PROJECT SUCCESS CRITERIA AND SUCCESS FACTORS IN THE CASE OF PROJECTS FINANCED BY DEVELOPMENT BANK OF ETHIOPIA

By

Biniam Alem

Advisor :

Adane Atera (Ph.D)

A research study submitted to School of Commerce Department of Project Management in partial fulfillment of Master of Arts degree in Project Management

Department of Project Management

School of Commerce

Addis Ababa University

December 2018

TABLE OF CONTENT **PAGE**

LIST OF TABLES

LIST OF FIGURES

APPROVAL SHEET

SUBMITTED BY:

BINIAM ALEM HUNEGNAW

GSD/0099/2008

SIGNED BY:

ADVISOR

Name : _____Signature :_____ Date : _____

EXAMINER

Name _____ Signature: _____ Date :_____

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DECLARATION

Student

This research is my original work and has not been presented for MA degree programs in any other university.

Name : _____ID: _____Signature: _____Date: _____

Advisor

This research has been submitted for review with our approval as university advisor.

Name : _____Signature: _____ Date: _____

Department: **Project Management**

Addis Ababa University

ACKNOWLEDGEMENT

First and of all, my gratitude goes to the almighty God for being beside me always with his eternal love and mercy.

It feels so proud to be a student of School of Commerce for such an exciting period of learning and developing thoughts in project management which is an indispensible field of study for my carrier. Now, I'm so honored to accomplish my thesis as a requirement to fulfill my Master's degree in assistance with my advisor. I would like to thank the head quarter staffs of Development Bank of Ethiopia for assisting me in collecting questionnaires for my thesis.

I sincerely thank my advisor Dr Adane A. for his valuable guidance, encouragement and constructive comments.

Finally, I would like to thank my father and mother for their prayers and my wife, W/o Meron Sewenet with My daughter, Haleluya Biniam for supporting me with empathy and love.

ABSTRACT

The banking industry is one of the largest investments in Ethiopia. As per the objective of establishment, banks could be categorized in to commercial and developmental. Development Bank of Ethiopia is a specialized government bank established to spur the national development agenda where the government employs huge amount of fund in different government selected priority areas in order to derive the economy in all dimensions parallel with the Growth and Transformation Plan of the country. The bank has drawn a vision to secure 100% success on all projects financed by the bank by 2020. However, it's' impossible to find a document and reference how success criteria and factors are defined in the context of the bank. The high number of non performing loan and recovery rate is a direct implication of project failures. The failure suggests the existence of underlying critical success criteria and factors which have not been identified. This study assesses the perceptions of directors, team managers, engineers and loan officers as to how the project success criteria and factors are important for project success in the context of projects financed by the bank. As per the model developed by Morteza and Kamyar (2009) and conceptual framework of sub sections developed from different literatures, the perception of the staffs of Development Bank of Ethiopia is tested against project success criteria and success factors in the context of the projects financed by the bank. A total of 75 questionnaires distributed for directors, team managers, engineers and loan officers who engage from the inception to closure of projects financed by the bank at different levels in the head quarter of the bank where the lion's share of Bank's investment is made. The findings reveal that the target sample; directors, team managers and loan officers strongly support the identified critical success criteria and factors in achieving project success. There was no significant difference in their perception of project success criteria and success factors. The recommendations presented may be used as a guideline for successful execution of projects financed by the bank.

Keywords: Project Success factors, Project Success Criteria, Development Bank of Ethiopia

ACRONYM AND ABBREVIATION

AFDB – Africa Development Bank

CRMD – Customer Relationship Management Directorate

CSFs – Critical Success Factors

DBE – Development Bank of Ethiopia

EFQM – European Foundation for Quality Management

ETB – Ethiopian Birr

EVM – Earned Value Management

GDP - Growth Domestic Product

GTP II- Growth and Transformation Plan II

IT – Information Technology

NBE – National Bank of Ethiopia

NGOs –National Government Organizations

PDA – Prevention, Detection and Action

PFDBE – Projects Financed by Development Bank of Ethiopia

PLC – Private Limited Company

PSC- Project Success Criteria

PSFs- Project Success Factors

SPSS - Statistical Package for Social Scientists

V/P – Vice President

USD – United States Dollar

CHAPTER ONE

INTRODUCTION

1.1 Background of Study & Organization

At a glance, the IMF report shows that Ethiopia registered a projected GDP growth of 7.5% for the year 2018. As per the data obtained from theglobaleconomy.com with reference to the economic indicators for Ethiopia, the country has registered an economic growth of 10.25% based on the rate of change of real GDP by the latest update of 2017. Moreover, the GDP reaches to USD 80.56 billion for the same period specified. In this respect, a number of programs and projects channeled to influence economic and other indicators.

As per the study conducted by AFDB, at least since the Second World War, project financing has been an important instrument for transferring resources to developing countries. Projects have increased in complexity as demands on them — sociopolitical, environmental and even cultural. (Maurice.et.al., 2000).

To promote economic growth and address systemic poverty challenges across many sectors, the World Bank has committed more than $15 billion to more than 70 projects in the past 20 years. As of October 2016, the portfolio has 29 active projects with a commitment value of more than $8 billion.

A study by Polh and Mihaljek (1992) analyzes the World Bank's experience with project evaluation for a sample of 1,015 projects by comparing estimated rates of return at appraisal with re-estimated rates of return when construction works are completed, usually 5 to 10 years after appraisal. The analysis highlights the high degree of uncertainty in project analysis. A wide range of variables has been introduced to explain the observed divergence in appraisal and re-estimated rates of return, but only a relatively small part of the divergence can be explained, even with the benefit of hindsight. Project analysis thus has to cope with a large degree of uncertainty, which the traditional methods of project evaluation and selection have not been able to reduce.

Historically, studies on project success started in the mid-1900s and its attributes are being equated to Cost, Time and Quality. For over 50 years, project success has been linked to the achievement of the "Iron Triangle" of Cost, Time and Quality (Atkinson, 1999).

In the 1960s and 1970s the outlook regarding the components of project success began to expand beyond the time, cost and quality attributes into the project management techniques. The concept of a project success can have a different meaning to different people (Els. et. al.,2012). In the study of Els. *et.al* (2012), it's also reported that because of varying perception and perspective there is disagreement in literatures as to whether a project is successful or not. In this study, it's also reported that there is no conclusive evidence or consensus that has so far been achieved to determine whether the project is success or failure. Due to the ambiguity, the study states that the use of the term 'perceived success of a project' is suggested.

The organizational structure of the Bank, encompasses the Board of Directors and the president at the top; five vice presidents, nineteen directorates, two offices, twelve district offices and one hundred ten branches. The branches are distributed at different regional states and classified in to Grade A Branches, that are currently twenty-one and are assigned to handle both project and lease financing; while Grade B and Grade C branches are 11 and 78 in number respectively and meant to handle lease financing operation with a certain discretionary limits. DBE allocates a significant fund in different sectors and invested in different projects in which the government prioritize to deal with. The bank serves the public by providing different lending services mainly on two modalities; project and lease financing. Consequently, being the main share holder of projects, the bank should have a primary concern for the success of these projects.

Although on the top vision of the Bank it reads about 100% success in projects financed by the bank by 2020, there is no literature defining project success criteria & factors in the case of the bank. As a result, the researcher intended to fill the gap shown in determining factors and criteria for project success in case of DBE which will have a policy implication and relevance for the bank.

1.2 Problem Statement

Development Bank of Ethiopia is one of the financial institutions that play a critical role for the growth and development of a country. It is a specialized Bank established to spur the national Development agenda. The Bank 's focal point is the provision of customer focused lending to viable projects in line with government priority areas by mobilizing fund from domestic and foreign sources while ensuring its organizational sustainability. It is one of the state-owned financial institutions engaged in providing short, medium and long term credits over the past 107 years. The recent focus of the government in relation to the revised credit policy of DBE is to provide medium and long term loans for investment projects in the Government priority areas such as Commercial Agriculture, Agro-processing, Manufacturing Industries, Mining and Extractive Industries preferably, export focused as well as lease financing for Small and Medium Enterprises.

As per Sharamah et. al. (2015), project success is known as the ultimate goal of the project. The vision of the bank states "100% Success for All Financed Projects by 2020". During the fiscal year ended June 30, 2017, DBE approved Birr 12.08 billion and disbursed Birr 5.38 billion for different projects. On the other hand, the outstanding loan for the same period mentioned reads Birr 33.82 billion. (Annual Report For the Year Ended June 30, 2017)

According to the respective years' Annual Performance Report of the Bank, average loan recovery performance of the Bank for the period 2008/09 to 2014/15 shows 50%. As a result, such huge gap experiencing in the Bank leads to reduction of the profitability of the Bank and even hinder economic growth of the country as it goes by this rate. (Ayele, 2016)

Recent report on the fourth quarter of annual operational performance report of the bank for the fiscal year 2017/18 shows that the NPL is surging to 39.11% which is beyond the cap set by NBE and there is a threat that it will even goes beyond.

As per the study conducted by Ayele (2016), 53% of the financed project were successful projects (non- defaulters), whereas the rest 47% were non- successful ones (defaulters). As far as projects are successful, the loan repayment tendency will be high unless and otherwise bad

behavior of borrowers is concerned. The researcher is determined to investigate and figure out the roots for project success in the case of the Bank. Unfortunately, most of the studies conducted on the bank show only the loan repayment performance and efficiency in relation with non-performing loan determinants. In spite of the fact that the bank intended to own 100% successful projects by 2020 and billions of birr investment the bank mobilizes, studies with regarding to figuring out the criteria and factors for project success is hardly possible to find.

The credit policy of the bank issued in December 2017 states that the ration for project investment equity for loan is 75:25. Hence, the bank is the prime owner of most projects so long the lion's share is disbursed in the form of loan. As a result, the success of the project will directly affect the bank in particular and hence the large public in general. As a result, the bank should uphold the highest responsibility for success of investment projects financed.

Parallel to the huge investment fund the bank disburses in the projects, the body of knowledge and ideas regarding the project success instruments are not developed. The researcher mainly focuses on identifying detrimental factors and criteria of project success on projects in which the bank finance with. The researcher also exerts an effort to answer two basic questions.

1. What are important project success criteria and success factors in the case of projects financed by Development Bank of Ethiopia?
2. What is the relationship between project success and loan repayment?

1.3 Objective of the Study

The researcher has the following objectives.

- ☞ To determine project success criteria and success factors in projects financed by DBE
- ☞ To determine the relationship between project success and loan repayment

1.4 Significance of the Study

This research produces indispensible outputs identifying project success factors and success criteria so that the bank will have healthy projects. As long as projects are successful, it will have a significant impact and contribution on socio-economic status of the country per stated below.

- ☞ It helps the bank to continue financing successful projects identifying project success criteria and factors
- ☞ The bank will save its resource in managing sick projects caused by failure in application of project success factors and criteria
- ☞ The study will fill knowledge gap shown in identifying project success criteria and factors in the context of DBE
- ☞ The bank will get an input as to how the structure of the organization should be parallel to managing the project success determinants
- ☞ It will help other researchers to develop the idea further in new fashion and manner

1.5 Scope of the Study

The researcher intends to study the perception of staffs of DBE mainly factors and criteria of project success in case of projects financed by DBE under the umbrella of priority areas. It will not cover sectors other than the priority areas like service sector in earlier times before policy change financed by the banks. The study will be only limited to investigate the case from the view point of the staffs of the bank assigned in different positions and levels; not from clients and related perspective. Different literatures noted that project success is a 'perceived' concept. In addition, some other literatures noted that the success criteria and factors vary from sector to sector and project cycle to cycle/phase to phase. The study is not determined to investigate from such point of view. Moreover, on this perspective factors which have direct impact on loan repayment inefficiency will not be addressed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Review

Project is a temporary endeavor undertaken to create a unique product, service or result. A project is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources. And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. Project management, then, is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. It has always been practiced informally, but began to emerge as a distinct profession in the mid-20th century.

Neither the practitioners nor the academicians seem to agree on what constitutes project success. There is wide divergence of opinions in this field; the only agreement seems to be the disagreement on what constitutes 'project success'. (Prabhakar, 2008)

Morteza and Kamyar (2009) noted that there are a wide range of definitions of the term "Success". Success is perceived differently by different stakeholders. It plays out in various ways across states, communities, and population subgroups since there is a large diversity of people with different ideas. In fact, the definition of success is so broad that its meaning differs from one specific branch of science to another. Thus, success is not easily defined or determined.

The underlying assumption is that success emerges from the interaction between groups of individuals, organizations, and the IT artifact (Markus and Robey, 1988) Project success may be assessed by different interest groups—stockholders, managers, customers, employees, and so on. Criteria for measuring project success must therefore reflect different views (Stuckenbruck, 1986).

