia, though; it's a common feature in the multibillion birr industry. As it has been observed most DBE financed projects implementation schedule lag behind from what was planned in the feasibility studies submitted by the project owners and on revised appraisal studies of the Bank. 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, 2016). Currently it is common to watch foreclosure advertisement of different Banks on television window every day and this indicates that the failure of many projects including DBE financed projects.

According to Belay (2017) Project implementation delay is a major problem facing DBE financed projects. Implementation delay will result in low loan recovery performance of the Bank. Moreover, completion time of projects financed by the DBE is influenced by various determinants such as (Poor project initiation, poor project planning/design system, poor project monitoring, and evaluation and controlling system, poor communication and improper project closure (Tadesse, 2017). Finally, he suggested future researches in the area of project implementation delay to incorporate Poor feasibility study, cost overrun and elongated credit process as major determinants especially for agro-processing and agricultural projects.

Development Bank of Ethiopia (2019) also reported that long delays in implementation of projects are the major cause for loans become non-performing loans. For several reasons, most projects financed by the Bank are not completed as per the schedule and project implementation delay remains to be the common and serious challenge to the Bank. Implementation delay is also escalating investment costs of the projects sometimes more than twice the initial estimates thereby forced for provision of additional loans time and again for the projects to bring them to completion stage. At the end of the day, when such projects are completed after extended delays and significant additional costs mainly funded by loans, their viability and loan repayment capacity would be questionable. Generally, the delay in implementation of DBE financed projects is associated with various factors and has negatively impacted the timely collection of

loans and the bank's loan statuses. In view of this, the study investigated the major causes of project implementation delay for DBE financed projects in Jimma District for the period between 2015 and 2020.

Long delay in implementation of projects is the major cause for loans become non-performing loans. For several reasons, most projects financed by the Bank are not completed as per the schedule and project implementation delay remains to be the common and serious challenge to the Bank. Implementation delay is also escalating investment costs of the projects sometimes more than twice the initial estimates thereby forced for provision of additional loans time and again for the projects to bring them to completion stage. At the end of the day, when such projects are completed after extended delays and significant additional costs mainly funded by loans, their viability and loan repayment capacity would be questionable (Development Bank of Ethiopia, 2019). Generally, the delay in implementation of DBE financed projects is associated with various factors and has negatively impacted the timely collection of loans and the bank's loan statuses. In view of this, the study investigated the major causes of project implementation delay for DBE Jimma District (2015-2020) financed projects.

Moreover, as reviewed briefly above none of the researches conducted in Ethiopia in relation to project delay have incorporated poor feasibility study done by the bank, cost overrun and elongated credit process as major determinants of project implementation delay especially for agro-processing and agricultural projects. In addition to this, some researchers such as Tadesse, (2017) suggested the need of further research studies on determinants of project implementation delay herefore, this study attempted to fill the research gap in literature by incorporating important variables such as poor feasibility study done by the bank, cost overrun and elongated credit process in addition to shortage of finance and poor project management as major determinants of project implementation delay in case of DBE Jimma District.

1.3. Research question

Related to that of the above research statement problem, the research questions to be answered are.

- What are the major causes of project implementation delay for DBE Jimma District financed projects?

- What is the relative importance of causes of project implementation delay for DBE Jimma District financed projects?

1.4. Objectives of the study

1.4.1. General objectives

The general objective of the study was to analyze the main determinants of implementation delay for public projects financed by development Bank of Ethiopia at Jimma district.

1.4.2. Specific objective

The specific objectives of this research were:

- ❖ To examine the effect of shortage of finance on completion of projects.
- ❖ To investigate the effect of poor management on completion of projects.
- ❖ To investigate the effect of cost overrun on completion of projects
- ❖ To examine the effect of poor project feasibility study and appraisal study system on completion of projects.
- ❖ To examine the effect of elongated credit process on completion of projects.

1.5. Significance of the Study

The study helps the Development Bank of Ethiopia and project contact officers to identify major determinants of project delay which are affecting the operation of the project throughout its life. Further, the finding of the study may help the managers, practitioners and academicians to compare and contrast the theory and the reality. Besides, the study will be assessed and added some information to the existing knowledge for researchers who are going to conduct the research in the same area or related discipline.

The result of this study is also assist the responsible bodies by providing knowledge on how to identify the major determinants of project delay needs of their projects in delivering advanced technologies and appropriate measurements to improve the effectiveness of their project implementation of project life cycle and to increase the profitability of the project. Furthermore, the study is believed to benefit both lender bank and owners of the project as a documented study in this area. The study will also recommend adoptable policies and strategies for mitigating project implementation delay.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Theoretical Literature

2.1.1 Definition and Concept of Project

A project is defined as 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 application of knowledge, skills, tools, and techniques to project activities to meet the project requirements (Joseph, 2015). However, based on different literatures, 52.7% of projects were not able to complete on time and over cost, and 31.1% not fulfilled the scope [Charvat, 2013 and Clancy, 2008].

The growth in new knowledge increases the complexity of projects because projects encompass the latest advances. Now, many companies focus on project management, as it focuses on achieving the intended project objectives. It is necessary as it applies managerial process and has its tools that give managers a good opportunity to succeed in achieving the demanded objectives. A project manager can reform everything right from a project management perspective however the project still can fail depending on its success criteria to help to ensure project success. Project managers can use different techniques and instruments that are useful to manage projects efficiently. These include bar charts, macro and micro cost estimation approaches, network activity diagram and resource scheduling techniques. The use of these techniques and instruments can lead to better chance of project success. Now days, emphasis on an integrated project management process is the focus of all project effort towards the strategic plan of an organization, and reinforces control of both the project management techniques and tools, and the interpersonal skills necessary to orchestrate successful project completion [Clancy, T., 2008]. The following sections discuss the project classification, the project cycle and the factors that contributed to project delay.

2.1.2 Project Classification

Basically, projects can be classified into three resolution types (Clancy, 2008):

- a) Type 1 (project success): The project meets its objectives under budget and under schedule. The project is completed on-time, fulfilled all functions and features as specified.
- b) Type 2 (project challenged): The project is completed and operational however it is over-budget, over the time estimate and gives fewer functions and features than originally specified.
- c) Type 3 (project impaired): The project is cancelled at some point during the development cycle.

2.1.3 The Project Cycle

The project cycle considers several stages and each stage not only is grown out of the proceeding ones, but also leads into the subsequent ones. It is a self-renewing cycle in that new projects may grow out of the old ones in a continuous process and self-sustaining cycle of activity.

There are several models that deal with the project cycle. However, here more emphasis is given to the Basic Models – **The Baum's cycle**.

2.1.3.1 The Baum Cycle (World Bank Procedures)

The first basic model of a project cycle is Baum (1970), and it has been adopted by the World Bank and initially recognized four main stages. Those are

1. Identification
2. Preparation
3. Appraisal and Selection
4. Implementation and
5. Evaluation

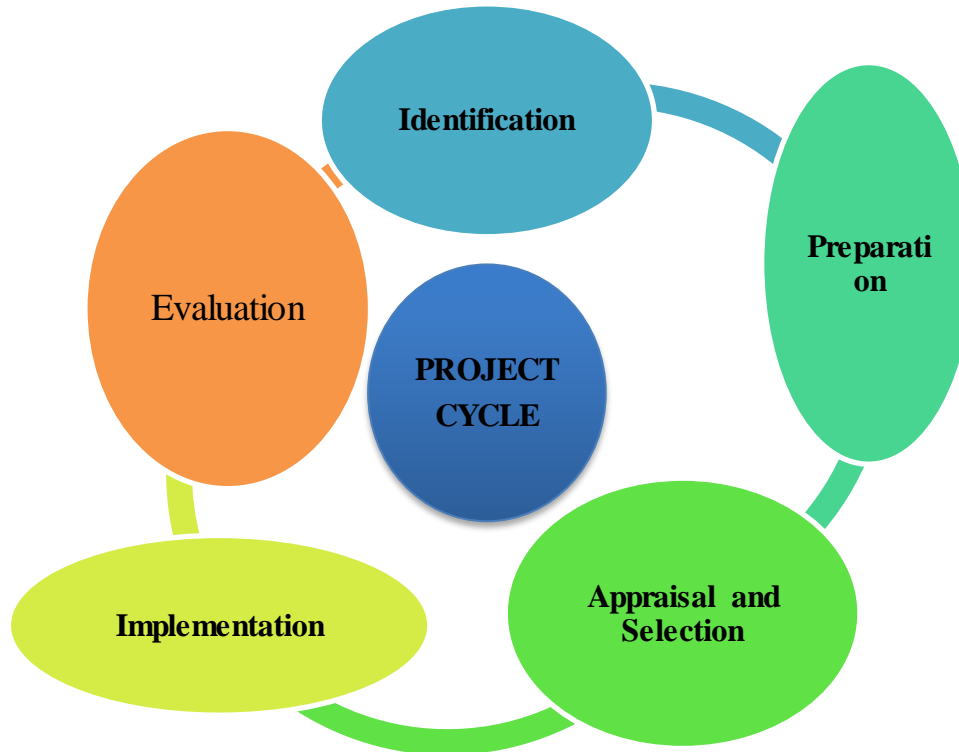


Figure 1: Baum Cycle, (Source: The project cycle, Warren C. Baum, 1982)

2.1.4 Definition and Concept of Delay

Sanders and Eagles, 2011 defined delay that it is an event that causes extended time to complete part of a project. Delay may also be defined as the time overrun, either beyond the date for completion specified by the contract or schedule or beyond the extended contract period where an extension of time has been granted. The type of delay we focus on in this study is the time overrun beyond the date for completion specified by project implementation schedule or by the contract that do not considering whether an extension of time has been granted.

