



---

**ADDIS ABABA UNIVERSITY**

**COLLEGE OF BUSINESS AND ECONOMICS**

**SCHOOL OF COMMERCE**

**Department of Project Management**

**Project Management Practice in Development Bank of Ethiopia**

---

By: - Henok Gulilat

Advisor: - Dr. Dakito Alemu

This paper is research project presented to Addis Ababa University  
College of Business & Economics School of Commerce Department of  
Project Management for the partial fulfillment of Master of Arts (MA) in  
Project Management Program

---

**May 28/2023**

**Addis Ababa, Ethiopia**

ADDIS ABABA UNIVERSITY  
SCHOOL OF COMMERCE  
DEPARTMENT OF PROJECT MANAGEMENT  
GRADUATE PROGRAM

**(GRADUATE PROGRAM for MASTER of ART on PROJECT MANAGEMENT)**

---

**Project Management Practice in Development Bank of Ethiopia**

By: Henok Gulilat Ababu

---

This Study Submitted To Addis Ababa University, School Of Commerce For  
the Partial Fulfillment of the Requirements for the Award Of Master of Art In  
Project Management.

ADVISOR: Dakito Alemu (PhD)

---

# APPROVALSHEET

---

SUBMITTED BY: Henok Gulilat Ababu

ID: -GSE/9412/13

**SIGNED BY:**

## **ADVISOR**

*Name:* \_\_\_\_\_ *Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

## **INTERNALEXAMINER**

*Name:* \_\_\_\_\_ *Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

## **EXTERNALEXAMINER**

*Name:* \_\_\_\_\_ *Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

ADDIS ABABA UNIVERSITY  
COLLEGE of BUSINESS and ECONOMICS  
SCHOOL of COMMERCE

---

# ANNOUNCEMENT

---

## **Graduate Student**

This research project is an original work and it has not been submitted for any graduate programs at this or other universities.

*Name:* \_\_\_\_\_ *ID:* \_\_\_\_\_ *Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

## Advisor

---

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

*Name:* \_\_\_\_\_ *Signature:* \_\_\_\_\_ *Date:* \_\_\_\_\_

**Addis Ababa University, College of Business and Economics, School of  
Commerce, Project Management Department**

## ACKNOWLEDGEMENT

---

Primarily, my recognition will go to almighty “GOD” as his blessing on each day is the source of life, also offered me this blessing. I want to thank my father, mother, brother, sisters and all my family for all the support they have given me. Gratitude goes for the research project advisor Dakito Alemu (PhD) for his important support, guidance, advice and vital remarks from the start to the completion of this research project work.

My genuine gratitude needs to be given to my family, friends, and work colleague. My thanks go also to project management class of 2013 for their support, encouragement and patience.

Last not the least; my sincere thanks go to DBE staffs that supplied me with central data for the research project effort.

# Contents

Chapter One .....	1
1.1. Introduction .....	1
1.2. Statement of Problem .....	3
1.3. Objective of the study .....	4
1.3.1. General goals of the study .....	4
1.3.2. Specific objective of the project .....	4
1.4. Scope the study .....	4
1.5. Significance of the Study .....	5
1.6. Limitations of the Study .....	5
Chapter Two .....	6
Literature Review .....	6
2.1. Introduction .....	6
2.2. Conceptual Review .....	6
2.2.1. Project .....	6
2.2.2. Project Management .....	8
2.2.3. Project Management Practice .....	9
2.2.4. Selected PM Knowledge Areas .....	12
2.2.5. Financing a Project .....	15
2.2.6. Development Bank .....	16
2.2.7. Development Bank of Ethiopia - DBE .....	19
2.2.8. Manufacturing Industries Financed by Development bank of Ethiopia .....	20
2.3. Empirical Review .....	26
2.3.1. Introduction .....	26
2.3.2. Researches on Projects Management Practice for projects in DBE .....	26
2.4. Summery .....	30
Chapter Three.....	31
3. Research Methodology.....	31
3.2. Introduction .....	31
3.3. Research Design .....	31
3.4. Research Methods .....	31
3.5. Population of the Study .....	32
Table 3.1 The List of Directorate & Number of Employees in each Directorate.....	32
3.6. Sample Size & Sampling Technique .....	32
3.7. Data Collection Instrument .....	33
3.8. Validity and Reliability of the Instrument .....	33
3.9. Data collection Methods.....	34
3.10. Data Analysis Methods.....	34
3.11. Ethical Consideration .....	34

Chapter Four .....	35
4. Data Presentation and Analysis .....	35
4.2. Introduction .....	35
4.3. Respondent Characteristics .....	35
4.4. Presentation and Analysis of Data .....	37
4.4.1. Project Scope Management .....	37
4.4.2. Project Time Management .....	43
4.4.3. Project Cost Management .....	49
4.4.4. Project Quality Management .....	56
4.4.5. Project Risk Management .....	62
4.5. Discussion of Findings .....	70
Chapter Five.....	75
5. Summery, Conclusion and Recommendations .....	75
5.2. Introduction .....	75
5.3. Summary of the Findings .....	75
5.4. Conclusions .....	76
5.5. Recommendations .....	78
5.6. Recommendations for Further Research .....	80
References.....	81
Appendix 1.....	82
Appendix 2.....	85

## List of Tables

---

	<u>Page No.</u>
Table 2.1 PM Knowledge Area & the procedures under those knowledge areas.....	12
Table 2.2 Required Project Documents when Applying for a loan in DBE.....	21
Table 3.1 The List of Directorate & Number of Employees in each Directorate.....	30
Table 4.1 Genders Of The Respondents. ....	37
Table 4.2 Ages Categories Of The Respondents. ....	38
Table 4.3. Educational Level of the Respondents. ....	38
Table 4.6 the frequency of the responses for the first project scope management question.....	39
Table 4.7 the frequency of the responses for the second project scope management question.....	40
Table 4.8 the frequency of the responses for the third project scope management question. ....	41
Table 4.9 the frequency of the responses for the forth scope management question. ....	41
Table 4.10 the frequency of the responses for the fifth project scope management question. ....	42
Table 4.11 the frequency of the responses for the sixth project scope management question. ....	43
Table 4.12 the frequency of the responses for the seventh project scope management question.	44
Table 4.13 the frequency of the responses for the eighth project scope management question.....	45
Table 4.14 descriptive statistics for the project scope question group.....	45
Table 4.15 the summery of response for the time management question group.	46
Table 4.16 the frequency of the responses for the first project time management question.....	47
Table 4.17 the frequency of the responses for the second project time management question.....	48
Table 4.18 the frequency of the responses for the third project time management question.....	49
Table 4.19 the frequency of the responses for the fourth project time management question.....	49
Table 4.20 the frequency of the responses for the fifth project time management question.	50
Table 4.21 the frequency of the responses for the sixth project Time management question.....	50
Table 4.22 the frequency of the responses for the seventh project time management questions.....	51
Table 4.23 Descriptive Statistics of Time management questions.....	52
Table 4.24 the analysis of the response for the project cost management questions.....	53
Table 4.25 the frequency of the responses for the first project cost management questions.....	53
Table 4.26 the frequency of the responses for the second project cost management questions.....	54
Table 4.27 the frequency of the responses for the third project cost management questions.....	55
Table 4.28 the frequency of the responses for the forth project cost management questions.....	56
Table 4.29 the frequency of the responses for the fifth project cost management questions.....	57
Table 4.30 the frequency of the responses for the sixth project cost management questions.....	58
Table 4.31 the frequency of the responses for the seventh project cost management questions.....	58
Table 4.32 the frequency of the responses for the eight project cost management questions.....	59

Table 4.33 the frequency of the responses for the ninth project cost management questions.....	60
Table 4.34 the frequency of the responses for the tenth project cost management questions.....	60
Table 4.35 descriptive statistics for project cost management questions.....	61
Table 4.36 the analysis of the response for the project quality management questions.....	61
Table 4.37 the frequency of the responses for the first project quality management questions.....	62
Table 4.38 the frequency of the responses for the second project quality management questions.	63
Table 4.39 the frequency of the responses for the third project quality management questions.....	63
Table 4.40 the frequency of the responses for the fourth project quality management questions.....	63
Table 4.41 the frequency of the responses for the fifth project quality management questions.....	64
Table 4.42 the frequency of the responses for the sixth project quality management questions.....	64
Table 4.43 the frequency of the responses for the seventh project quality management questions.....	64
Table 4.44 the frequency of the responses for the eighth project quality management questions.....	65
Table 4.45 the descriptive statistics of project quality management questions.....	65
Table 4.46 the summery of the response for the project risk management question group.....	65
Table 4.47 the frequency of the responses for the first project risk management questions.....	66
Table 4.48 the frequency of the responses for the second project risk management questions.....	66
Table 4.49 the frequency of the responses for the third project risk management questions.....	67
Table 4.50 the frequency of the responses for the forth project risk management questions.....	67
Table 4.51 the frequency of the responses for the fifth project risk management question.....	67
Table 4.52 the frequency of the responses for the sixth project risk management question.....	68
Table 4.53 the frequency of the responses for the seventh project risk management question.....	68
Table 4.54 the frequency of the responses for the eight project risk management question.....	68
Table 4.55 the frequency of the responses for the ninth project risk management question.....	69
Table 4.56 the frequency of the responses for the tenth project risk management question.....	69
Table 4.57 the frequency of the responses for the eleventh project risk management question.....	70

## List of Figures

---

Fig. 2.1 DBE Structure for project financing cluster.....	25
---	----

## LIST OF ABBREVIATION

---

DB: - Development Bank

DBE: - Development Bank of Ethiopia

PM: - Project Management

PMI: - Project management Institute

BOM: - Board of Management

PEHAA: - Public Enterprises Holding and Administration Agency

## ABSTRACT

---

This study is organized on the project management practice in Development Bank of Ethiopia ((DBE), for industrial projects which are administered in the head office. The study seeks to solve the lack of literature on the banks project management practice and challenges emphasizing on industrial projects. A qualitative, descriptive approach is used for the addressing the study objectives. The study used the bank employees who are working on industrial project financing division of the bank as a primary source of data and literatures as a secondary source.

The study selected PM knowledge areas and used Likert scale to measure the practice and challenges of management practice in the bank associated with industrial project management. The study tried to check if the practice of the selected PM knowledge area exists in the bank and the challenges. The study found that most of the participants are in familiar with the PM knowledge area and the banks documents show that those management practices are being performed for industrial projects. The participants had shown that not only those PM knowledge areas are practiced in the industrial project but also the banks use the project management principles for its routine operation with the projects.

The study finally recommends that what need to be done in order to effectively utilize the Project management practice effectively.

## **Chapter One**

### **1.1. Introduction**

Development bank of Ethiopia is the oldest, dating back from 1909 G.C. & the most important developmental institutions in the country; it offers financial service for different developmental project in diverse business area. The bank was the foremost developmental financial establishment in Ethiopia, and the bank was planned for assisting the development in industrial and agricultural sector through the projects finance schemes, through promoting the investment of private capital in to the countries productive activities.

The bank main aim is to provide financial assistance for projects in government priority sectors. The currently priority areas are export oriented and import substitution ventures for bulky volume manufacturing, agro industry, agriculture and mining sectors. The industrial projects are included in those sectors. In DBE industrial projects sectors are classified as food & agro processing sector, textile & leather processing sector, mining & energy sector, chemical & pharmaceutical sector, and wood & metal processing sectors.

The knowledge and practice of managing projects is a critical area for the bank's success. Projects area managed by their independent managing team, the bank does not directly manage projects but it uses project management principles and practices for implementing the core business activities in its relation with projects.

The Project management Institute (PMI) properly characterizes PM as: "The application of knowledge, skills, tools and techniques to project activities to meet the project requirements."The concept of project management is the application of comprehension, abilities, tools, and methods in to the five project live cycle parts (five PM process groups) which are Initiation of project, planning, executing, monitoring & controlling and closing projects. Project management principles are vital for achieving the desired outcomes of any project within the limitations of time, cost, quality, scope, and risk.

In Ethiopia, project management is being practiced in various sectors, such as health, education, infrastructure, agriculture and energy. Conversely, there are not enough empirical studies on the PM practices and challenges in the Ethiopian context, particularly in the project oriented financial institutions.

DBE is one of those financial institutions. This study focuses on PM practice in DBE, industrial financing cluster.

Even though development bank of Ethiopia is a major contributor for the economy, the lack research papers on project management practice and performance for projects is evident. Other studies on DBE have emphasized financial aspect like profitability, liquidity, solvency and efficiency. Nevertheless, little attention is given to how PM knowledge area is being practiced for the banks business, how projects in DBE are practicing the PM knowledge areas, what challenges they have faced and what methods are employed for solving the challenges.

The DBE has financed a many developmental projects in the county; it also needs to finance numerous major projects in to future. As the countries plan for industrial based economy matures the bank will play major role in this effort.

With fast changing modern environment the bank and project owner companies look forward to project teams to perform effectively, consistently and as per schedule. A valuable project management practice will have an improved, quicker, and more capable performance compared with the previous results. Industrial projects are major part of the banks portfolio. The bank has financed among the largest industrial project in the country and still it is financing many. This status of the bank will continue in to the future.

## **1.2. Statement of Problem**

The success for industrial project in DBE depends on the proper practice of project management principles. In addition, project management principles are utilized in DBE for the necessary operations of the bank in relation to the industrial projects.

The assessment of the practices, challenges and prospects of project management principles on industrial projects in DBE is the main concern for this research work. That is the evaluation of the practice and challenges of project management for industrial projects working with DBE is the predicament for the research project.

This research project aims to explain the disputes and opportunities of project management practice in industrial projects which are partially financed by DBE. That is how projects are managed and why do project financed by DBE go in to impediments, implementation delays, cost overrun, inconsistency in quality and had unmanaged risks.

Trying to answer those questions the study focused on the banks employees working in the industrial financing cluster as those employees have been exposed to the practice challenges and opportunity in the diverse industrial projects.

In determining the essential project management practices in project for which the bank has availed loans and administration for most of the project finance with intention of improving routine work output for industrial projects in the bank.

In the identifying and analyzing the process of project management in the projects the challenges will be assessed in those processes and will be addressed in this research project paper. An improved practice of PM in the industrial projects and in the bank will be the main endeavor of this paper.

### **1.3. Objective of the study**

#### **1.3.1. General goals of the study**

The main objective is to assess and identify the practices of PM for projects partially financed by the bank under industrial project financing cluster and identify the cause for deviation between project feasibility plan, the project appraisal plan and the actual project implementation.

#### **1.3.2. Specific objective of the project**

- To identify the specific practice on project management knowledge areas of scope management, time management, cost management and quality management for projects working with DBE.
- To describe the practice in selected project management knowledge area of scope management, time management, cost management and quality management for projects working with DBE

### **1.4. Scope the study**

The general purpose of the study is to investigate the practice of project management principles for industrial projects in development bank of Ethiopia.

The study set the limits of the investigation to the practice of selected project management knowledge areas in the projects in DBE. The selected PM knowledge areas are project scope management, project cost management, project time management, project quality management and project risk management. The study is conducted using structured questioners administered to the participants.

The study is conducted only for industrial projects that are financed by the bank and for industrial projects for which the project finance is managed by the bank's directorates in head office.

The study is conducted only on the bank employees actively involved in the projects. However the other stake holders involved in the projects are not involved in the study, the include project promoters, consultants, and others governmental and nongovernmental offices.

The industrial projects are located all around the country collecting data on all of the projects under the project finance cluster of the bank requires more resources of finance and time. Thus, projects are not specifically discussed in this study.

## **1.5. Significance of the Study**

The subject matter of this research and the results drawn from the analysis are likely to benefit the different stakeholders, the academic community, the bank's decision makers and other related institutes.

This will result in forming a standard PM practice in projects, having a better and transparent operation of the bank, reach ability of the banks service and achieving better project performance in implementation & operations.

## **1.6. Limitations of the Study**

Currently, the bank is under the process of implementation the financing many projects that has approached it for partial loan of the project costs.

The intention of this research was limited to investigate the practice of project management for industrial projects financed by the bank. The bank administers the project finance for different types of projects like agricultural projects, industrial projects, rural electrification funds, lease finance projects and others. The focus of this paper is only for industrial projects working with the bank.

The paper utilizes the research survey on the banks stuffs who are involved in the industrial project financing directorate. The chosen individuals are working in industrial financing cluster of the bank. Since the project management team working in the industrial projects are scattered and could not be accessed in time for this research project the banks employees who performs follow up or monitoring process related with the banks business are the population group that are chosen for this research.

The paper also discusses chosen project management principles (PM knowledge area) which includes project scope management, project time management, project cost management, project quality management and project risk management.

## **Chapter Two**

### **Literature Review**

#### **2.1. Introduction**

This section of the research paper discusses literatures on projects, project management and project finance practices. The section contains two main sub sections: conceptual review and empirical review. The conceptual review will discuss the wide idea about the project management practices and project financing practice. While the empirical review will discuss the project management research papers associated with DBE.

#### **2.2. Conceptual Review**

##### **2.2.1. Project**

###### **What is a project?**

One comprehensive & agreeable by many for definition of projects is in book BS 6079-1 'Guide to project management'; 'project is a distinctive set of co-ordinate efforts, with specific beginning and concluding position, carried out by a sole entity or group to meet definite aims within set time plan, budget, quality and performance limits.'

According to the PMBOK (PM Body of Knowledge) 3rd edition, A project is defined as a "temporary endeavor with a beginning and an end and it must be used to create a unique product, service or result". A similar point of view for project is put in PMI 5th edition, 2013: P – 3, which states project as provisional effort carried out to produce a distinctive service, product or outcome. The provisional character of projects shows that a project has a specific starting and projected conclusion.

The term 'project' may be defined as a complex set of economic activities in which scarce resources are committed in expectation of benefits that exceed the costs of resources consumed. (M van der Veen, 2010)

A project is an activity to meet the creation of a unique product or service and thus activities that are undertaken to accomplish routine activities cannot be considered projects. (PrachiJuneja, 2015).

Project in all-purpose refers to a new attempt with detailed objective and differ so widely that it is very difficult to correctly define it. Project is only one of its kind actions; which includes of a set of harmonized and restricted activities with beginning and finish dates, carried out to achieve an objective conforming to unambiguous necessities, together with the restriction of time cost and resource. (ISO10006)

Many people and organizations have defined what a project is, or should be, but probably the most authoritative definition is that given in BS 6079-2:2000 PM vocabulary, which states that a project is: A unique process, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objectives conforming to specific requirements, including constraints of time, cost and resources.

As stated in the definition, a project has a definite starting and finishing point and must meet certain specified objectives. Broadly these objectives, which are usually defined as part of the SWOT analysis and set out in the project brief, must meet three fundamental criteria:

1. The project must be completed on time.
2. The project must be accomplished within the budgeted cost.
3. The project must meet the prescribed quality requirements.