The study conducted in earlier times before some thirty years by De Wit (1988) denoted that project success is measured against the overall objectives of the project. On the other hand,

Rochart's (1979) three step procedure for determining which factors contribute to meeting organizational goals is worth noted in the proposition "what does it take to be successful in the business?" He has noted that the three main steps in the process are:

Generate critical success factors (CSFs): The key question in this step is, "what does it take to be successful in the business?"

Refine (CSFs) into objectives: The key question in this step is, "What should the organization's objectives and goals be with respect to the critical success factors?"

Identify measures of performance: The key question in this step is, "How will we know whether the organization has been successful on this factor?"

Regarding success criteria and factors, De Wit (1988) noted that success criteria are measures by which success or failure of a project or business will be judged and success factors are inputs to the management system that lead directly or indirectly to the success of the project or business.

Referring to Jugdev and Muller, 2005; Morris and Hough, 1987; Wateridge, 1998; Turner, 1999, Muller and Turner (2007), it's also noted in the study of Morteza and Kamyar (2009) that the project management literature agrees that there are two components of project success,

- ☞ Project success factors, elements of a project that can be influenced to increase the likelihood of success; these are independent variables that make success more likely
- ☞ Project success criteria, the measures by which we judge the successful outcome of a project; these are dependent variables which measure project success

Project success criteria vary from project to project. What is acceptable in one project without impact on perceived success (for instance a five days delay in an IT project to achieve better functionality) is abject failure in another project (the same delay in building an Olympic village). (Muller and Turner, 2007) On the other hand, Collins and Baccarini (2004) assessed success criteria across and within industries. They found little difference between industries.

The key finding of the study conducted by Assefa et. al.,(2013) denotes that project characteristics are the major determinants of project performance, whilst macro level variables also contribute to project performance although to a lesser degree. For instance as per the study

conducted by Wudneh (2017) in the construction sector, ten factors are identified; (1) Selecting inappropriate contractors (2) Right of way problems (3) Lack of top management support (5) Absence of sufficient or well allocated resources (6) Poor site management and supervision (7) Ineffective project planning and scheduling (8) Organizational culture (decision making) (9) Lack of commitment to project goals and objectives (10) Delay in design approval and (11) Delay in progress payments.

Mazen (2009) noted that information system project success is dissected in to five success dimensions, namely; process, product, stakeholder satisfaction, operational, and business success.

Baccarini (1999) defined two distinct components of project success: project management success, which focuses on project process, and product success, which deals with the effects of the project's end product. The author also identified a common four-level structure for project objectives: "goal; purpose; outputs and inputs, as well as three components for project management success: time, cost and quality (outputs and inputs). Other areas identified were - quality of the project management process and stakeholder satisfaction, and three components of product success: project goal, project purpose and stakeholder satisfaction".

Cooke-Davies (2002) based on De Wit (1988) and other writers, distinguishes project success (measured against the overall objectives of the project) and project management success (measured against the widespread and traditional measures of performance against cost, time and quality). He also distinguishes success criteria (the measures by which success or failure of a project or business will be judged) and success factors (those inputs to the management system that lead directly or indirectly to the success of the project or business). Cooke-Davies assumes also three main questions related to those subjects: What factors are critical to project management success? What factors are critical to success on an individual project? What factors lead to consistently successful projects?

Lester (2007) considers that it is not difficult to set the success criteria but they can only be achieved if a number of success factors are met. He lists out below the most important of these

factors, although not fully comprehensive but if only one of the functions or systems listed is not performed adequately, the project may be unsuccessful.

Clear objectives and project brief agreed with client.

- Good project definition
- Good planning and scheduling methods; accurate time control and feedback system
- Rigorous performance monitoring and control systems; rigorous control change (variations) procedures
- Adequate resource availability (finance, labor, plant, materials); tight financial control; full top management and sponsor support; competent project management; political stability; motivated and well integrated teams
- Comprehensive quality control procedures; competent design
- Good contractual documentation; good internal and external communications
- Good client relationship; well-designed reporting system to management and client

Belassi (1996) started to study project success criteria and indicated that these should be distinguished from the critical success factors.

Westerveld (2003) considered two visions related to project success criteria - the Results of the Project - WHAT was achieved by the project. As a Narrow Vision this includes Time, Costs and Quality and in the Broader Vision, this is based on: Project Excellence of the Model; including the Client; project personnel; contracting partners; Users and Stakeholders. He also considered two visions related to the project critical success factors - HOW was the Project managed. The Narrow Vision includes Scheduling, Budget, Organization, Information, Risks and Quality and the Broad Vision, based on the Project Excellence Model: policy and strategy; Stakeholder management; resources; contracting; leadership and teams. The Broad Vision is also based on EFQM which will be used for analyzing and classifying the most important factors in the three projects studied in the paper.

Baccarini (1999) stated that success criteria are used to measure success whilst success factors facilitate the achievement of success.

The PMBOK (2007) indicates that since projects are temporary in nature, the success of the project should be measured in terms of completing the project within the constraints of scope, time, cost, quality, resources, and risk as approved between the project managers and senior management.

2.2 Empirical Review

Sharareh et. al., (2015) conducted a study aiming to predict project execution success based on the integrated performance of project cost and schedule in order to determine project success using a survey testing. Then, projects' success and level of the collected projects were defined based on their percentage of cost and schedule overrun and classified into three performance categories: poor, moderate and excellent. The study noted that through the use of statistical tests, potential factors affecting project success were reduced to the following: "project resource leveling", "Project Management Team (PMT) size", "project execution driver", "number of engineering/design entities", "number of countries involved", "number of contractor PMT members", "use of materials management strategy", "construction PMT efficiency", and "design percentage completion before project budget authorization.

According to Morteza and Kamyar (2009), different classifications concerning project success factors show that there is no doubt that a project success factor, which is taken into account by many researchers, might be interpreted differently by other researchers. In fact, these problems occur when there is no united definition of project success among different stakeholders of a project. It is important to bear in mind from whose eyes a project is to be defined as successful.

De Wit (1988) noted that the criteria for project success are generally considered to be cost, time and quality/performance in the project literature. He also stated that generally recognized that there will have to be trade-offs between the three criteria. This simplistic approach originates from the conventional view that the objectives of a project are to complete it on time, within budget and to quality/performance specification. The emphasis

on what is important in a project, changes from one phase of the project to the next. In addition, the cost, time and quality trade-off varies for each phase of the project.

De Wit also argues that good project management can contribute towards project success but is unlikely to be able to prevent failure. The most appropriate criteria for success are the project objectives in which the degree to which these objectives have been met determines the success or failure of a project. Finally, he puts that the objectives vary from stakeholder to stakeholder and the hierarchy of objectives too. De Wit (1988), Munns & Bjeirmi (1996) and Cooke-Davies (2002) clarified that project success is measured against the overall objectives of the project.

According to Els. et. al. (2012), project success is defined as achieving the success criteria of stakeholders' appreciation, completion on time, within cost and quality while the success factors are human management, process, contractual and technical, and organization. The details are shown in the diagram below.

SUCCESS CRITERIA		SUCCESS FACTORS	ELEMENTS OF SUCCESS FACTORS
APPRECIATION BY STAKEHOLDERS		HUMAN MANAGEMENT	Team and Leadership Project manager Communication Stakeholder management
TIME		PROCESS	Planning Scheduling Monitor and control Quality management Risk management
QUALITY	PROJECT SUCCESS	ORGANIZATION	Organizational Structure Financial resources Policy and strategy Learning organization External environment
COST		CONTRACT & TECHNICAL	Procurement and contract Contractor Technical Innovation

Figure 1. Project Success

2.3 CONCEPTUAL FRAMEWORK

According to Morteza and Kamyar (2009), after analyzing 56 literatures on criterion and factors of project success, 30 references stated that time is most important project success criterion followed by cost (29 references), stakeholder satisfaction (24 references), quality (24 references) , and project management (12 references) respectively.

Project Time Management – is the date when the project is most likely to end. It has sub sections of activity definition, activity sequencing, activity resource estimation, activity duration estimation, schedule development and schedule control.

Project Cost Management – involves allocating the overall project cost estimates to individual work items/tasks or what is expected to be spent on the project. It generates budgetary estimates that establish cost baselines for measuring project performance. The cost estimation has two major approaches; top-down and bottom-up approaches. Top-down approach is top level managers estimate the overall cost of the project and the cost of deliverables while bottom-up approach involves with aggregation of cost budgets from task level cost budgets to deliverable level budgets and that of the overall project cost budget. It composes sub sections of development of WBS (Work Breakdown Structure), development of deliverables, development of sub deliverables, development of work packages, estimate costs, determine budget, control costs)

Stakeholder Satisfaction – According to Dr Chitram (2011) stakeholders include both internal and external. Internal stakeholders are project leaders, business leaders, project planners, engineering and design teams, project workers, contractors and service providers, business partners, support services, shareholders, consultants and worker families. On the other hand, external stakeholders include regulatory bodies, NGOs, communities, shareholders, funding organizations, contractors/service providers, suppliers, consumers, aboriginal groups, government/universities and consultants. It includes communication plan, information distribution, performance report and stakeholder management.

Project Quality Management – two types of quality are listed in this aspect; product quality- which refers to quality of the deliverable and process quality – which refers to quality of the project management process itself. It consists of sub sections quality plan, quality assurance and quality control.

Project Management Processes- Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. These processes ensure the effective flow of the project throughout its life cycle (PMBOK®, 2013). The processes are grouped in to five; define a new project or a new phase of an existing project by obtaining authorization to start the project or phase, establish scope of the project, refine the objectives, and define the course of action required to attain the objectives, complete the work defined in the project management plan to satisfy the project specifications, track, review and regulate the progress and performance of a project; identify any areas in which changes to the plan are required; and initiate the corresponding changes

Closing Process Group: processes performed to finalize all activities across Process Groups to formally close the project or phase

Morteza and Kamyar (2009) also revealed that the project success factors are; top management support, project team, scope, project contracts, project risk management, resource availability, project control and project change management.

Top Management Support: Ofer (2008) revealed that six most critical support processes are identified. These are assignment of appropriate project manager, communication between the project manager and the organization, existence of project success measurement, existence of interactive inter-departmental project groups, organizational capacity of resource planning and use of standard project management software.

Project Team: it is fast becoming accepted wisdom that it is people who deliver projects and indeed people, who are directly involved in a project, facilitate achieving project goals. A project team and its members are a key part of the human resource list of a project. The most common elements of project teams are establishing measurable objectives, stakeholder's (invisible team) management, establishing and planning measurable targets, planning and establishing processes,

leadership, membership and identity, communication systems, team separation and use of information technology.

Project Scope Management: It is a statement that defines the boundaries of the project. It tells not only what will be done but also what will not be done. It involves with project scope planning, project scope definition, writing scope statement with deliverables, scope change management process, development of work packages including activities and milestones.

Project Risk Management : the stages in risk management involves with establish the appropriate risk context, identify the project risks, analyze the identified risks, develop response for identified project risks, monitor and control project risks and permit post-project capture of risk knowledge.

Project Resource requirement - one of the most important factors in project success is the availability of resources, including material and human resources, to ensure that there are sufficient resources for a project and that the resource allocation can be effectively applied to the project. The duration of most activities will be significantly influenced by the resources assigned to them. It consists of resource availability (existence of the required resource), resource capability (capabilities of the humans and material resources assigned), resource leveling (an attempt to eliminate the manpower peaks and valleys by smoothing out the period-to-period resource requirements), resource allocation (is an attempt to find the shortest possible critical path based upon the available or fixed resources)

Project Control – is all about to think PDA which stands for Prevention, Detection and Action. It constitutes of application of EVM (Earned Value Management), control of time, control of cost and control of quality.

Project Contracts - Contracts, which are mainly applied for project procurement aims, can be cunningly designed for a project to facilitate the project execution and help the management optimize the cost of the project. It involves with plan of purchases, plan contracting and executing procurement.

Project Change Management: provides the direction for managing the change control process and documents the formal change control board. It involves with the process of reviewing all change requests; approving changes and managing changes to deliverables, organizational process assets, project documents, and the project management plan; and communicating their disposition.

This study investigates the perception of employees of Development Bank of Ethiopia in the case of projects financed by the Bank regarding project success criteria and success factors against the model developed by Morteza and Kamyar (2009) while the sub sections in each criterion and factor are developed from organizing and compiling with different literatures and conceptual books.