Delay is act or event that extends the time required to perform the tasks under a contract. Projects have many different reasons to experience delay. An investigation to find out the reasons for project delays was conducted in Hong Kong where a questionnaire was developed on factors that were identified in previous findings. The findings that were identified indicated the difference in perception of the factors that was between the key stakeholders of the project. The project delays can be controlled by improving productivity and factors that affect productivity are dealt with the purpose of further increasing productivity and therefore reducing delays. The conclusion of the

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

Delay has been established as one of the commonest experience in the construction project globally (Ahmed, et al, 2013). According to Pourrostan et al. (2011) project delays form the major challenges for the industry of construction in the emerging countries. However, delays are not only experienced in the emerging countries, delays are a global phenomenon (Memonet al., 2011).

2.2 Empirical Review

Abdullah *et al.* (2011) stated that, countries are assessed as underdeveloped, developed, and developing on the basis of quality and quantity of accomplished construction projects inside their territory. Long *et al.* (2014) established that, many researchers have carried out a number of studies concerning the factors that causes delays as well as cost overruns and their effects. According to Ochoa (2013), a project's success or failure, which is for commercial construction projects, it depends largely on the schedule of the project and whether that schedule is reality and is attainable.

Related studies have been carried out by a number of researchers to determine the causes of delay in project: Anyman (2010) conducted studies on the causes of delays on 130 public projects in Jordan. The study was carried out on the following buildings: residential, office and administration buildings, school building, communication facilities and medical centers. The outcome of the result showed that the main causes of delay in construction of public are projects related to designers, economic conditions, user changes, weather, site conditions, late deliveries and increases in quantity. The study carried out by Sunjka and Jacob (2013) revealed that the ten (10) most common causes of project delays in the Niger Delta region in Nigeria includes youth commotion, communal catastrophes, lack of proper planning, poor contract management, late identification and resolution of drawing and specification errors.

Ramyaet al., (2015) studied the delay factors and their impact on project completion in Malaysian construction industry. The study result indicated ten (10) most important causes of delay from a list of twenty-eight (28) different causes. The ten most important causes of delay were; (1) contractor's improper planning (2) contractors' poor site management (3) incomplete (4) client's inadequate financial resources and payments for complemented work (5) problems with subcontractors (6) shortage of material (7) labour supply (8) equipment availability and failure, (9) Lack of communication between parties and (10) mistake during the construction stage.

Fugar and Agyakwah-Baah (2010) indicated that delay in construction projects is still a major problem in Ghana in spite of the numerous studies conducted by researchers. They identified a total number of thirty-two factors that causes delays in projects which the respondents of the research (client, professional contractors and consultant) ranked according to the order of significance. The study results revealed top ten (10) factors concerned with delays in construction projects in Ghana are: Delay in honoring payment certificate for work done, cost underestimation, underestimation of project complexity, problem with credit accessibility especially with banks, inadequate or poor supervision, underestimation of time for completion of projects by contractors, materials shortage, poor management by professional, site management problem, price fluctuation/high interest rate: The respondents agreed that the top three of the groups of financial delay were the finance, the material and finally the scheduling and control.

2.2.1 Shortage of Finance

Shortage of Finance: - is defined as the financial difficulties faced by the promoters/clients. Sambasivan and Soon (2007) have developed 28 well-recognized construction delay factors in construction and categorized them into eight major groups. These factors are contractor-related factors, consultant-related factors, material-related factors, client-related factors, labor and equipment-related factors, financial-related factors, contract-related factor and external factors.

In Development Bank of Ethiopia all prospective domestic investors or borrowers from the Bank for new projects are required to provide at least 25% of the total project cost. The Bank will finance the remaining balance up to a maximum of 75% of the total project cost after blocking and/or utilization of the 25% equity contribution by the borrower; but equally many in number of

projects have been delayed due to shortage of finance for equity contribution and working capital problem (According to Development Bank of Ethiopia annual report, June, 2019).

2.2.2 Poor Management

Poor Management: - it is defined as the incapability of the project manager as well as the team members to ensure proper inspection and investigation of work done on site. According to McMiniminee et al. (2010), the process such as a lack of project management experience could adversely affect timely execution of the projects. Project management refers to application of methods, skills, processes, knowledge and experience to achieve specific project objectives according to the project acceptance criteria within agreed parameters. Management of project has final deliverables that are constrained to a finite timescale and budget. Besides PMI, 2013 defines project management as an application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Similarly, Chandra (2017) define project management as an organized venture for managing projects, involves scientific application of modern tools and techniques in planning, financing, implementing, monitoring, controlling and coordinating unique activities produce desirable outputs in accordance with the prescribed objectives within the constraints of time and cost.

The competence of the project manager during project implementation will also affect completion of project within planned time periods. Positive attitude of project manager and project participants has emerged to be the most important success attribute for quality compliances at project sites (Kenig et al, 2012). Furthermore the authors observed that some of the characteristics that are with high importance are all related to the project manager. Example, project manager's technical capability, leadership quality of the project manager, effective monitoring and feedback by the project manager and effective monitoring and feedback by the project team members.

2.2.3 Cost Overrun

Cost overrun refers to cost increase or budget overrun. It's an unexpected cost, due to an underestimation for the envisaged project during budgeting process. It is measured as actual out-turn costs minus estimated costs expressed as a percentage of the estimated costs. These costs are defined as real, accounted construction costs determined at the time of project completion.

Developing countries have no exception rather they have to face even greater number of problems causing delays and cost overrun than developed countries. Fetene (2016) found that the most common effects of cost overrun were supplementary agreement, adversarial relations among stakeholders, and project delay and budget shortfall of project owners which guides efforts to improve the performance of the construction industry in the future. Aftab, Rahman, Abdullah and Azis (2010) stated that shortage of site workers, lack of communication between parties, fluctuation in price of material, cash flow and financial difficulties faced by contractors, improper planning and scheduling by contractors are most severe factors while frequent design changes and owner interference are least affecting factors on construction cost performance.

Amusan (2011) discovered factors such as contractor's inexperience, incessant variation order insufficient planning, inflation and change in project design were critical to causing cost overrun, while project complexity, shortening the project period and fraudulent practices are also responsible. Baloyi and Bekker (2011) discovered that the increase in material cost is the single largest contributor to cost overruns for both global and local projects. Fetene, (2016) conducted a study on causes and effects of cost overrun on public construction projects in Ethiopia. From the results he found that 67 out of 70 public construction projects suffered cost overrun. The rate ranges from a minimum of 0% to the maximum of 126% of the contract amount for individual projects.

2.2.4 Project Feasibility Study

Feasibility study is an analysis that includes all of a project's relevant factors into account including economic, technical, legal, and scheduling considerations to ascertain the likelihood of completing the project. It is an essential element in which it needs to be conducted before each project to be carried out (Huh et al., 2012). Feasibility studies involve identifying and analyzing the strength and the weaknesses of the project, and at the same time, also determining the opportunity and threats outside the company within the construction industry. According to Hyari, and Kandil, (2009), feasibility studies are conducted mainly to determine and decide whether a project is profitable and realistically be achieved. It includes the construction of study for project feasibility that includes an assessment and examination of the possible of a projected project and is depend on wide examination and study to process of decision-making supportive.

Forecasting problems in the feasibility study include the use of inappropriate methods or inaccurate underlying assumptions because, of poor quality or incomplete data, and unforeseen, dramatic shifts in external conditions. According to (Flyvbjerg 2015) project cost underestimation at the planning stage arising from poor forecasting techniques usually misleads decision makers to buy-in on inferior projects with high overruns and low benefit thereby leading to allocate inefficiency. It also (SirawYenesew 2014) study shows one of the impacted factors time overrun were found inaccurate cost estimation, and delay in commencement in Addis Ababa City Administration road projects.