A project is a one-off process with a single definable end-result or product. Some examples include building a house, introducing new human resources practices, and developing new IT systems. (PMcontext MAPM 505, 2015)

Production systems can be classified into three broad categories based on their main method of production, as follows: (PMcontext - MAPM 505, 2015)

- Mass Production
- Batch Production
- Project (Non-Repetitive) Production.

Many people and organizations have defined what a project is, or should be, but probably the most authoritative definition is that given in BS 6079-2:2000 project management vocabulary, which states that a project is:

A unique process, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objectives conforming to specific requirements, including constraints of time, cost and resources.

As stated in the definition, a project has a definite starting and finishing point and must meet certain specified objectives. Broadly these objectives, which are usually defined as part of the SWOT analysis and set out in the project brief, must meet three fundamental criteria:

- The project must be completed on time.
- The project must be accomplished within the budgeted cost.
- The project must meet the prescribed quality requirements.

## **2.2.2. Project Management**

### **What is project management?**

Project management institute guide to PM asserts that project management is involved in projects from initiation to closing in the life cycle of the projects which are planning, executing, monitoring and controlling. Project management as seen by a good number authors is about attaining time, expenditure and value targets, within the background of overall client requirements, by using project resources. Project resources are possessions that are entirely or in part owed to the project and the resources are organized and utilized under the supervision of the project manager. (PM context - MAPM 505, 2015)

The PM Institute (PMI 5th edition, 2013) properly characterizes PM as: “The application of knowledge, skills, tools and techniques to project activities to meet the project requirements.”

Conventional wisdom holds that PM is an enabling tool that assists a project manager in reaching an objective or, more specifically, a project deliverable or outcome. PM tools support the practices, methods, and various processes used to effectively manage a project. (Russ J. Martinelli & Dragan Z. Milosevic, 2016)

According to Robert K. Wysocki on Effective Project Management Traditional, Agile & Extreme, Project management is a collection of apparatus, models and courses intended to respond the following six questions: What industry circumstances are being addressed by this project? What the industries need to do? How will you act? How will you perform it? How will you know you achieved it? How well did you perform it?

PM process is usually broken down into separate phases that take the project from the beginning to the end. These stages include: Initiation, Planning, Execution, Monitoring & control and Closure. (Mahmood, 2017).

According to project management institute (PMI 5th edition, 2017), PM processes of a project can be classified into phases that are divided into five operational groups, and they can also be called “PM life cycle”.

- **Initiation Processes Group (Launching):** such a process is done to determine a new project or phase in a certain project, reasons beyond establishing the project to be launched are studied and analyzed in this phase, in other words knowing the estimated cost and economic feasibility of the project.

That is documented in a record called “project charter”, which is tantamount to actual consent to provide resources that may be needed for the project (Al-Saman, 2007), it may also be called terms of reference.

- Planning Processes Group: also called the project planning phase which includes defining project scope and time plan that should be followed to execute a project, and identifying all resources that may be needed for the plan, determining the estimated budget or material cost to be monitored, as well as the requirements of quality and specifications that should be met by the project.
- Execution Processes Group: it is also called the project execution phase, which is the process of achieving a project through the team, providing necessary resources and cooperation between parties according to a predetermined plan and quality required.
- Monitoring and Controlling Processes Group: it is also the process of following-up and monitoring, which include comparing the actual achievement and the project’s progress with the plan, predicting deviations, analyzing their causes, and addressing them before occurrence.

The researcher considers that processes of execution, control, and monitoring are simultaneous phases since they are two sides of the same coin.

- Closing Processes Group: it is also called the project closing phase in which all activities and processes of the project are closed, the project is initially closed, and the guarantee’s duration is closed, the project is finally closed and delivered to the owner, and it becomes under his responsibility, in addition to reviewing all that has been accomplished, recording all lessons learned from project implementation, and preserving project records in the archives.

### **2.2.3. Project Management Practice**

The practice of PM includes include planning, organizing, supervising and managing project activities. According to the PM institute (PMI 5th edition, 2013), five main **management processes** are used to see a project through to completion. The five processes are: Initiating, Planning, Executing, Monitoring &controlling and Closing.

Project management practices includes (Moirra Alexander, 2022)

- Project scope management
- Management of project cost, time & quality

- Procurement management
- Project integration management
- Project stakeholder management
- Project human resource management
- Project communication management
- project risk management

World Bank gives categories to project cycles (World Bank project cycle). The project cycle is the structure used by the World Bank to plan, organize, apply, and oversee development activities. In practice, the Bank and the Borrower work closely throughout the project cycle, although they have different roles and responsibilities.

The World Bank project cycle includes six-stages:

- Identification
- Preparation
- Appraisal
- Negotiation/approval
- Implementation
- Completion/validation and evaluation

Many people and organizations have defined what a project is, or should be, but probably the most authoritative definition is that given in BS 6079-2:2000 PM vocabulary, which states that a project is: A unique process, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objectives conforming to specific requirements, including constraints of time, cost and resources.

As stated in the definition, a project has a definite starting and finishing point and must meet certain specified objectives. Broadly these objectives, which are usually defined as part of the SWOT analysis and set out in the project brief, must meet three fundamental criteria: the project must be completed on time, the project must be accomplished within the budgeted cost and the project must meet the prescribed quality requirements.

### **What are ‘Project Management Knowledge Areas’?**

Project Management is the process of leading the work of a team to achieve all project goals within the given constraints. This information is usually described in project documentation, created at the beginning of the development process. The primary constraints are scope, time,

and budget. (From Wikipedia, the free encyclopedia)

From PMI definition for a understanding area in the PMBOK Guide-6<sup>th</sup> Edition; an understanding area is a recognized region of PM defined by its knowledge requirements and described in terms of its component processes, practices, inputs, outputs, tools, and techniques.

According to PM Knowledge Areas processes of PM can be divided according to PM knowledge areas, which include the following: -

- Project Integration Management; Project Scope Management; Project schedule Management; Project Cost Management; Project Quality Management; Project Resources Management; Project Risk Management; Project Procurement Management Project Stakeholder Management

<p><b>Project Integration Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Project Plan Development</li> <li>✓ Develop Project Charter</li> <li>✓ Develop Project Management Plan</li> <li>✓ Plan</li> <li>✓ Direct and Manage Project Execution and Control</li> <li>✓ Project Work</li> <li>✓ Perform Integrated Change Control</li> <li>✓ Project or Phase</li> </ul>	<p><b>Project Scope Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Collect Requirements</li> <li>✓ Define scope</li> <li>✓ Create WBS</li> <li>✓ Verify Scope</li> <li>✓ Control Scope</li> <li>✓ Control Scope</li> </ul>	<p><b>Project Time Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Define Activities</li> <li>✓ Sequence Activities</li> <li>✓ Estimate Activity Resources</li> <li>✓ Estimate Activity Durations</li> <li>✓ Develop Schedule</li> <li>✓ Control Schedule</li> </ul>
<p><b>Project Cost Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Estimate Costs</li> <li>✓ Determine Budget</li> <li>✓ Control Costs</li> </ul>	<p><b>Project Quality Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Plan Quality</li> <li>✓ Perform Quality Assurance</li> <li>✓ Perform Quality Control</li> </ul>	<p><b>Project Human Resource Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Develop Human Resource Plan</li> <li>✓ Acquire Project Team</li> <li>✓ Develop Project Team</li> <li>✓ Manage Project Team</li> </ul>
<p><b>Project Communications Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Identify Stakeholders</li> <li>✓ Plan Communications</li> <li>✓ Distribute Information</li> <li>✓ Manage Stakeholder Expectations</li> <li>✓ Report Performance</li> </ul>	<p><b>Project Risk Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Plan Risk Management</li> <li>✓ Identify Risks</li> <li>✓ Perform Qualitative Risk Monitor</li> <li>✓ Analysis</li> <li>✓ Perform Quantitative Risk Close</li> <li>✓ Analysis</li> <li>✓ Plan Risk Responses</li> <li>✓ Monitor and Control Risks</li> </ul>	<p><b>Project Procurement Management</b>  <u>Includes the activities of</u></p> <ul style="list-style-type: none"> <li>✓ Plan Procurements</li> <li>✓ Conduct Procurements</li> <li>✓ Administer Procurements</li> <li>✓ Close Procurements</li> </ul>

Table. 2.1 PM Knowledge Area & the actions under those knowledge areas

## **2.2.4. Selected Project Management Knowledge Areas**

### **I. Project Scope Management**

Managing scope is the process of developing a detailed description of the project and product. The key benefit of this process is that it describes the project, service, or result boundaries by defining which of the requirements collected will be included in and excluded from the project scope (PMBOK Guide – 5<sup>th</sup> Edition, 2013).

Project Scope Management: refers to all works activities of project achievement and identifying which tasks are relevant to the project and which are not (Mousa, 2012)”

European Institute of Sectoral and Institutional Identification defines project scope management as “ascertaining that a project includes processes which help in its accomplishment and ensures its quality (Project Scope Management Manual)”.

It is also defined as the processes required defining all works, processes, and needs of a project, and determining all unrelated parts (Heldman, 2018).

Project scope management involves several activities such as defining the requirements and scope, creating a work breakdown structure, and validating and controlling the scope.

One of the causes of project failure is undefined processes, tasks, and needs which are required to achieve them. Therefore, to ensure project success, requirements should be defined in a greatly accurate manner through continuous communication with the stakeholders of the project (Wysocki, 2014).”

“Project scope management includes function delegation and development of scope data to define boundaries and divide work into small, manageable components, and verify that the planned work has been accomplished (Heagney, 2012)

**Factors affecting project scope management.** (Skill Maker, 2016)

Factors which mostly impact project scope include:

- Variable resource levels
- Legal constraints
- Regulatory constraints
- Changing stakeholder requirements
- Managerial constraints
- External and internal risks
- Constraints on time.

## **II. Project Time Management**

Project schedule Management includes the processes required to manage the timely completion of the project (PMBOK, 2013).

Project schedule Management is defined as the process through which a project action plan is converted into an operating schedule to ensure accomplishing the project within specific time (Dowdeen, 2012).

Project schedule management is also defined as “the future schedule that is used as a guide for executing project activities onsite (Azeez, Al-Thanoon, & Mohammed, 2012)”.

Furthermore, Alali has defined project schedule management as “making better use of time in such an effective manner to accomplish the stated objective of the project (Al-Ali, 2011)”.

While Al-Manawi has defined it as “those efforts related to planning schedule management, identifying activities and their sequence, estimating their resources and duration, and scheduling control (Al-Manawi, 2014).

Alali has mentioned several methods of project scheduling including critical path and Program Evaluation and Review Technique (PERT). To say project schedule management is concerned with estimating the duration of project activities, developing a schedule for them and monitoring any changes in such schedule, that is to say, it is concerned with accomplishing the project within a specific time (Al-Ali,2011)

### **The aspects that can affect project scheduling management**

- Scope changes
- Lack of planning in the design phase
- Conflict, weather or pandemic
- Communication problems

## **III. Project Cost Management**

Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget. (PMBOK, 2013).

Project cost management begins with cost planning with the proposed study for establishing a project wis called an initial study in the project’s feasibility study, and the PMteam estimates the full costs of the project which might be fully detailed ones beginning with the initial works of the project (Al-Ali, 2011)

Project cost management: “it is defined as a set of processes required to plan and estimate costs, budgeting, project funding, financial resourcing, and manage and control the project costs to ensure completing the project as planned” (Al-Manawi, 2014).

**The factors typically affecting project cost**(Madeh IzatHamakareem, 2021)

- Cost of Design
- Nature of Project Site
- Nature of the Project (Design and the choice of technology)
- Method of Construction
- Choice of Procurement Options
- Prevailing Market Conditions
- Legislative Constraints

#### **IV. Project Quality Management**

Project Quality Management includes the processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken. Project Quality Management uses policies and procedures to implement, within the project’s context, the organization’s quality management system and, as appropriate, it supports continuous process improvement activities as undertaken on behalf of the performing organization. Project Quality Management works to ensure that the project requirements, including product requirements, are met and validated (PMBOK, 2013).

Project Quality Management is the process in which quality is assured and controlled in all activities and inputs of project, using quality assurance and quality control techniques, where project quality is assessed and reviewed in a continuous and regular manner (Westland, 2007)”

Project quality management is also defined by project management Institute (PMI) as “the process of applying quality management systems through policies and procedures with continuous improvement activities carried out throughout the project life cycle to ensure high-quality outputs that satisfy all stakeholders (PMBOK, 2017).”

**The factors normally that affect project quality management** (Michael L Young, 2009)

- A good plan
- Appropriate Communication
- Manage Stakeholders
- Good Measurement
- Constant Review

- Acting Early

## **V. Project Risk Management**

Project Risk Management includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project. The objectives of project risk management are to increase the likelihood and impact of positive events, and decrease the likelihood and impact of negative events in the project (PMBOK, 2013).

### **Foremost source for project risk management failure**

- Unclear objectives
- Scope creep
- Unrealistic expectations
- Limited resources
- Poor communication
- Scheduling delays
- Lack of transparency

### **2.2.5. Financing a Project**

Project finance is the funding (financing) of long-term infrastructure, industrial projects, and public services using a non-recourse or limited recourse financial structure. The debt and equity used to finance the project are paid back from the cash flow generated by the project. (Adam Hayes, 2021)

Project finance is the funding (financing) of long-term infrastructure, industrial projects, and public services using a non-recourse or limited recourse financial structure. The debt and equity used to finance the project are paid back from the cash flow generated by the project.

Project financing is a loan structure that relies primarily on the project's cash flow for repayment, with the project's assets, rights, and interests held as secondary collateral. Project finance is especially attractive to the private sector because companies can fund major projects

Project finance is the activity of financing a specific trade and industry venture that the promoter initiates and for which a creditor share much of the venture's business risk and funding is granted for the project itself. (João M. Pinto, 2017)

Project finance is the funding of long term development, such as infrastructure, industrial projects and other high value projects through specialized financial instructions and procedures. (Sweta, 2023)

Project finance is the funding (financing) of long term infrastructure, industrial development and communal services using a non alternative or limited alternative financial arrangement. The debt and equity used to invest in to the project are compensated back from the cash flow produced by the project. (Adam Heyes, 2021)

The concept of development banking revolves around the provision of an adequate supply of capital for capital formation in the desired sector at the appropriate time. This concept seems to be the guiding principle of investment in finance where funds are transferred from surplus to deficit areas of the economy.(Akintola–Arikewe, 1990)

### **2.2.6. Development Bank**

World Bank defines development banks as financial institutions that derive their funds mainly from the government, other financial institutions, and supranational organizations.

According to Britannica Encyclopedia development bank, is a nationwide or regional financial establishment intended to provide medium- and long-term capital for productive investment, often accompanied by technical assistance, in poor countries. Development bank are focused institutions that make available medium and long term credit lending to developmental activity which create a significant value addition in the society. Development banks may be publicly or privately owned and operated, although governments frequently make substantial contributions to the capital of private banks. The form (share equity or loans) and cost of financing offered by development banks depend on their cost of obtaining capital and their need to show a profit and pay dividends.

Development Bank (DB) has been defined by different authors in previous papers. Development bank is an establishment intended to encourage and finance enterprises in the private sector (Diamond, W., 1957).

Development bank is defined as a financial intermediary supplying medium and long-term funds to bankable economic development projects for financing (Keynes, J. M., 1936).

According to Wikipedia Development financial institution (DFI), also known as a Development bank or Development finance company (DFC), is a financial institutions that provides risk capital for economic development projects on a non commercial basis. Developmental financial institution DFIs are often established and owned by governments or nonprofit organization to finance project that would otherwise not be able financed from commercial renderers.

Often structured as a company which can provide loan for projects that government of nonprofit organization encourage and it have low commercial reasons. They can be at local, national or

international level. Development bank is multilateral development banks, national development banks, bilateral development banks, micro finance institutions, community development institutions and revolving fund.

The number of development banks has increased rapidly since the 1950s; they have been encouraged by the International Bank for Reconstruction and Development and its affiliates. The large regional development banks include the Inter-American Development Bank, established in 1959; the Asian Development Bank, which began operations in 1966; and the African Development Bank, established in 1964. They may make loans for specific national or regional projects to private or public bodies or may operate in conjunction with other financial institutions. One of the main activities of development banks has been the recognition and promotion of private investment opportunities. Although the efforts of the majority of development banks are directed toward the industrial sector, some are also concerned with agriculture.

Development practices have provoked some controversy. Because development banks tend to be government-run and are not accountable to the taxpayers who fund them, there are few checks and balances preventing the banks from making bad investments. Some international development banks have been blamed for imposing policies that ultimately destabilize the economies of recipient countries. Yet another concern centres on “moral hazard”—that is, the possibility that fiscally irresponsible policies by recipient countries will be effectively rewarded and thereby encouraged by bailout loans. While theoretically a serious concern, the existence of such moral hazard has not been proved.

An example of a successful development bank is listed below.

**African Development Bank (ADB)**, African institute formed in 1964, functioning since 1966, and dedicated to financing the economic and social development of its African member countries. Its membership includes 53 African states and 24 non-African countries. ADB headquarters are in Abidjan, Côte d’Ivoire. The ADB group of financing bodies includes the African Development Fund, which grants interest-free loans to impoverished African countries, and the Nigeria Trust Fund. The ADB has five associated institutions through which public and private capital is channelled: The African Import-Export Bank (Afreximbank), The Africa Reinsurance Corporation (Africa-Re), The Société Internationale Financière pour les Investissements et le Développement en Afrique (SIFIDA), The Association of African Development Finance Institutions (AADFI), and Shelter-Afrique.

**Asian Development Bank (ADB)**, institute that supply loans and equity investments for development projects in its member countries. The bank also provides technical assistance for projects and programs, and it promotes the investment of capital for development. It was formed in August 1966 under the auspices of the United Nations organization now known as ESCAP (Economic and Social Commission for Asia and the Pacific) and is headquartered in Manila.

At the turn of the 21st century, the ADB was composed of more than 40 regional members, which included countries in South Asia, Southeast Asia, and East Asia. The bank's top borrowers include Indonesia, the People's Republic of China, India, and Pakistan.

**Islamic Development Bank**, Muslim bank directed toward financing the economic and social development of members in accordance with the principles of the Sharī'ah (Islāmic sacred law). Conceived by the Organization of the Islāmic Conference in 1973, the bank was headquartered in Jeddah, Saudi Arabia, and formally opened in October 1975. Its member nations are drawn from the ranks of those states belonging to the Organization of the Islāmic Conference.

The Islāmic Development Bank seeks to spur economic and financial growth by participating in equity capital, by investing in economic and social infrastructure projects, and by making loans to the public and private sectors. Special funds are available for technical assistance to Muslim communities in non member countries.

**Industrial Bank of Japan**, Established in 1902, the bank had specialized in medium- and long-term financing of industrial development, and both its main office and its foreign branches were active in the foreign-exchange markets. In September 2000, Industrial Bank of Japan merged with the Dai-Ichi Kangyō Bank and Fuji Bank to form the Mizuho Financial Group.