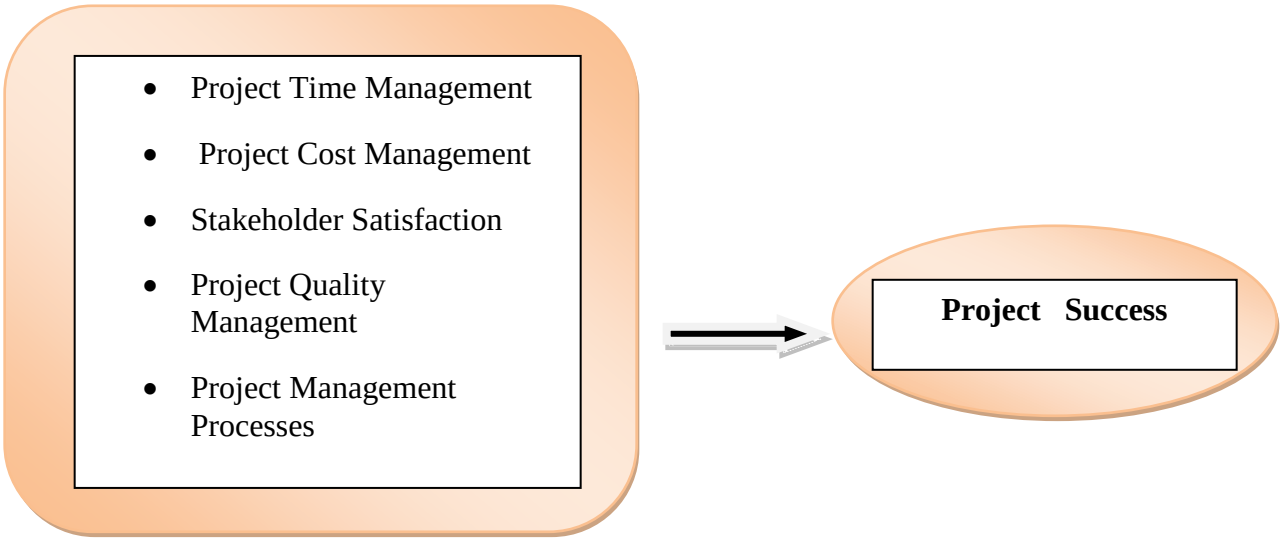

Figure 2. Project Success Criteria Influencing Project Success

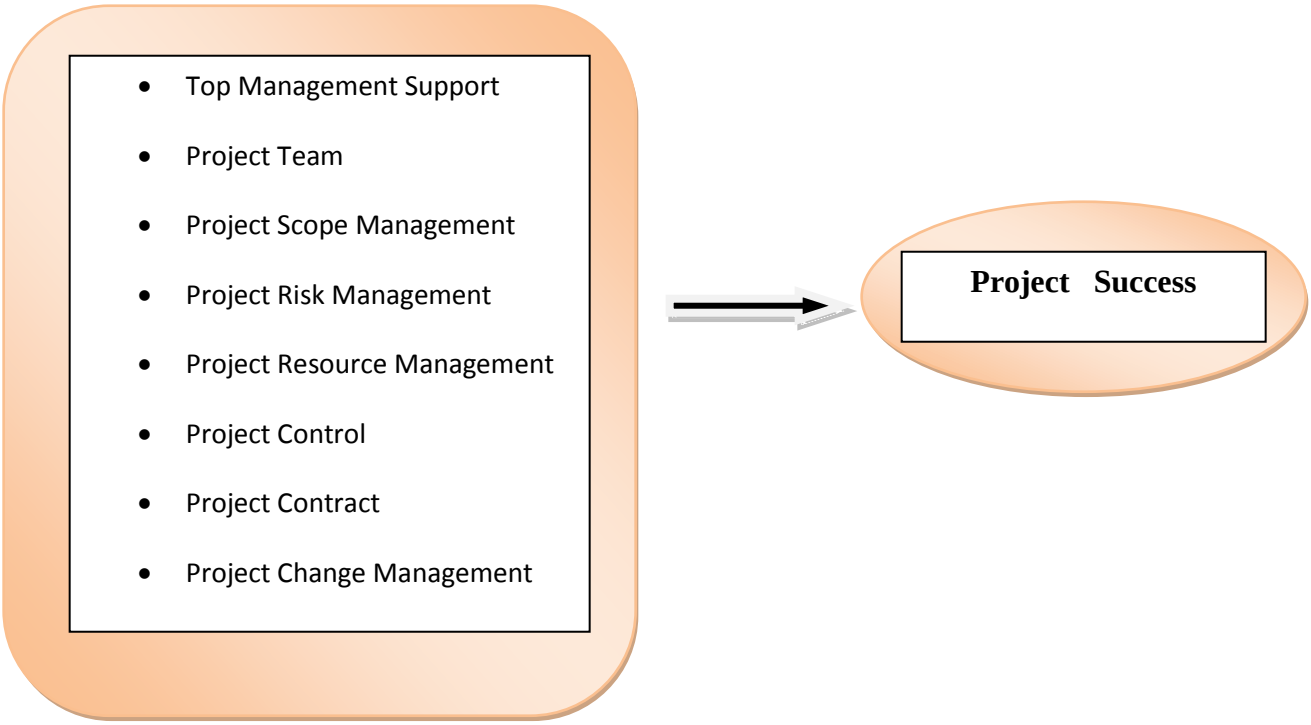

Figure 3. Project Success Factors Influencing Project Success

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

Referring to Ashebir et. al., (2017), Wudneh (2017) noted that the research method can be defined as the way in which the research objectives can be examined. In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blue print for the collection, measurement and analysis of data.

The researcher will importantly focuses on identifying and describing project success criteria and success factors in the case of projects financed by DBE. The study is undertaken because the success of projects has direct impact and implication on the existence and continuity of the bank.

Descriptive research presents a picture of specific details of a situation, social setting, or relationship. The major purpose of descriptive research, as the term implies, is to describe a characteristics of a population or phenomenon. Descriptive research seeks to determine the answers to who, what, when, where and how questions. (Wudneh, 2017)

The researcher uses descriptive research design. The analysis employed identifies critical success factors of projects and success criteria in the case of the Bank.

3.2 Research Approach

Research approaches are plans and procedures for research that span the steps from broad assumptions to detailed method of data collection, analysis and interpretation. (Creswell, 2014). Referring to Mark, et. al., (2006), here also Wudneh (2017) noted that there are two general ways of approaching a research problem, namely the deductive and inductive approaches. The deductive way is based on the logical way of thinking and the conclusion drawn from the theory. Thus, the deductive approach means that the research starts from already existing theories and model, from which propositions are developed and subsequently tested through empirical studies. The inductive approach means the research starts from empirical studies and these studies are subsequently related to existing theories.

He also noted that as per stated by Creswell (2014), there are three research approaches: (a) qualitative (b) quantitative and (c) mixed methods.

Having an instrument of questionnaires, the researcher uses mixed research approach with deductive reasoning through referring to different literatures, theories and models, which helps the researcher to develop the conceptual framework and research questions. It's further stated that qualitative data tends to be open-ended without pre determined responses while quantitative data usually includes close-ended responses such as found on questionnaires or psychological instruments. (Creswell, 2014)

3.3 Data Source and Collection Method

Data collection is an integral part of research design, though we are dealing it separately. Data collection is determined by the research technique selected for the project. Data can be collected in variety of ways, in different settings- field or lab – and from different sources. It could include interviews- face to face communications, telephone interviews, computer assisted interviews, and interviews through electronic media; questionnaires that either personally administered, sent through mail, or electronically administered; observation of individuals and events which could be participant or non participant. In order to analyze the research questions that the researcher raised, a questionnaire will be used. This is because it offers considerable advantage in the administration presenting an even stimulus potentially to large number of people simultaneously and provides the investigation with an easy accumulation of data. Questionnaires give respondents freedom to express their views, opinion and ideas. (Wudneh, 2017)

The questionnaire has an open ended and close ended questions which are collected from the respondents of the employees of DBE at different levels having more than loan officer positions up to director level.

The questionnaire will have project success criterion and project success factors. The project success criterion mainly includes (1) Project time management which includes activity definition, activity sequencing, activity resource estimation, activity duration estimation,

schedule development and schedule control (2) Project cost management which includes development of WBS, development of deliverables, development of sub deliverables, development of work packages, estimate costs, determine budget, control costs (3) Stakeholder Satisfaction which includes communication plan, information distribution, performance report and stakeholder management (4) Project Quality Management which includes quality plan, quality assurance and quality control (5) Project Management Processes which includes define a new project or a new phase of an existing project by obtaining authorization to start the project or phase, establish scope of the project, refine the objectives, and define the course of action required to attain the objectives, complete the work defined in the project management plan to satisfy the project specifications, track, review and regulate the progress and performance of a project; identify any areas in which changes to the plan are required; and initiate the corresponding changes. These criteria are developed from theoretical and empirical literature of the proposal. The respondents are requested to evaluate the criterion's influence on a five point Likert scale as one (1) Very High Extent, two (2) High Extent, three (3) Moderate Extent, four (4) Low Extent and five (5) Very Low Extent. Respondents are requested to rank as per the influence of the criterion on project success.

Furthermore, the project success factors are identified as ; (1) Top Management Support which includes appropriate project manager, communication between the project manager and the organization, existence of project success measurement, existence of interactive inter-departmental project groups, organizational capacity of resource planning and use of standard project management software, (2) Project Team Management which includes establishing measurable objectives, stakeholder's (invisible team) management, establishing and planning measurable targets, planning and establishing processes, leadership, membership and identity, communication systems, team separation and use of information technology (3) Project Scope Management which includes project scope planning, project scope definition, writing scope statement with deliverables, scope change management process, development of work packages including activities and milestones (4) Project Resource Requirement which includes resource availability (existence of the required resource), resource capability (capabilities of the humans and material resources assigned), resource leveling (an attempt to eliminate the manpower peaks and valleys by smoothing out the period-to-period resource requirements), resource

allocation (is an attempt to find the shortest possible critical path based upon the available or fixed resources), (5) Project Control which includes application of EVM (Earned Value Management), control of time, control of cost and control of quality, (6) Project Contracts which includes plan of purchases, plan contracting and executing procurement (7) Project Change Management which includes process of reviewing all change requests; approving changes and managing changes to deliverables, organizational process assets, project documents, and the project management plan; and communicating their disposition. The respondents are requested to evaluate the factor's influence on a five point Likert scale as one (1) Very High Extent, two (2) High Extent, three (3) Moderate Extent, four (4) Low Extent and five (5) Very Low Extent. Respondents are requested to rank as per the influence of the factors on project success.

3.4 Sampling Design

The population of the study constitutes 5 five president offices, 19 directorate offices, 51 teams, and (51*4) 204 team members

3.4.1 Sampling Unit

The researcher selects sample from parties involved more importantly directorate offices, team managers, team members (officers and engineers) who engage directly in managing different projects located in different parts of the country including mega projects. The type of projects will vary based on the amount of project cost, type of project and sector of investment. However, all projects fall in to the priority areas of the government including Agriculture, Agro Processing, Manufacturing, Construction, Mining and Extractive industries.

3.4.2 Sampling Technique

Using stratified random sampling method, five sectors of DBE's projects are selected in order to obtain representative sample from different sectors. Under stratified sampling, the population is divided in to several sub populations that are individually more homogenous than the total population (the different sub populations are called 'strata'). The researcher selected items from

each stratum to constitute a sample. Since each stratum is more homogenous than the whole population, it will be possible to get more precise estimates of each stratum and by estimating more accurately each of the component parts; a better estimate of the whole will be obtained from each stratum randomly. The strata are (1) Directors (2) Team managers and (3) Team members.

3.4.3 Sample Size

The revised organizational structure of the bank in 2017 approved by the executive management shows that the Board of Directors and the president are at the top; Five Vice Presidents and Directorate offices will follow next to it. The bank has a total of 19 directorates, five vice presidents and one president. Inside each directorate there are different teams organized in order to execute work under team managers including more than four team members.

Under Vice President of Corporate Services four directorates are listed: Human Resource Management, Information Technology Services, Property and Facility Management, Research and Project Data Management and Bank Security section. Under this V/P office, a total of 12 teams are listed.

Under V/P of Lease Financing four directorates and district offices are listed; Lease Financing Follow Up, Capital Goods Procurement and Supply, Branch Project Follow Up, External Fund and Credit Management and District offices. Under this V/P office, a total of 15 teams are organized.

Under V/P of Corporate Customer Relationship Management five directorates are listed; Customer Relationship Management I, Customer Relationship Management II, Customer Relation Management III, Customer Relationship Management IV and Customer Advisory. Under CRMD I-IV, business and technical teams exceeding 10 found where as under the Customer Advisory, Customer Advisory Team and Attorney Team are listed. Hence, a minimum of total 12 teams are located inside the vice president.

Under V/P of Corporate Project Appraisal and Portfolio Management five directorates are listed; Project Appraisal I, Project Appraisal II, Project Appraisal III, Project Evaluation and Portfolio Management and Engineering Services. Under this V/P a minimum of 11 business and technical teams are located.