2.2.5 Elongated Credit Assessment Process

Elongated Credit Assessment Process is the extended length of time taken to process loan applications, delays during the credit granting process which affects the success of the customer's project. The credit assessment process covers the credit documentation and disbursement process. Edminster (2011) observed that the abandonment of the credit appraisal process often resulted into several banks using credit card to process and therefore addressed the importance of credit analysis. The length of time taken to process loan applications, credit experience, proportion of collateral security to the loan approved and the purpose of the loan are the variables identified by Hunte (1996). It was concluded that informed credit decisions made by loan officers are affected by the long waiting time which reflects a shortage of credible credit information. This subsequently results in greater risk, more intense credit rationing and low repayment rates.

Delays during the credit granting process invariably affects the success of the customer's project, the researcher is of the view that, the strictness in demanding total secured collateral before disbursement of credit facilities needs to be relaxed.

2.3 Conceptual Framework

This is also captured in the conceptual framework which is a tabulated relationship between the independent variables and dependent variable. The conceptual framework of the study was developed from different authors findings (Sambasivan and Soon (2007); McMiniminee et al. (2010); Fetene, (2016); Belay (2017); Mackenzie, and Cusworth, 2007). The study was guided by conceptual framework.

Independent variables (Critical Delay factors)

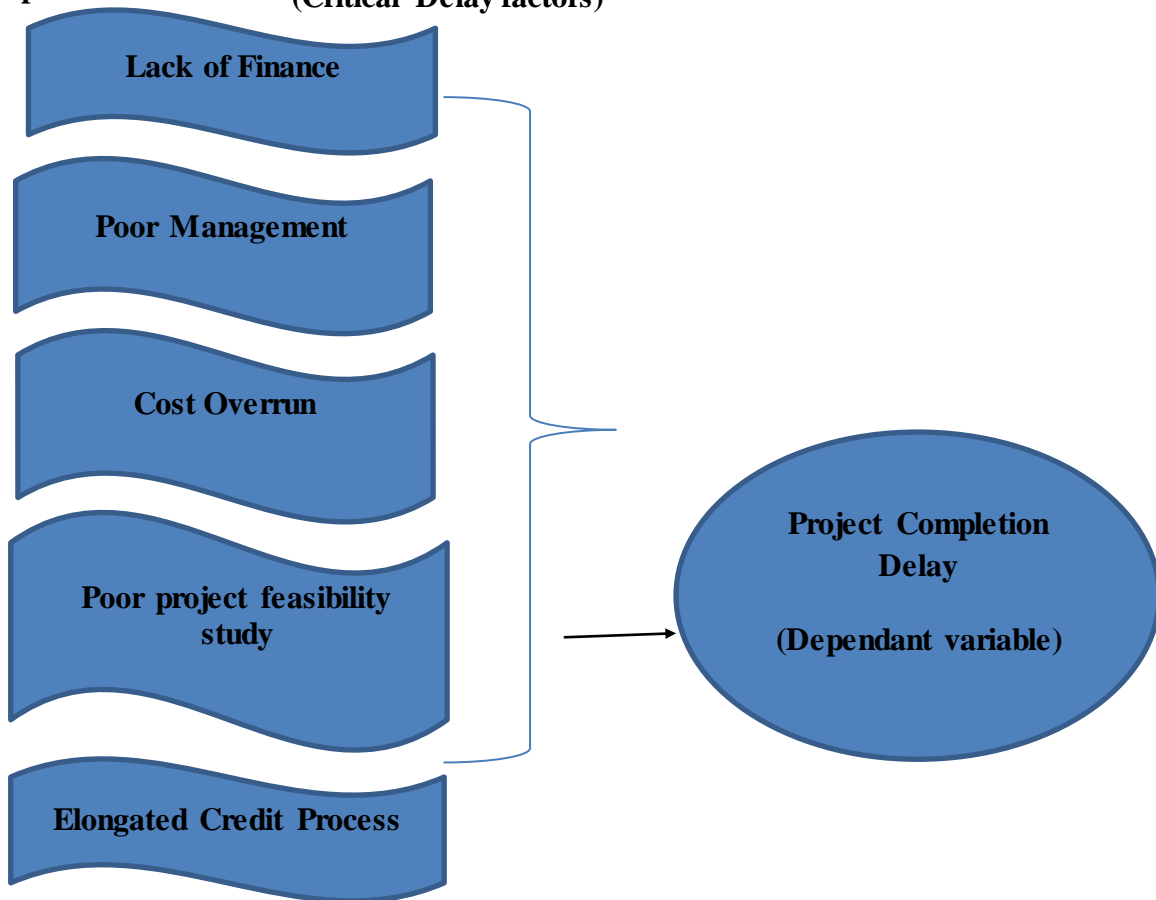


Figure 2: Conceptual framework of the study

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Approach

This chapter presents how the study was designed and provides a clear description of the specific steps that were taken to address the research problem and test each of the six hypotheses. The deductive research approaches, used to introduce from high level of objectiveness through external observation and finally come to specific one (General to specific concepts). Therefore in this research, the deductive research approach was used because the study examines the previous findings in the related literature, and applied the model in Development Bank of Ethiopia at Jimma District.

3.2 Research Design

The study assessed the determinants of project implementation delay of the case of DBE Jimma District. The cause and effects (causal) relationship between variables were assessed throughout the study. Descriptive and explanatory analyses both are conducted in the study. Descriptive statistics is one of the techniques used to summarize information (data) collected from a document analysis. By applying descriptive statistics such as mean, frequency of appearance, percentage, maximum and minimum value etc. one can compare and contrast different categories of sample units with respect to the desired characters so as to draw some important understanding. Explanatory analysis using econometrics regression model was employed to analyze cause-effect relation between determinants of project implementation delay and DBE Jimma District financed projects.

3.3 Description of the Study Area

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 served in promoting the economic development of the Country since its establishment. The bank has established recognition at the national and international levels. Nationally, it is the sole Bank

which has experience in long-term investment financing. Internationally, it is as an important on-lending channel for development program. The bank focuses to provide medium and long term loans for investment projects in the Government priority areas (Commercial Agriculture, Agro-processing, Manufacturing Industries, Mining), also the bank grants lease financing service for Small and Medium Enterprises. The bank has its own mission and vision.

Mission: - The Bank 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. The Bank believes that the objectives can best be served through customer focus, continuous capacity building and concern to the wider environment”.

Vision The bank vision is to be a state of art development bank that help to achieve Ethiopia’s Economic transformation vision by 2030.

DBE has been operating in 12 districts and 83 branches. Jimma District, is one of the district that was established by the bank. It is located in the Southwestern part of the country. There are four branches under Jimma district; namely: Jimma, Agaro, Bonga and Mizan-Teferi Branches. Among these branches only Jimma Branch entertain both project financing and lease financing service to the credit worthy borrowers whereas the rest Agaro, Bonga and Mizan Branches concentrated only in giving lease financing loan to creditworthy borrowers.

Jimma is the largest city in southwestern Oromia Region in Ethiopia. It has a latitude and longitude of 7°40’N 36°50’E.

Agaro is a town and separate district in south-western Ethiopia. Located in the Jimma Zone of the Oromia Region, it sits at a latitude and longitude of 7°51’N 36°35’E Coordinates: 7°51’N 36°35’E, and an elevation of 1560 meters above sea level.

Mizan Tefere is a town in southern Ethiopia. Has a latitude and longitude of 7°0’N 35°35’E coordinates: 7°0’N 35°35’E and an elevation of 1451 meters.

Bonga is located southwest of Jimma in the Kaffa Zone of the Southern Nations, Nationalities and Peoples Region.

It has latitude and longitude of 7°16’N 36°14’E coordinates: 7°16’N 36°14’E with an elevation of 1,714 meters above sea level.

3.4 Sampling Method and Sample Size

The study population for this study is all the 152 projects financed by Jimma district of the DBE. In case of census techniques, the study took all public agriculture and agro-processing projects (152) financed by DBE, Jimma District for the period July 2015 and June 2020. From these approved projects only 30 projects were completed successfully on schedule time and the remaining 122 projects face delay in their implementation. Primary data (152) were collected from the bank's contact officers. 30 successfully operating projects were selected for comparison purpose with delayed one. On the other hand, secondary data were collected from the projects follow up report and appraisal reports of the bank.

Table 3-1: Sampling Techniques

Sector	Number of financed Projects (July 1,2015to June 30, 2020)	Number of successful Projects	Number of Delayed Projects
Agriculture	135	17	118
Agro-processing	17	13	4
Total	152	30	122

3.5 Data Type and Source

For the completion of this study, both primary and secondary types of data were used. The primary data for this research was acquired from contact officers (project case managers) and the secondary data was used (referred) from project file or recorded documents by case bank, at Jimma District.