**European Bank for Reconstruction and Development (EBRD)**, organization established in 1991 to develop a private business sector in the countries of central and eastern Europe after the collapse of communism in the region. The EBRD provides project financing for banks, industries, and businesses in the private sector. It also works to improve municipal services, promote entrepreneurship, develop stronger financial institutions and legal systems, and restructure and privatize state-owned businesses. The EBRD is one of the largest investors in the region. The EBRD is owned by many countries and intergovernmental institutions, including the European Union, the European Investment Bank, and foreign partners such as the United States, Japan, Canada, and Australia. One feature of the bank's operation is its commitment to environmentally sound economic development, which it implements by integrating environmental considerations into its projects and building partnerships to address regional and

global environmental issues. Another mandate of the EBRD is to provide investment capital only to those countries that demonstrate a commitment to democratic principles. The main forms of financing used by the EBRD include loans, equity investments, and guarantees. Its headquarters are in London.

### **2.2.7. Development Bank of Ethiopia - DBE**

Development bank of Ethiopia (DBE) is state-owned financial institutions involved in providing short, medium and long term credits. This institution has matured over the last 107 years. The Bank has been playing vital task in promoting the over-all economic development of the country since its formulation.

The Bank as a specialized financial organization formed to encourage the national growth programme using development finance and close technical support to feasible projects. The priority areas of the government are the bases for financing projects. The bank mobilizes finance from domestic and foreign sources while ensuring its sustainability. (DBE Policy Guide)

The development bank of Ethiopia is overseen by the Public Financial Enterprises Supervising Agency and a Board of Management (BOM) consisting of nine senior government officials. The BOM held regular meetings in which the president of the Bank attends as a non-voting member. (DBE Annual Reports 2018)

Public Enterprises Holding and Administration Agency (PEHAA) and BOM are, along with NBA & other governmental bodies, responsible for issuing major policies of the Bank, approval of strategic and operational plans as well as the close and regular monitoring of the Bank's operations. (DBE Annual Reports 2018)

The top Executive Management Committee (EMC), which consists of the President and Six Vice Presidents, is a direct responsible body to administer the overall operations of the Bank. The President chairs the EMC and acts as an official representative of the Bank. Middle level management members are, on the other hand, responsible for the day-to-day management of the Bank's operational activities. (DBE Annual Reports 2018)

As per the Council of Ministers Regulations No. 83/2003 DBE Re-establishment Council of Ministers Regulations, the purpose for which the Bank is re-established is:-

1. To provide investment credits including short-term loans to viable projects that will  
Contribute to the country's economic development.
2. To mobilize funds from sources within or outside the "country;
3. To manage funds entrusted to it;

4. To participate in equity investment;
5. To provide domestic and foreign banking services to its borrowers;
6. To accept time deposits;
7. To guarantee loans and other financial obligations;
8. To draw, accept, discount, buy and sell bills of exchange, drafts and promissory notes  
Payable within or outside of Ethiopia;
9. Issue and sell bonds
10. To act as a trustee;
11. To provide technical and managerial services;
12. To open and operate bank accounts, with banks and banking correspondents in  
Ethiopia or abroad;
13. To engage in such other activities as is customarily carried out by development banks.

DBE has recognized acknowledgment at the national and international levels. Nationally, it is the sole Bank with sound experience in long-term investment financing. Internationally, it is accepted as an important on-lending channel for development programs financed by bilateral and /or multilateral sources. (DBE Policy Guide)

The bank main objective is partially financing a project for which a borrower (which may be an individual or a group) will establish project an owner company according to the commercial code and next for the project a licensed business advisor has to study feasibility of the project. The project owner company have to be capable of raise equity from 25% to 50% of the projects total cost. The bank will cover the remaining 50% to 75% of projects total cost in a loan arrangement. To accomplish that the bank has set of procedures and requirements that are to be met by the borrower for the projects to be managed according to the project management knowledge area as practiced in the industry

### **2.2.8. Manufacturing Industries Financed by Development bank of Ethiopia**

The bank categorized industrial projects as those projects that are in food & agro processing sector, textile & leather processing sector, mining & energy sector, chemical & pharmaceutical sector and wood & metal processing sectors, in addition specialized hospital and special hotel sector are included. Based on the focus of the government and in accordance with the credit policy of DBE, a loan is provided in a medium or long terms for investment projects in priority areas set by the government such as Manufacturing Industries, Mining and Extractive Industries preferably, Commercial Agriculture, Agro-processing, export focused as well as lease financing

for Small and Medium Enterprises. (DBE Policy Guide)

The Bank extends loan services to applicants who performed feasibility study on a project and apply to the bank for partial finance of the project and the bank will undertake an appraisal on the feasibility study in consistent methods to ascertain the viability of the proposed projects. The Bank provides technical support to new applicants and its clients.(DBE Policy Guide)

DBE's major area of focus is provision of medium and long-term loans for investment projects in the Government priority areas. In line with the Agriculture Development Led Industrialization Strategy (ADLI) of the Country, the Bank provides finance to encourage investment in Commercial Agriculture, Agro-processing Industries, Manufacturing Industries, Mining and Extractive Industries and lease financing for Small and Medium Enterprises (SMEs).

The Bank also provides loan for project expansion in the priority area: priority area project requesting for expansion will be those projects which have been properly implemented and proved to be successful financially as well as in the area of project management. DBE has a many financing programs for different types of projects. Basically the bank divide project in long term loan project financing and short term loan lease financing projects. (DBE Policy Guide)

The projects are mainly managed by their own Project management team although the bank has a practice of project management principles like monitoring and follow up for each stage of project life cycle. The practice of PM for industrial projects varies significantly according to the project type, project cost, project technology, etc.

A project is initiated by project promoter who may have taken the inspiration of a project from some experience. During the first stage the promoter will need investment license and land for acquisition for the project. Those stages are mainly handled by the promoter and the respective governmental bodies. (DBE Policy Guide, 2022)

Then after the promoter will take the idea of the project to a licensed business advisor and the feasibility of the project will be studied and a feasibility study with the cost of the reference documents will be the main documents that will be submitted for loan request of the bank. (Project loan processing is performed first when an applicant applies for a loan through a letter and provides the required document for the project according to a check list of the bank. The check list is shown in the table below. After all the documents on the list are fulfilled and a non disclaimer agreement is signed by a loan officer of the bank and the projects representative the application process will be enter to document screening. DBE Policy Guide, 2022)

Depending on the loan application & process stage of a project the banks categorize projects as

project under loan processing, project under implementation and operational project. To elaborate this matter, usually a project approaches the bank for a loan after the after some phase of the project had been completed. This is true whether a project is new or an expansion project. (DBE Policy Guide)

That is if the project is new and applied for a loan some of the projects aspect must be handled as per the banks requirement. Those aspects include accusation of land for industrial project, design of the project buildings, design and selection of the project process and machinery, project feasibility study, project environmental study, project commercial licenses, project legal documents, and other relevant issues that are stated on the bank check list for accepting a loan request. For the expansion project the phase of implementation is already completed and operational. The project has new demand for expanding. Therefore this project prepared documents for expansion project. This project is not seen as new or in initial phase of project implementation. (DBE Policy Guide, 2022)

The table below show what an applicator has to fulfill before applying for a loan in the bank.

The bank has recently restructured its organization so that the loans and projects will be managed better in according to specialized sectors for business of operation. The change made had classified long term loan projects according to the application area of knowledge, business sector and the related governmental divisions that will regulate and assist the project business area as per the legal systems. (DBE Policy Guide, 2022)

The structure has two clusters for long term loan projects headed by vice presidents of the bank those clusters are Industrial project cluster and Agricultural project clusters. Under those clusters there are directorates which are classified according to the business area. Focusing on our interest of the industrial cluster heads many directorates like mining and construction directorate, food and agro processing directorate, textile and leather directorate and wood & metal directorate. (DBE Manual, 2022)

Those directorate works with project promoters in the specialized project sectors and governmental bodies like mining & petroleum ministry, urban development ministry, ministry of agriculture, food and medical regulating agency, textile and leather institute etc.

The bank covering up to 75% of projects total cost has a set of PM procedures and practical requirements that are to be meeting by a borrower for the planed project and project managing team. (DBE Manual, 2022)

<b>Code</b>	<b>Type of document</b>
<b>100</b>	<b>Loan Application Letter</b>
<b>200</b>	<b>License/ Certificate</b>
201	Investment Permit
202	Commercial Registration Certificate
203	TIN
204	TIN of shareholders
205	VAT
206	Work permit for foreign investor
207	Mining License& agreement for mining projects
<b>300</b>	<b>Land</b>
301	Land Lease Agreement & payment receipt
302	Land lease ownership certificate
<b>400</b>	<b>Engineering Document</b>
401	Approved AR
402	Approved ST
403	Approved SN
404	Approved EL
405	BOQ in hard Copy
407	Take-off sheet in hard Copy
406	BOQ in soft Copy
408	Take-off sheet in soft Copy
409	Construction permit
<b>500</b>	<b>Pro-forma Invoices</b>
501	Machinery and Equipment
502	Auxiliary Equipment
503	Vehicle
504	Office Furniture & Equipment
505	Raw Material& Package
506	Other
<b>600</b>	<b>Utilities</b>
601	Electric power
602	Water
<b>700</b>	<b>Track Record</b>
701	Audited Financial Statement
702	Credit History/Credit notification form
703	Bank Statement
704	Tax Clearance Certificate
705	Source of Equity
<b>800</b>	<b>Management CV with credential document</b>
801	General Manager
801	Project Manager
<b>900</b>	<b>Different Study Reports</b>
901	EIA Report with approval letter
902	Feasibility Study
903	Hydrological study report
904	Exploration & Resource Estimation for Mining Projects
905	Other
<b>110</b>	<b>Document for legal entities</b>
111	Power of Attorney
112	Minutes of shareholders
113	Article & Memorandum of Association
114	Shareholders profile & business track record
115	CV of Board of Directors if any
116	Authorization letter for parent company if any
<b>120</b>	<b>Physical and Natural Condition of the project area for Agricultural Projects</b>
121	Rainfall and Temperature Data
122	Soil Test
123	Water Salinity Test
124	Water Use Permit (For Irrigation)

Table 2.2 Required Project Documents when Applying for a loan in DBE

Document screening is the process of checking the projects documents for validity and correctness of the feasibility study. This process is performed by engineering team, legal team and business team of the appraisal directorate and the respective loan administering directorate which are the five directorates mentioned above. When all the teams give comments for the promoter to correct and adjust accordingly, the promoter will be communicated about those

comments. Then the promoter will address the given screening comments.

When all the screening comments are cleared the project appraisal directorate will appraise the project and prepare a project appraisal plan which is similar to the feasibility study. This draft appraisal plan will be given to the promoter to comment on the variation between the feasibility study and the project appraisal plan.

When the project promoter agrees to the project appraisal plan the project will be transferred to a loan approval minute committee which will give more comment on the appraisal plan for final adjustment. When the loan approval minute committee accepts the project appraisal plan the project will be transferred to loan approval committee which will be presented about the feasibility of the project by the appraising team and loan processing teams together.

When a loan is approved by the loan approving committee for the project, it will be categorized as a project under implantation and a loan account, a blocked account and current account will be created by the bank for the project and a loan amount will be deposited in the loan account. However the loan will be utilized when the promoter will deposit its equity in the blocked account or have already utilized for the project the required equity amount for the project.

After that the loan amount will be disbursed for a project cost as per the disbursement schedule in the project appraisal report.

The bank mainly handles projects based on their investment costs. That is projects that costs more than 75 million Birr will be handled by directorates in the main office which is located in Addis Ababa. (DBE Policy Guide, 2022)

The bank categorized industrial projects as those projects that are in food & agro processing sector, textile & leather processing sector, mining & energy sector, chemical & pharmaceutical sector and wood & metal processing sectors, in addition specialized hospital and special hotel sector are included.

The case of projects in Manufacturing and Extractive Industries being financed by the bank:

- Beverages, mineral and bottled water Manufacturing
- Textiles and fabrics Manufacturing;
- Industry scale wearing apparel factory Manufacturing (Garment factory);
- Tanning of finished leather and leather products Manufacturing;
- Paper and paper products (converting) Manufacturing;
- Chemical and chemical products Manufacturing;

- Rubber & rubber products Manufacturing;
- Non-metallic and other construction materials factory (cement, gypsum, marble, bricks, glass and glassware etc.);
- Manufacture and processing of base metal and steel products;
- Precious & base metal mining factory (gemstones, tantalum, gold etc);
- Fabricated metal products factory;
- Motor vehicles, trailers, semi trailers assembly;
- Sugar and sugar by products (ethanol, confectionary);
- Pharmaceuticals factory;
- Packing materials production;
- Electrical power generation (from geothermal, wind, solar etc);
- Electrical and electrical apparatus manufacturing;
- Sanitary material Manufacturing;
- Micro dams for power generating plants.
- Milk and Dairy product manufacturing

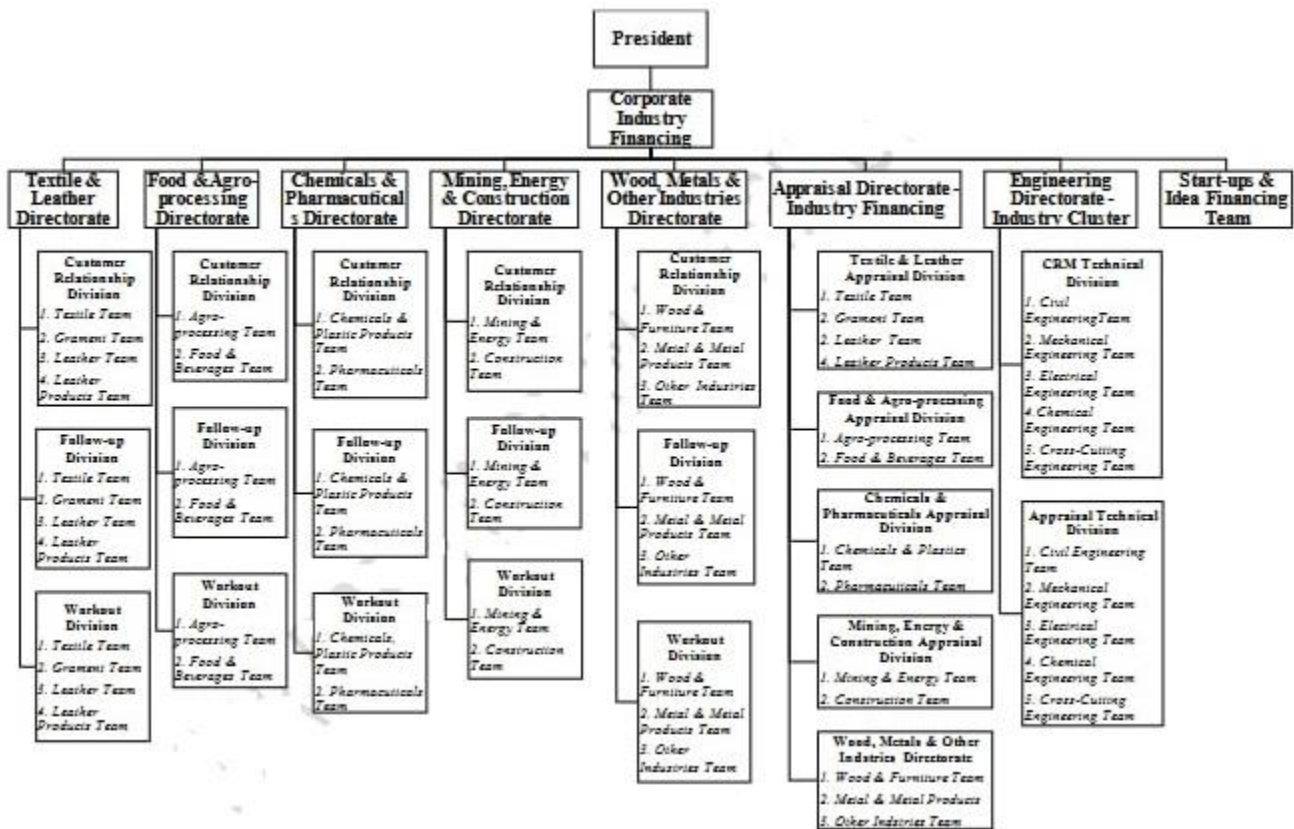


Fig. 2.1 DBE Structure for project financing cluster.

## **2.3. Empirical Review**

### **2.3.1. Introduction**

This section will discuss the current state of knowledge of Project management practice in project financed by DBE. This section will review select papers of thesis for projects in DBE. The section contain introduction of background information of the researches, body of the review and conclusion of the researches.

### **2.3.2. Researches on Projects Management Practice for projects in DBE**

The study about project management practice in DBE by Kefale Mosa Ayana titled PM practices in development bank of Ethiopia; the case of nonperforming loan mega projects under an ongoing concern scheme argue about projects in Development bank of Ethiopia.

This paper objective was to asses project management practice in development bank of Ethiopia for projects under an ongoing concern scheme in project rehabilitation and loan recovery directorate of the bank. The research tried to measure the practice of selected project management knowledge areas which are project scope management, project human resource management, project communication management and project risk management practice. The assessment was conducted on DBE'S project rehabilitation and loan recovery directorate project and project team at five mega projects site.

The data was gathered from the above mentioned directorate using the five point Likert scale measurement method and the analysis was made using descriptive statistics such as frequency, mean, and standard deviation; and presented using tables and textual constructs.

The paper made the findings through the analysis shows that practice of project management in DBE based on selected PM practices which are project scope management, project human resource management, project communication management and project risk management. The paper concluded that those PM knowledge areas practice were not properly and effectively applied while appraising, implementing, monitoring and controlling the mega projects.

The study recommends that development bank should apply identified PM practices starting from early stage of projects properly and effectively to save upcoming projects from failure; further research also recommended for remaining PM practices, and the assessment also better if conducted for other sizes of projects in addition to mega projects.

Tarik Alemayehu discuss about risk management on projects in DBE in his research paper titled assessment of project risk management practice on agricultural projects financed by DBE. This

research project is intended to assess risk management practice of agricultural projects financed by DBE by assessing risk management process such as risk planning, risk identification, risk analysis, risk response and risk monitoring and control. Employing descriptive research design and quantitative research approach where stratified sampling technique is used to gather information from selected directorate staffs in the bank and project managers of the projects. SPSS V20 is used to analyze principally data collected by the method of percentage, mean and standard deviation.

From the analysis of the data and according to the findings, the research project wrap up to the following points, despite the fact that, there is a distinct procedure set to follow in the risk management process, not all risk management process groups seem to be adequately and fairly exercised in agricultural projects financed by DBE staffs.

Results from the study revealed that, there is less risk management practice in risk planning and risk analysis process than other processes and it is evident that much more work needs to be done to improve the project risk management practice in order to reduce threat and increase opportunities of agricultural projects financed by DBE. The study recommends, future research be performed on other project sectors financed by DBE, such as tourism, mining, and quarries, among others.

