



**ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND
ECONOMICS SCHOOL OF COMMERCE**

**ASSESSMENT OF PROJECT DESIGN AND IMPLEMENTATION
PRACTICES: IN THE CASE OF COMMERCIAL BANK OF
ETHIOPIA**

By

Feven Gebreegziabher

**A Final Project Work Submitted To Addis Ababa University College
of Business and Economics School of Commerce in Partial Fulfilment
of the Requirement for the Degree of MA in Project Management**

ADVISOR: BAHRAN ASRAT (PHD)

June, 2021

Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
SCHOOL OF COMMERCE
DEPARTMENT OF PROJECT MANAGEMENT

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STATEMENT OF DECLARATION

I, Feven Gebreegziabher, declare that this research study entitled “**Assessment of Project Design and Implementation Practices: In the Case of Commercial Bank of Ethiopia**” was written by myself and is based on my own study. In the citation, all of the study's sources of information have been accurately acknowledged. This work has not been submitted to any university for a degree.

Feven Gebreegziabher

Signature: _____

Date: _____

LETTER OF CERTIFICATION

This is to confirm that the project work entitled "**Assessment of Project Design and Implementation Practices: In the Case of Commercial Bank of Ethiopia**" is completed under my supervision and direction by Feven Gebreegziabher. This work is original and, I believe it is appropriate for submission as part of the requirements for the award of a Master of Arts Degree in Project Management.

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Approval by Examining Board

Members of board of examiners approve that this research project titled, ‘**Assessment of Project Design and Implementation Practices: In the Case of Commercial Bank of Ethiopia.**’ undertaken by Feven Gebreegziabher fulfils the requirements for the Degree of Master of Arts in Project Management and is acceptable with regards to the standards and regulations of the University.

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ABSTRACT

Commercial Bank of Ethiopia has undertaken various system upgrading projects in order to improve existing services and keep up with rapidly changing technologies. However, the design and implementation management practice of these projects in financial institutions face numerous challenges that hinder their success. The aim of this paper is to assess the design and implementation of Active directory and E-mail upgrading project in commercial bank of Ethiopia. A descriptive type of study is used to evaluate the practices of project design, project implementation & related PM knowledge areas and the management support practice. A census sampling technique is used to gather primary data using a web based questionnaire instrument. The collected data is analysed with SPSS version 26 statistical software. Mean and standard deviation is used to calculate the data obtained. According to the findings, activity durations are not well estimated, the initial schedule is not maintained, effective sequencing tool was not used, cost estimation is not appropriate, information needs of each stakeholders is not satisfied, project team is not established, risks was not timely addressed and monitored, Project activities were not completed effectively and top managements were appeared to be inefficient at committing resource. This shows that there is a gap in project design and implementation practices and these practices appeared to be poorly implemented throughout AD and E-mail upgrading project. CBE need to give high attention to project design and implementation practices and should implement best practices properly.

Key Words: *Project Design, Project Implementation, Project Management practice, Commercial bank of Ethiopia,*

ABBREVIATIONS AND ACRONYMS

AD	Active Directory
CBE	Commercial Bank of Ethiopia
CPM	Critical path method
ICT	Information and communications technology (or technologies)
MCS	Microsoft consulting services
PERT	Project evaluation review technique
PIP	Project Implementation plan

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CHAPTER ONE: INTRODUCTION

This chapter focuses on the research background, problem statement, research questions, research objectives, study significance, scope, potential limitations, and organization of the study and definition of terms.

1.1 Background of the study

ICT upgrading projects are helping financial institutions in improving service efficiency and effectiveness. Without information and communication technologies, we can't imagine a banking system succeeding. It has increased the banking sector's importance in the economy. Financial transfer and payment systems are very accessible and can now be completed swiftly. In the competitive financial market, banks that use the latest, the most up-to-date technologies and techniques are more profitable (Rupinder, 2012).

Banks are constantly involved in projects due to the nature of the business; technological advancements, competition, and customer expectations, bank upgrading projects include Temenos(core banking) upgrade, ERP system upgrade, network infrastructure upgrade, active directory upgrade(user right management service) and E-mail upgrade projects. A recent study in Ghana discovered that an ICT project has a significant positive effect on performance as a result of improved customer service delivery (Matilda, 2019).

The role of project management techniques for the successful implementation of ICT project is high. It is important to build and execute project management best practices from planning to operation due to the wide range and complexity of information technology projects. Unlike projects in many other fields, information technology projects can take many different forms. Some projects might include a small group of people installing(preparing) hardware and software, others entail hundreds of people reviewing the business processes of several organisations and then creating new technologies in collaboration with customers to meet business needs (Schwalbe, 2011).