3.6 Econometric Model selection and specification

3.6.1 Model Selection

The general objective of this study was to identify the major determinants of implementation delay of projects financed by DBE at Jimma district. The dependent variables in this case are a

dummy variable, which takes a value of one or zero depending on the financed projects are delayed or not by DBE at Jimma District. Regression models, in which the regressand evokes a yes or no, present or absent or success or delayed response are known as dichotomous or dummy dependent variable regression models. They are applicable in a wide variety of fields and are used extensively in survey or census-type data (Gujarati, 2004 and Woodridge, 2002). In this regard, the Non-Linear probability models, Binary Logit and Probit models are the possible alternatives.

From this three alternative dichotomous or dummy dependent variable regression models the researcher choice was the Binary Logit Model. In the studies involving qualitative factors, usually a choice has to be made between logit and probit models. According to Rajulton (2011), the logit and probit models are almost the same and choice of the model is arbitrary. Consequently, the statistical similarities between the two models make the choice between them difficult. However as pointed out by Hosmer and Lemeshow (2013), the logistic distribution (logit) has certain advantages over the others, in that the analysis of dichotomous outcome variable is externally flexible and relatively simple from mathematical point of view and lends itself to a meaningful interpretation. In practice many researchers choose the logit model because of its comparative mathematical simplicity such as Adamu (2013), Yilkal (2015) and also Abebayehu (2019).

Binary Logit Model was employed to analyze the determinants of project implementation delay financed by DBE Jimma District. Logistic regression is one of binary choice models (or dichotomous models), which is designed to model the 'choice' between two discrete alternatives. This model essentially describes the likelihood of observing delay event ($Y = 1$) is directly depends on observed explanatory variables which are exogenous (independent) to the model. The project status is dichotomies issue in its nature; whether delayed and not. Therefore, based on the above theoretical concept, the researcher has developed the model as of Yilkal (2015) and Adamu (2013). Since, dependent variable, (i.e., Project delay) is a binary outcome (dichotomous) variable and treated as qualitative data, the researcher assumes one (1) for delayed Project and zero (0) otherwise. And also the dependent variables are analyzed as dummy variables for the simplicity of the analysis.

Consequently, for this data logistic regression was an appropriate model to measure how explanatory variables significantly determine the project implementation delay or not. The Logit function can be derived from odds ratio:

$$\log(\text{odd ratio}) = \log\left(\frac{\text{delayed project}}{\text{Successful project}}\right) = \log\left(\frac{y_i}{1 - y_i}\right) = \beta_0 + x_i\beta \dots\dots\dots 3.1$$

Where $y = 1$ represents delayed projects and $y = 0$ represents projects not delayed (success), x is column vector of independent explanatory variables, β coefficient of the explanatory variable and also β_0 is the intercept.

Equation 1 shows that natural logarithmic form of odds ratio depends on observed explanatory variables. This equation can also be expressed in terms of probability

$$\log\left(\frac{P(y_i=1)}{P(y_i=0)}\right) = \log\left(\frac{p(y_i=1)}{1-p(y_i=1)}\right) = \beta_0 + x_i'\beta \dots\dots\dots 3.2$$

Where, $P(y = 1)$ is the probability of the projects being delayed and $1 - P(y = 1)$ is the probability of the projects not delayed. The stochastic version of equation (2) can be formulated by adding disturbance error term

$$\log\left(\frac{p(y_i=1)}{1-p(y_i=1)}\right) = \beta_0 + x_i'\beta + e_i \dots\dots\dots 3.3$$

Where, e_i is stochastic error term which represents all unobservable factors of project weather delayed or not, and this model shows that odds ratio is not only depends on variables incorporated in the model but also other factors which are not included in the equation. By taking exponential (antilogarithm) both side of equation (3) and rearranging it we have logistic function as follows

$$\frac{p(y_i=1)}{1-p(y_i=1)} = e^{(\beta_0 + x_i'\beta + e_i)}$$

$$p(y_i = 1) = (1 - p(y_i = 1))e^{(\beta_0 + x_i'\beta + e_i)}$$

$$p(y_i = 1) = \frac{e^{(\beta_0 + x_i'\beta + e_i)}}{1 + e^{(\beta_0 + x_i'\beta + e_i)}} \dots\dots\dots 3.4$$

Equation (4) describes that the probability of being the projects delayed depends on observed exogenous variables. This probability is positive and limited between 1 and 0 since the underlying model follows logistic distribution. The predicted probability of being project delayed therefore can be expressed as

$$p(y_i = 1) = \frac{e^{(\beta_0 + x_i\beta)}}{1 + e^{(\beta_0 + x_i\beta)}} \dots\dots\dots 3.5$$

$$Y_i = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3$$

Binary outcome (logit model) function is derived from odds ratio and explained in the above manner for the current study as that of Abebayehu (2019).

3.6.1.1 Model Specification

The Binary Logit model underlying response variable ‘Yi’ the dependent variable in this study defined by the regression relationship of explanatory variables that contain major determinants factors as below

$$Y_i = \beta_0 + \beta_1 X_1 + \dots + \beta_{13} X_{13} + u_i \dots \dots \dots 3.6$$

Where; β_0 = the constant in the model

β_i = the probability of a response

- Y_i = Project status represented by dummy variable 1 for delay and 0 for success
- H1=Lack of finance
- H2= Poor management
- H3= Cost overrun
- H4= Poor project feasibility study and appraisal study
- H5=Elongated credit process

3.6.2 Definition of Dependent and Independent Variable

Dependent variable: Project Status is dependent variables, measures as dummy variable where it takes value 1 for project delay and 0 for otherwise in the Binary Logit model. Sanders and Eagles, 2011 define delay that it is an event that causes extended time to complete part of a project. Delay may also be defined as the time overrun, either beyond the date for completion specified by the contract or schedule or beyond the extended contract period where an extension of time has been granted. The type of delay we focused on in this study was the time overrun beyond the date for completion specified by project implementation schedule or by the contract that do not consider whether an extension of time has been granted.

The independent variable that are hypothesized to affect the project status which are either success or delay of projects combined effects of factors that Y_i represents in equation of model specification assigned from project specific (Lack of finance, Poor management, Cost overrun, Poor project feasibility study and appraisal study and Elongated credit process). The variables are defined and measured according to the following:

- ✘ Lack of finance: it is defined as the financial difficulties faced by the promoters/clients. It is dummy variable which takes 1 if the project incurred lack of finance or 0 otherwise.
- ✘ Poor management: it is defined as the incapability of the project manager as well as the team members to ensure proper inspection and investigation of work done on site. According to McMiniminee et al. (2010), the process such as a lack of project management experience could adversely affect timely execution of the projects. It is Dummy Variable which takes 1 if the project incurred poor management and 0 otherwise.
- ✘ Cost overrun: refers to cost increase or budget overrun. It's an unexpected cost, due to an underestimation for the envisaged project during budgeting process. It is Dummy Variable which takes 1 if the project incurred Cost overrun and 0 otherwise
- ✘ Feasibility study: is an analysis that includes all of a project's relevant factors into account including economic, technical, legal, and scheduling considerations to ascertain the likelihood of completing the project. It is Dummy Variable which takes 1 if the project incurred poor feasibility study and 0 otherwise.
- ✘ Elongated credit process: The extended length of time taken to process loan applications, delays during the credit granting process which affects the success of the customer's project. It is Dummy Variable which takes 1 if the project incurred elongated credit process and 0 otherwise.

Table 3-1: Lists of variables, definition and measurement

No	Variables	Symbol	Type	Measurement
1.	Dependent variable			
1.1.	Project Implementation Delay	pimd	Dummy	Takes 1 if the projects are delayed; 0 other wise
2.	Independent Variables			
2.1	Lack of finance	laofi	Dummy	Takes 1 if the project incurred lack of finance or 0 otherwise.
2.2	Poor management	poma	Dummy	Take 1 if the project incurred poor management and 0 otherwise
2.3	Cost overrun	corn	Dummy	Take 1, if the project incurred Cost overrun and 0 otherwise
2.4	Poor Feasibility study	pofs	Dummy	Take 1, if the project incurred poor feasibility study and 0 otherwise.
2.5	Elongated credit process	elcpr	Dummy	Take 1 if the project incurred elongated credit process and 0 otherwise.

CHAPTER FOUR

RESULT AND DISCUSSION

In this chapter, the data gathered are statistically analyzed using the required statistical tools and the results of the analysis of the data were interpreted and discussed. The data were summarized using the numerical methods of frequency table (two way of table with measures of association) of descriptive statistics. Tests of significance for a logistic relationship were also conducted in this chapter.

Appropriate statistical tests were used to conduct both overall significance and individual significance. Delayed projects were compared with successfully operating projects for each independent variable by using the descriptive statistics. A test for overall significance helps to determine whether a significant relationship exists between the dependent variable and the set of all independent variables while test for individual significance helps to determine whether each of the individual independent variables is significant for the dependent variable, project delay/success. The direction and magnitude of relationship between each independent variable and the dependent variable has also been explained. Moreover, multicollinearity test is conducted to know whether there exists a correlation among independent variables. The method of handling the problem of heteroscedasticity is also discussed in the chapter.