The research titled assessment of government priority project appraisal process in DBE by Senay Getu Teshale discuss about appraisal process in projects in DBE. The objective of the study is to assess the challenges of government priority projects in appraising method particularly on manufacturing project in DBE. Primary and secondary data types were accumulated from project appraisers and team leaders and internal records of the bank various financial reports. The study used quantitative and qualitative research approaches in cooperation to achieve the planned objectives.

The research closes by stating manufacturing project appraisals and financing in DBE has a range of shortcoming and restraint which lead to elevated rate of NPL ratio which is above international standard rate and NBE requirements (5%). Those problems arise from various angles which are discussed in the paper.

The study recommends suggestions consist of employing branches during project appraisal process, intensive training, strengthening research & developments, keeping good contact with external institutions, concentration on economic aspect of the project rather than only on commercial aspects and finally increase its follow up and control after project financed.

Belay Teferra argued about the major factors for project delay, in the research titled major causes of project implementation delay, the case of DBE financed projects, about PM practice in DBE from the perspective of project time management.

The intention of the study was to assess the major causes for project implementation delay. This study examines the origin of delay in project implementation for DBE financed projects also to determine the most central according to the main project stakeholders; the bank and its promoters. The research recognize whether the major reason of project execution delay are attributed to clients or the Banks policies, procedures and its operations or whether setback is accredited to some outside factors such as government related factors like customs, infrastructure problems, suppliers etc. The study is an applied and explanatory research type. The study is conducted on head office bank employees and project promoters.

The paper provided an answer that both groups of respondents generally agreed that out of a total of 42 factors, 10 influencing factors are major factor in causing implantation setback or delay. They include lack of foreign currency, not depositing equity contribution in time; plan (scope) change by clients or client initiated variations, governments failure to avail the required infrastructures like road, water, power on time, lack of cooperation and insufficient communication among different stakeholder government organizations like the DBE, Investment Office, Different Ministerial Offices, Regional Governments, EEPCO and ERCA etc, fluctuation in foreign currency, fluctuation of prices of materials and increase in total cost of projects, diversion of funds for unintended purpose by promoters, existence of missed items & long time taken to incorporate them through additional loan, underestimation of complexity of projects by promoters.

The study has given a number of recommendations which includes. The significance of sufficient and appropriate condition of monetary support to investors investing in government priority area projects cannot be over emphasized. The DBE has to incorporate in its appraisal study which shows the amount of foreign currency required for a project and pre-plan the source of foreign currency required annually. The Bank should plan fitting method to check that clients requesting loan in the Bank have the required equity at appropriate time so that payment be made in time after loan contract and projects implementation will begin. The bank should use the policies of the government of Ethiopia who has availed a number of investment incentives such as tax holidays, loan guarantees, land guarantees to investors involving in manufacturing, agriculture and agro processing sectors.

The different stakeholder government organizations such as DBE, Investment Office, Different Ministerial Offices, Regional Governments, EEPKO and ERCA etc should be gleaned towards promoting the investment activities in Ethiopia.

Cost increase on different matters, and serious budget deficit resulted from price variation and price escalation is rated among the top ten causes of projects implementation delay.

Lack of completeness of feasibility study presented by promoter's i.e. inadequate investigations and project formulation, frequent changes in scope and revision of drawings due to inadequate project preparation are also the other causes of delay.

Alex shale makes a research for projects in DBE; the study is titled causes of failure of projects financed by development bank Ethiopia: The case of Dessie district, provide the cases of project failures in corporate credit process financed projects. The objective of this research project was to identify the major causes of failure of projects that were financed by DBE Dessie district. The projects were selected from the three trade and industry sectors, agriculture, manufacturing and service sectors. Survey questionnaire, Document analysis and open ended interview were employed to identify the major causes. The results of the analysis had shown that cause of project failure financed by the bank are management problem, implementation problem market problem, technical failure, quality of manpower problem, missing objectives, follow up level technical support given by the bank, overestimation of project return and manpower quality of projects, problems of corruption and related cause, continuous rise of product price ,raw materials price and wages, intervention of political leaders on project ,government officials perception towards the project and change in economic policies.

Biniam Alem conducted a study paper titled project success criteria and success factors in the case of project financed by development bank of Ethiopia. The study assesses the insights of directors, team managers, engineers and loan officers as to how the project achievement standard and features are vital for project success in the background of projects financed by the bank. The study employed questioner investigation on a population of bank's staff. 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.

The assessment of project risk management practices in development bank of Ethiopia financed

projects,; the case of manufacturing projects administered at head office by Zelalem Adugna is one of the paper that is reviewed. The study focused on DBE manufacturing projects risk management aspect. As stated on the paper manufacturing projects working with DBE, confronted several risks that may confine their prosperity because of the explanation that there projects has especially huge risk because of the fluctuating trends of worldwide business. For that reason the study planned for surveying the practice of project risk management on DBE financed manufacturing projects by assessing the project risk management process such as risk management planning, risk identification, analysis response and monitoring.

The study is conducted using descriptive research approach and stratified random sampling technique was chosen. A population from the manufacturing industry project managers, team managers and project contact officers in DBE was selected and questionnaires were developed in 5 points Likert scale and distributed for 135 respondents of which 106 questionnaires collected.

The analysis of the collected data showed that inadequate experience and practice of project risk management process in the manufacturing projects. The execution and utilization for remarkable project risk management has not watched an incredible consideration not given.

Consequently the study recommends that every stakeholders of the project should comprehend the significance of project risk management and should practice the risk management process.

#### **2.4. Summery**

The section made literature review on books, papers articles and contact document that discussed on project management, project management practices, project finance, development bank and Development bank of Ethiopia. The section tried to show the practice of project finance from different banks which have similar organizational objective as development bank of Ethiopia. The case of industrial project that are financed development DBE.

The section final section tried to review studies performed on different aspect of project management practices in development bank of Ethiopia. The literature reviewed in the empirical review section of the chapter will be used in the data analysis and discussion chapter of the study.

The section of made use of those document to come to the conclusion that the practice on those project management knowledge areas will be scrutinized by this research paper and an instrument was devised to measure those practices in the bank and projects in financed by the bank.

## Chapter Three

### 3. Research Methodology

#### 3.2. Introduction

The chapter will address the tactic and the method for addressing the research problem and the specific objective. Includes in the chapter are research methodology, research design, research method, population of the study, sampling technique, sample size, data collection instrument, validity & reliability of the instrument, data collection methods, data analysis methods & ethical concerns of the research.

#### 3.3. Research Design

The paper will make use of selected project management knowledge area for assessing the practice on project scope management, project time management project cost management project quality management and project risk management.

The research takes a broad view to establish facts about the project management practice in industrial projects working with development bank of Ethiopia. That is it looks for patterns, averages, underlying relationship and tries to generalize results of PM Practices in industrial projects. Thus this research project uses a quantitative research approach.

Furthermore it provides understanding on project management practices for industrial project in development bank of Ethiopia. The perceptive on the project management practice is by measuring the frequency of the population on the understanding & practice of the selected project management knowledge area markers.

Therefore the descriptive research design is the best means for the study. Using this design means describing project management practice and challenges for industrial projects as applied in the projects. Also the application of those PM knowledge area in the bank associated with those projects.

#### 3.4. Research Methods

The research method employed will be survey questioners prepared to answer the specific objective detailed in the research project background information.

The data collection will be performed by collection of self administered questionnaires, and interview.

The survey questioners will be prepared in Google forms and hard copy prints. The questioners will be sent to individuals through their corporate email address and some are going to be self administered. The hard copies are needed since internet access is not available to all employees.

### 3.5. Population of the Study

The industrial cluster of the bank is incorporate eight directorates and it is headed by the vice president of the bank. Each director contains division heads; team which have team managers and expertise. The study is conducted on seven of the directorates.

The research uses the bank's employees under the directorates of industrial financing division of the bank. That is the populations chosen are the individuals who are working in industrial financing cluster of the bank. This population has enough exposure or experience on the practice of project management knowledge area as they work with different projects managing teams and perform a follow up report on projects. The total population size is not more than one hundred individuals.

S/No.	Directorates	No. of Employees
1	Food & Agro Processing Directorate	16
2	Textile and Leather Directorate	14
3	Mining, Construction & Energy Directorate	11
4	Wood Metal and others Directorate	13
5	Chemical & Pharmaceuticals Directorate	12
6	Industrial finance Engineering Directorate	14
7	Industrial financing Appraisal Directorate	12
<b>Estimated Total Population</b>		92

Table 3.1 The List of Directorate & Number of Employees in each Directorate.

### 3.6. Sample Size & Sampling Technique

The sample size is the number of participants or units from whom the data is collect for the study. Since administering the survey questioner for the whole population size is not feasible. The sample size is selected by using the formula.

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

Where:

- n is the sample size
- N is the population size
- e is the margin of error (usually 0.05)

$$n = \frac{92}{1 + 92(0.05^2)}$$

$$n = \frac{92}{1.235}$$

$$n = 74.79$$

Which is rounded to 75 and that will be the sample size.

### **Sampling Technique**

Simple random sampling method is the preferred sampling technique employed since each individual will be selected wholly by chance and each member of the population has the same probability of being chosen. The process is that each individual who has the corporate email address and willing to participate in the survey are selected.

### **3.7. Data Collection Instrument**

The survey questioner's measurement is on five point Likert scale questions which are taken from the research problem and specific research objective.

The questionnaires are structured in the PM principles that are discussed in the literature review. That is the questioners are ordered or placed in the categories of Planning Process management, Executing Process, Monitoring and Controlling Process management and Closing Process management. The questionnaires are made with a reference from PM Body of Knowledge (PMBOK 5th edition, 2013).

### **3.8. Validity and Reliability of the Instrument**

Reliability refers to the consistency or precision of the questioners to measure the required markers. Reliability is associated with the consistency of the questions in trying to measure the problem statement. Validity is a measuring of what is intended to be measured or accuracy. Validity refers to the accuracy of a measure. The Reliability and validity of the questioners are checked by one of four methods: retest, alternative-form test, split-halves test, or internal consistency test.

The questioner originated from research problem and has the structure as the selected PM knowledge area. The validity of the instrument or the extent to which the survey questioners measure that the application of PM knowledge are for industrial projects assessed by comparing the results to other relevant researches on similar subject.

To determine if the scale is reliable (internal consistency) Cronbach's alphas test was checked for all the questioner groups and a value of more than 0.7 was found this shows that the questioners have adequate reliability. The result of the questioner test on reliability is shown in the annex.

### **3.9. Data collection Methods**

PM department has given a letter for DBE. The letter is submitted to human resource directorate of the bank and appropriate situation is availed to collect the data from the concerned directorates

The data is collected using Google forms online survey questioners through employee's corporate emails and self-administered survey questioners. That is only willing employees when asked has filled on line Google forms questioner survey. Self-administered question is given to those who had difficulty filling the on line survey questioners. The difficulty was due to online survey require internet connection therefore printed questioner is preferential.

### **3.10. Data Analysis Methods**

The data from online survey are presented on Google spread sheet which can be converted to Excel spread sheet. This data can be analyzed using SPSS statistics analysis software or even excel sheet analysis.

The qualitative data analysis will be processed after systematically descriptive data collected through interviews, surveys questioner and observations and interpreting this data to identify patterns and procedural practices.

### **3.11. Ethical Consideration**

Ethical consideration in qualitative research usually includes confidentiality, informed consent, researchers' potential impact on the participants and the role of the researcher as a data collection instrument. Ethical concern can be taken as among the most essential parts of a research. A research may even be destined to failure if this part is omitted (Bryman & Bell 1995).

Care has been given when formulating problem statement, objectives and questioners of the study no to go in to either exaggeration or deception. For that reason, in the study took ethical consideration when administering the questioners and during evaluations of the data. Respondent participated in the survey with their consent and willingness.

Respondent's confidentiality also protected since their personal data name, email address and address was not collected. They information they provided would not be transferred to other entities. Thus they may not face any harm in related to this research.

## Chapter Four

### 4. Data Presentation and Analysis

#### 4.2. Introduction

The chapter discuss about the data collected from respondents by using relevant descriptive survey statistics. The aim is to assess project management application for projects in DBE. To analyze the collected data, Google Spread sheet, excel sheet and IBM SPSS Statistics were utilized.

The survey collected data are categorized in to two basic groups namely; General group return; Respondents' characteristics and Presentation and analysis of data according to the selected PM knowledge area. The presentation and analysis of collected data is subdivided in to project scope management, project time management project cost management, project quality management and project risk management. In the chapter data collected will be discussed using descriptive statistics and the finding of the study will be discussed in the finding discussion section also the empirical literatures are used to argue about the finding and to expand the margins of the discussions.

#### 4.3. Respondent Characteristics

The survey was collected from 78 potential respondents and it was sent to 92 potential respondents. The respondent's number, types and experience from the different directorates as discussed in the above section is shown as follows.

To establish the common generalization of the study findings for the whole population and also the validity and reliability of study the respondents are asked to provide their sex, age, experience in the bank, educational level, position in the bank and directorate in which the respondents work. The table below summaries the characteristics of the respondents and this response sum is sufficient for investigation and reporting.

The frequency of gender of respondents in a research study for proving information about the representation of different genders in the sample population is taken in the questioner. Genders of the respondents are shown in the table below.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	5.1	5.1	5.1
Female	23	29.5	29.5	34.6
Male	51	65.4	65.4	100.0
Total	78	100.0	100.0	

Table 4.1 Genders of the respondents.

The age group of the respondents is shown in the table below. The table below shows the frequency, percentage, valid percent and cumulative percent of the age group that participated in the survey. The data will help to show the distribution of respondent across different age groups. The percentage in the table show that the allocation of questioner to various groups in not influenced by preconceived notion.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	5.1	5.1	5.1
31 - 40	58	74.4	74.4	79.5
41 - 50	6	7.7	7.7	87.2
Below 30	10	12.8	12.8	100.0
Total	78	100.0	100.0	

Table 4.2 ages categories of the respondents.

The analysis on the educational level of the respondents is shown in the table below. The educational level of the respondent is analyzed using the frequency, percentage, valid percent and cumulative percent of the educational level of the participated in the survey. The data will help to understand the distribution of respondents across the educational levels.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	3.8	3.8	3.8
BA / B. Sc	27	34.6	34.6	38.5
Level PHD	1	1.3	1.3	39.7
MA / M. Sc	47	60.3	60.3	100.0
Total	78	100.0	100.0	

Table 4.3 Educational level of the respondents.

Experience of the respondents is shown in the table below. The table shows the distribution of the respondent in frequency, percent, valid percent and cumulative. This will provide an overview of the distribution of respondents experience levels. That is the number of respondents in each experience level, the percent of respondents in each respondents level, the valid or non missing responses in each experience level and the cumulative percent column category.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	5.1	5.1	5.1
10-15 Years	2	2.6	2.6	7.7
11 – 15 Years	17	21.8	21.8	29.5
6 – 10 Years	54	69.2	69.2	98.7
More than 15 Years	1	1.3	1.3	100.0
Total	78	100.0	100.0	

Table 4.4 Experience of the respondents.

## **4.4. Presentation and Analysis of Data**

The survey of selected PMknowledge area practice in DBE is presented below for each topic. For each PMknowledge is practice topic selected questioners are given which try to measure the application of those knowledge areas in the project working with the bank.

### **4.4.1. Project Scope Management**

PMBOK Guide – 5<sup>th</sup> editions discuss about projectscope management as consists of the processes compulsory to ensure that the project includes all the work necessary, and only the work required, to accomplish the project successfully. Managing the project scope is primarily concerned with defining and controlling what is and is not included in the project.

To provide an overview of the project scope management activities

Plan Scope Management— the process of creating a scope management plan that documents how the project scope will be defined, validated, and controlled.

Collect Requirements— the process of determining, documenting, and managing stakeholder needs and requirements to meet project objectives.

Define Scope— the process of developing a detailed description of the project and product.

Create WBS— the procedure of subdividing project deliverables and project work into minor, more controllable activities.

Validate Scope— the process of formalizing acceptance of the completed project deliverables.

Control Scope— the process of monitoring the status of the project and product scope and managing changes to the scope baseline.

The questioners were developed based on the above guideline and using the documents used in the bank for practicing the PMknowledge areas.

There are 8 questioners that try to measure the practice of project scope management in the industrial developmental ventures working with DBE. The bank required specific documents which have to fulfill certain content requirements. One of the documents is feasibility study which has to have a content scope of the project.

The respondent's response is shown in detail for each question below. The response are a measure of five level Likert scale.

The scope management practice measurement questioner group has eight questions and the response for this group is summarised in the table below.

### Statistics

	Question1	Question2	Question3	Question4	Question5	Question6	Question7	Question8
N Valid	75	75	75	75	74	73	75	75
Missing	3	3	3	3	4	5	3	3

Table 4.5 the summary of the response for the project scope management question group

For the question that feasibility study includes scope plan of a project. The respondent's measured response measured in five level Likert scale is shown summarized in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.3	1.3
	2(Disagree)	3	3.8	4.0	5.3
	3(Neutral)	6	7.7	8.0	13.3
	4(Agree)	56	71.8	74.7	88.0
	5(Strongly Agree)	9	11.5	12.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.6 the frequency of the responses for the first project scope management question.

For the question that project planning document like feasibility study includes project scope management aspect, out of all the valid response of 75 respondent 11.5% strongly agree and 71.8% agree that feasibility study includes project scope management plan during planning phase of the project, whereas the remaining 13.3% percentiles are not in agreement with the assertion.

From this question the one could conclude that most participants had observed or are aware of the practice of project scope management practice in the feasibility during the initial phase of project planning.

When the respondent's are asked if they agree that project appraisal plan include scope outline, they have given responses which is shown summarized in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	5	6.4	6.7	6.7
	2(Disagree)	2	2.6	2.7	9.3
	3(Neutral)	9	11.5	12.0	21.3
	4(Agree)	50	64.1	66.7	88.0
	5(Strongly Agree)	9	11.5	12.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.7 the frequency of the responses for the second project scope management question.

Out of all the valid response of 75 respondent 11.5% strongly agree and 64.1% agree that project appraisal plan includes project scope management plan during planning phase of the project, whereas the remaining 21% percentiles are not in agreement with the assertion.

The conclusion from this research questioner is that most participants have witnessed the practice of project scope management in project appraisal plan during the initial phase of project planning.

For the question that asks most projects have variation in scope statement in their feasibility study and project appraisal plan

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	5	6.4	6.7	6.7
	2(Disagree)	15	19.2	20.0	26.7
	3(Neutral)	8	10.3	10.7	37.3
	4(Agree)	42	53.8	56.0	93.3
	5(Strongly Agree)	5	6.4	6.7	100.0
	Total	75	96.2	100.0	
Missing System		3	3.8		
Total		78	100.0		

Table 4.8 the frequency of the responses for the third project scope management question.

the valid response of 75 respondent 6.4% strongly agree and 53.8% concur that projects have variation in scope statement in their feasibility study and project appraisal plan, while 6.4% strongly disagree, 19.2% disagree and the remaining 10.3% of the respondents are neutral.