Under V/P of Banking and Finance, a total of five directorates are listed; Corporate Bond Management, Finance and Accounts, Treasury and Funds Management, Corporate Branch and International Banking Service. Under this directorate a total of 13 teams are located.

Hence, as per the revised organizational structure of the bank, the total population of the study is a total of 19 directorates and minimum of 51 team managers and 204 team members under all five vice president offices.

The PMBOK® (2013) defines project cycle is a series of phases that a project passes through from its initiation to closure. It states that the life cycle could be categorized in to different factors; more importantly it could be mapped in to the following generic life cycle structures.

1. Starting the project
2. Organizing and preparing
3. Carrying out the project work
4. Closing the project

The endorsed credit policy (2017) of the bank states that the bank shall extend credit in the form of new, additional and expansion loans to projects in the priority areas of the government up on fulfillment of its requirement. This implies that the bank deals with projects that engages from initiation up to completion of loan repayment. Hence, it's possible to conclude that different directorates involve in these phases at different levels. The bank has also a system of rehabilitating projects at its end in the presence of default and sick loans. There are also some projects administered by the bank owning operation after going through unsuccessful foreclosure. The projects that the bank finances could be categorized under two broad classifications; Agricultural and Industrial while service is not financed under current conditions.

The researcher will collect data from the target sample DBE staffs located in from all five vice president offices, nineteen directorate offices, team managers and members located in the head quarter of the bank in Addis Ababa. The researcher will use a quantitative and qualitative technique of survey as a method to collect data from the staffs of the sample population defined/ vice presidents, directorates, and teams located in it.

As an integral part of the research design and as per the research technique of survey, the researcher develops questionnaire to collect the data from the respondents and hence the questionnaires are collected after a total of 75 respondents are distributed. The analysis, results and discussion make its base on 72% of response rate or 54 questionnaires that are completely filled and collected.

3.4.4 Data Analysis

Data is collected, examined and checked for completeness and clarity. The data collected from the respondents is analyzed quantitatively. Numerical data is collected from the questionnaires, coded, entered and analyzed using descriptive statistics which is assisted by Statistical Package for Social Scientists (SPSS) application. Frequency tables with varying percentages are used to present the findings and tables of mean and standard deviation which are obtained from SPSS in order to represent the findings.

Likert scales are often called summative scales. In an ordinal scale, responses can be rated or ranked, but the distance between responses is not measurable. Likert scaling is a bipolar scaling method, measuring either positive or negative response to a statement.

As a result, in this research study, the results of the mean value are summarized in to measurement of ‘more important’ and ‘less important’ to show the effect of project success criteria and success factors in the case of projects financed by DBE. ‘More important’ which is inclusive of the first three scales (Very High Extent, High Extent and Moderate Extent) assigned by values less than mean value of 3 (exclusive) while ‘less important’ which is inclusive of the

remaining two scales (Low Extent and Very Low Extent) assigned by mean values of greater than 3 (inclusive).

3.4.5 Reliability and Validity

While developing the questionnaire, two conditions are considered; validity and reliability. Cronbach's alpha coefficient is used in the research to investigate the reliability of the questionnaires.

All factors were reasonably reliable as the Cronbach's Alpha's coefficients were above the threshold value of 0.70 which is a 0.95 Cronbach's Alpha coefficient is obtained in the analysis of the questionnaires reliability.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

In this section, the researcher organized and compiled the data to make ready for analysis and drawn relevant conclusions. The researcher analyzed the data parallel to the objectives stated; (1) To determine project success criteria and success factors in the case of projects financed by Development Bank of Ethiopia (2) To identify whether project success and loan repayment are positively related or not.

4.2 Response Rate

As per the plan, a total of 75 questionnaires were distributed to the staffs of head quarter of the bank. Of the total questionnaires, 54 questionnaires are collected which accounts 72% of the total respondents.

Table 1. Summary of Response Rate

Category	Frequency	Percentage
Response	54	72%
Non Returned	21	28%
Total	**75**	**100%**

4.3 Age

Information regarding to the age composition of the respondents is also analyzed. In this study, 3 age classifications in range is used; below 30, between 31 and 49 and above 50 years of age. The summary is stipulated on table 2 below.

Table 2. Summary of Age Classification

Age	Frequency	Percent
<30	25	46.3
31-49	25	46.3
>50	4	7.4
Total	54	100.0

As per its depicted in Table 2, the age of respondents below 30 and between 31 to 49 represents 46.3% and 46.3% respectively while the remaining 7.4% of the respondents are above the age of 50.

4.4 Gender

In this study, of the total respondents that the questionnaires are collected, 94.4% are men while the rest 5.6% are women.

Table 3. Summary of Gender

Description	Frequency	Percent
M	51	94.4
F	3	5.6
Total	**54**	**100.0**

4.5 Educational Background

Regarding educational background of the respondents, the data depicts that the majorities of respondents are degree holders which accounts 57.4% of the respondents while the rest 40.7 % of the respondents are post graduates. The summary is shown below in Table 4.

Table 4. Summary of Educational Background of Respondents

Qualification	Frequency	Percent
Degree	31	57.4
Masters	22	40.7
Missing	1	1.9
Total	**54**	**100.0**

4.6 Profile of Respondents

The respondents are directors, team managers, engineers and loan officers. As per shown in the table below, of the total respondents, directors, team managers, engineers and loan officers took 7.4%, 18.5%, 18.5% and 55.6% respectively. It's clear that most of the respondents are loan officers exceeding more than half of the respondents. This could be attributed to the fact that most of the projects from the initiation phase up to closure pass through them and they have more exposure to the status of projects than any other staffs located in the directorates of the bank.

Table 5. Profile of Respondents

Position	Frequency	Percent
Directors	4	7.4
Team Managers	10	18.5
Engineers	10	18.5
Loan Officers	30	55.6
Total	**54**	**100.0**

4.7 PROJECT SUCCESS CRITERIA IN PFDBE

The questionnaire mainly lists down five criteria as subjects influencing project success and inside each criterion, sub criteria developed. The respondents have given their opinion as per the scales stipulated in the questionnaire.

4.7.1 Influence of Project Time Management on Project Success in PFDBE

The respondents were asked to give their opinion on criteria of project time management as to how the sub sections influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1.Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent

Table 6. Influence of Project Time Management on Project Success in PFDBE

CSF	N	Mean	Std. Deviation
Activity Definition	54	2.926	1.5644
Activity Sequencing	54	2.981	1.7100
Activity Resource Estimation	54	2.926	1.7250
Activity Duration Estimation	54	3.093	1.8043
Schedule Development	54	2.889	1.5255
Schedule Control	54	3.352	2.1819

The study reveals that schedule development, activity definition, activity resource estimation and activity sequencing have more importance in influencing project success in the case of projects financed by DBE with mean value of 2.88, 2.93, 2.93 and 2.98 respectively. It depicts that how most of the sub sections of project time management influence success more importantly in the case of PFDBE.

4.7.2 Influence of Project Cost Management on Project Success in PFDBE

The respondents were asked to give their opinion on criteria of project cost management as to how the subsections influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent

Table 7. Influence of Project Cost Management on Project Success in PFDBE

PSC	N	Mean	Std. Deviation
Development of Work Breakdown Structure	54	2.685	1.2860
Development of deliverables	54	2.741	1.2467
Development of Sub deliverables	54	2.833	1.3563
Development of Work Packages	54	3.056	1.5099
Estimate Costs	54	2.815	1.7383
Determine Budget	54	2.722	1.8058
Control Cost	54	2.944	1.8162

The analysis clearly shows that development of work breakdown structure, determining budget, development of deliverables, estimating costs, development of sub-deliverables and controlling costs subsequently have more importance in influencing success of projects in the case of PFDBE with mean value of 2.67, 2.72, 2.74, 2.81, 2.83 and 2.94 respectively.

4.7.3 Influence of Project Quality Management on Project Success in PFDBE

The respondents were asked to give their opinion on criteria of project quality management as to how the subsections of project quality management influence project success in the case of project financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent

Table 8. Influence of Project Quality Management on Project Success in PFDBE

PSC	N	Mean	Std. Deviation
Quality Plan	54	2.852	1.5590
Quality Assurance	54	2.796	1.6412
Quality Control	54	3.056	1.7848

The respondents replied that quality assurance and quality planning have more importance in influencing project success in the case of PFDBE with mean value of 2.79 and 2.82 respectively.

4.6.4 Influence of Stakeholder Satisfaction on Project Success in PFDBE

The respondents were asked to give their opinion on criteria of stakeholder satisfaction as to how the subsections of stakeholder management influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent

Table 9. Influence of Stakeholder Satisfaction on Project Success in PDBE

PSC	N	Mean	Std. Deviation
Communication Plan	54	3.037	1.6706
Information Distribution	54	3.185	1.6831
Performance Report	54	2.944	1.4198
Stakeholder Management	54	3.093	1.6168

Regarding stakeholder satisfaction although some studies denote that it has significant influence on project success, the respondents replied that communication plan, information distribution and stakeholder management have less importance in influencing success of projects in PFDBE.

4.6.5 Influence of Project Management Processes in DBE Projects

The respondents were asked to give their opinion on criteria of project management processes as to how the subsections of project management processes influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent

Table 10. Influence of Project Management Processes on Project Success in PFDBE

PSC	N	Mean	Std. Deviation
Establish scope of the project, refine objectives	54	2.704	1.6326
Define course of action required to attain objectives	54	2.778	1.5980
Complete the work defined in the project management plan to satisfy the project specifications, track review and regulate the progress and performance of a project	54	3.093	2.0583
Identify any areas in which changes to the plan are required and initiate the corresponding changes	54	3.167	1.7671
Finalize all activities across Process Groups to formally close the project or phase	54	3.111	1.8497

Table 10 show that establishing scope of the project and refining objectives and defining course of action required to attain objectives have more importance with mean values of 2.70 and 2.77 in influencing success in case of PFDBE.

4.6.6 Top 10 Success Criteria Influencing Project Success in PFDBE

In this study individually project success criteria are sub divided in to sub sections and the influence of each sub sections is shown above with each major criteria. Finally, based on mean figure of each sub section, top 10 project success criteria in the case of PFDBE is stipulated below in table 11.

Table 11. Top 10 Project Success Criteria Influencing project Success in PFDBE

No	Project Success Criterion	N	Mean	Std. Deviation
1	Development of Work Breakdown Structure	54	2.685	1.2860
2	Establishing scope of the project and refining the objectives	54	2.704	1.6326
3	Determine Budget	54	2.722	1.8058
4	Development of Deliverables	54	2.741	1.2467
5	Define course of action required to attain the objectives	54	2.778	1.5980
6	Quality Assurance	54	2.796	1.6412
7	Estimate Costs	54	2.815	1.7383
8	Development Sub Deliverables	54	2.833	1.3563
9	Quality Plan	54	2.852	1.5590
10	Schedule Development	54	2.889	1.5255

The table clearly depicts that of the total top 10 project success criteria in case of PFDBE, development of work breakdown structure has more importance as a criterion to influence success with mean value of 2.68 followed by establishing scope of project and refining objectives, determining budget, development of deliverables, defining course of action, quality assurance, estimating costs, development of sub deliverables, quality plan and development of schedule with mean values of 2.70, 2.72, 2.74, 2.77, 2.79, 2.81, 2.83, 2.85 and 2.88 respectively in the case of PFDBE.

4.7 PROJECT SUCCESS FACTORS IN PFDBE

4.7.1 Influence of Top Management Support on Project Success in PFDBE

The respondents were asked to give their opinion on project success factor of top management support as to how the subsections of top management support influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent.

Table 12. Influence of Top Management Support in PFDBE

PSF	N	Mean	Std. Deviation
Assignment of Appropriate Project Manager	54	2.611	1.7528
Communication Between Project Manager and the organization	54	2.722	1.5950
Existence of Project Success Measurement	54	2.833	1.5265
Inter Departmental Project Groups	54	2.981	1.8274
Existence of Interactive Organizational Capacity of Resource Planning	54	2.852	1.5346
Use of Standard Project Management Software	54	3.204	1.8054

The study reveals that among the sub sections influencing project success factors of top management support; assignment of appropriate project manager has more importance in influencing project success with mean value of 2.61 followed by communication between project manager and the organization, existence of project success measurement and existence of interactive organizational capacity of resource planning with mean value of 2.72, 2.83 and 2.85 respectively in the case of PFDBE.

4.7.2 Influence of Project Team on Project Success in PFDBE

The respondents were asked to give their opinion on project success factor of project team as to how the subsections of project team influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent.