4.1.1. Descriptive statistics

4.1.2. Lack of Finance

Table 0-1: Existence of lack of Finance

prosta	laofi		Total
	0	1	
0	23	7	30
	28.9	10.3	39.2
	76.67	23.33	100.00
1	17	105	122
	7.1	2.5	9.6
	13.93	86.07	100.00
Total	40	112	152
	36.0	12.9	48.9
	26.32	73.68	100.00

Pearson chi2(1) = 48.8684 Pr = 0.000

Pearson chi2 (1) = 48.8684 Pr = 0.000

Source: Own computation based on analyzed projects, 2021

As per shown on above table, from total sample of projects about 73.68% of them existed lack of finance whereas the rest 26.32% of them are free from lack of finance problem. When compared the delayed projects with that of the successful one the majority of the delayed projects incurred the lack of finance than that of the delayed one. Means from analyzed data of the delayed projects incurred lack of finance problem on 86.07% than that of the delayed one was 23.33%. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.2 Poor Management

Table 0-2: Poor management of Project

prosta	poma		Total
	0	1	
0	25	5	30
	37.1	13.2	50.3
	83.33	16.67	100.00
1	15	107	122
	9.1	3.3	12.4
	12.30	87.70	100.00
Total	40	112	152
	46.2	16.5	62.7
	26.32	73.68	100.00

Pearson chi2(1) = 62.6659 Pr = 0.000

Pearson chi2 (1) = 62.6659 Pr = 0.000

Source: Own computation based on analyzed projects, 2021

As per shown on the above table from the total sampled projects 73.68% of projects incurred project management problem while the rest 26.32% are not encountered to project management problem. When compared the successful one with that of the delayed projects on the majority of the delayed projects saw the poor project management practice of the borrower than that of the successful sampled projects. According to the data analyzed on the above table from that of the delayed projects 87.70% of the borrower has project management problem where as from that of the successful one it was only 16.67%. This implies that most of the delayed projects have serious management problem increased project implementation delay problem. Therefore one can understand from this that poor project management practice as a problem highly seen on the delayed projects than those successfully operating projects when compared and contrasted. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.3 Cost Overrun

Table 0-3: Cost Overrun of projects

prosta	corn		Total
	0	1	
0	29	1	30
	10.6	12.1	22.7
	96.67	3.33	100.00
1	52	70	122
	2.6	3.0	5.6
	42.62	57.38	100.00
Total	81	71	152
	13.2	15.1	28.3
	53.29	46.71	100.00

Pearson chi2(1) = 28.2535 Pr = 0.000

Pearson chi2 (1) = 28.2535 Pr = 0.000

Source: Own computation based on analyzed projects, 2021

As per shown on the above table from total sampled projects 46.71% of them incurred Cost Overrun where as 53.29% of them are free from that of Cost Overrun problem. Implies that most

of the projects are not incurred the Cost Overrun problem. But this Cost Overrun problem highly seen on delayed projects, most of them or 57.38% of them incurred Cost Overrun problem whereas only 3.33% of the successful projects incurred Cost Overrun problem. This implies most of the projects which were found under delayed categories were affected by occurrence of Cost Overrun problem than that of the successfully operating projects. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.4 Poor Project Feasibility Study

Table 0-4: Poor project feasibility study of projects

prosta	pofs		Total
	0	1	
0	27	3	30
	28.5	14.4	42.9
	90.00	10.00	100.00
1	24	98	122
	7.0	3.5	10.5
	19.67	80.33	100.00
Total	51	101	152
	35.5	17.9	53.4
	33.55	66.45	100.00

Pearson chi2(1) = 53.4181 Pr = 0.000

Pearson chi2 (1) = 53.4181 Pr = 0.000

Source: Own computation based on analyzed projects, 2021

As per depicted on the above table, from total sampled projects 66.45% of projects are incurred poor project feasibility study problem while 33.55% of sampled projects were not incurred poor project feasibility study problem. But this poor project feasibility study highly seen on delayed projects, most of them or 80.33% of them incurred poor project feasibility study whereas only 10% of the successful projects incurred poor project feasibility study. This implies most of the projects which were found under delayed categories were affected by occurrence of poor project feasibility study than that of the successfully operating projects. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.1.5 Elongated Credit Assessment Process

Table 0-5: Elongated credit assessment process on the financed projects

prosta	elcpr		Total
	0	1	
0	25	5	30
	25.4	11.7	37.2
	83.33	16.67	100.00
1	23	99	122
	6.3	2.9	9.1
	18.85	81.15	100.00
Total	48	104	152
	31.7	14.6	46.3
	31.58	68.42	100.00

Pearson chi2(1) = 46.3353 Pr = 0.000

Pearson chi2 (1) =46.3353 Pr = 0.000

Source: Own computation based on analyzed projects, 2021

As per shown on above table, about 68.42% of the samples of analyzed projects seen elongated credit assessment process where as 31.58% of sampled of projects were not incurred elongated credit assessment process. When we compare to successful projects with that of the delayed one, on the majority of the delayed projects have existed the elongated credit assessment process. According to the analyzed and gathered data by document analysis, from successful project 16.67% of them and from that of the delayed one about 81.15% have seen the elongated credit assessment process. On the other hand, 83.33 % successful project and 18.85% of the delayed projects are free from that of elongated credit assessment process. As it could be understand from the above table, elongated credit assessment process was highly seen on most of the sampled projects which positively affects the loan repayment performance and also increases the project implementation delay. It is also statistically significant at 1% significance level based on Pearson chi2 test.

4.2. Econometric Result

This subsection presents result of the determinants of Project implementation delay by using the Binary logit model. Before proceeding to that of result discussion of the Binary logit model result the researcher checked multicollinearity between independent variables variance of contingency coefficient test was used for discrete variables; check the existence of heteroscedasticity problem and test the goodness of the model.

4.2.1. Multicollinearity Test

The existence of serious problem of multicollinearity among the variables is examined by the help of variance inflation factor (VIF) for the continuous variables and the values of contingency coefficient (CC) for the discrete variables. For the continuous variables the VIF greater than ten (10) reveals strong correlation and measures inflation in variance due to multicollinearity and the value of contingency coefficient is a chi-square based measure of association where a value above 0.8 shows the existence of strong multicollinearity problem (Greene, 2003).

Based on the results of the contingency coefficient (CC) showed that the absence of strong association between different hypothesized discrete explanatory variables, since the respective coefficients were very low (less than 0.8) as given on (appendix II, A). Therefore, the dummy variables were included in the model. For this reason, all of the explanatory variables were included in the final analysis.

4.2.2. Heteroscedasticity Test

Heteroscedasticity is a systematic error that happens when the variance of the errors is constant, Gujarati (2005). Heteroscedasticity problem makes the model inefficient to estimate the regression coefficients because of biased variance and covariance of the coefficient. According to Gujarati, in the presence of heteroscedasticity, the usual logit (binary) model overestimates the standard errors of estimators. The heteroscedasticity test made using Breusch-Pagan/Cook-Weisberg test of OLS regression on STATA software has shown that the significance of the problem. Thus, to alleviate the heteroscedasticity problem, the binary logit model is used with robust.

4.2.3. Binary Logit and Logistic Model Estimation Results and Interpretation

Binary Logit model is used to estimate the magnitude, sign and significance of each coefficient. Binary logistic regression model is used to estimate the odd ratios. In both binary logit model methods, five explanatory variables are used, of which 2 explanatory variables are statistically significant at 1% and 5%. As portrayed in table 4.6 and Annex (III A&B) poor project management and poor project feasibility study are statistically significant at 1% and 5% respectively for DBE financed project implementation delay at Jimma District. The coefficient of the explanatory variable of poor project management and poor project feasibility study showed that positively related to project implementation delay financed by DBE at Jimma District.

As outlined above poor project management by the promoter is significant at 1% significance level. The marginal effect of poor project management depicts that the positive relations with that of the project implementation delay. As the project owner did not recruited the required human resource for the intended project increase the project implementation delay of financed projects by 14.08113%. Or the discrete effect of a change from 0 to 1 (from successful projects to that of delayed projects) in existence of poor project management increases the probability project implementation delay by 14.08113% percentage points while keeping all other variables constant at their mean value, moreover the probability of project implementation delay to success was 11.31 to 1 when poor project management exist according to odds ratio. In addition to this from coefficient point of view existence of poor project management has positively related with that of project implementation delay as the result depicted on the below table outlined.

This implies that the project implementation delay by DBE Jimma District increase by 2.425 times if the promoter do not recruit the required human resources demand by the project before providing the necessary investment loan to the project according to the format by including the necessary financial, socio-political, technical, environmental and legal documents of the borrower factors into consideration. This finding is consistent with of the studies done by Yilkal (2015) causes of failure of projects financed by Development Bank of Ethiopia.