The summary from this research questioner is that most participants have witnessed variation of project scope statement in project feasibility study and project appraisal plan during the planning phase of projects.

When asked scope variation exists from the project's appraised plan during execution of projects.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	2	2.6	2.7	2.7
	2(Disagree)	26	33.3	34.7	37.3
	3(Neutral)	8	10.3	10.7	48.0
	4(Agree)	34	43.6	45.3	93.3
	5(Strongly Agree)	5	6.4	6.7	100.0
	Total	75	96.2	100.0	
Missing System		3	3.8		
Total		78	100.0		

Table 4.9 the frequency of the responses for the forthscope management question.

The valid response of 75 respondent 6.4% strongly agree and 43.6% agree that projects have

variation in scope statement during execution from project appraisal plan, while 2.6% strongly disagree, 33.3% disagree and the remaining 3% or the respondents are neutral.

The summary from this research questioner is that half participants (50%) have not witnessed variation of project scope statement in project during execution from appraisal plan.

Asked does the bank have a monitoring and controlling process that oversees project so that the project scope is managed.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.4	1.4
	2(Disagree)	14	17.9	18.9	20.3
	3(Neutral)	15	19.2	20.3	40.5
	4(Agree)	37	47.4	50.0	90.5
	5(Strongly Agree)	7	9.0	9.5	100.0
	Total	74	94.9	100.0	
Missing	System	4	5.1		
Total		78	100.0		

Table 4.10 the frequency of the responses for the fifth project scope management question.

From the 74 respondents 9% strongly agree and 47.4% agree that the bank has a monitoring and controlling process that oversees project managing team, while 40.5 percentiles of the respondents do not agree.

The summary from this research questioner is that most participants (56.4%) are aware of the practice in the bank for monitoring project team for managing scope.

The survey which poses changing stakeholder requirements is one of the challenges for scope change in project

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	2	2.6	2.7	2.7
	2(Disagree)	23	29.5	31.5	34.2
	3(Neutral)	20	25.6	27.4	61.6
	4(Agree)	26	33.3	35.6	97.3
	5(Strongly Agree)	2	2.6	2.7	100.0
	Total	73	93.6	100.0	
Missing	System	5	6.4		
Total		78	100.0		

Table 4.11 the frequency of the responses for the sixth project scope management question.

From the total response of 73 respondent 2.6% strongly agree and 33.3% agree that projects scope changes are caused by changing stakeholder requirement, while the majority of 61 percentile does not agree with the assertion.

The summary from this research questioner is that few of participants (35.9%) are concur that changing stakeholder requirement is one of the challenge for project scope mismanagement and a majority of the respondents differ (61.6%) that that changing stakeholder requirement is not a major challenge for scope change.

The question that inquire that managerial constraints are the major challenging factory for scope change in project, the response is summarized as follows

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.3	1.3
	2(Disagree)	14	17.9	18.7	20.0
	3(Neutral)	11	14.1	14.7	34.7
	4(Agree)	45	57.7	60.0	94.7
	5(Strongly Agree)	4	5.1	5.3	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.12the frequency of the responses for the seventh project scope management question.

For this question 75 response was given and 5.3% strongly agree and 60.0% agree that projects scope change are caused by PMconstraints, while 1.3% strongly disagree,18.7 % disagree and the remaining 14.7 % of the respondents are neutral.

The summary from this research questioner is that most participants (65.3%) are corresponding with the assertion that changing managerial constraints is one of the challenging factors for project scope misconduct.

The participant’s response is shown for the question that asked if they agree that external and internal risks are the major factor for scope change in project.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.3	1.3
	2(Disagree)	5	6.4	6.7	8.0
	3(Neutral)	7	9.0	9.3	17.3
	4(Agree)	53	67.9	70.7	88.0
	5(Strongly Agree)	9	11.5	12.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.13the frequency of the responses for the eighth project scope management question.

Out of the valid response of 75 respondent 12% strongly agree and 70.7% agree that projects scope change are caused by PMconstraints, while 1.3 strongly disagree and 6.7% disagree and the remaining 9.3 % of the respondents are neutral.

The implication from this research questioner is that most participants (80.7%) in agreement with that external and internal risk are one of challenges for scope change in project.

The descriptive statistics for the question group of project scope management is summarized in the table below.

	Descriptive Statistics				
	N	Sum	Mean	Std. Deviation	Variance
Question2	75	281	3.75	.946	.894
Question3	75	252	3.36	1.086	1.179
Question4	75	239	3.19	1.074	1.154
Question5	74	257	3.47	.954	.910
Question6	73	222	3.04	.949	.901
Question7	75	262	3.49	.906	.821
Question8	75	289	3.85	.766	.586
Valid N (listwise)	73				

Table 4.14descriptive statistics for the project scope question group.

The mean value of the respondents repose show what the group have central tendency for the question. For the question 3, 4, 5 and question 6 the group tends to have a neutral tendency, while question 1, 2 & 8 the group as a whole have an agreement with claim the question makes.

The standard deviation for the question 3 & 4 has a relatively high value which shows variation among the respondents.

The project scope management process involves having a plan for scope management, collecting requirements, defining scopes, creating WBS, Validating scope and controlling scope. Except for the last two processes those project scope management activity are mostly done during the planning Process Group of a project.

The industrial projects that are financed by the bank have planning documents like feasibility study and appraised feasibility study.

From the survey most of the participants agree that Project scope knowledge area activities are being practiced in the projects financed by the bank.

In conclusion most participants are had observed or are aware of the practice of project scope management practice in the feasibility and project appraisal plan during the planning phase of project. Also most of the participants have shown that project scope statement in project

feasibility study and project appraisal has no significant variation during planning phase of projects.

Furthermore participants are aware of the practice in the bank for monitoring project team for managing scope. The bank also has its own monitoring and controlling practice which is performed in parallel with the PMteam.

For determine the factory that were identified to be a origin for project scope variation during execution from the planned scope, first from the literature review those factors that usually were causing project scope variation in other project were identified to be legal constraints & regulatory constraints, external and internal risks, changing stakeholder requirements and managerial constraints.

Then the survey questioners were prepared to measure if the participants were aware of project scope variation due to those factors. The result is summarized in descriptive statistics in the above section.

For the level of agreement on the factor that would be the source for project scope statement variation, the assertion that states external and internal risk to be the major factor for project scope statement variation was in agreement with most participants. The second major factor is for the assertion that changing managerial constraints is a cause for project scope variation and lastly the changing stakeholder requirement was the last factor which usually causes project scope variation in industrial projects in DBE.

#### **4.4.2. Project Time Management**

Project Time Management includes the processes required to manage the timely completion of the project. The following point provides an overview of the Project Time Management processes

Plan Schedule Management—the process of establishing the policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule.

Define Activities—the process of identifying and documenting the specific actions to be performed to produce the project deliverables.

Sequence Activities—the process of identifying and documenting relationships among the project activities.

Estimate Activity Resources—the method of estimating the type and quantities of material, human resources, apparatus, or supplies required to perform each action.

Estimate Activity Durations—the process of estimating the number of work periods needed to complete individual activities with estimated resources.

Develop Schedule—the process of analyzing activity successions, durations, resource requirements, and schedule constraints to create the project schedule model.

Control Schedule—the process of monitoring the position of project activities to update project growth and manage changes to the timetable baseline to achieve the plan

For measuring the project time management practice in the bank seven questions were devised. The summary of the response for this group of question is shown in the table below.

### Statistics

	Question1	Question2	Question3	Question4	Question5	Question6	Question7
N Valid	75	73	74	74	74	75	77
Missing	5	7	6	6	6	5	3

Table 4.15 the summary of response for the time management question group.

The first question was about project time planning (scheduling) which will be done in project planning document feasibility study. Thus the survey asked if feasibility studies details project time management which involves analyzing and developing a schedule and timeline for project execution of project deliverables.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.3	1.3
	2(Disagree)	10	12.5	13.3	14.7
	3(Neutral)	8	10.0	10.7	25.3
	4(Agree)	50	62.5	66.7	92.0
	5(Strongly Agree)	6	7.5	8.0	100.0
	Total	75	93.8	100.0	
Missing	System	5	6.3		
Total		80	100.0		

Table 4.16 the frequency of the responses for the first project time management question.

This question got 75 valid response and the respondents are classified as 8.0% strongly agree and 66.75% agree that feasibility study schedule for a project implementation time in detail. While 1.3% strongly disagrees and 14.7% disagree the remaining 10.7% of the respondents are neutral. The conclusion of this questioner is that most participants (74.75%) agree that project time management is being practiced in the planning phase of project.

For the question that asks project appraisal plan details project time management plan the table

below summarizes the response.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.4	1.4
	2(Disagree)	16	20.0	21.9	23.3
	3(Neutral)	8	10.0	11.0	34.2
	4(Agree)	41	51.2	56.2	90.4
	5(Strongly Agree)	7	8.8	9.6	100.0
	Total	73	91.3	100.0	
Missing	System	7	8.8		
Total		80	100.0		

Table 4.17 the frequency of the responses for the second project time management question.

From the valid response of 73 respondents, 9.6% strongly agree and 56.2% agree that project appraisal plan details project time management plan. While 1.4% strongly disagrees and 21.9% disagree the remaining 11.0% of the respondents are neutral.

The summary of this questioner is that most participants (60.3) agree that that the bank takes in to consideration the project time management principles when appraise the feasibility study.

When participants when asked if they are aware of project delay or project not being implemented according to the planned schedule has given the response which is summarized in table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	13	16.3	17.6	17.6
	3(Neutral)	7	8.8	9.5	27.0
	4(Agree)	46	57.5	62.2	89.2
	5(Strongly Agree)	8	10.0	10.8	100.0
	Total	74	92.5	100.0	
Missing	System	6	7.5		
Total		80	100.0		

Table 4.18 the frequency of the responses for the third project time management question.

The valid responses are 74 and of those respondent 10.8% strongly agree and 62.2% agree that project delay is common occurrence. While 17.6% disagree the remaining 9.5% of the respondents are neutral.

The outcome of this survey result is that most participants (73.0%) agree that project delay is one challenges of the PMpractice being observed in the bank during execution of projects.

For this question that, bank has a monitoring and controlling process for project planned schedule the response is summarized in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	4	5.0	5.4	5.4
	2(Disagree)	13	16.3	17.6	23.0
	3(Neutral)	15	18.8	20.3	43.2
	4(Agree)	36	45.0	48.6	91.9
	5(Strongly Agree)	6	7.5	8.1	100.0
	Total	74	92.5	100.0	
Missing	System	6	7.5		
Total		80	100.0		

Table 4.19 the frequency of the responses for the fourth project time management question.

Out of all the valid response of 74 and the respondent 8.1% strongly agree and 48.6% agree that the bank have a monitoring and controlling process or a follow up process for project schedule implementation. While 5.4 % strongly disagree and 18.1 % disagree the remaining 17.6 % of the respondents are neutral.

The summary of this questioner is that 56.7% participants believe that the bank practice project schedule monitoring and controlling process during execution period for projects financed by it.

The question that scope changes are the major cause for project to be implemented out of schedule is asked the response is given in the table below

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	13	16.3	17.6	17.6
	3(Neutral)	9	11.3	12.2	29.7
	4(Agree)	46	57.5	62.2	91.9
	5(Strongly Agree)	6	7.5	8.1	100.0
	Total	74	92.5	100.0	
Missing	System	6	7.5		
Total		80	100.0		

Table 4.20 the frequency of the responses for the fifth project time management question.

From all the valid response of 74, 8.1% strongly agree and 62.2% agree that scope changes in project are causing variation in projects schedule. While no respondent strongly disagree and 17.6% disagree the remaining 12.2% of the respondents are neutral.

The summary of this questioner is that 70.3% participants agree that project time management is being affected by project scope change.

The response for the question that asks conflict, weather or pandemic affecting project schedule is summarized in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	9	11.3	12.0	12.0
	3(Neutral)	5	6.3	6.7	18.7
	4(Agree)	40	50.0	53.3	72.0
	5(Strongly Agree)	21	26.3	28.0	100.0
	Total	75	93.8	100.0	
Missing	System	5	6.3		
Total		80	100.0		

Table 4.21 the frequency of the responses for the sixth project Time management question.

Out of all the valid response 75, 28.0% the respondent strongly agree and 53.3% agree that projects are being executed out of schedule due to the mentioned causes. Whereas none strongly disagree and 11.3% disagree the remaining 6.7% of the respondents are neutral.

The summary of this questioner is that 81.3% participants take conflict, weather or pandemic to be one of the causes for project schedule to be out of the planned course.

For the question that project communication problems is the cause that will affect project implementation schedule the response is given below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	11	13.8	14.3	14.3
	3(Neutral)	16	20.0	20.8	35.1
	4(Agree)	46	57.5	59.7	94.8
	5(Strongly Agree)	4	5.0	5.2	100.0
	Total	77	96.3	100.0	
Missing	System	3	3.8		
Total		80	100.0		

Table 4.22 the frequency of the responses for the seventh project time management questions.

From all the valid response of 77 respondent 5.2% strongly agree and 59.7% agree that project schedule is being implemented out of schedule because of communication problems between project stake holders. Whereas 14.3% disagree the remaining 20.8% or the respondents are neutral.

The summary of this questioner is that most participants (64.9%) agree that project communication problems are the cause that will affect project implementation schedule.

<b>Descriptive Statistics</b>					
	N	Sum	Mean	Std. Deviation	Variance
Quesion1	75	275	3.67	.859	.739
Quesion2	73	256	3.51	.988	.976
Quesion3	74	271	3.66	.896	.802
Quesion4	74	249	3.36	1.041	1.084
Quesion5	74	267	3.61	.873	.762
Quesion6	75	298	3.97	.915	.837
Quesion7	77	274	3.56	.803	.645
Valid N (list wise)	71				

Table 4.23 Descriptive Statistics of Time management questions.

The mean value of the respondents repose show what the group have central tendency for the question. For the question 4 the group tends to have a neutral tendency, while question 1, 2, 3, 5 & 7 the group as a whole have an agreement with claim the question makes.

The standard deviation for the question 4 has a relatively high value which shows variation among the respondents.

The project time management process involves having a plan for schedule management, define activity, sequence activity, estimate activity resources, estimate activity durations, and develop schedule and controlling control schedule. Except for the last process those project time management processes are mostly done during the planning Process Group of a project.

The industrial projects that are financed by the bank have planning documents like feasibility study and appraised feasibility study. The bank has a scheduled follow-up report done by the bank staff which monitors and controls project schedule and communicates with project managing teams for any mismanaged schedules.

From the survey most of the participants agree that Project time knowledge area processes are being practiced in the projects financed by the bank.

From the research survey it is shown that most participants are in agreement with the assertion that of the practice of project time management take places in the feasibility and project appraisal during the planning phase of project. That is most of the participants have shown that project time management is carried out during planning in industrial projects in feasibility and project appraisal plans.

Also most participants agree that project delay is one of the common problems observed in the bank during execution of projects.

To determine the factors that were recognized to be a source for project schedule variation during execution, literature review was used to identify factors that usually causing project delay. Those identified factors include but not limited to scope changes, lack of planning in the design phase, conflict, weather or pandemic and communication problems

Then the survey questioners were prepared to measure if the participants were aware of project schedule delay due to those factors. The result is summarized in descriptive statistics in the above section.

Ranking the frequency for agreement on the factor for project time management variation factors, the first factor to cause project to be out of schedule is conflict, weather or pandemic, second comes project scope variation and the last factor on which she participant agreed on to cause delay in projects is communication problems.

#### 4.4.3. Project Cost Management

Project Cost Management comprises the methods involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget. The following point provides an overview of the Project Cost Management processes.

Plan Cost Management: - the process that establishes the policies, procedures, and documentation for planning, managing, expending, and controlling project costs.

Estimate Costs: - the process of developing an approximation of the monetary resources needed to whole project activities.

Determine Budget: - the process of collecting the estimated costs of individual activities or work packages to establish an authorized cost baseline.

Control Costs: - the process of monitoring the status of the project to update the project costs and managing changes to the cost baseline.

For measuring the project cost management practice in the bank ten questions were planned.

The summary of the response for these categories of questions is shown in the table below.

#### Statistics

		Question1	Question2	Question3	Question4	Question5	Question6	Question7	Question8	Question9	Question10
N	Valid	74	74	74	76	76	77	75	77	75	75
	Missing	4	4	4	2	2	1	3	1	3	3

Table 4.24 the analysis of the response for the project cost management questions.

The response for the first question that put the feasibility studies includes project cost management, the respondents comment is summarized in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.4	1.4
	2(Disagree)	9	11.5	12.2	13.5
	3(Neutral)	8	10.3	10.8	24.3
	4(Agree)	44	56.4	59.5	83.8
	5(Strongly Agree)	12	15.4	16.2	100.0
	Total	74	94.9	100.0	
Missing	System	4	5.1		
Total		78	100.0		

Table 4.25 the frequency of the responses for the first project cost management questions.

The valid response are 74 and 16.2% of the respondent strongly agree, 59.5% agree that feasibility study a project plans project cost in depth. While 1.4% strongly disagrees and 12.2% disagree the remaining 10.8% of the respondents are neutral.

The summary of this question is that most participants (75.7%) agree that project cost management is included in the feasibility of projects during planning stage.

For the question that project appraised study includes detailed project cost management the responses are shown below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.4	1.4
	2(Disagree)	6	7.7	8.1	9.5
	3(Neutral)	5	6.4	6.8	16.2
	4(Agree)	46	59.0	62.2	78.4
	5(Strongly Agree)	16	20.5	21.6	100.0
	Total	74	94.9	100.0	
Missing	System	4	5.1		
Total		78	100.0		

Table 4.26 the frequency of the responses for the second project cost management questions.

From the valid response of 74, 21.6% of the respondent strongly agrees, 62.2% agree that feasibility study a project plans project cost in depth. While 1.4% strongly, disagrees 8.1% disagree and the remaining 6.8% of the respondents are neutral.

The takeaway of this question is that most participants (83.8%) agree that project appraisal includes detailed project budget.

The question that puts monitoring and controlling process is implemented by the bank for project cost management had a response as shown below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.4	1.4
	2(Disagree)	8	10.3	10.8	12.2
	3(Neutral)	11	14.1	14.9	27.0
	4(Agree)	47	60.3	63.5	90.5
	5(Strongly Agree)	7	9.0	9.5	100.0
	Total	74	94.9	100.0	
Missing	System	4	5.1		
Total		78	100.0		

Table 4.27 the frequency of the responses for the third project cost management questions.

Out of the valid response of 74 respondents 9.0% strongly agree and 60.3% agree that the bank have a monitoring and controlling process for project cost management aspect. While 1.4% strongly disagrees, 10.8% disagree and the remaining 13% of the respondents are neutral.

The conclusion of this questioner is that most participants (69.3%) agree that project cost management monitoring and controlling process is being practiced in the bank during project execution phase.