Project involves the following activities: initiating, planning (design), executing (implementation), monitoring and controlling, and finally closing (PMBOK, 2013).project design/planning stage entails the actual planning and design of the project, whereas the

project implementation phase is when the planned and designed concepts are turned into actual project work, demonstrating that the two stages are tightly connected.

The first and most significant element in project performance is project design, and bad design has resulted in project failure. (Serrador, 2012). Project implementation is also an important part of the project execution process. Because this phase completes the majority of the project's resources and activities, it has a significant impact on the overall effectiveness of the project. (Paul & Jeannette, 2006). Because each project is unique and has encountered unique problems, project implementation is a difficult task for any project organization. Many projects fail at this stage of the project life cycle because they are rarely carried out exactly as planned (designed) (PMI, 2013). Several studies have revealed that poor planning and inadequate project implementation have a negative impact on project performance and success (Paul & Jeannette, 2006). Implementation has the potential to cause project failure because schedule delays and cost overruns occur at this point of the project life cycle (Chitram, 2011).

Commercial bank of Ethiopia active directory and email upgrading project is one of the key projects executed by CBE in order to achieve the objective of becoming a world-class bank. CBE has been deployed Active directory (windows sever 2008) and Microsoft exchange Email (Microsoft exchange 2010). The bank has been using the system for the past eight years. When this infrastructure was deployed, the number of users account was less than 12,000 but it has since grown to 35,000 active users. windows server 2008 and Microsoft exchange 2010 version is now out of date which means Microsoft can no longer provide security update or technical support for this version. Microsoft releases a new version of Windows Server and Exchange Server at regular intervals, with the latest security patch(security fixes), improved stability, newer functionality to keep up with the market's growing demands, better compatibility with previous versions, devices and applications, platform that allows clients to plan an upgrading strategy, and provide support for any technical issues(msrc-blog.microsoft.com).Hence, the high level of vulnerability(security risk) of CBE system and the increasing number of users who use the service on the initially implemented infrastructure(design, number of servers and storage space) created performance issues and led the system to encounter a number of technical challenges that made using the system difficult, for instance, there is a significant communication issue and service interruption of email especially for emails that received from and sent to external domains.

The CBE AD and Microsoft Exchange e-mail upgrading project has been a long-awaited project, and implemented with the assistance of Microsoft consulting services (MCS).

According to the project charter (CBE Microsoft AD and Exchange E-mail upgrading project, 2020), the major objectives are to upgrade AD from server 2008 R2 to server 2019, redesign/replace the current RODC architecture, to upgrade the exchange email server in two stages, from exchange server 2010 to exchange server 2016, and then from exchange server 2016 to exchange server 2019, as well as various prerequisites tasks to ensure the effective completion of the major objectives.

Project management techniques in Africa and Ethiopia are terrible. Ethiopia has the second-lowest management practice score (behind Mozambique) among African nations analysed (Bloom, et al., 2014; Ayalew, et al., 2016). This implies that projects are being implemented inappropriately. As mentioned before, without effective project design and implementation management projects are unlikely to meet their time, cost, quality and development objective. Project success is directly linked with proper project design and implementation. The goal of this research is to evaluate the gaps and problems in the theoretical and actual project design and implementation of active directory and email upgrading project practice and to give recommendations and consideration of these practices in future upgrading projects in CBE.

1.2 Statement of the problem

Successful projects need on-going monitoring and management to ensure that the project adheres to the plans and achieves the intended results (Portny, 2007). Many projects are not designed, implemented, or monitored in accordance with the commonly recognized guidelines of such procedures in modern management. There are several causes for this, including a lack of skilled employees, a lack of recognition for the need of adequate planning and monitoring schemes to enhance performance, and a lack of adequate guidelines in the administration of the different processes (Desta, 2015). Many businesses aspire to achieve project management excellence, but most fail owing to a lack of experience, a short-term focus on rewards, terrible project habits developed through the organization's lifetime, and unfortunate workforce hesitancy to change (Plewinski, 2014).

Commercial Bank of Ethiopia's active directory and E-mail upgrading project encountered scope, schedule, and cost change, which impacted the project's overall quality and success. Based on the project scope and design documentation, a scope change request was made during the beginning of implementation stage because of inaccurate data requirements was

given by CBE, causing the implementation timeline to take longer than the planned and agreed with the Microsoft team. Aside from the scope change, there was a major issue with adequate resource planning and project team formation.

Due to the lengthy CBE procurement procedure, the essential resource was not available on time and there was no dedicated project team, and the functional department was responsible for both daily tasks and project work.

This indicates there were problems in project design and project implementation practice during the project upgrade that influences performance of the project. In addition, problem in other project management areas such as scope, quality, integration, resource, stakeholder, communication, procurement and risk management has to be assessed. It is also important to assess senior management support practice during the upgrading project.