Table 13. Influence of Project Team on Project Success

PSF	N	Mean	Std. Deviation
Establishing Measurable Objectives	54	2.870	1.8738
Stakeholder's (invisible team) management	54	3.019	1.4207
Establishing and planning measurable targets	54	2.870	1.8124
Planning and establishing processes, leadership, membership and identity	54	2.741	1.5804
Communication systems	54	3.037	1.7371
Team separation	54	3.056	1.4720
Use of information technology.	54	2.815	1.5550

The mean values driven from the analysis denote that planning and establishing processes, leadership, membership and identity have more importance in influencing project success with mean value of 2.74 followed by establishing measurable objectives and establishing and planning measurable targets with mean of 2.87 and 2.87 respectively in case of PFDBE.

4.7.3 Influence of Project Scope Management on Project Success in PFDBE

The respondents were asked to give their opinion success factor of project scope management as to how the subsections of project scope management influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent

Table 14. Influence of Project Scope Management on Project Success in PFDBE

PSF	N	Mean	Std. Deviation
Project scope planning	54	2.574	1.5613
Project scope definition	54	2.593	1.5482
Writing scope statement with deliverables,	54	2.685	1.4643
Scope change management process	54	2.815	1.4416
Development of work packages including activities and milestones	54	3.519	2.3209

In this regard, the study shows that project scope planning, project scope definition and writing scope statement with deliverables and scope change management process have more importance in influencing success of projects with mean values of 2.57, 2.59, 2.68 and 2.81 in the case of PFDBE.

4.7.4 Influence of Project Risk Management on Project Success in PFDBE

The respondents were asked to give their opinion on success factor of project risk management as to how the subsections of project risk management influence project success in the case of projects financed by DBE . The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent.

Table 15. Influence of Project Risk Management on Project Success in PFDBE

PSF	N	Mean	Std. Deviation
Establish the appropriate risk context	54	3.130	2.0004
Identify project risks	54	2.741	1.7824
Analyze identified risks	54	2.741	1.7286
Develop response for identified project risks	54	2.833	1.7129
Monitor and control project risks	54	2.815	1.7054
Permit post-project capture of risk knowledge	54	3.074	1.7894

The table above clearly depicts that identifying project risks, analyzing identified risks, monitoring and controlling of project risks and developing response for identified risks have more importance in influencing success with mean values of 2.74, 2.74, 2.81 and 2.83 respectively in the case of PFDBE.

4.7.5 Influence of Project Resource Management on Project Success in PFDBE

The respondents were asked to give their opinion on success factor of project resource requirement as to how the subsections of project resource management influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent.

Table 16. Influence of Project Resource Management on Project Success in PFDBE

PSF	N	Mean	Std. Deviation
Resource availability (existence of the required resource)	54	2.630	1.7729
Resource capability (capabilities of the humans and material resources assigned)	54	2.778	1.7874
Resource leveling (an attempt to eliminate the manpower peaks and valleys by smoothing out the period-to-period resource requirements)	54	2.852	1.7527
Resource allocation (is an attempt to find the shortest possible critical path based upon the available or fixed resources)	54	2.907	1.8861

The table clearly shows that resource availability, resource capability, resource leveling and resource allocation have more importance in influencing project success with mean values of 2.63, 2.77, 2.85 and 2.90 respectively in the case of PFDBE.

4.7.6 Influence of Project Control on Project Success in PFDBE

The respondents were asked to give their opinion on project success factor of project control as to how the subsections of project control influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1.Very High Extent 2.High Extent 3. Moderately Extent 4. Low Extent 5.Very Low Extent.

Table 17. Influence of Project Control on Project Success in PFDBE

PSF	N	Mean	Std. Deviation
Application of EVM (Earned Value Management)	54	2.963	1.8730
Control of time	54	2.870	1.8331
Control of cost and control of quality	54	3.019	2.1323

Table 17 shows that control of time and application of EVM (Earned Value Management) have more importance with mean values of 2.87 and 2.96 in influencing project success in the case of PFDBE.

4.7.7 Influence of Project Contract on Project Success in PFDBE

The respondents were asked to give their opinion on success factor of project contract as to how the subsections of project contract influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent

Table 18. Influence of Project Contract on Project Success in PFDBE

PSF	N	Mean	Std. Deviation
Plan of purchases	54	2.889	1.7769
Plan contracting	54	3.000	1.9132
Executing procurement	54	2.963	1.8527

Table 18 shows that plan of purchases and executing procurement have more importance in influencing project success with mean values of 2.88 and 2.96 in the case of PFDBE.

4.7.8 Influence of Project Change Management on Project Success in PFDBE

The respondents were asked to give their opinion on success factor of project change management as to how the subsections of project change management influence project success in the case of projects financed by DBE. The responses were measured by a five point Likert scale; 1. Very High Extent 2. High Extent 3. Moderately Extent 4. Low Extent 5. Very Low Extent.

Table 19. Influence of Project Change Management on Project Success in PFDBE

PSF	N	Mean	Std. Deviation
Reviewing all change requests	54	2.926	1.6918
Approving changes and managing changes to deliverables	54	3.148	1.8774
Managing organizational process assets project documents, and the project management plan	54	3.019	1.7643
Communicating disposition	54	3.315	1.7891

Regarding project change management, of the total subsections stated in, only one of them has more importance in influencing project success with mean value of 2.92 in the case of PFDBE.

4.7.9 Top 10 Project Success Factors in the Case of PFDBE

The study analyzes each project success factor and its sub sections as to how influence project success in the case of projects financed by development bank of Ethiopia based on mean value summarizing all sub sections in table 20 below.

Table 20. Top 10 Project Success Factors in PFDBE

No	PSF	N	Mean	Std. Deviation
1	Project Scope Planning	54	2.574	1.5613
2	Project Scope Definition	54	2.593	1.5482
3	Assignment of appropriate Project Manager	54	2.611	1.7528
4	Resource Availability	54	2.63	1.7729
5	Writing Scope Statement with Deliverables	54	2.685	1.4643
6	Communication Between Project Manager and the Organization	54	2.722	1.595
7	Analyze Identified Risks	54	2.741	1.7286
8	Planning and Establishing Processes, Leadership, Membership and Identity	54	2.741	1.5804
9	Identify Project Risks	54	2.741	1.7824
10	Resource Capability	54	2.778	1.7874

Table 20 reveals that among the total top ten project success factors; project scope planning has more importance in influencing project success with mean value of 2.57 followed by project scope definition, assignment of appropriate project manager, resource availability, writing scope statement with deliverables, communication between project manager and the organization, analyzing identified risks, planning and establishing processes, leadership, membership and identity, identifying project risks and resource capability with mean values of 2.59, 2.61, 2.63, 2.68, 2.72, 2.74, 2.74, 2.74 and 2.77 respectively in the case of PFDBE.

4.7.10 Influence of Project Success on Loan Repayment in PFDBE

Literally, it's possible to conclude that if a project is successful, the tendency to settle loan is high. As a result, it's possible to conclude that so long a project is successful the loan will be settled properly unless and otherwise behavioral concerns arise. The study reveals this fact illustrating that 88.9% of the respondents respond that project success and loan repayment are positively related while the rest 7.4 % respond that project success and loan repayment are not positively related. In the open ended questions of the questionnaire, it's noted by the respondents that political reasons, unethical behavior of borrowers and cooperation of staffs to the borrower side are causes not to settle loans on time. The summary is shown below in table 21.

Table 21. Influence of Project Success on Loan Repayment

Description	Frequency	Percent
Project success and loan repayment are positively related	48	88.9
Project success and loan repayment are not positively related	4	7.4
Missing	2	3.7
Total	**54**	**100.0**

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMNEDATION

5.1 Introduction

In this chapter, the researcher disclose summary of the study findings, discussions, conclusions and recommendations. It also makes suggestion for further researchers. The researcher summarizes the findings parallel with the objective of the study which was to determine Project Success Criteria and Success Factors in the Case of Projects Financed by Development Bank of Ethiopia.

5.2 Conclusion and Discussion

The research analyzes and described the prevailing project success criteria and success factors in the case of projects financed by Development Bank of Ethiopia intending to build a relevant theory in the bank context. In an effort to realize the objectives and tracing back from multiple sources, different documents are reviewed and questionnaires collected.

As per the identified project success criterion, the study reveals that the following ten criteria primarily are critical for project success. (1) Development of Work Breakdown Structure (2) Establishing Scope of the Project and Refining Objectives (3) Determining Budget (4) Development of Deliverables (5) Defining course of action required to attain the objectives (6) Quality Assurance (7) Estimate Costs (8) Development of Sub Deliverables (9) Quality Plan (10) Schedule Development. Each of the criterion are discussed how it influences project success below.

Development of Work Breakdown Structure: is a deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. It deals with breaking down of large activities into comprehensible or manageable units. It's a key to project success in that it ensure all project stakeholders and team members have a common understanding of what the project is to achieve.

Hence, the components of work breakdown structure shall be exactly and accurately executed since it provides the framework on which costs, time, and schedule/performance can be compared against the budget for each level of the work breakdown structure.

Establish Scope and Refine Objectives: the work defined that must be performed to deliver a product, service or result with the specified features and functions shall be established. Objectives, deliverables, and requirements not specifically included in the scope statement are explicitly excluded from the project. Literatures noted that in the case of goals and objectives, the triple constraints (cost, time and quality) are used as measurements to determine project satisfaction and completion. Objectives, or goals, are specific, measurable, and timely. The objective criteria are clearly stated, and fulfillment of the project objective, or goal, is easily measured.

Determine Budget: The work breakdown structure is required as input for the cost budgeting process because it defines the work items. The project budget is a plan that incorporates the allocation of resources to various work packages and departments, along with a schedule to ensure that an organization is in a position to achieve project goals. Meaningful budgets shall be developed through frequent interaction among concerned parties based on different data input from a variety of sources. Developing a project cost budget is essential to create a cost baseline, which is a time-phased budget that project managers use to measure and monitor cost performance.

Development of Deliverables: A deliverable is something that can be achieved or delivered as a result of a plan or process. Deliverables describe the components of the goals and objectives in a quantifiable way. It includes development and ascertaining whether the deliverable meets the agree-up on criteria and it needs to be practiced as a culture in PFDBE.

Define course of action required to attain objectives: this deals with establishing a predetermined planning within a forecasted project environment. It includes prediction of the tasks necessary to achieve a goal, the estimation of required resources to accomplish the tasks, and the scheduling of people and tasks to meet the deadline. A project plan expresses the objectives & requirements of the project in terms of project scope, project schedule, and resource

requirement, project cost estimation, project quality, and project risk management. It enables to translate project requirement into Work breakdown structure (WBS), tasks list, Gantt charts, resource assignment and risk register, etc

Quality Assurance: Two types of quality are part of every project. The first is product quality : the quality of the deliverable from the project and the second is process quality; the quality of the project management process itself. It focuses on how well the project management process works and how can it be improved. Continuous quality and process quality management are the tools used to measure process quality. Hence, assuring whether the quality is as per the standard/specifications and requirement shall be a continuous process in projects of the bank.

Estimate Costs: Cost estimates can be aggregated by work packages in accordance with the work breakdown structure. The work package cost estimates are then aggregated for the higher component levels of the work breakdown structure and ultimately for the entire project. Well-defined project scope and an accurate work breakdown structure are the twin pillars for ensuring project success. The two, in tandem, constitute the basis for effective project cost management. Most of projects financed by DBE shows cost overrun. Hence, it should be noted that conscious estimation of costs shall be customized in the bank with detailed principle of cost treatment in the context of the bank.

Development of Sub-Deliverables: Decomposition is a planning technique that subdivides the project scope and project deliverables into smaller, more manageable components, until the project work associated with accomplishing the project scope and deliverables is defined in sufficient detail to support executing, monitoring, and controlling the work. This decomposition (or subdivision) clearly and comprehensively defines the scope of the project in terms of individual sub deliverables that the project participants can easily understand.

Quality Plan: Quality is determinant specially for those export products and any deviation has no excuse by the international community; may cause a well operating project to failure. Carefully planned project takes into account necessary aspects of a project including quality and provide a plan which project team can refer during execution. It's a means of controlling tool to undertake subsequent follow up on the product and project management processes.

Schedule Development: The lower level work breakdown structure elements provide appropriate detail and focus for support of schedule development. Work package is a deliverable or project work component at the lowest level of the work breakdown structure. The work package includes the schedule activities and schedule milestones required to complete the work package deliverable or project work component. These work packages define and contain the work to be performed and tracked. These can be later used as an input to the scheduling process to support the elaboration of tasks, activities, resources and milestones which can be cost estimated, scheduled, monitored, and controlled.

The study further reveals top 10 project success factors in the context of projects financed by Development Bank of Ethiopia; (1) Project Scope Planning (2) Project Scope Definition (3) Assignment of Appropriate Project Manager (4) Resource Availability (5) Writing Scope Statement with Deliverables (6) Communication between Project Manager and the Organization (7) Analyze Identified Risks (8) Planning and Establishing Processes, Leadership, Membership and Identity (9) Identify Project Risks and (10) Resource Capability. Each success factor is discussed below.