The second significant determinant factor was poor project feasibility study of the bank at 5% significance level. The marginal effect of this explanatory variable depicts that the positive relation with that of the dependent variable (project implementation delay/success). It implies that at the district level poor project feasibility study of the loan increases the project implementation delay by 11.86%. Or the discrete effect change from 0 to 1 (from successful project to that of delayed project) in existence of poor project feasibility study increases the probability of project implementation delay by 11.86% percentage points while keeping all other variables constant at their mean value, moreover the probability of project implementation delay to success was 10.91 to 1 due to existence of poor project feasibility study according to odds ratio. In addition to this from coefficient point of view existence of poor project feasibility study has positively related with that of project implementation delay as the result depicted on the below table outlined which was the expected result with that of the outlined hypothesis. This implies that the project implementation delay by DBE Jimma District increase by 2.389 times if the project resulted poor project feasibility study problem without taking into account the truthful SWOT analysis which incur the project at present and also for the future.

The marginal effect of lack of finance depicts that the positive relation with that of the dependent variable (project implementation delay/success). It implies that at the district level shortage of finance increases the project implementation delay by 4.230%. Or the discrete effect change from 0 to 1 (from successful project to that of delayed project) in existence of shortage of finance increases the probability of project implementation delay by 4.230% percentage points while keeping all other variables constant at their mean value, moreover the probability of project implementation delay to success was 2.97 to 1 due to existence of shortage of finance according to odds ratio. In addition to this from coefficient point of view existence of shortage of finance has positively related with that of project implementation delay as the result depicted on the below table outlined which was the expected result with that of the outlined hypothesis.

The marginal effect of cost overrun problem depicts that the positive relation with that of the dependent variable (project implementation delay/success). It implies that at the district level shortage of finance increases the project implementation delay by 7.42%. Or the discrete effect change from 0 to 1 (from successful project to that of delayed project) in existence of shortage of finance increases the probability of project implementation delay by 7.42% percentage points while keeping all other variables constant at their mean value, moreover the probability of

project implementation delay to success was 9.88 to 1 due to existence of cost overrun according to odds ratio. In addition to this from coefficient point of view existence of cost overrun has positively related with that of project implementation delay as the result depicted on the below table outlined which was the expected result with that of the outlined hypothesis.

The marginal effect of elongated credit process problem depicts that the positive relation with that of the dependent variable (project implementation delay/success). It implies that at the district level shortage of finance increases the project implementation delay by 3.42%. Or the discrete effect change from 0 to 1 (from successful project to that of delayed project) in existence of elongated credit process increases the probability of project implementation delay by 3.42% percentage points while keeping all other variables constant at their mean value, moreover the probability of project implementation delay to success was 2.617 to 1 due to existence of elongated credit process according to odds ratio. In addition to this from coefficient point of view existence of elongated credit process has positively related with that of project implementation delay as the result depicted on the below table outlined which was the expected result with that of the outlined hypothesis.

As it is shown in the table 4.6, the pseudo R^2 value is 0.6283, which means that the model explains 62.83% of the data and depicted the strength of the model to fit the data. However, pseudo R^2 is not widely accepted test to show the goodness of the binary regression models. Therefore, the goodness-of-fit test is continued further to check the appropriateness of the model to explain the data. The goodness-of-fit test for the model exhibited that 92.76% of the observations are classified correctly by this binary regression model and confirmed that the fitness of the regression model to estimate the explanatory variables. This finding is consistent with of the studies done by Adamu (2013) determinants of failure for projects financed By Development Bank of Ethiopia. See Annex (II, B).

Table 0-6: Binary Logit, Its Marginal effect and Logistic regression summary result of estimation factor affecting project implementation delay.

Logistic regression		Number of obs	=	152		
		LR chi2(5)	=	94.88		
		Prob > chi2	=	0.0000		
Log likelihood = -28.061608		Pseudo R2	=	0.6283		
prosta	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
laofi	1.091797	.7460516	1.46	0.143	-.3704373	2.554031
poma	2.425651	.7545391	3.21	0.001	.9467818	3.904521
corn	2.290894	1.196585	1.91	0.056	-.0543704	4.636158
pofs	2.389749	.8238247	2.90	0.004	.7750823	4.004416
elcpr	.9611924	.7395596	1.30	0.194	-.4883177	2.410703
_cons	-2.439535	.673961	-3.62	0.000	-3.760475	-1.118596

```
. mfx
```

Marginal effects after logit
y = Pr(prosta) (predict)
= .96976168

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
laofi*	.0423047	.04639	0.91	0.362	-.048624	.133233		.736842
poma*	.1408113	.08662	1.63	0.104	-.028957	.31058		.736842
corn*	.0742223	.042	1.77	0.077	-.008089	.156533		.467105
pofs*	.1185949	.07299	1.62	0.104	-.024461	.26165		.664474
elcpr*	.0342709	.03595	0.95	0.340	-.036188	.10473		.684211

(*) dy/dx is for discrete change of dummy variable from 0 to 1

```
. logistic prosta laofi poma corn pofs elcpr, vce(robust)
```

```
Logistic regression           Number of obs   =       152
                               Wald chi2(5)      =       31.85
                               Prob > chi2          =       0.0000
Log pseudolikelihood = -28.061608   Pseudo R2      =       0.6283
```

prosta	Robust				
	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
laofi	2.979624	2.099681	1.55	0.121	.74875 11.85731
poma	11.30959	8.030962	3.42	0.001	2.811947 45.48694
corn	9.883766	14.19562	1.60	0.111	.5920778 164.9932
pofs	10.91076	9.152043	2.85	0.004	2.107944 56.47426
elcpr	2.614813	2.225319	1.13	0.259	.4932092 13.86277
_cons	.0872014	.0434201	-4.90	0.000	.0328613 .2313991

Note: - poma and pofs are statistically significance at $p < 1\%$ and $p < 5\%$ respectively.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

This was explanatory research made to investigate the major determinant of project implementation delay financed by DBE at Jimma District assuming that the cause of project implementation delay emanates from lack of finance, poor management, cost overrun, poor project feasibility study and elongated credit process. All the necessary data were collected and analyzed using descriptive statistics and to measure the significance of the explanatory variable binary logit model was employed.

To measure the significance, five major explanatory variables were considered in this study. These explanatory variables are lack of finance, poor management, cost overrun, poor project feasibility study and elongated credit process. The regression analysis of these explanatory variables with dependent variable, project implementation delay/success, using Binary logit model exhibited that only two variables are statistically significant while the rest explanatory variables are insignificant.

From analyzed explanatory variables poor project management and poor project feasibility study are statistically significant for DBE Jimma District financed projects. The coefficient of the explanatory variable of poor project management and poor project feasibility study showed that positively related to project implementation delay at DBE Jimma District and also they are positively determine project implementation delay. As the result clearly show that both of the explanatory variables increases the failure of the projects financed by DBE Jimma District, the reverse will happen if the problem emanated from the two variables are solved accordingly by the bank and the promoter.

The significance of poor project management in DBE Jimma district financed projects is operating of project activities using manpower below required skill, knowledge and number as it is revealed strong significance in aggravating project implementation delay in this study. There is a governing perception in our country that looks business projects implemented as opportunity

for family job creation and eager to be beneficial through saving from salary payment rather than optimally producing using appropriate manpower and the promoter fails to recruit the required human resources demanded by the project. Hence most projects human resource requirement filled with relatives than professionals and finally the project resulted in implementation delay. Managing the project is the process of leading the work of a team to achieve goals and meet success criteria at a specified period. The main challenge of project management is to achieve all of the project goals within the given constraints. However at DBE Jimma district financed projects, the project owners failed to recruit the required human resources demanded by the project and resulted in project implementation delay.

The significance of Poor feasibility study submitted by promoter's revealed that inadequate investigations, lack of technical, financial and economic viability of a project and project formulation, frequent changes in scope and revision of drawings due to inadequate project preparation resulted project implementation delay in this study. Therefore, a feasibility study is a pre-requisite for preparation of a major development project on sound lines, and is not ruled out even for a minor one. It is basically an in-depth study consisting of the financial, technical and economic viability of a project. The study arrives at a definite conclusion about the feasibility of a project after considering the various options. Therefore, the feasibility study should be a study which does not overlook any significant element affecting the project operation. Moreover, the bank's project appraisal officers shall have the required project appraisal and analysis background. They should get the required trainings so that projects are properly appraised and all investment components that are required for a project are incorporated in the appraisal document.