The question that puts priorities of the client is the major cause for project cost planning over run the responses are shown below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.3	1.3
	2(Disagree)	9	11.5	11.8	13.2
	3(Neutral)	20	25.6	26.3	39.5
	4(Agree)	42	53.8	55.3	94.7
	5(Strongly Agree)	4	5.1	5.3	100.0
	Total	76	97.4	100.0	
Missing	System	2	2.6		
Total		78	100.0		

Table 4.28 the frequency of the responses for the forth project cost management questions.

From the valid response of 76 respondent 5.3% strongly agree and 55.3% agree that priorities of the client are the major cause for project cost planning over run. While 1.3% strongly disagrees and 11.8% disagree the remaining 26.3% of the respondents are neutral.

The summary of this questioner is up to 60.6% participants take clients priorities for project cost management to go out of the plan.

The response is shown in the table below for the question that cost of design being the major cause for project to be implemented out of budget.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	4	5.1	5.3	5.3
	2(Disagree)	19	24.4	25.0	30.3
	3(Neutral)	11	14.1	14.5	44.7
	4(Agree)	33	42.3	43.4	88.2
	5(Strongly Agree)	9	11.5	11.8	100.0
	Total	76	97.4	100.0	
Missing	System	2	2.6		
Total		78	100.0		

Table 4.29 the frequency of the responses for the fifth project cost management questions.

Out of all the valid response of 76, 11.8 % the respondent strongly agree and 43.4% agree that cost of design is the major cause for project cost management plan not to be followed. While 5.3% strongly disagree and 25.0% disagree the remaining 14.5% of the respondents are neutral.

The implication of this survey questioner is up to 55.2% of the participants believe that cost of design being the major cause for project to be implemented out of budget.

For the question that nature of project are the major cause for project cost management not to be executed according to plan the responses are shown below in the table.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	3	3.8	3.9	3.9
	2(Disagree)	9	11.5	11.7	15.6
	3(Neutral)	10	12.8	13.0	28.6
	4(Agree)	50	64.1	64.9	93.5
	5(Strongly Agree)	5	6.4	6.5	100.0
	Total	77	98.7	100.0	
Missing	System	1	1.3		
Total		78	100.0		

Table 4.30 the frequency of the responses for the sixth project cost management questions.

The valid responses are 77 and 6.5 % strongly agrees and 64.9 % agree that nature of the project is the major cause for project budget plan not being implemented. While 3.9% strongly disagree, 11.7 % disagree and the remaining 13.0% of the respondents are neutral.

The summary of this questioner is that most participants (70.4%) believe that project cost management facing challenges due to the nature of the project which is specific to the project.

The participant responded as shown in the table below for the question if methods of construction are the major cause for project to be implemented out of budget.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	2	2.6	2.7	2.7
	2(Disagree)	9	11.5	12.0	14.7
	3(Neutral)	12	15.4	16.0	30.7
	4(Agree)	45	57.7	60.0	90.7
	5(Strongly Agree)	7	9.0	9.3	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.31 the frequency of the responses for the seventh project cost management questions.

From the valid response of 75, 9.3% the respondent strongly agree and 60% agree that methods of construction are one of the challenges for the industrial project cost management practice. While 2.7% strongly disagree and 12% disagree the remaining 16% or the respondents are neutral.

The implication of this questioner is that up to 69.3% of participants agree that the method of construction in one of the challenge in project cost management practice.

Responses are summarized in the table below for the equation that procurement options are one of the challenges for project to be implemented out of budget.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.3	1.3
	2(Disagree)	9	11.5	11.7	13.0
	3(Neutral)	19	24.4	24.7	37.7
	4(Agree)	43	55.1	55.8	93.5
	5(Strongly Agree)	5	6.4	6.5	100.0
	Total	77	98.7	100.0	
Missing	System	1	1.3		
Total		78	100.0		

Table 4.32 the frequency of the responses for the eight project cost management questions.

Out of all the valid response of 77, 6.5% the respondent strongly agree and 55.8% agree that the procurement options are the major cause for project to be implemented out of budget. While 1.3% strongly disagrees, 11.7% disagree with this assertion and the remaining 24.7% of the respondents are neutral.

The summary of this questioner is that most participants 62.3% consider that procurement

options are the factors that challenge project cost management.

Asked prevailing market conditions are the major cause for project to be implemented out of budget, the participants had responded as shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.3	1.3
	2(Disagree)	9	11.5	12.0	13.3
	3(Neutral)	2	2.6	2.7	16.0
	4(Agree)	49	62.8	65.3	81.3
	5(Strongly Agree)	14	17.9	18.7	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.33 the frequency of the responses for the ninth project cost management questions.

The valid response are 75 and from the valid response 18.7% strongly agree and 65.3% agree that prevailing market condition are the major challenge for project cost management during execution, while the remaining 16.0% percentile did not agree with the question disagree.

The conclusion of this questioner is that most participants (84%) agree that prevailing market conditions are a major challenge for project cost management practice in the bank.

For the question that legislative constraints are the major challenge for project to be implemented out of budget, the responses are shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	2	2.6	2.7	2.7
	2(Disagree)	7	9.0	9.3	12.0
	3(Neutral)	25	32.1	33.3	45.3
	4(Agree)	40	51.3	53.3	98.7
	5(Strongly Agree)	1	1.3	1.3	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.34 the frequency of the responses for the tenth project cost management questions.

Out of all the valid response of 75, 1.3% strongly agree and 51.3% of the respondent agree that legislative constraints are the challenge for project to be implemented out of budget, while 2.7% strongly disagrees, 12% disagree and the remaining 32.1% of the respondents are neutral.

The summary of this questioner is legislative constraints are accepted a challenge for project cost management for industrial project by majority of the participants (54.4%).

Descriptive Statistics						
	N	Sum	Mean	Std. Deviation	Variance	
Question1	74	279	3.77	.915	.837	
Question2	74	292	3.95	.858	.737	
Question3	74	273	3.69	.843	.710	
Question4	76	267	3.51	.825	.680	
Question5	76	252	3.32	1.134	1.286	
Question6	77	276	3.58	.923	.851	
Question7	75	271	3.61	.914	.835	
Question8	77	273	3.55	.836	.699	
Question9	75	291	3.88	.900	.810	
Question10	75	256	3.41	.790	.624	
Valid N (list wise)	66					

Table 4.35 descriptive statistics for project cost management questions.

The mean value of the respondents' responses show what the group has a central tendency for the question. For the question 5 and question 10 the group tends to have a neutral tendency, while question 1, 2, 3, 4, 6, 7, 8, 9 & 10 the group as a whole has an agreement with the claim the question makes.

The standard deviation for the question 5 has a relatively high value which shows variation among the respondents.

The project cost management process involves having a plan of cost management, estimate costs, determine budget and control cost. Except for the last process those project cost management processes are mostly done during the planning process of a project. The last control cost process is performed during monitoring and controlling project phase.

The industrial projects that are financed by the bank have planning documents like feasibility study and appraised feasibility study.

The bank primarily administers project finances; which means the project managing team is required to work with the bank for any project planned cost utilization. This process has a well-established controlling mechanism with automated project cost utilization monitoring. However, projects usually run in to cost overrun.

From the survey most of the participants agree that Project cost management knowledge area processes are being practiced in the industrial projects financed by the bank.

Initially from the literature review the challenges that were identified to be grounds for project cost overrun during execution were identified. In the literature the factors challenge project cost management in other projects. The identified factors include, but not limited to, to be cost of

design, nature of the site, nature of the project, method of construction, choice of procurement, prevailing market conditions and legislative constraints.

Then the survey questioners were prepared to measure if the participants were aware of project cost management and the challenges due to those factors. The result is summarized in descriptive statistics in the above section.

#### 4.4.4. Project Quality Management

Project Quality Management includes the processes and activities of determine quality provision, policies, objectives, and responsibilities so that the projects meet their intended purposes. Project Quality Management follows policies and procedures within the project’s context for its implementation.

- To provide the general idea of the Project Quality Management processes and what it includes the following points are given.
- Plan Quality Management Plan: - The process of identifying quality requirements and/or standards for the project and its deliverables and documenting how the project will show conformity with quality requirements.
- Perform Quality Assurance follow-up: - The process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used.
- Control Quality assurance action: - The process of monitoring and recording results of executing the quality activities to assess performance and recommend necessary changes

For measuring the project quality management practice in the bank eight questions were devised.

The summery of the response for this group of question is shown in the table below.

		Statistics							
		Question1	Question2	Question3	Question4	Question5	Question6	Question7	Question8
N	Valid	71	73	72	72	73	73	71	71
	Missing	7	5	6	6	5	5	7	7

Table 4.36 the analysis of the response for the project quality management questions.

The first project quality management question group is that project feasibility includes project quality management plan.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	3	3.8	4.2	4.2
	2(Disagree)	20	25.6	28.2	32.4
	3(Neutral)	8	10.3	11.3	43.7
	4(Agree)	36	46.2	50.7	94.4
	5(Strongly Agree)	4	5.1	5.6	100.0
	Total	71	91.0	100.0	
Missing	System	7	9.0		
Total		78	100.0		

Table 4.37 the frequency of the responses for the first project quality management questions.

The valid responses are 71 and 5.6% strongly agree and 50.7% agree that feasibility plan for project quality management. While 4.2% strongly disagree and 28.2% disagree the remaining 11.3% of the respondents are neutral.

The conclusion from this questioner is that more than half of the participants (56.3%) agree that project quality management is planned during project planning in project feasibility study.

The participant's response when asked most of the time project appraisal plan includes project quality management project plan.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	3	3.8	4.1	4.1
	2(Disagree)	11	14.1	15.1	19.2
	3(Neutral)	13	16.7	17.8	37.0
	4(Agree)	44	56.4	60.3	97.3
	5(Strongly Agree)	2	2.6	2.7	100.0
	Total	73	93.6	100.0	
Missing	System	5	6.4		
Total		78	100.0		

Table 4.38 the frequency of the responses for the second project quality management questions.

Out of all the valid response of 78 respondent 2.8% strongly agree and 60.3% agree that project appraisal plan includes project quality management plan. While 4.1% strongly disagree and 15.1% disagree the remaining 17.8% of the respondents are neutral.

The summary of this questioner is that most of the participants are agree that project quality management plan is included in project appraisal planning for industrial project.

For the question that during project execution of projects the bank performs quality assurance, the response of the participant is shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	5	6.4	6.9	6.9
	2(Disagree)	14	17.9	19.4	26.4
	3(Neutral)	18	23.1	25.0	51.4
	4(Agree)	32	41.0	44.4	95.8
	5(Strongly Agree)	3	3.8	4.2	100.0
	Total	72	92.3	100.0	
Missing	System	6	7.7		
Total		78	100.0		

Table 4.39 the frequency of the responses for the third project quality management questions.

The valid responses of the participants were 72, from those respondents 4.2% strongly agree and 44.4% agree that during execution of projects the bank performs quality assurance follow-up. While 6.9% strongly disagree and 19.4% disagree the remaining 25.0% or the respondents are neutral.

The conclusion of this question is that most participants (51.3%) do not agree that the bank practice a quality assurance management process during project execution.

The response of the participants for the question that inquires bank has a monitoring and controlling process for managing project quality standards, is summarized in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	2	2.6	2.8	2.8
	2(Disagree)	17	21.8	23.6	26.4
	3(Neutral)	14	17.9	19.4	45.8
	4(Agree)	35	44.9	48.6	94.4
	5(Strongly Agree)	4	5.1	5.6	100.0
	Total	72	92.3	100.0	
Missing	System	6	7.7		
Total		78	100.0		

Table 4.40 the frequency of the responses for the fourth project quality management questions.

From the valid response of 72 the respondent 5.6% strongly agree and 48.6% agree that monitoring and controlling process for managing project quality standards is being practiced. Whereas 2.8% strongly disagree, 23.6% disagree and the remaining 19.4% of the respondents are neutral.

The summary of this questioner is that most participants (54.2%) agree that the bank has a monitoring and controlling process for managing project quality standards.

Poised with question that states the bank have a monitoring and controlling process that oversees project managing teams activity for managing project quality standards.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	3	3.8	4.1	4.1
	2(Disagree)	19	24.4	26.0	30.1
	3(Neutral)	12	15.4	16.4	46.6
	4(Agree)	35	44.9	47.9	94.5
	5(Strongly Agree)	4	5.1	5.5	100.0
	Total	73	93.6	100.0	
Missing	System	5	6.4		
Total		78	100.0		

Table 4.41 the frequency of the responses for the fifth project quality management questions.

Out of all the valid response of 73 respondent 5.5% strongly agree and 44.7% agree that the bank have a monitoring and controlling process that oversees project managing teams activity for managing project quality standards. While 4.1% strongly disagree, 28% disagree and the remaining 20% of the respondents are neutral.

The summary of this questioner is that most participants (53.4%) agree that the bank utilize a monitoring and controlling process that oversees project managing team's activity for managing project quality standards.

Asked if they would agree the challenge for project quality management can be addressed if project have good quality plan?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	4	5.1	5.5	5.5
	2(Disagree)	4	5.1	5.5	11.0
	3(Neutral)	5	6.4	6.8	17.8
	4(Agree)	50	64.1	68.5	86.3
	5(Strongly Agree)	10	12.8	13.7	100.0
	Total	73	93.6	100.0	
Missing	System	5	6.4		
Total		78	100.0		

Table 4.42 the frequency of the responses for the sixth project quality management questions.

From the valid response of 73, 13.7% strongly agree and 68.5% agree that having a good quality plan during planning will address the challenges in project quality management. While 5.5% strongly disagree, 5.5% disagree and the remaining 6.8% of the respondents are neutral.

The summary of this questioner is that most participants (82.2%) agree that project quality is managed if project quality plan are included during project planning.

For the question that the major challenge for project quality assurance is managing stakeholders, the participant's response is summarized in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	5	6.4	7.0	7.0
	3(Neutral)	14	17.9	19.7	26.8
	4(Agree)	48	61.5	67.6	94.4
	5(Strongly Agree)	4	5.1	5.6	100.0
	Total	71	91.0	100.0	
Missing	System	7	9.0		
Total		78	100.0		

Table 4.43 the frequency of the responses for the seventh project quality management questions.

From the valid response of 71, 5.6% strongly agree and 67.6% agree that managing stakeholders assures project quality, while 7.3% disagree and the remaining 19.7% of the respondents are neutral.

The conclusion of this questioner is that most participants (73.2%) agree that managing stakeholders assures successful project quality management.

The response is summarised in the table below for the question that the major challenge can be solved for project quality by having good measurement, constant review and acting early.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	4	5.1	5.6	5.6
	3(Neutral)	4	5.1	5.6	11.3
	4(Agree)	57	73.1	80.3	91.5
	5(Strongly Agree)	6	7.7	8.5	100.0
	Total	71	91.0	100.0	
Missing	System	7	9.0		
Total		78	100.0		

Table 4.44 the frequency of the responses for the eighth project quality management questions.

Out of all the valid response of 71, 8.5 % strongly agree and 80.3% agree with the major challenge can be solved for project quality by having good measurement, constant review and acting early, while no one strongly disagree 5.6% disagree and the remaining 5.6% of the respondents are neutral.

The implication of this questioner is that most participants (88.8%) agree that project quality management is assured by having good measuring instrument, constant review and acting early.

<b>Descriptive Statistics</b>						
	N	Sum	Mean	Std. Deviation	Variance	
Question1	71	231	3.25	1.065	1.135	
Question2	73	250	3.42	.927	.859	
Question3	72	230	3.19	1.030	1.060	
Question4	72	238	3.31	.988	.976	
Question5	73	237	3.25	1.038	1.077	
Question6	73	277	3.79	.942	.888	
Question7	71	264	3.72	.680	.462	
Question8	71	278	3.92	.603	.364	
Valid N (listwise)	66					

Table 4.45 the descriptive statistics of project quality management questions.

The mean value of the respondents repose show what the group have central tendency for the question. For the question 1,2, 3, 4, and 5 the group tends to have a neutral tendency, while question 6, 7 & 8 the group as a whole have an agreement with claim the question makes.

The standard deviation for the questions 1, 3 & 5 has a relatively high value which shows variation among the respondents.

The project quality management process involves having a plan for quality management, performance quality assurance process and control process. Those project quality management processes are done during the planning process group, project execution process group and monitoring process group of a project.

The industrial projects that are financed by the bank have planning documents like feasibility study and appraised feasibility study. During project execution period the bank have a practice of compiling project disbursement report and project progress report which checks on each project activity and deliverables against project planned speciation or quality plan.

From the survey most of the participants agree that project quality management knowledge area processes are being practiced in the industrial projects financed by the bank.

For establishing the challenges that were identified to be the source for project quality variation during execution, literature review provided factors that usually cause project quality variation in other project. Those challenging factors were identified to be managing stakeholders, having a good quality plan, appropriate communication, having good measurement and constant review and acting early.

Then the survey questioners were prepared to measure if the participants were aware of project quality variation due to those factors. The result is summarized in descriptive statistics in the

above section.

#### 4.4.5. Project Risk Management

Project Risk Management involves the processes of carrying out risk management plan, identifying method, analyzing risk, response planning, and controlling risk on a project. The aim of project risk management is to enhance the probability and impact of positive events, and lessen the probability and impact of negative events in the project.

In providing an overview of the Project Risk Management processes,

**Plan Risk Management:**-this management process defines how to conduct risk management activities for a project.

**Identify Risks:** - these processes categorize which risks may affect the project and documenting their characteristics.

**Perform Qualitative Risk Analysis:**-The procedure of prioritizing risks for more analysis or action by assessing and combining their probability of occurrence and impact.

**Perform Quantitative Risk Analysis:** - In this process is performed by numerically analyzing the effect of identified risks on overall project objectives.

**Plan Risk Responses:** - The process of developing options and actions to improve opportunities and to ease threats to project objectives.

**Control Risks:** - This procedure implement risk response plans, tracking identified risks, monitoring residual risks, identifying new risks, and evaluating risk process effectiveness throughout the project.

For measuring the project risk management practice in the bank eleven questions were formulated. The summary of the response for this group of question is shown in the table below.

<b>Statistics</b>											
	Question1	Question2	Question3	Question4	Question5	Question6	Question7	Question8	Question9	Question10	Question11
N Valid	75	74	75	75	74	75	75	75	74	75	75
Missing	3	4	3	3	4	3	3	3	4	3	3

Table 4.46 The summary of the response for the project risk management question group

The initial question was feasibility studies includes project risk management plan and the response for this question is shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	3	3.8	4.0	4.0
	2(Disagree)	7	9.0	9.3	13.3
	3(Neutral)	9	11.5	12.0	25.3
	4(Agree)	47	60.3	62.7	88.0
	5(Strongly Agree)	9	11.5	12.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.47 the frequency of the responses for the first project risk management questions.

Out of all the valid response of 75respondents,12% strongly agree and 62.7% agree that feasibility study includes project risk management plan. While 4 % strongly disagree and 9.3 % disagree the remaining 12 % of the respondents are neutral.