Project Scope Planning: provides guidance on how the project scope will be defined, documented, verified, managed, and controlled. It should include a description /definition how preliminary scope statement shall be elaborated and transformed in to the more detailed project scope statement, how the work breakdown structure shall be generated and updated on the basis of project scope statement, its refinements and/or approved scope changes. It should also include how formal verification and acceptance of completed project deliverables is obtained in addition to describing how requests for changes to the detailed project scope statement will be processed.

Project Scope Definition: the first scope planning output is scope statement and this becomes an input to the second scope planning process; scope definition. In project scope definition, the project deliverables are broken down into smaller, manageable components so that one can plan project tasks and activities. Its purpose is subdividing of deliverables into smaller components. This helps to improve estimates, individual work resource estimates, assign performance measures and control.

Assignment of Appropriate Project Manager: Similar to the study revealed by Muller and Turner (2007) the sponsors challenge lies in identifying the right project manager for a given type of project. In addition to possessing detailed technical knowledge, the project manager needs to be in command of project planning, authorizing, team organizing, controlling, directing, team building, leadership and team life cycle leadership. The bank shall confirm whether the assigned project manager in financed projects possess all required qualities, technical qualification and verification shall be conducted in a fixed period.

Resource Availability: Resources are assets, such as people, equipment, physical facilities, or inventory that have limited availabilities, can be scheduled, or can be leased from an outside party. Some are fixed; others are variable only in the long term. In any case, they are central to the scheduling of project activities and the orderly completion of the project.

Writing Scope Statement with Deliverables: Requirements definition will be derived from project goals and deliverables and documented in the scope statement. It deals with accurately documenting the deliverables and requirements of the project.

Communication between Project Manager and the Organization : status reports, status review meetings, scope statements and scope statement updates, project baseline information, performance measures and project acceptance shall be communicated between DBE and project managers on periodic basis. Finally, the information shall be shared or communicated to the concerned stakeholders as per the order of importance.

Analyze Identified Risks: Once risks are identified, the risks shall be analyzed either quantitatively or qualitatively in order to mitigate with appropriate and proper risk response.

Resource Capability: These days while implementing projects, the capability of humans and machineries comes to question as are result of different factors. For effective and continuous operation of each operating area of a project, a process must be developed to ensure operating personnel and resources are effectively tested and confirm qualified to ensure all operating areas are adequately staffed based on the strengths, skills and capabilities, and experience of the available operating workforce.

5.3 Recommendations

The study recommends to properly applying these inter-related project success criteria and factors for the successful completion of projects financed by Development Bank of Ethiopia so that project failure and non performing loan will decrease finally.

As per the data collected via questionnaires, most of the Bank staffs replied that the vision statement is unattainable by 2020 in addition to confirming that the project success criteria and success factors has not been properly applicable in the context of the bank while going through all phases of project starting from project initiation to closure/loan settlement. On the other hand, most of the respondents believe that project success and loan repayment are positively related. As long as project success is achieved in projects financed by the Bank, there is a high tendency that non- performing loan will reduce to the minimum so that the bank could walk at the right track to make projects successful though success in all financed projects may not be attainable from uncertainty and other environmental concerns which could be another topic for further research.

More specifically, the study critically recommends the bank staffs to pay greater attention to respective issues as per their level;

Directors to pay higher attention to;

(1) Develop guidelines, procedures and control mechanisms in application of identified project success criteria and success factors: success criteria and factors enhance the operation of the bank to measure and influence project success respectively. Hence, in each level starting from policy to guidelines and manuals the criteria and factors shall be incorporated in it.

(2) Develop management information systems and standard project management software in which the application of project success criteria and project success factors could be monitored and controlled: day to day activities of the bank shall be monitored using standard project management software applying up-to-date management information system.

(3) Develop capacity of engineers and loan officers to develop their capacity in application of project success criteria and success factors: the capacity of performers mainly loan officers and engineers should upgrade parallel to prevailing and changing environment.

(4) Build a continuous and suitable environment for developing thoughts in project success criteria and success factors in the context of the bank: the bank is a government bank established to urge the national development agenda. It has been in operation for a century and it will continue its operation. As a learning bank, thoughts shall develop in order to produce a constructed input for better analysis of projects.

(5) Ascertain and monitor application of project success criteria and success factors at a lower level on continuous basis: though policies and procedures are developed at higher level, at a lower level employees may not apply practically. Moreover, it may not be implemented on continuous basis. Hence, higher officials shall ascertain the application continuously.

(6) Build a culture in DBE to learn from all projects in different cycles or progress: learning from projects helps to improve service and attain customer satisfaction. In the presence of uncertainty and highly changing environment, the bank shall take lessons from executed projects and derive important conclusions which should be an input for future studies.

Team Managers to pay higher attention to;

(1) Ensure assignment of appropriate project manager: the project manager has a detrimental importance in project success since the ultimate key is on the hand of the manager. As a result, the bank shall involve and ensure an appropriate project manager with required capacity and experience is hired.

(2) Ensure proper communication is established between project managers and the bank: the bank should also establish and monitor, proper communication is established to track down every progress of the project.

(3) Ascertain quality plan and assurance of project product and project management processes in all phases of the project: from the inception to closure, the bank engages in operations of projects. Hence, the bank shall ascertain all phases/cycles of project are properly

implemented in addition to confirming the required process for product development is handled.

Loan Officers and Engineers to pay higher attention to

(1) Properly develop work breakdown structures, deliverables and sub-deliverables : As far as project is concerned the main project items often practice in the case of the bank are construction, installation and commissioning of machineries and equipment, administrative issues and product development. Hence, the work breakdown structure in each level shall be clearly and carefully developed.

(2) Writing scope statement with deliverables: scope statement needs to be written with deliverables and sub deliverables. These deliverables helps to monitor and follow up during execution of the project. Moreover, it will help to ascertain the quality of the deliverable at its end.

(3) Proper scope planning and scope definition: planning the scope produce proper scope statement at its end. And hence, from the scope statement, scope definition shall follow identifying activities to be done and not to be done. This will help in avoiding omissions and errors during the development of activities from the top to the bottom.

(4) Properly estimating costs and developing budget: the bank mainly uses budget and cost estimation for the purpose of equity/loan contribution ratio. Hence, as far the base for developing fund allocation is based on development of budget, an utmost care shall be made. The estimate of costs shall be to the nearest reality using international tools and techniques for estimation so that an approximation to the accurate cost is reached minimizing both underestimation and overestimation.

(5) Properly developing schedules: having components of project time management sections are properly handled, a schedule shall be developed. This schedule shall be used as a plat form to monitor activities of a project at each cycle. The precedence as well as sequence of activities needs to be known. The path shall be identified by the executers so that the

critical path is known. The critical path needs to be monitored with care and high sensitivity.

(6) Ascertain resource capability and availability: ascertaining the capability of a resource enables to enhance the quality of a product without process interruption. The availability of a resource shall be properly scheduled with other parallel activities. This is because in the presence of sufficient time and cost, unless and otherwise the required resource is available, an acute problem of execution may arise.

(7) Analyze identified risks properly and mitigate with appropriate risk response measure: As far as project is concerned, a high degree of uncertainty involved with the changing business environment. This uncertainty brings risk to the project in different dimensions. As a technique of proper risk management, risks shall be properly identified and mitigated with possible measures to sustain the existence of the bank parallel to the changing environment.

Further this study provides various propositions for future research to test and refine.

5.4 Recommendations for Future Research

This study is limited to identifying only the perception of staffs of Development Bank of Ethiopia at different levels towards project success criteria and success factors. The directional relationship between project success and loan repayment could be a topic to deal with in future research endeavors based on secondary project data documents financed by the Bank. Here, the project success criteria and success factor shall be cross checked with the findings in perception of the staff for more effective conclusions to draw. Moreover, different literatures noted that project success criteria and factors vary from project to project and passing through different phases/life cycles. As a result, the bank shall properly identify project success criteria and success factors in the case of projects and/or priority areas and while dealing with projects from the initiation to closure of project/loan so that it will help the road for securing successful projects at its end.

Bibliography

Ashebir S., Wubishet J. & Murad M. (2017), Causes of Cost Overrun in Federal Road Projects of Ethiopia in Case of Southern District, *American Journal of Civil Engineering*. Vol. 5, No. 1.

Assefa, Y., Rivera, O.P. & Vencatachellum, D. (2013),'Macro and micro determinants of project performance', *African Evaluation Journal* 2(1).

Atkinson, R. (1999), Project management: cost, time and quality, two best guesses and a phenomenon, it's time to accept other success criteria, *International Journal of Project Management.*

Ayele Shirega (2016), Determinant of Successful Loan Repayment Performance in Project Financing in The case of The Development Bank of Ethiopia.

Baccarini, D. (1999), The logical framework method for defining project success, *Project Management Journal*, Vol. 30, No. 4.

Belassi, W, Tuked, O.I. (1996), A new framework for determining critical success / failure factors in projects. *International Journal of Project Management*, Vo.14, No. 3, Elsevier Science Ltd. and IPMA. Great Britain.

Burke R. (2007), Introduction to Project Management, one small step for the project manager.

Cooke-Davies, T. (2002), The 'real' success factors on projects, *International Journal of Project Management*, Vol. 20, No. 3.

Collins, A. and Baccarini, D. (2004), Project Success – A Survey. *Journal of Construction Research* .

Cooke-Davies, T. (2002), "The 'real' success factors on projects", *International Journal of Project Management, Vol. 20*, No. 3

Creswell, J.W. (2014), Research Design: Quantitative, Qualitative and mixed method approach. California: SAG Publication Ltd. (4th edition)

De Wit, A. (1988), Measurement of project success. *International Journal of Project Management Vol. 6*

Development Bank of Ethiopia (2017), Annual Report of Development Bank of Ethiopia For the Year Ended June 30, 2017.

Development Bank of Ethiopia (2017), Revised Credit Policy Effective Since July 17, 2017 as approved by the National Bank of Ethiopia, December 2017.

Dr Chitram Luchman (2011), Project Execution; A Practical Approach to Industrial and Commercial Project Management, © 2011 by Taylor and Francis Group, LLC

Economic Indicators for Ethiopia, the GlobalEconomy.com, https://www.theglobaleconomy.com/Ethiopia/), Accessed on October 26, 2018

Els, M., Van der Merwe, M.F. & Hauptfleisch, A.C. (2012), Critical success criteria and success factors in project management: A quest to enhance generic professional practice

Fahmeena Odetta Moore (2016), Determinants of Project Success, *North Central University June 2016*

Gerhard Pohl and Dubravko Mihaljek (1992), Project Evaluation and Uncertainty in Practice: A Statistical Analysis of Rate-of-Return Divergences of 1,015 World Bank Projects, *The World Bank Economic Review*, Volume 6, Issue 2, 1 May 1992

Jugdev, K. and Muller, R. (2005) A retrospective look at our evolving understanding of project success. *Project Management Journal* 36(4).
Lester (2007), A. Project Management, planning and control: Managing Engineering, Construction and Manufacturing Projects to PMI, APM and BSI Standards. Editor: Butterworth-

Heinemann,. Mentzer, J. T. et al. (2001) Defing Supply Chain Management. *Journal of Business Logistics*, Vol.22, No.2,.

Mark, I. & Iain, H. (2006), Research Ethics for Social Scientists. London: SAGE Publication Ltd.

Markus, M. Lynne and Daniel Robey. (1988), "Information Technology and Organizational Change: Causal Structure in Theory and Research", Management Science, 34(5).

Mazen El-Masri (2009), A Model of Project Success on at: https://www.researchgate.net/publication/279473571 accessed on October 10, 2018

Maurice M., Charles L. and Steve K. (2000), A Statistical Analysis of Determinants of Project Success: Examples from the African Development Bankrican Development Bank, Department of Economics, Göteborg University

Morris, P.W.G. and Hough, G.H. (1987)The Anatomy of Major Projects: A Study of the Reality of Project Management. John Wiley & Sons, Ltd., Chichester, UK.