5.2. Recommendations

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

- ✎ Concerning project management problem of the projects, the bank has to impose the project owners to recruit the required human resources as per the planned by the banks appraisal study with stipulated number, knowledge and experience requirements of manpower since the project working capital requirement is determined considering the salary of the planned human power. However, the researcher observed that some of the appraisal study of the bank lacks qualification level and experience required for each post in their manpower study part. This makes difficult discussing the variation and taking corrective action for the operators engaged in follow-up operation. Therefore, all loan appraisal study of DBE Jimma district has to include qualification and experience with the number required of human resource plan implementation.
- ✎ Regarding poor feasibility study the study does not overlook any significant element affecting the project operation. And also, the bank's project appraisal officers shall have the required project appraisal and analysis background. They should get the required trainings so that projects are properly appraised and all investment components that are required for a project are incorporated. So as to prepare dependable and practicable appraisal report of projects, the Bank has to recruit different professionals since appraising (feasibility study at the bank level) of projects requires a group of experts with multidisciplinary professionals. Besides, the Bank has to give them the required training such as project appraising technique on timely basis. The Research Process of the Bank should also prepare and give real and workable research commodity study which is one of the inputs to prepare appraisal reports done by the bank and hence the concerned management of the Bank should evaluate and monitor this activity through its internal audit process.
- ✎ And finally as far as those determents are identified as factors for project implementation delay the bank and the promoter should be committed to improve the deficiency and to enhance the project completion against its time schedule.

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APPENDICES

Appendix I

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

Post Graduate Program in Masters of Science in Development Economics

Questionnaire to be filled by loan officers

Dear Respondents: - My name is **Tilahun Mamuye Senbetu**. I am studying Masters of Science in Development Economics at Jimma University. Now I'm going to conduct study on the "*Determinants of project Implementation Delay*" in the case of *Projects financed by Development Bank of Ethiopia, Jimma District*. Dear respondent, 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 a primary data in my study which I am conducting as a partial fulfillment of the requirements for the Masters of Science at Development Economics at Jimma University College Business and Economics. Therefore, this research is to identify the main determinants of project implementation delays and to draw up possible recommendations for successful implementation of projects with respect to planning and managing of implementation time.

General Instructions

- Your name is optional in this questionnaire.
- In all cases where answer options are available please tick (√) in the appropriate box.

Confidentiality:-I want to assure you that this research is only for academic purpose authorized by Jimma University College Business and Economics. No other person will have to access this collected data.

If you have any queries concerning the questionnaire, please contact me:

Name: TilahunMamuye

Phone Number: +2519-24-54-67-98

Email: tilahunmamuye20@gmail.com

Thank you for your cooperation!!

Part one

Note:-project type mean and Project Status mean (Delayed or Success)

- A. Project Code? _____
- B. Project Type? _____
- C. Project Status? _____
- D. Project Address? _____
- E. Loan Amount Approved? _____
- F. Appraised Investment Cost? _____
- G. Actual Investment Cost? _____
- H. Appraised Revenue during _____ 2015 _____ 2016 -----2017
_____ 2018 _____, 2019 _____ 2020 _____
- I. Actual revenue during _____ 2015 _____ 2016 -----2017
_____ 2018 _____, 2019 _____ 2020 _____
- J. Planned net Income of the Project during 2015 _____ 2016 -----2017
_____ 2018 _____, 2019 _____ 2020 _____
- K. Actual net Income of the project during 2015 _____ 2016 -----2017
_____ 2018 _____, 2019 _____ 2020 _____

Part two

- A. Does the project incur lack of finance? 1. Yes 0. No
 - I. If the answer for the question “A” is yes what was the reason for lack of finance
 - i. _____
 - ii. _____
 - iii. _____
- B. Does the project incur poor management? 1. Yes 0. No
 - I. If the answer for the question “B” is yes, what was the reason for poor management?
 - i. _____
 - ii. _____
 - iii. _____
- C. Does the Project Incurred poor feasibility study? 1. Yes 0. No

I. If the answer for the question “C” is yes, what was the reason for poor feasibility study?

i. _____

ii. _____

iii. _____

D. Does the project incurred cost overrun problem? 1. Yes 0. No

I. If the answer for the question “D” is yes, what was the reason for the occurrence of cost overrun?

i. _____

ii. _____

iii. _____

iv. _____

E. Does the project incur elongated credit process? 1. Yes 0. No

I. If the answer for the question “E” is yes, what was the reason?

i. _____

ii. _____

iii. _____

iv. _____

Appendix II Multicollinearity and Goodness of the model test

A. Result of Multicollinearity Test

	prosta	laofi	poma	corn	pofs	elcpr
prosta	1.0000					
laofi	0.5670	1.0000				
poma	0.6421	0.5589	1.0000			
corn	0.4311	0.2900	0.3798	1.0000		
pofs	0.5928	0.4929	0.4297	0.4419	1.0000	
elcpr	0.5521	0.4297	0.5904	0.5226	0.4764	1.0000

B. Result of Goodness of the model and their classification

Logistic model for prosta, goodness-of-fit test

```

number of observations =      152
number of covariate patterns =    25
      Pearson chi2(19) =    45.91
          Prob > chi2 =    0.0005

```

```
. estat classification
```

```
Logistic model for prosta
```

Classified	True		Total
	D	~D	
+	118	7	125
-	4	23	27
Total	122	30	152

```
Classified + if predicted Pr(D) >= .5
```

```
True D defined as prosta != 0
```

Sensitivity	Pr(+ D)	96.72%
Specificity	Pr(- ~D)	76.67%
Positive predictive value	Pr(D +)	94.40%
Negative predictive value	Pr(~D -)	85.19%
False + rate for true ~D	Pr(+ ~D)	23.33%
False - rate for true D	Pr(- D)	3.28%
False + rate for classified +	Pr(~D +)	5.60%
False - rate for classified -	Pr(D -)	14.81%
Correctly classified		92.76%

Appendix III: - Binary Logit, Logistic regression and Its Marginal effect Result

A. Logistic (Odds) ratio test of the Binary Logistic Regression

```
. logistic prosta laofi poma corn pofs elcpr, vce(robust)
```

```
Logistic regression                Number of obs   =       152
                                   Wald chi2(5)     =       31.85
                                   Prob > chi2       =       0.0000
Log pseudolikelihood = -28.061608   Pseudo R2      =       0.6283
```

prosta	Robust		z	P> z	[95% Conf. Interval]	
	Odds Ratio	Std. Err.				
laofi	2.979624	2.099681	1.55	0.121	.74875	11.85731
poma	11.30959	8.030962	3.42	0.001	2.811947	45.48694
corn	9.883766	14.19562	1.60	0.111	.5920778	164.9932
pofs	10.91076	9.152043	2.85	0.004	2.107944	56.47426
elcpr	2.614813	2.225319	1.13	0.259	.4932092	13.86277
_cons	.0872014	.0434201	-4.90	0.000	.0328613	.2313991

B. Logit model of coefficient test

```

Logistic regression                Number of obs   =       152
                                   LR chi2(5)         =       94.88
                                   Prob > chi2        =       0.0000
Log likelihood = -28.061608        Pseudo R2      =       0.6283

```

prosta	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
laofi	1.091797	.7460516	1.46	0.143	-.3704373	2.554031
poma	2.425651	.7545391	3.21	0.001	.9467818	3.904521
corn	2.290894	1.196585	1.91	0.056	-.0543704	4.636158
pofs	2.389749	.8238247	2.90	0.004	.7750823	4.004416
elcpr	.9611924	.7395596	1.30	0.194	-.4883177	2.410703
_cons	-2.439535	.673961	-3.62	0.000	-3.760475	-1.118596

C. mfx (marginal effect)

```
. mfx
```

```
Marginal effects after logit
```

```

y = Pr(prosta) (predict)
  = .96976168

```

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]		X
laofi*	.0423047	.04639	0.91	0.362	-.048624	.133233	.736842
poma*	.1408113	.08662	1.63	0.104	-.028957	.31058	.736842
corn*	.0742223	.042	1.77	0.077	-.008089	.156533	.467105
pofs*	.1185949	.07299	1.62	0.104	-.024461	.26165	.664474
elcpr*	.0342709	.03595	0.95	0.340	-.036188	.10473	.684211

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Appendix IV. General Information of the analyzed Projects

Approved Loan, Planned and Actual Investment value of the analyzed Project

Prosta	Approved loan	Planned Investment Cost	Actual Investment Cost
1	12,223,612.77	14,749,090.00	5,277,234.11
0	29,110,850.13	29,110,850.13	24,555,522.66
1	10,380,657.76	14,054,055.00	8,954,863.14
1	26,488,990.00	26,488,990.00	26,488,990.00
1	9,533,940.84	9,533,940.84	9,533,940.84
1	12,635,562.21	15,111,238.00	12,635,562.21
1	20,428,643.34	25,884,205.00	8,412,952.67
0	35,802,191.80	35,802,191.80	-
0	12,342,483.35	14,342,483.35	2,968,346.67
1	11,082,013.96	15,082,013.96	4,067,537.79
0	30,247,601.66	35,247,601.66	5,131,492.13
1	16,852,345.43	18,852,345.43	9,167,446.86
0	21,203,077.61	25,203,077.61	-
1	11,203,159.15	11,203,159.15	8,202,768.13
1	17,376,102.38	20,376,102.38	7,996,486.25
0	1,662,319.56	2,662,319.56	1,662,319.56
1	22,085,477.00	31,268,733.00	10,337,628.00
1	13,450,950.00	16,813,688.00	6,787,968.00
1	16,852,345.00	23,836,504.00	3,405,638.00
0	14,654,947.53	21,735,556.00	14,654,947.53
1	10,431,816.00	15,700,857.00	4,070,758.00
1	8,291,360.00	11,844,454.00	2,565,369.00