The conclusion of this question is that most participants (74.7%) agree that feasibility study includes project risk management plan.

The response is shown in the table below for the question that askproject appraisal plan includes a project risk management plan.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	1	1.3	1.4	1.4
	2(Disagree)	4	5.1	5.4	6.8
	3(Neutral)	14	17.9	18.9	25.7
	4(Agree)	46	59.0	62.2	87.8
	5(Strongly Agree)	9	11.5	12.2	100.0
	Total	74	94.9	100.0	
Missing	System	4	5.1		
Total		78	100.0		

Table 4.48 the frequency of the responses for the second project risk management questions.

From the valid response of 74 respondents, 12.2% strongly agree and 62.2% agree project appraisal plan includes a project risk management plan. While 1.4% strongly disagrees,5.4% disagree and the remaining 18.9% of the respondents are neutral.

The conclusion of this questioner is that most participants (74%) agree that project risk management is included in project appraisal document.

The participant's response for the question that asks if they have seen difference in project risk management plan between project feasibility study and project appraisal study is shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	3	3.8	4.0	4.0
	2(Disagree)	17	21.8	22.7	26.7
	3(Neutral)	27	34.6	36.0	62.7
	4(Agree)	22	28.2	29.3	92.0
	5(Strongly Agree)	6	7.7	8.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.49 the frequency of the responses for the third project risk management questions.

The valid response are 75 responses and 8.0 % strongly agree and 29.3% agree that feasibility study and project appraisal plan have difference in project risk management plan, while 4% strongly disagrees, 22.7% disagree and the remaining 36.0% of the respondents are neutral.

The summary of this questioner is that most participants (62.7%) are not in agreement with the question that asked their agreement on feasibility study and project appraisal study have difference in project risk management plan.

Participant response for the question that puts during project execution unplanned project risk occurs commonly is shown below in the table.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	3	3.8	4.0	4.0
	3(Neutral)	10	12.8	13.3	17.3
	4(Agree)	52	66.7	69.3	86.7
	5(Strongly Agree)	10	12.8	13.3	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.50 the frequency of the responses for the forth project risk management questions.

The valid responses are from respondent 75 and 13.3% strongly agreed and 69.3% agree with the assertion that during project execution unplanned project risk occurs commonly. While 4.0% strongly disagree, 4% disagree and the remaining 13.3% of the respondents are neutral.

The take away from this questioner is that unplanned project risk does occur commonly in industrial projects as most of the participants (82.6%) are in agreement with the question.

The question that inquired if the bank has a monitoring and controlling practice for project risk, the response is shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	7	9.0	9.5	9.5
	3(Neutral)	6	7.7	8.1	17.6
	4(Agree)	53	67.9	71.6	89.2
	5(Strongly Agree)	8	10.3	10.8	100.0
	Total	74	94.9	100.0	
Missing	System	4	5.1		
Total		78	100.0		

Table 4.51 the frequency of the responses for the fifth project risk management question.

Out of all the valid response of 74 respondents, 10.8% strongly agree and 71.6% agree that the bank practice monitoring and controlling process for project risk, whereas 9.5% disagree the remaining 8.1% of the respondents are neutral.

The summary of this questioner is that most participants (82.4%) had agreed with the question that the bank has project risk management monitoring and controlling process.

For the question that puts unclear objective are the major challenges for project risk management practice, the participant response is shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	19	24.4	25.3	25.3
	3(Neutral)	17	21.8	22.7	48.0
	4(Agree)	33	42.3	44.0	92.0
	5(Strongly Agree)	6	7.7	8.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.52 the frequency of the responses for the sixth project risk management question.

From the valid response of 75 respondents, 8% strongly agree and 44% agree that unclear objectives are major challenge for project risk management failure. While none of the participant strongly disagrees, 25.3% disagree and the remaining 22.7% of the respondents are neutral.

The conclusion of this questioner is that unclear objectives are one of the challenges that more than half of participant (52%) in agreement for project risk plan failure. On the other hand 48% percentile did not agree with this idea.

For the question that asked is scope creep one of the challenges for project risk management practice.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	11	14.1	14.7	14.7
	3(Neutral)	17	21.8	22.7	37.3
	4(Agree)	43	55.1	57.3	94.7
	5(Strongly Agree)	4	5.1	5.3	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.53 the frequency of the responses for the seventh project risk management question.

The valid response are 75, 5.3% strongly agreed and 57.3% agreed that project scope creep is one of the challenge for project risk management activity, while 14.7% disagree and the remaining 22.7% of the respondents are neutral.

The summery of this questioner is that most participants (62.6%) agree that scope creep to be one of the challenges for project risk management practice.

The response for the question that asked unsuccessful project risk management plan is due to the challenge of unrealistic expectations.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1(Strongly Disagree)	3	3.8	4.0	4.0
	2(Disagree)	7	9.0	9.3	13.3
	3(Neutral)	12	15.4	16.0	29.3
	4(Agree)	51	65.4	68.0	97.3
	5(Strongly Agree)	2	2.6	2.7	100.0
Total		75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.54 the frequency of the responses for the eight project risk management question.

Out of all the valid response of 75, 2.7% strongly agree and 68.0% agree unrealistic expectations are a challenge for project risk management not meeting the plan. While 4% strongly disagree and 9.3% disagree the remaining 16% of the respondents are neutral.

The conclusion of this questioner is that most participants (70.7%) agree that project risk management plan is challenged by unrealistic expectations.

When presented the question that asked poor communications are major challenge for project risk management failure, the respondents given the following response as shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	10	12.8	13.5	13.5
	3(Neutral)	20	25.6	27.0	40.5
	4(Agree)	38	48.7	51.4	91.9
	5(Strongly Agree)	6	7.7	8.1	100.0
	Total	74	94.9	100.0	
Missing	System	4	5.1		
Total		78	100.0		

Table 4.55 the frequency of the responses for the ninth project risk management question.

Out of all the valid response of 74 respondent, 8.1% strongly agree and 51.4% agree that poor communication are the major challenge for project risk management process, while 13.5% disagree and the remaining 27% of the respondents are neutral.

The implication of this questioner is that most participants (59.5%) agree with the question that project risk management is challenged by poor communication.

For the question that project risk management is challenged due to scheduling delays, the response is shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	4	5.1	5.3	5.3
	3(Neutral)	8	10.3	10.7	16.0
	4(Agree)	48	61.5	64.0	80.0
	5(Strongly Agree)	15	19.2	20.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.56 the frequency of the responses for the tenth project risk management question.

The valid responses are 75, from those responses 20% strongly agree and 64% agree that project risk management is challenged due to schedule delay, whereas 5.3% disagree and the remaining 10.7% of the respondents are neutral.

The summery of this question is that most participants (84%) agree that project risk management have been challenged due to schedule delay.

Finally the response for the question that asked participant major challenge for project risk management is lack of transparency is shown in the table below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2(Disagree)	5	6.4	6.7	6.7
	3(Neutral)	10	12.8	13.3	20.0
	4(Agree)	48	61.5	64.0	84.0
	5(Strongly Agree)	12	15.4	16.0	100.0
	Total	75	96.2	100.0	
Missing	System	3	3.8		
Total		78	100.0		

Table 4.57 the frequency of the responses for the eleventh project risk management question.

From the valid response of 75 respondent 16% strongly agree and 64% agree that lack of transparency is challenging risk management practice in industrial projects. While 6.7% disagree and the remaining 13.3% of the respondents are neutral.

The implication of this questioner is that most participants (80%) have the same opinion that project risk management is being challenged by the lack of transparency.

#### Descriptive Statistics

	N	Sum	Mean	Std. Deviation	Variance
Question1	75	277	3.69	.944	.891
Question2	74	280	3.78	.781	.610
Question3	75	236	3.15	.996	.992
Question4	75	294	3.92	.653	.426
Question5	74	284	3.84	.741	.549
Question6	75	251	3.35	.951	.905
Question7	75	265	3.53	.811	.658
Question8	75	267	3.56	.858	.736
Question9	74	262	3.54	.831	.690
Question10	75	299	3.99	.726	.527
Question11	75	292	3.89	.746	.556
Valid N (listwise)	72				

Table 4.57 the descriptive statistics project risk management question.

The mean value of the respondents response show what the group have central tendency for the question. For the question 3 and 6 the group tends to have a neutral tendency, while question 1, 2, 4, 5, 6, 7, 8, 9, 10&11 the group as a whole have an agreement with claim the question makes. The standard deviation for all the questions is similar which shows low variation among the respondents.

The project risk management process involves having a plan for plan risk management, identify

risks, perform qualitative risk analysis process, perform quantitative risk analysis, plan risk responses and control risks process. Except for the last process those project risk management processes are done during the planning process group and the last process is done during monitoring and controlling process of project execution.

The industrial projects that are financed by the bank have planning documents like feasibility study and appraised feasibility study. Those project planning document plan project risk by indentifying, performing qualitative and quantitative risk analysis and plan risk responses.

From the survey most of the participants agree that project risk management knowledge area processes are being practiced in the industrial projects financed by the bank.

In determining the reasons that were known to be a source for project risk management during execution, first from the literature review those factors that usually were causing project scope variation in other project were unclear objectives, scope creep, unrealistic expectations, limited resources, poor communication, scheduling delays and lack of transparency. Then the survey questioners were prepared to measure if the participants were aware of project scope variation due to those factors. The result is summarized in descriptive statistics in the above section.

## **4.5. Discussion of Findings**

### **Project Scope Management**

Project Scope Management includes the processes of creating a document for defining, validating and controlling boundaries of the project, collecting stakeholder requirement, developing project detail description, subdividing project deliverables, formalizing acceptance of the deliverables and controlling scope. The documentation of a project's scope is called a scope statement or terms of reference. Project scope is the part of project planning that entails determining and documenting a list of specific project main tasks, deliverables, deadlines and cost.

The survey questioner showed during planning phase of industrial projects project scope management features are included in the feasibility study. Also the questioner showed that project scope planning is included in the project appraisal process. The bank requires feasibility study to be prepared by the licensed consulting firms and the main content of the study to have a specified outline. Although most feasibility study does not have the same standard practice of detailing scope of a project.

The survey also showed that variation of project scope statement in project feasibility study and project appraisal plan during the planning phase of projects. That is project scope is not planned in the feasibility study in same method as it is done in the project appraisal report. However project appraisal is done on the bases of project feasibility study and if the project scope is not well defined in the feasibility there is a chance that scope of the project to not be detailed in separate section of project appraisal.

The survey also showed that project scope does not have variation in projects during execution from the appraised project plan. That is project do not change their scope often, this is might be as scope change will bring more cost and will lead to extended project time.

Also the bank does have a monitoring and controlling process that overviews project scope change as the participants showed they are aware of the practice in the bank for monitoring project managing scope.

The survey also showed that the challenges that project scope management faces in the industrial projects are changing managerial constraints and external & internal risk, whereas project scope management is not hindered by changing stakeholder requirement.

Evaluating the above implications with papers in empirical review by comparing the findings and conclusions on scope management it can be checked that if similar observation was made.

In contrast with the conclusion made in the research project paper PM practices in DBE; the case

of non-performing loan mega projects under an ongoing concern scheme by KefaleMosaAyana PM scope management is being practiced to some level in the banks industrial project financing cluster. The result of this research paper has differed. However this is due to the time variation and the difference the directorate which holds the population the two researches project was performed.

Similarly the thesis paper by SenayGetu project appraisal and financing in DBE have drawback, which include the project scope management aspect of projects. This paper not has how project scope management is being practiced but it could be taken that project scope is being also mismanaged during planning. This paper have somewhat similar argument in that the practice of scope is part of the project appraisal and being planned but there is inefficiency in the execution of the appraised plan.

### **Project Time Management**

Project Time Management includes the processes required to manage the timely completion project deliverables and ultimately the project. The process includes establishing plan for schedule management, indentify specific actions to be performed to produce the project deliverables, sequence project deliverables, estimate activity resources, estimate activity durations, develop schedule and control schedule. Project time management will produce a project implementation schedule which is a time management plan detailing how to spend time over a set period for completing project the defined deliverables.

Project time management will produce a project implementation schedule. Most of the activities are performed during project planning stage. Formalized time management processes provide a buffer for unanticipated situation that could drag project and under or over-estimated project timelines

The survey has shown that that project time management is being practiced in the planning phase of project in the feasibility study. Also project implementation schedule are part of the project appraise study. However project implementation schedule in project appraisal study does not a detail define activities, estimation of activity resources and put procedure in how project schedule has to be monitored and controlled.

The survey result has shown that project delay is one challenges of the project time management, even though most participants agreed that the bank practice project schedule monitoring and controlling process during project execution phase.

Most participants agreed that the challenges project time management faces are conflict, weather or pandemic, scope change and project communication problems.

Belay Teferra also showed that project time management in DBE faces challenges which are ranked in the research and 10 of challenges are also mentioned which are lack of foreign currency, not depositing equity contribution in time; plan (scope) change by clients or client initiated variations, governments failure to avail the required infrastructures like road, water, power on time, lack of cooperation and insufficient communication among different stakeholder government organizations like the DBE, Investment Office, Different Ministerial Offices, Regional Governments, EEPCO and ERCA etc, fluctuation in foreign currency, fluctuation of prices of materials and increase in total cost of projects, diversion of funds for unintended purpose by promoters, existence of missed items & long time taken to incorporate them through additional loan, underestimation of complexity of projects by promoters.

### **Project Cost Management**

Project cost management is the process of estimating, budgeting (allocating) and controlling project costs during the project life cycle. Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling project costs. The overview of project cost includes planning cost management, estimate costs, determine budget and control costs.

The survey has shown that project cost management is included in the feasibility of projects during planning stage. Also project cost management is included in project appraisal and it have project cost utilization schedule and monitoring & controlling procedures. Furthermore the survey has shown that the bank has a monitoring and controlling process during project execution phase.

The challenges for project cost management from the survey result are prevailing market conditions, nature of the project, procurement options, method of construction, clients priorities, cost of design and legislative constraints.

### **Project Quality Management**

Project Quality Management addresses the management of the project and the deliverables of the project. Project Quality Management includes the processes and activities performed by project managing team to determine quality policies, goals and tasks so that the project will meet the desires for which it was carried out. The outline of the Project Quality Management processes includes plan quality management, perform quality assurance and control quality. That is project

quality management is the process of continually measuring the quality of all activities and taking corrective action so that the desired quality will be met.

The survey showed that project quality management is included during project planning in project feasibility study. Also the survey showed project appraisal plan include quality management plan for industrial project. The participant of the survey has shown that participant the bank practice a quality control and quality assurance process during project execution.

The survey also showed that challenges for project quality can be managed if project quality plan are included during project planning. Also project quality management is assured when project managing team have a good stakeholders assures management, having good measuring instrument, constant review and acting early.

### **Project Risk Management**

Project risk management is the process of identifying, analyzing and act in response to every risk that come about through out the project life cycle to make the project stay on track and meet its goal. A risk is any situation that could potentially impact the project's schedule, budget or quality.

Project Risk Management involves the processes and activities of performing risk management plan, determining risks which may affect the project, assessment analysis, quantitative analysis, plan risk response, and controlling risk for a project.

The survey result has shown that generally participants agree that feasibility study includes project risk management plan and that project risk management is included in project appraisal document. The majority participants differ that feasibility study and project appraisal study have difference in project risk management plan.

Largely participants agree that unplanned project risk occurs commonly in industrial projects and that the bank has project risk management monitoring and controlling process.

The main challenges for project risk management practice are unclear objectives, scope creep, unrealistic expectations, poor communication, schedule delay, and lack of transparency

ZelalemAduga's research on project risk management practice showed that project risk management from the formulating and defining of the risk management plan, the manufacturing projects financed by DBE have less practice, even though they are practicing it. In regard to the assessment of risk management planning process the study showed that most of the manufacturing projects financed by DBE has less practice of risk planning which so influence the success of the project. Regarding assessment of risk identification process the study showed

that the manufacturing project has less practice in risk identification process which includes using risk management plan, cost management plan, schedule management plan, quality management plan, human resource management plan, scope base line, activity cost estimation, activity duration estimation; analyzing the above inputs using documentation review, information gathering techniques, checklist analysis, assumption analysis, diagramming techniques, SWOT analysis & expert judgment; finally the output will be risk register. Similarly this study also shows that the project appraisal plan does not contain a risk register section; even though the all the tools and techniques are utilized and most of the inputs are available.

In relation to project risk identification process the result showed that this risk management activity is also less practiced as well. This process includes using project management plan, risk register, working performance data and working performance reports; utilizing the tools and techniques of risk reassessment, risk audits, variance and trend analysis, technical performance measurement, reserve analysis and meetings; finally the output will be work performance information, change requests, project management plan updates, project document updates and organizational process assets updates.

Regarding project risk analysis process the study showed that this aspect of the project risk management is also less practiced. However qualitative method of risk analysis is mostly practiced by these projects than quantitative methods of risk analysis.

Regarding assessment of risk repose process the project fairly practice this risk management activity. Also the study showed that for risk monitoring and control process is below average indicating low practice.

The research by Tarik Alemayehu also made the finding that there is less risk management practice in risk planning and risk analysis process than other processes, and it is evident that much more work needs to be done to improve the project risk management practice in order to reduce threat and increase opportunities of agricultural projects financed by the DBE not all risk management process groups seem to be adequately and fairly exercised in agricultural projects financed by DBE.

## **Chapter Five**

### **5. Summery, Conclusion and Recommendations**

#### **5.2. Introduction**

The research project had set the objective of identifying project management practice in DBE. The research work is sum up in this chapter. The chapter include summary of the findings, conclusions, recommendations and recommendation for further research.

#### **5.3. Summary of the Findings**

The research work paper has the objective of to assess PMpractices; in DBE, particularly for industrial projects. The research was performed using descriptive research design and the data was collected through self-administered questionnaire and through Google form using participants email.

DBE is a major stake holder in many industrial projects around the country. The bank has financed many projects when project promoters approach the bank after initiating the projects. Then the bank is involved in the planning of projects, execution of project, in the monitoring and controlling of projects and closing of project life cycle.

The practice for project management in DBE is checked for selected PMknowledge areas. The selection of the knowledge area was made by taking in to consideration the availability of data, requirement of resources and constraint of time.

A survey questioner was devised to check if the practices for the selected PM knowledge areas are being performed in the projects.

The target population for the study was made from the banks employee since this population group is exposed to many industrial projects and has the necessary information for the study. The population size were 92 of which 78 respondents filled and return the questionnaire accordingly; and the responded questionnaire analyzed via IBM SPSS software using frequency, mean and standard deviation; and tables and textual constructs used to present the analyzed data.

The analyses showed that PMpractice for selected knowledge area are available being practiced for project financed by DBE. The bank also practices those PMprinciples even though the bank does not directly manage projects.

The selected PMknowledge area are project scope management, project time management,

project cost management, project quality management and project risk management. That is how those PMknowledge areas are practiced in industrial projects which are partially financed by DBE.