Morteza Shokri-Ghasabeh, Kamyar Kavousi-Chabok (2009), Generic Project Success and Project Management Success Criteria and Factors: Literature Review and Survey , University of South Australia School of Natural and Built Environments, Adelaide, SA, 5000, Australia

Munns, A. K. & Bjeirmi, B. F. (1996), "The role of project management in achieving project success", *International Journal of Project Management*, Vol. 14, No. 2, pp. 81-87

Ofer Zwikael (2008), Top Management Involvement in Project Management, *International Journal of Managing Projects in Business Vol. 1 No 4*, A cross country study of the software industry, Victoria Management School, Victoria University of Wellington, Wellington, New Zealand

Project Management Institute (2013), Guide to the Project Management Body of Knowledge, Newtown : *Project Management Institute*. (PMBOK Guide 5)

Ralf Muller and Rodney Turner (2007), The Influence of Project Managers on Project Success Criteria and Project Success by Type of Project – *European Management Journal* Vol 25, No. 4, , 2007

Rockart, J.F. (1979). "Chief Executives Define Their Own Information Needs," Harvard Business Review

Sharareh Kermanshachi, Jennifer Shane Stuart Anderson (2015), Project Success Prediction : A Multinomial Logistic Regression Model, International Conference on Sustainable Design, Engineering and Construction © 2015 The Authors. Published by Elsevier Ltd

Stuckenbruck, L.C., (1986). Who determines project success? Proceedings of the 18th Annual Seminar/Symposium (Montreal/Canada),Upper Darby, PA: *Project Management Institute*

Turner, J.R. (1999) Handbook of Project-based Management: Improving the Process for Achieving Strategic Objectives. (2nd ed.). McGraw-Hill, London

Turner, J. R. 2008, The handbook of project based management: Leading Strategic Change in Organizations, McGraw-Hill, New York

www.dbe.et accessed on October 26, 2018

Wateridge, J. (1998) How can IS/IT projects be measured for success?, *International Journal of Project Management* 16(1)

Westerveld, E. Project Excellence Model® (2003), Linking success criteria and critical success factors. *International Journal of Project Management*, 21, Issue 6, August 2003.

World Bank, Projects and Programs, http://www.worldbank.org/en/country/ethiopia/projects , accessed on October 26, 2018

Wudneh Yemane (2017), Critical Success Factors and Success Criteria of Construction Projects: the Case of Ethiopian Electric Power, Addis Ababa University School of Commence

APPENDICES

Appendix I : Cover Letter

BINIAM ALEM

Addis Ababa University

School of Commerce

Addis Ababa

November 2018

Subject: Data Collection

Dear Sir/Madam,

My name is Biniam Alem. I'm a student at Addis Ababa University at post graduate level. One of the requirements in Masters Degree is to undertake a thesis and for this I have chosen the research topic "Project Success Factors and Criterion in Development Bank of Ethiopia". This research project is to be undertaken as an attempt to identify the success criterion and success factors in the case of projects financed in DBE. It's possible to conclude that the study is new to the Bank and it will have a policy implication and relevance for success of the bank especially showing the road for the vision of the bank stating "100% Project Success for All Financed Projects by 2020"

I'm honored to make you part of this study and hence this is to kindly request you to assist me in collecting the data by responding to the questions stipulated in the questionnaire carefully.

Best Regards,

Appendix II : Questionnaire

Questionnaire for Data Collection

The information provided in this questionnaire will only be used for the purpose of this study. Please read carefully and give appropriate answers by ticking or filling the blank spaces. The information will be treated with maximum confidentiality.

SECTION A : GENERAL INFORMATION

1. Indicate your age

   Below 30 ( ) 31 to 49 ( ) 50 and above ( )

2. Indicate your gender

   M ( ) F ( )

3. Indicate your educational level

   Diploma ( ) Degree ( ) Masters ( ) Phd ( )

4. Indicate your position in the bank : President ( ) Vice President ( ) Director ( ) Ass/Director ( ) Team Manager ( ) Engineer ( ) Loan Officer ( )

SECTION B: PROJECT SUCCESS CRITERIA AND FACTORS AFFECTING PROJECT SUCCESS AND COMPLETION OF LOAN

Using a scale 1-5, Please tick (√) as appropriate : 1. Very high extent 2. High extent
3. Moderate extent 4. Low extent 5. Very low extent

5. To what extent do you consider the following factors affect project success financed in Development Bank of Ethiopia? How do you rank each ones influence with respect to others?

Table 1. Project Success Factors and Success Criteria

PSC (Project Success Criteria)								
No	**Project Success Criteria**	**Sub Sections Subject**	**1**	**2**	**3**	**4**	**5**	**Rank**
1	Project Time Management	Activity definition						
		Activity sequencing						
		Activity resource estimation						
		Activity duration estimation						
		Schedule development						
		Schedule control						
2	Project Cost Management	Development of work breakdown structure						
		Development of deliverables						
		Development of sub deliverables						
		Development of work package						
		Estimate costs						
		Determine budget						
		Control Cost						
3	Project Quality Management	Quality plan						
		Quality assurance						
		Quality control						
4	Stakeholder Satisfaction	Communication plan						
		Information distribution						
		Performance report						
		Stakeholder management.						

5	Project Management Processes	Establish scope of the project, refine the objectives						
		Define the course of action required to attain the objectives						
		Complete the work defined in the project management plan to satisfy the project specifications, track, review and regulate the progress and performance of a project						
		Identify any areas in which changes to the plan are required; and initiate the corresponding changes						
		Finalize all activities across Process Groups to formally close the project or phase						

PSF (Project Success Factors)								
No	**Project Success Factors**	**Sub Sections Subject**	**1**	**2**	**3**	**4**	**5**	**Rank**
1	Top Management Support	Assignment of appropriate project manager						
		Communication between the Project manager and the organization						
		Existence of project success measurement,						
		Inter-departmental project groups						
		Existence of interactive organizational capacity of resource planning						
		Use of standard project management software						
7	Project Team	Establishing measurable objectives						
		Stakeholder's (invisible team) management						

		Establishing and planning measurable targets						
		Planning and establishing processes, leadership, membership and identity						
		Communication systems						
		Team separation						
		Use of information technology.						
8	Project Scope Management	Project scope planning						
		Project scope definition						
		Writing scope statement with deliverables,						
		Scope change management process						
		Development of work packages including activities and milestones						
9	Project Risk Management	Establish the appropriate risk context						
		Identify the project risks						
		Analyze the identified risks						
		Develop response for identified project risks						
		Monitor and control project risks						
		Permit post-project capture of risk knowledge.						
10	Project Resource Requirement	Resource availability (existence of the required resource)						
		Resource capability (capabilities of the humans and material resources assigned)						
		Resource leveling (an attempt to eliminate the manpower peaks and valleys by smoothing out the period-to-period resource requirements)						

		Resource allocation (is an attempt to find the shortest possible critical path based upon the available or fixed resources)						
11	Project control	Application of EVM (Earned Value Management)						
		Control of time,						
		Control of cost and control of quality.						
12	Project Contracts	Plan of purchases						
		Plan contracting						
		Executing procurement.						
13	Project Change Management	Reviewing all change requests						
		Approving changes and managing changes to deliverables						
		Managing organizational process assets, project documents, and the project management plan						
		Communicating disposition						

6. What other criteria and factors affect the success of a project in the Bank?

I/_____

II/_____

III/_____

IV/_____

V/_____

7. Do you think project success and loan repayment are positively related?

I/ Yes II/ No

8. If your answer in question number 7 is 'No', please illustrate why loan repayment and project success are not related?

   _____
   _____
   _____

9. Do you think the vision statement of the bank "100% Project Success For All Financed Projects " is attainable by 2020? Yes ( ) No ( )

10. Do you think DBE makes applicable all project success factors and criteria stated in table 1 and on progress to achieve its vision? Yes ( ) No ( )

11. If your response for Question No. 9 is "no", why do you think it's a challenge to make applicable the factors and criteria parallel to move forward towards the vision achievement?

_____
_____
_____
_____
_____
_____

Thank You!

APPENDIX III : Reliability Test Analysis

Reliability Statistics

Cronbach's Alpha	N of Items
.950	64

APPENDIX IV : Frequency Table 1, General Information

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<30	25	46.3	46.3	46.3
	31-49	25	46.3	46.3	92.6
	>50	4	7.4	7.4	100.0
	Total	54	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	M	51	94.4	94.4	94.4
	F	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Degree	31	57.4	57.4	57.4
	Masters	22	40.7	40.7	98.1
	9.0	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Director	4	7.4	7.4	7.4
	Team Manager	10	18.5	18.5	25.9
	Engineer	10	18.5	18.5	44.4
	Loan Officer	30	55.6	55.6	100.0
	Total	54	100.0	100.0	

APPENDIX V : Frequency Table – 2 Project Success Criteria

Activity Definition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	11	20.4	20.4	20.4
	High Extent	12	22.2	22.2	42.6
	Moderate Extent	13	24.1	24.1	66.7
	Low Extent	10	18.5	18.5	85.2
	Very Low Extent	7	13.0	13.0	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Activity Sequencing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	12	22.2	22.2	40.7
	Moderate Extent	17	31.5	31.5	72.2
	Low Extent	7	13.0	13.0	85.2
	Very Low Extent	6	11.1	11.1	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Activity Resource Estimation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	15	27.8	27.8	27.8
	High Extent	11	20.4	20.4	48.1
	Moderate Extent	6	11.1	11.1	59.3
	Low Extent	11	20.4	20.4	79.6
	Very Low Extent	10	18.5	18.5	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Activity Duration Estimation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	11	20.4	20.4	20.4
	High Extent	12	22.2	22.2	42.6
	Moderate Extent	11	20.4	20.4	63.0
	Low Extent	9	16.7	16.7	79.6
	Very Low Extent	9	16.7	16.7	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Schedule Development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	15	27.8	27.8	46.3
	Moderate Extent	10	18.5	18.5	64.8
	Low Extent	13	24.1	24.1	88.9
	Very Low Extent	5	9.3	9.3	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Schedule Control

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	13	24.1	24.1	24.1
	High Extent	9	16.7	16.7	40.7
	Moderate Extent	9	16.7	16.7	57.4
	Low Extent	9	16.7	16.7	74.1
	Very Low Extent	9	16.7	16.7	90.7
	6.0	1	1.9	1.9	92.6
	Missing	4	7.4	7.4	100.0
	Total	54	100.0	100.0	

Development of Work Breakdown Structure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	11	20.4	20.4	20.4
	High Extent	17	31.5	31.5	51.9
	Moderate Extent	9	16.7	16.7	68.5
	Low Extent	12	22.2	22.2	90.7
	Very Low Extent	5	9.3	9.3	100.0
	Total	54	100.0	100.0	

Development of Deliverables

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	8	14.8	14.8	14.8
	High Extent	19	35.2	35.2	50.0
	Moderate Extent	12	22.2	22.2	72.2
	Low Extent	10	18.5	18.5	90.7
	Very Low Extent	4	7.4	7.4	98.1
	6.0	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Development of Sub Deliverables

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	5	9.3	9.3	9.3
	High Extent	21	38.9	38.9	48.1
	Moderate Extent	14	25.9	25.9	74.1
	Low Extent	10	18.5	18.5	92.6
	Very Low Extent	3	5.6	5.6	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Development of Work Packages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	8	14.8	14.8	33.3
	Moderate Extent	16	29.6	29.6	63.0
	Low Extent	13	24.1	24.1	87.0
	Very Low Extent	6	11.1	11.1	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Estimate Costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	19	35.2	35.2	35.2
	High Extent	6	11.1	11.1	46.3
	Moderate Extent	8	14.8	14.8	61.1
	Low Extent	12	22.2	22.2	83.3
	Very Low Extent	8	14.8	14.8	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Determine Budget

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	20	37.0	37.0	37.0
	High Extent	10	18.5	18.5	55.6
	Moderate Extent	5	9.3	9.3	64.8
	Low Extent	7	13.0	13.0	77.8
	Very Low Extent	11	20.4	20.4	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Control Cost

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	18	33.3	33.3	33.3
	High Extent	8	14.8	14.8	48.1
	Moderate Extent	4	7.4	7.4	55.6
	Low Extent	11	20.4	20.4	75.9
	Very Low Extent	12	22.2	22.2	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Quality Plan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	11	20.4	20.4	20.4
	High Extent	15	27.8	27.8	48.1
	Moderate Extent	10	18.5	18.5	66.7
	Low Extent	11	20.4	20.4	87.0
	Very Low Extent	6	11.1	11.1	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Quality Assurance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	13	24.1	24.1	24.1
	High Extent	16	29.6	29.6	53.7
	Moderate Extent	7	13.0	13.0	66.7
	Low Extent	9	16.7	16.7	83.3
	Very Low Extent	8	14.8	14.8	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Quality Control

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	14	25.9	25.9	44.4
	Moderate Extent	12	22.2	22.2	66.7
	Low Extent	7	13.0	13.0	79.6
	Very Low Extent	9	16.7	16.7	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Communication Plan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	7	13.0	13.0	13.0
	High Extent	16	29.6	29.6	42.6
	Moderate Extent	15	27.8	27.8	70.4
	Low Extent	8	14.8	14.8	85.2
	Very Low Extent	6	11.1	11.1	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Information Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	6	11.1	11.1	11.1
	High Extent	16	29.6	29.6	40.7
	Moderate Extent	11	20.4	20.4	61.1
	Low Extent	12	22.2	22.2	83.3
	Very Low Extent	7	13.0	13.0	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Performance Report