0	24,713,626.34	27,713,626.34	9,347,986.86
1	15,593,424.00	22,275,938.00	7,572,430.00
1	8,549,250.00	14,459,944.00	5,556,625.00
0	31,357,725.20	35,357,725.20	15,110,062.32
1	7,552,347.00	11,435,347.00	2,534,437.00
0	22,787,108.63	25,787,108.63	22,787,108.63
1	16,947,347.00	20,347,947.00	5,487,479.00
1	18,420,247.00	23,440,427.00	16,420,227.00
0	22,367,699.16	25,367,699.16	22,367,699.16
1	20,499,945.00	25,000,000.00	10,445,226.00
1	9,445,298.00	11,499,525.00	3,995,428.00
1	8,428,445.00	12,925,999.00	2,939,330.00
0	6,251,041.70	8,251,041.70	6,251,041.70
1	4,458,087.89	8,458,087.89	4,458,087.89
1	23,363,182.90	25,363,182.90	21,363,182.90
0	23,035,560.89	25,035,560.89	18,012,679.01
1	18,562,123.44	20,562,123.44	15,999,884.11
1	23,363,182.90	25,363,182.90	21,363,182.90
1	23,035,560.89	25,035,560.89	18,012,679.01
1	18,562,123.44	20,562,123.44	15,999,884.11
0	28,951,647.21	35,951,647.21	-
0	13,226,458.22	16,226,458.22	13,226,458.22
1	28,951,647.21	35,951,647.21	-
1	13,226,458.22	16,226,458.22	13,226,458.22
0	20,332,056.39	24,332,056.39	19,051,943.60
1	25,448,946.68	29,448,946.68	4,671,798.94
0	25,448,946.68	29,448,946.68	4,671,798.94

1	25,448,946.68	29,448,946.68	4,671,798.94
0	1,662,319.56	4,662,319.56	1,662,319.56
1	28,951,647.21	35,951,647.21	-
1	13,226,458.22	16,226,458.22	13,226,458.22
1	20,332,056.39	24,332,056.39	19,051,943.60
1	25,448,946.68	29,448,946.68	4,671,798.94
1	25,448,946.68	29,448,946.68	4,671,798.94
0	2,469,417.00	4,469,417.00	2,469,417.00
0	3,000,000.00	5,000,000.00	3,000,000.00
1	1,719,859.00	2,003,000.00	1,662,319.00
0	1,719,859.00	2,003,000.00	1,662,319.00
1	1,719,859.00	2,003,000.00	1,662,319.00
0	1,760,128.36	1,602,480.00	1,885,184.78
1	1,906,849.77	2,600,000.00	2,104,191.58
1	2,250,257.22	2,633,849.11	1,829,068.28
0	2,104,191.58	1,200,000.00	-
1	1,906,849.77	2,600,000.00	2,104,191.58
1	2,250,257.22	2,633,849.11	1,829,068.28
1	26,488,990.00	26,488,990.00	26,488,990.00
0	1,906,849.77	2,600,000.00	2,104,191.58
1	2,250,257.22	2,633,849.11	1,829,068.28
1	26,488,990.00	26,488,990.00	26,488,990.00
0	2,250,257.22	2,633,849.11	1,829,068.28
1	26,488,990.00	26,488,990.00	26,488,990.00
1	9,533,940.84	9,533,940.84	9,533,940.84
0	29,287,236.44	30,000,000.00	26,687,927.28

1	12,635,562.21	15,111,238.00	12,635,562.21
0	1,988,084.14	4,000,000.00	2,204,818.00
1	26,488,990.00	26,488,990.00	26,488,990.00
1	9,533,940.84	9,533,940.84	9,533,940.84
0	5,277,973.66	6,597,467.07	-
1	12,635,562.21	15,111,238.00	12,635,562.21
1	20,428,643.34	25,884,205.00	8,412,952.67
1	35,802,191.80	35,802,191.80	-
0	2,190,076.17	4,000,000.00	2,392,641.63
1	26,488,990.00	26,488,990.00	26,488,990.00
1	9,533,940.84	9,533,940.84	9,533,940.84
0	1,049,730.00	3,049,730.00	1,049,730.00
1	26,488,990.00	26,488,990.00	26,488,990.00
1	9,533,940.84	9,533,940.84	9,533,940.84
1	12,635,562.21	15,111,238.00	12,635,562.21
1	20,428,643.34	25,884,205.00	8,412,952.67
1	35,802,191.80	35,802,191.80	-
1	12,342,483.35	14,342,483.35	2,968,346.67
1	11,082,013.96	15,082,013.96	4,067,537.79
1	30,247,601.66	35,247,601.66	5,131,492.13
1	16,852,345.43	18,852,345.43	9,167,446.86
1	21,203,077.61	25,203,077.61	-
1	11,203,159.15	11,203,159.15	8,202,768.13
1	17,376,102.38	20,376,102.38	7,996,486.25
1	1,662,319.56	2,662,319.56	1,662,319.56
1	22,085,477.00	31,268,733.00	10,337,628.00

1	13,450,950.00	16,813,688.00	6,787,968.00
1	16,852,345.00	23,836,504.00	3,405,638.00
1	14,654,947.53	21,735,556.00	14,654,947.53
1	10,431,816.00	15,700,857.00	4,070,758.00
1	8,291,360.00	11,844,454.00	2,565,369.00
1	24,713,626.34	27,713,626.34	9,347,986.86
1	15,593,424.00	22,275,938.00	7,572,430.00
1	8,549,250.00	14,459,944.00	5,556,625.00
1	31,357,725.20	35,357,725.20	15,110,062.32
1	7,552,347.00	11,435,347.00	2,534,437.00
1	22,787,108.63	25,787,108.63	22,787,108.63
1	16,947,347.00	20,347,947.00	5,487,479.00
1	18,420,247.00	23,440,427.00	16,420,227.00
1	22,367,699.16	25,367,699.16	22,367,699.16
1	20,499,945.00	25,000,000.00	10,445,226.00
1	9,445,298.00	11,499,525.00	3,995,428.00
1	8,428,445.00	12,925,999.00	2,939,330.00
1	6,251,041.70	8,251,041.70	6,251,041.70
1	4,458,087.89	8,458,087.89	4,458,087.89
1	23,363,182.90	25,363,182.90	21,363,182.90
1	23,035,560.89	25,035,560.89	18,012,679.01
1	18,562,123.44	20,562,123.44	15,999,884.11
1	26,488,990.00	26,488,990.00	26,488,990.00
1	9,533,940.84	9,533,940.84	9,533,940.84
1	12,635,562.21	15,111,238.00	12,635,562.21
1	20,428,643.34	25,884,205.00	8,412,952.67

1	35,802,191.80	35,802,191.80	-
1	12,342,483.35	14,342,483.35	2,968,346.67
1	11,082,013.96	15,082,013.96	4,067,537.79
1	30,247,601.66	35,247,601.66	5,131,492.13
1	16,852,345.43	18,852,345.43	9,167,446.86
1	21,203,077.61	25,203,077.61	-
1	11,203,159.15	11,203,159.15	8,202,768.13
1	17,376,102.38	20,376,102.38	7,996,486.25
1	1,662,319.56	2,662,319.56	1,662,319.56
1	22,085,477.00	31,268,733.00	10,337,628.00
1	13,450,950.00	16,813,688.00	6,787,968.00
1	16,852,345.00	23,836,504.00	3,405,638.00
1	14,654,947.53	21,735,556.00	14,654,947.53
1	10,431,816.00	15,700,857.00	4,070,758.00
1	8,291,360.00	11,844,454.00	2,565,369.00
1	24,713,626.34	27,713,626.34	9,347,986.86
1	15,593,424.00	22,275,938.00	7,572,430.00
1	8,549,250.00	14,459,944.00	5,556,625.00
1	31,357,725.20	35,357,725.20	15,110,062.32
1	7,552,347.00	11,435,347.00	2,534,437.00
1	22,787,108.63	25,787,108.63	22,787,108.63
1	16,947,347.00	20,347,947.00	5,487,479.00
1	18,420,247.00	23,440,427.00	16,420,227.00
1	22,367,699.16	25,367,699.16	22,367,699.16
1	20,499,945.00	25,000,000.00	10,445,226.00

Note: - Prosta means project status (0= successful project and 1= delayed project)