The selected PMprinciples are practiced in industrial projects financed by DBE. This is verified by the questioner survey as the respondents had shown that they have observed the indication as tried to be measured that this knowledge area is practiced in industrial project during planning and execution of projects.

Even though the bank is not a PMorganization but it uses PMknowledge areas for projects it financing to plan, execute, monitor and control and close projects. That is the bank also practices PMknowledge areas.

#### **5.4. Conclusions**

The study tried to assess the practice of project management in development bank of Ethiopia industrial project financing cluster. The study selected five project management knowledge area and try to identify and explain their practice in the industrial project and in the bank through the five phases of project cycle. The conclusion for project scope management, project time management, project cost management, project quality management and project risk management is detailed below.

The study has shown that project scope management is included in feasibility and project appraisal study in the planning phase of projects. The scope is discussed in the various sections of those documents for planning project. However there is variation in how project scope is planned in both project planning documents. The survey also found that project scope does not often change during execution and the bank has a monitoring and controlling process for project scope change. The challenges for project scope management in industrial projects include changing managerial constraints and external and internal risk but not changing stakeholder requirements.

The survey found that project time management is features are planned in the project feasibility study and project appraisal study. That is the planning documents of industrial project include project implementation schedule and the activity orders and priorities. However the project implementation schedule in project appraisal study does not include detail activity descriptions,need resources for activity,time estimation for an activity &progression of activities of the project. Furthermore appraisal studies do not have set procedures for making progress

report which will survey as a monitoring and controlling mechanism in the project implementation process.

The survey also found that project delay is a challenge for project time management despite the bank's practice of monitoring and controlling the project schedule during the execution phase. The challenges faced by project time management include conflict, weather orp pandemic, scope change and project communication problems.

These findings are similar to those of Bely Teferawho indentified several challenges faced by project time management in DBE, including lack of foreign currency, plan (scope change by clients, government failure to provide infrastructure on time, lack of cooperation and insufficient communication amount stakeholders, fluctuation in foreign currency and prices of materials, diversion of funds by promoters, missed items and underestimation of project complexity.

Project cost management is a crucial process that involves estimating, budgeting and controlling project cost during the project life cycle. The survey shows that project cost management is included in the feasibility of project during the planning stage and that the bank has a monitoring and controlling process during the project execution phase. The bank primarily administers project finances and has a well established controlling mechanism with automated project cost utilization monitoring. Most participants in the survey agree that project cost management knowledge area process are being practiced in industrial projects financed by the bank. However challenges such as prevailing market conditions, nature of the project, procurement options, method of construction, client's priorities, cost of design and legislative constraints can affect project cost management.

Project quality management is the process of managing the project and its deliverables to ensure that they meet the desired quality standards. This includes planning quality management, performing quality assurance and quality control. The survey showed that project quality management is included during project planning in the project feasibility study and that the bank practices quality control and assurance during project execution. The survey also indicated that challenges for project quality can be managed if project quality plans are included during project planning and if the project managing team has good stakeholder's management, measuring instruments, constant review and acting early.

Project risk management is the process of indentifying, analyzing and responding to risks that may arise throughout the project life cycle. The survey shoed that feasibility studies generally include project risk management plans and that the bank has project risk management monitoring

and controlling process. However, challenges such as unclear objective, scope creep, unrealistic expectations, poor communication, schedule delay and lack of transparency can impact project risk management. Research by Zelalem Adugna and Trike Alemayehu found that there is less practice of risk management planning and analysis in manufacturing and agricultural projects financed by DBE. Qualitative methods of risk analysis are mostly practiced by those projects. However more work needs to be done to improve project risk management practice in order to reduce threats and increase opportunities.

### **5.5. Recommendations**

From the summary of the finding, the following pointed recommendations are proposed to be followed in the application of project management for industrial projects. The bank should put more procedural requirements on scope management aspect of projects.

**Include project scope base line during project planning:** The study shows project scope are checked and planned in projects during feasibility study and project appraisal study. However based on the survey result it suggested that project scope management practice be performed in a standard method or standard procedures which detail scope in feasibility and appraisal documents of industrial projects, so that projects are implemented accordingly. To elaborate in this matter when project are planned in feasibility and appraisal studies the scope of the project should be given a proper section so that project management team and the bank project loan administering team will have the big picture for the project. Project scope base line should be one of the required in project appraisal reports. If project need scope change it will be done accordingly as per the steps set in the appraisal study and if unnecessary scope are being adopted by project managing team the bank as a major stake holder will request information for this scope change before the impact of the scope change is visible in the project execution schedule and cost. Therefore the study suggest the bank to adopt a set of procedures and format to address the scope of a project in a formal and structured way.

**Include a detail project schedule plan with required progress report in appraisal report:** Project time management the application of project time management in the bank is not well practiced as the finding shows. This is due to the variation in planned time and the variation in execution time for projects. The bank has a wealth of data on the process of execution of projects therefore during planning including the project execution schedule with all the activities, recourses for activity and progression of activities is recommended. The project scheduling

process is a practice that has many tools as is evident in projects outside the bank; those tools include application soft wares– like MS Project management- and methods. Employing those methods along with the data in the bank will have a better project scheduling plan and hence a better project time management practice with the project managing teams.

**Include project cost, quality and risk management plans during project planning:** the survey result indicate that including these plans during the planning stage can help manage challenges and ensure that the project stays on track. Project cost management is the most emphasized project management knowledge area application in the projects and the bank. Since most project cost is revised in detail most of the project costs are included in the project planning and execution. However project cost planned in a less capable technique due to the lack of data for some project items. This makes project cost planning more difficult thus making project management more complicated. The bank should have a data base for similar project items in therefore use this project item cost data in at the time of planning and at the time of execution of projects.

**Improve communication and transparency.** That is poor communication and lacks of transparency were identified as challenges for project cost and risk management. Improve communication among team members and stakeholders and increasing transparency can help mitigate these challenges.

**Utilize qualitative and quantitative methods of risk analysis:** the research showed that qualitative methods of risk analysis are mostly practiced by these projects. Utilizing both qualitative and quantitative methods can provide a more comprehensive understanding of project risks.

**Include a quality management plan during planning:** Project quality management is applied in the projects by planning agreed upon quality parameters or specifications for project deliverables during appraising and following the quality of those appraised specification during implantations. This practice of quality management for project is one of the well practiced regions of project management knowledge area. However the study showed a lack of standard practice among directorate, if project are managed in a structured and well organized standard practice which is simple and similar for all projects; the standard practices can be improved upon by the staff and shared.

**Increase practice of risk management planning and analysis:** Project risk management is the practice that the bank employees carefully apply as can be seen from different project risk

management aspect in projects like due diligence report for a customer. However the project risk management (which includes project risk register) is not included in project appraisal report in detail and not done systematically by having a plan for risk management, identifying risk, performing qualitative risk analysis and quantitative risk analysis, planning risk response and controlling risks. The bank should use this practice as a reference for improving the risk management practice of industrial projects. The researchs by ZelalemAdugna and TarikAlemayehu found that there is less practice of risk management planning and analysis in manufacturing and agricultural project financed by DBE. Increasing the practice of these activities can help reduce threat and increase opportunities.

Furthermore the bank should adopt training and educational condition for its employees to make the teams be familiar on project management principles so that the bank staff will be more flexible, have good performance, work effectively with the project managing teams and make a better follow-up or monitoring process.

#### **5.6. Recommendations for Further Research**

Since the research was focused on only four PM practices; project scope management, project time management, project cost management, project quality management and project risk management, further research is recommended the remaining PM practices. The remaining practices include project integration, procurement and project stakeholder management. The research recommends project management knowledge areas application to be researched in quantitative method in the DBE industrial projects so that the bank will use that kind of research and the academic institution will be more engaged in the industry.

The further research is also required for other types of projects like agricultural projects, lease financed projects, medium and small scale projects, rural electrification projects and others projects that the bank is a stake holder and participate on.

## References

- Project Management Institute. (2004). A Guide to the PMBody of Knowledge (3rd ed.). Newtown Square, PA: PMIInstitute.
- PMI. (2013). A Guide to the PMBody of Knowledge (5th ed.). Newtown Square, USA: PMInc.
- DBERevised Credit policy, (2022)
- DBE Loan Procedural Manual 2022
- UNIDO (1972).Guidelines for Project Appraisal; United Nations.Calcuta, New York
- PMpractices in DBE; the case of non-performing loan mega projects under an ongoing concern scheme; by KefaleMosaAyana
- The research project paper on Assessment of project Risk Management Practice on Manufacturing Projects Financed by DBE byZelalemAdugna.
- The research project paper on Assessment of project Risk Management Practice on Agricultural Projects Financed by DBE byTarikAlemayehu.
- Major causes of project delays the case of DBE by Belay Teferra
- Financing Pattern of the DBE, Ismael Hussein Malela
- Strategic Planning and Development Effectiveness Process, Addis Ababa
- Ford M.,: Project Planning and Control, Vikas Publishing House Pvt., Ltd., New Delhi, 1983.
- Ghosh. S.,:PMand Control, New Central Book Agency Ltd., Calcutta, 1997.
- Goal D.,: A management Guide to Project Appraisal, Printice Hall of India Private Limited, Bombay, 1993.
- Kalder B.,: Project Management, Deep & Deep Publishers, New Delhi, 1987. Lester K.,: Project Management-Scheduling and Monitoring, Vikas Publishing House Pvt., Ltd., New Delhi, 1986
- Lockya P.,: The Project Managers Desk Reference, Neo Publishing Company, New Delhi, 1993.
- Mathur B.,: Project Management, Arihant Publishing House, New Delhi, 1994.
- Nagarajan K.,: SWOT Analysis in Project Appraisal, The Management Accountant, Hemalya Publishing House, New Delhi, 1993.
- Prasanna Chandra,: Projects- Planning, Analysis, Selection, Financing, Implementation, and Review, Tata McGraw-Hill Publishing Company Limited., New Delhi, 2006.
- Reo K.,: Project Management, Vikas Publishing House Pvt., Ltd., New Delhi, 1989.
- Santos S.,:Rliability of Date Collection, School of Economics Publisher, London, 1999.
- 52 Singh K.,: Project Engineering and Management, Global Business Press, New Delhi, 1997.

## Appendix 1.

### Reliability Test

Cronbach's Alpha	N of Items
.730	10

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RQ1	32.13	19.766	.047	.757
RQ3	32.83	17.188	.276	.733
RQ4	31.96	19.172	.275	.724
RQ5	32.04	18.911	.292	.722
RQ6	32.67	16.145	.476	.694
RQ7	32.29	16.824	.434	.701
RQ8	32.50	14.609	.595	.669

#### → Reliability

#### Scale: Project Time Management Measurement Reliability Test

##### Case Processing Summary

Cases	N		%	
	Valid	Excluded <sup>a</sup>		
	22	6	78.6	21.4
<b>Total</b>	<b>28</b>		<b>100.0</b>	

a. Listwise deletion based on all variables in the procedure.

##### Reliability Statistics

Cronbach's Alpha	N of Items
.717	5

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TQ1	14.77	6.851	.727	.565
TQ2	14.59	7.491	.591	.624
TQ4	14.91	6.848	.595	.616
TQ5	14.45	10.260	.084	.794
TQ6	14.36	7.766	.429	.690

**Scale: Project Cost Management Question Reliability Test**

**Case Processing Summary**

		N	%
Cases	Valid	22	78.6
	Excluded <sup>a</sup>	6	21.4
	Total	28	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.835	10

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
CQ1	32.91	24.372	.565	.816
CQ2	32.59	22.729	.774	.796
CQ3	32.82	24.442	.648	.811
CQ4	33.32	22.894	.608	.812
CQ5	33.23	25.708	.289	.847
CQ6	32.91	23.420	.640	.809
CQ7	33.00	22.952	.739	.799
CQ8	33.05	25.474	.402	.832
CQ9	32.73	25.160	.432	.829
CQ10	33.18	27.584	.232	.843

**Scale: Project Quality Management Question Reliability Test**

**Case Processing Summary**

		N	%
Cases	Valid	23	82.1
	Excluded <sup>a</sup>	5	17.9
	Total	28	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.766	8

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QQ1	24.78	15.087	.655	.705
QQ2	24.61	17.340	.349	.761
QQ3	25.09	13.538	.745	.680
QQ4	24.61	15.340	.641	.709
QQ5	24.65	16.055	.534	.729
QQ6	24.35	18.601	.157	.797
QQ7	24.39	18.431	.301	.766
QQ8	24.13	18.482	.383	.755

**Scale: Project Risk Management Question Reliability Test**

**Case Processing Summary**

		N	%
Cases	Valid	24	85.7
	Excluded <sup>a</sup>	4	14.3
	Total	28	100.0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	N of Items
.700	11

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RQ1	35.92	19.471	.188	.703
RQ2	35.83	20.754	.002	.730
RQ3	36.63	18.418	.210	.708
RQ4	35.75	19.761	.296	.688
RQ5	35.83	19.884	.235	.694
RQ6	36.46	16.955	.451	.660
RQ7	36.08	17.906	.371	.675
RQ8	36.29	15.172	.601	.626
RQ9	36.04	16.129	.697	.621
RQ10	35.71	18.650	.330	.682

## **Appendix 2.**

Research Questioners



**Addis Ababa University**

**College of Business and Economics**

**School of Commerce**

**Master of Art in PMProgram**

Dear Respondents: This questionnaire is conducted having the purpose of collecting data for a research titled PMPracticeInDBE the Case of Projects under Head Office Industry Financing Cluster.

The information is going to be used as a primary data for this research. Therefore, your response and participation in the interview will be important for the study.

Please note that confidentiality of your response is secured and used only for the purpose of this study.

If you have inquisition on the study, you could contact me through the following ways

E-mail: mail4gule@gmail.com

Mobile Phone:- 09 33 22 06 12

Regards,

HenokGulilat

## **Part I: Demographic characteristics and general background of the respondents**

1. Gender:
  - A. Male
  - B. Female
2. Age:
  - A. Below 30
  - B. 31-40
  - C. 41-50
  - D. Above 50
3. Educational
  - A. BA / B. Sc
  - B. MA / M. Sc
  - C. Level PHD
4. Position in the bank
  - A. Jr. Officer or Jr. Engineer
  - B. Officer of Engineer
  - C. Sr. Officer of Sr. Engineer
  - D. Principal Officer of Principal Engineer
  - E. Team Manager
  - F. Division head
  - G. Director
5. Experience
  - A. Less than 5
  - B. 6 – 10 Years
  - C. 11 – 15 Years
  - D. More than 15 Years

**Part II: Questions related to selected Knowledge Areas of PM according to PM Body of Knowledge Based on your experience, please feedback to what extent do you think the following factors listed under each PM knowledge areas were applied during appraisal, implementation and monitoring and controlling industrial projects**

Where:

- 1 = strongly Disagree
- 2 = Disagree
- 3 = Undecided
- 4 = Agree
- 5 = strongly Agree

Where: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree					
Scales	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<b>Project scope management</b>					
Feasibility studies includes project scope management plan which is written outline for a project and it includes total timeline, total budget, assigned foreseeable tasks, project stakeholders, and workflow strategies.					
Project appraisal plan includes project scope management document.					
Most projects show variation in scope statement in the feasibility study and project appraisal plan.					
During Execution of Projects scope vary significantly from the project appraisal plan.					
Does the bank have a monitoring and controlling process to manage any change in project scope.					
Do you agree that legal constraints & regulatory constraints are the major facots for scope change in project.					
Do you agree that changing stakeholder requirements are the major facots for scope change in project.					
Do you agree that managerial constraints are the major facots for scope change in project.					
Do you agree that external and internal risks are the major facots for scope change in project.					

Where: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree					
Scales	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<b>Project Time Management</b>					
Feasibility studies Includes project time management plan (Schedule) which involves analyzing and developing a schedule and timeline for project execution of project deliverables.					
Project appraisal plan includes project time management plan (Project schedule).					
Project feasibility study and project appraisal report have significant variation in project schedule.					
During execution of project variation often occurs on actual and on the appraisal plan.					
Does the bank have a monitoring and controlling process to manage project schedule.					
Do you agree scope changes are the major cause for project to be implemented out of schedule					
Do you agree lack of planning in the design phase are the major cause for project to be implemented out of schedule					
Do you agree conflict, weather or pandemic are the major cause for project to be implemented out of schedule					
Do you agree communication problems are the major cause for project to be implemented out of schedule					

Where: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree					
<b>Project Cost Management</b>					
Feasibility studies includes project cost management which involves of planning, budgeting, and reporting system for project spending in order to keep costs on budget.					
Project appraisal plan details project cost management.					
During execution project cost does have significant variation with the appraised project cost.					
The bank have a monitoring and controlling process for managing project costs					
Do you agree priorities of the Client are the major cause for project to be implemented out of budget.					
Do you agree Cost of Design are the major cause for project to be implemented out of budget.					
Do you agree Nature of the Site are the major cause for project to be implemented out of budget.					
Do you agree Nature of the Project are the major cause for project to be implemented out of budget.					
Do you agree Method of Construction are the major cause for project to be implemented out of budget.					
Do you agree Choice of Procurement Options are the major cause for project to be implemented out of budget.					
Do you agree Prevailing Market Conditions are the major cause for project to be implemented out of budget.					
Do you agree Legislative Constraints are the major cause for project to be implemented out of budget.					

Where: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree					
Scales	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<b>Project Quality Management</b>					
Feasibility studies includes Project quality management which is plan that details the process of setting measurable quality standard for project deliverables, measuring the quality of all project deliverables during execution and taking corrective action until the desired quality is achieved.					
Project appraisal plan have a plan for project quality management which is the processes and activities of the performing organization determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken.					
During execution of projects the bank perform quality assurance which is the process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used.					
During execution project quality will significantly vary with the appraised project quality standards.					
The bank have a monitoring and controlling process for managing project quality standards.					
Do you agree the major cause for project quality is having a good quality plan.					
Do you agree the major cause for project quality is appropriate communication.					
Do you agree the major cause for project quality is manage stakeholders.					
Do you agree the major cause for project quality is having good measurement, constant review and acting early. .					

Where: 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree					
Scales	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<b>Project Risk Management</b>					
Feasibility studies includes Project risk management plan which is the process of identifying, analyzing and responding to any risk that arises over the life cycle of a project to help the project remain on track and meet its goal.					
The project appraisal plan includes a project risk management plan.					
The project feasibility study and project appraisal study have difference in project risk management plan.					
During execution unplanned project risks occur.					
There is a monitoring and controlling practice in the bank for project risk.					
Do you agree the major cause for project risk management failure is unclear objectives.					
Do you agree the major cause for project risk management failure is scope creep					
Do you agree the major cause for project risk management failure is unrealistic expectations					
Do you agree the major cause for project risk management failure is limited resources					
Do you agree the major cause for project risk management failure is poor communication					
Do you agree the major cause for project risk management failure is scheduling delays					
Do you agree the major cause for project risk management failure is lack of transparency					