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	5	9.3	9.3	9.3
	High Extent	20	37.0	37.0	46.3
	Moderate Extent	12	22.2	22.2	68.5
	Low Extent	11	20.4	20.4	88.9
	Very Low Extent	5	9.3	9.3	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Stakeholder Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	3	5.6	5.6	5.6
	High Extent	22	40.7	40.7	46.3
	Moderate Extent	12	22.2	22.2	68.5
	Low Extent	9	16.7	16.7	85.2
	Very Low Extent	6	11.1	11.1	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Establish Scope of The Project, Refine Objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	17	31.5	31.5	31.5
	High Extent	9	16.7	16.7	48.1
	Moderate Extent	12	22.2	22.2	70.4
	Low Extent	9	16.7	16.7	87.0
	Very Low Extent	6	11.1	11.1	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Develop Course of Action to Attain Objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	17	31.5	31.5	53.7
	Moderate Extent	8	14.8	14.8	68.5
	Low Extent	9	16.7	16.7	85.2
	Very Low Extent	7	13.0	13.0	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Complete the work defined in the project management plan to satisfy the project specifications, track, review and regulate the progress and performance of a project

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	13	24.1	24.1	24.1
	High Extent	14	25.9	25.9	50.0
	Moderate Extent	9	16.7	16.7	66.7
	Low Extent	3	5.6	5.6	72.2
	Very Low Extent	12	22.2	22.2	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Identify any areas in which changes to the plan are required; and initiate the corresponding changes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	7	13.0	13.0	13.0
	High Extent	18	33.3	33.3	46.3
	Moderate Extent	8	14.8	14.8	61.1
	Low Extent	9	16.7	16.7	77.8
	Very Low Extent	10	18.5	18.5	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Finalize all activities across Process Groups to formally close the project or phase

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	12	22.2	22.2	44.4
	Moderate Extent	8	14.8	14.8	59.3
	Low Extent	10	18.5	18.5	77.8
	Very Low Extent	10	18.5	18.5	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

APPENDIX VI : Frequency Tables 3- Project Success Criteria

Assignment of Appropriate Project Manager

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	19	35.2	35.2	35.2
	High Extent	14	25.9	25.9	61.1
	Moderate Extent	5	9.3	9.3	70.4
	Low Extent	5	9.3	9.3	79.6
	Very Low Extent	10	18.5	18.5	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Communication between the Project manager and the organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	15	27.8	27.8	27.8
	High Extent	13	24.1	24.1	51.9
	Moderate Extent	7	13.0	13.0	64.8
	Low Extent	14	25.9	25.9	90.7
	Very Low Extent	4	7.4	7.4	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Existence of project success measurement,

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	17	31.5	31.5	50.0
	Moderate Extent	9	16.7	16.7	66.7
	Low Extent	12	22.2	22.2	88.9
	Very Low Extent	5	9.3	9.3	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Inter-departmental project groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	7	13.0	13.0	13.0
	High Extent	20	37.0	37.0	50.0
	Moderate Extent	12	22.2	22.2	72.2
	Low Extent	9	16.7	16.7	88.9
	Very Low Extent	3	5.6	5.6	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Existence of interactive organizational capacity of resource planning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	11	20.4	20.4	20.4
	High Extent	13	24.1	24.1	44.4
	Moderate Extent	14	25.9	25.9	70.4
	Low Extent	9	16.7	16.7	87.0
	Very Low Extent	6	11.1	11.1	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Use of standard project management software

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	5	9.3	9.3	9.3
	High Extent	17	31.5	31.5	40.7
	Moderate Extent	14	25.9	25.9	66.7
	Low Extent	10	18.5	18.5	85.2
	Very Low Extent	5	9.3	9.3	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Establishing measurable objectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	14	25.9	25.9	25.9
	High Extent	16	29.6	29.6	55.6
	Moderate Extent	6	11.1	11.1	66.7
	Low Extent	7	13.0	13.0	79.6
	Very Low Extent	9	16.7	16.7	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Stakeholder's (invisible team) management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	6	11.1	11.1	11.1
	High Extent	14	25.9	25.9	37.0
	Moderate Extent	18	33.3	33.3	70.4
	Low Extent	9	16.7	16.7	87.0
	Very Low Extent	6	11.1	11.1	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Establishing and planning measurable targets

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	17	31.5	31.5	53.7
	Moderate Extent	9	16.7	16.7	70.4
	Low Extent	6	11.1	11.1	81.5
	Very Low Extent	8	14.8	14.8	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Planning and establishing processes, leadership, membership and identity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	11	20.4	20.4	20.4
	High Extent	19	35.2	35.2	55.6
	Moderate Extent	10	18.5	18.5	74.1
	Low Extent	5	9.3	9.3	83.3
	Very Low Extent	8	14.8	14.8	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Communication systems

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	9	16.7	16.7	16.7
	High Extent	15	27.8	27.8	44.4
	Moderate Extent	12	22.2	22.2	66.7
	Low Extent	9	16.7	16.7	83.3
	Very Low Extent	7	13.0	13.0	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Team separation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	7	13.0	13.0	13.0
	High Extent	13	24.1	24.1	37.0
	Moderate Extent	16	29.6	29.6	66.7
	Low Extent	10	18.5	18.5	85.2
	Very Low Extent	7	13.0	13.0	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Use of information technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	14	25.9	25.9	48.1
	Moderate Extent	10	18.5	18.5	66.7
	Low Extent	12	22.2	22.2	88.9
	Very Low Extent	5	9.3	9.3	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Project scope planning

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	15	27.8	27.8	27.8
	High Extent	17	31.5	31.5	59.3
	Moderate Extent	7	13.0	13.0	72.2
	Low Extent	10	18.5	18.5	90.7
	Very Low Extent	4	7.4	7.4	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Project scope definition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	15	27.8	27.8	27.8
	High Extent	15	27.8	27.8	55.6
	Moderate Extent	10	18.5	18.5	74.1
	Low Extent	9	16.7	16.7	90.7
	Very Low Extent	4	7.4	7.4	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Writing scope statement with deliverables

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	15	27.8	27.8	50.0
	Moderate Extent	12	22.2	22.2	72.2
	Low Extent	12	22.2	22.2	94.4
	Very Low Extent	2	3.7	3.7	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Scope change management process

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	7	13.0	13.0	13.0
	High Extent	21	38.9	38.9	51.9
	Moderate Extent	10	18.5	18.5	70.4
	Low Extent	11	20.4	20.4	90.7
	Very Low Extent	4	7.4	7.4	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Development of work packages including activities and milestones

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	9	16.7	16.7	35.2
	Moderate Extent	14	25.9	25.9	61.1
	Low Extent	10	18.5	18.5	79.6
	Very Low Extent	4	7.4	7.4	87.0
	6.0	1	1.9	1.9	88.9
	Missing	6	11.1	11.1	100.0
	Total	54	100.0	100.0	

Establish the appropriate risk context

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	14	25.9	25.9	48.1
	Moderate Extent	6	11.1	11.1	59.3
	Low Extent	11	20.4	20.4	79.6
	Very Low Extent	8	14.8	14.8	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Identify the project risks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	20	37.0	37.0	37.0
	High Extent	9	16.7	16.7	53.7
	Moderate Extent	4	7.4	7.4	61.1
	Low Extent	11	20.4	20.4	81.5
	Very Low Extent	9	16.7	16.7	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Analyze the identified risks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	18	33.3	33.3	33.3
	High Extent	11	20.4	20.4	53.7
	Moderate Extent	5	9.3	9.3	63.0
	Low Extent	11	20.4	20.4	83.3
	Very Low Extent	8	14.8	14.8	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Develop response for identified project risks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	17	31.5	31.5	31.5
	High Extent	8	14.8	14.8	46.3
	Moderate Extent	10	18.5	18.5	64.8
	Low Extent	9	16.7	16.7	81.5
	Very Low Extent	9	16.7	16.7	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Monitor and control project risks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	16	29.6	29.6	29.6
	High Extent	12	22.2	22.2	51.9
	Moderate Extent	5	9.3	9.3	61.1
	Low Extent	12	22.2	22.2	83.3
	Very Low Extent	8	14.8	14.8	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Permit post-project capture of risk knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	9	16.7	16.7	16.7
	High Extent	17	31.5	31.5	48.1
	Moderate Extent	8	14.8	14.8	63.0
	Low Extent	9	16.7	16.7	79.6
	Very Low Extent	9	16.7	16.7	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Resource Availability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	22	40.7	40.7	40.7
	High Extent	7	13.0	13.0	53.7
	Moderate Extent	8	14.8	14.8	68.5
	Low Extent	7	13.0	13.0	81.5
	Very Low Extent	9	16.7	16.7	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Resource Capability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	19	35.2	35.2	35.2
	High Extent	10	18.5	18.5	53.7
	Moderate Extent	4	7.4	7.4	61.1
	Low Extent	10	18.5	18.5	79.6
	Very Low Extent	10	18.5	18.5	98.1
	Missing	1	1.9	1.9	100.0
	Total	54	100.0	100.0	

Resource Leveling

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	15	27.8	27.8	50.0
	Moderate Extent	11	20.4	20.4	70.4
	Low Extent	9	16.7	16.7	87.0
	Very Low Extent	5	9.3	9.3	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Resource Allocation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	15	27.8	27.8	27.8
	High Extent	14	25.9	25.9	53.7
	Moderate Extent	4	7.4	7.4	61.1
	Low Extent	11	20.4	20.4	81.5
	Very Low Extent	8	14.8	14.8	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Application of Earned Value Management /EVM/

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	16	29.6	29.6	48.1
	Moderate Extent	12	22.2	22.2	70.4
	Low Extent	10	18.5	18.5	88.9
	Very Low Extent	3	5.6	5.6	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Control of Time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	15	27.8	27.8	27.8
	High Extent	12	22.2	22.2	50.0
	Moderate Extent	8	14.8	14.8	64.8
	Low Extent	11	20.4	20.4	85.2
	Very Low Extent	6	11.1	11.1	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Control of Cost and Control of Quality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	19	35.2	35.2	35.2
	High Extent	7	13.0	13.0	48.1
	Moderate Extent	8	14.8	14.8	63.0
	Low Extent	6	11.1	11.1	74.1
	Very Low Extent	11	20.4	20.4	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Plan of Purchase

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	16	29.6	29.6	51.9
	Moderate Extent	7	13.0	13.0	64.8
	Low Extent	12	22.2	22.2	87.0
	Very Low Extent	5	9.3	9.3	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Plan of Contracting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	10	18.5	18.5	18.5
	High Extent	18	33.3	33.3	51.9
	Moderate Extent	7	13.0	13.0	64.8
	Low Extent	12	22.2	22.2	87.0
	Very Low Extent	4	7.4	7.4	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Executing Procurement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	12	22.2	22.2	22.2
	High Extent	17	31.5	31.5	53.7
	Moderate Extent	5	9.3	9.3	63.0
	Low Extent	9	16.7	16.7	79.6
	Very Low Extent	9	16.7	16.7	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Reviewing of All Change Requests

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	8	14.8	14.8	14.8
	High Extent	19	35.2	35.2	50.0
	Moderate Extent	11	20.4	20.4	70.4
	Low Extent	9	16.7	16.7	87.0
	Very Low Extent	5	9.3	9.3	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Approving changes and managing changes to deliverables

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	6	11.1	11.1	11.1
	High Extent	19	35.2	35.2	46.3
	Moderate Extent	13	24.1	24.1	70.4
	Low Extent	5	9.3	9.3	79.6
	Very Low Extent	8	14.8	14.8	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Managing organizational process assets project documents, and the project management plan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	9	16.7	16.7	16.7
	High Extent	16	29.6	29.6	46.3
	Moderate Extent	13	24.1	24.1	70.4
	Low Extent	5	9.3	9.3	79.6
	Very Low Extent	9	16.7	16.7	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Communication Disposition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High Extent	5	9.3	9.3	9.3
	High Extent	12	22.2	22.2	31.5
	Moderate Extent	20	37.0	37.0	68.5
	Low Extent	7	13.0	13.0	81.5
	Very Low Extent	7	13.0	13.0	94.4
	Missing	3	5.6	5.6	100.0
	Total	54	100.0	100.0	

Does Vision of DBE Attainable by 2020 ?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	2	3.7	3.7	3.7
	No	50	92.6	92.6	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Application of Success Criteria and Success Factors in PFDBE Towards the Vision Statement ?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	25.9	25.9	25.9
	No	38	70.4	70.4	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	

Does Project Success and Loan Repayment Positively Related?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	48	88.9	88.9	88.9
	No	4	7.4	7.4	96.3
	Missing	2	3.7	3.7	100.0
	Total	54	100.0	100.0	