Project designing are important for the successful implementation of a project. Proper project design and quality implementation has a huge role for the success of IT upgrading projects. There have been no particular studies focused on the assessment of project design and execution practice of CBE upgrading projects in Ethiopia. Merima(2019) attempted to evaluate IT project management practice in CBE using the ten project management knowledge areas, and the study attempted to recommend that CBE need to implement the ten project management knowledge areas effectively, but the research did not evaluate the project management knowledge area in depth. This research assess project design, implementation practice and related project management knowledge area in Active Directory and E-mail system upgrading project and suggest recommendation for a better design & implementation of future upgrading projects in CBE. The lack of sufficient literature on upgrading projects was a major stumbling problem for this research. Hence, this research work tried to determine some of the practices that influence CBE upgrading project design and implementation management by assessing the project design practice, project implementation practice and senior management support practices during the implementation of AD and E-mail upgrading Project.

1.3 Research questions

- How well were the ten (10) project management knowledge areas applied during project design and implementation of AD and E-mail system upgrade in CBE?

- What were the support practices of senior management during the project design and implementation of AD and E-mail service upgrade in CBE?

1.4 Research Objectives (general and specific)

The objective of the study is categorized to general and specific objective

1.4.1 General Objectives

The overall objective of this study is to assess the design and implementation practice of Microsoft active directory and Exchange E-mail system upgrading project in commercial bank of Ethiopia.

1.4.2 Specific Objectives

- To evaluate how project management knowledge area related practices are used in project design and implementation of AD and E-mail service upgrade project in CBE
- To assess the senior management support practices during project design and implementation of AD and E-mail service upgrade in CBE

1.5 Significance of the study

This study can serve us a starting point to assess the design & implementation practice of Active directory and Email upgrading project based on the current situation in commercial bank of Ethiopia, It helps project managers and project teams in CBE environment in becoming aware of and value project management knowledge areas that are important for project design and implementation, as well as the management support practice in project design and implementation. It also help for the success of other similar CBE upgrading projects and decision-making practices in future projects and in recognizing the importance of capturing best practices, tools and techniques in project design and implementation. In addition, it's aimed to meet the academic requirement and in order to serve as important source of information/input for future research into the design and implementation of upgrading projects in other financial institutions in Ethiopia.

1.6 Scope of the Study

According to literature, the triple constraint (time, cost, and scope) is critical for the success of project implementation. This constraint has been accepted as a standard measure of project

success or failure and is still used in ICT projects (Wateridge, 1998; Turner, 2009). Management practices of these factors must be taken into account.

However, Wateridge also mentioned that these considerations are insufficient and that there are other factors to consider when implementing projects. Therefore The research is focused on the assessment of Active directory (AD) and Email upgrade project design, project implementation practice and related PM knowledge areas which are, implementation schedule management, budget, resource, quality management, communication management, stakeholder management and Management support practice. The study is limited to the principal financial institution, commercial bank of Ethiopia and it is on a specific project called active directory and E-mail system upgrade in Addis Ababa region. CBE has been chosen because it is the biggest and the dominant financial institution in the country with a large number of employees (users) and the bank being implemented internal system upgrade projects like AD & E-mail. This project is a long awaited project and complex due to the huge number of users who use the system.

1.7 Limitation of the study

The major limitation of this study is that the lack of literatures related to the topic and the study is limited to commercial bank of Ethiopia; farther research is needed to draw more accurate conclusions about the findings. The majority of project participants were concerned with technical work, and there was little focus on the project's management practices. As a result, there is a greater likelihood of selecting the middle of the scale.

1.8 Organization of the study

The study report is divided into five chapters and contains references and appendices. The first chapter explains background of the study, the problem statement, the research questions, research objectives, significance, and scope of the study and basic definition of terms. The second chapter examines related research literature and concepts. It contains project design and implementation, success factors and criteria, project design and implementation techniques linked to various project management areas, and management support. The third chapter of this study discusses the study strategy and methods utilized to arrive at the conclusions. It comprises the research design, target population, sample size, data collecting techniques and processes, validity and reliability of the data collecting instrument, data analysis methodologies employed, and ethical issues for the project. Chapter 4 covers data analysis,

presentation, and interpretation. The final section of this study report is addressed in Chapter 5. This chapter provides an overview of the study as well as key findings and recommendations.

1.9 Definition of key Terms

Microsoft Active directory (AD):- a directory service that run on Microsoft window server and enable administrators to manage permission and control access to network resource also called identity management service (docs.microsoft.com).

Exchange Email: - Microsoft email server solution (www.microsoft.com)

Directory service: - software systems that store organize and provide access to directory information in order to unify network resources (docs.microsoft.com).

Windows: - a series of operating systems developed by Microsoft (www.microsoft.com)

Domain: - a domain contains a group of computers that can be accessed and administered with a common set of rules (techterms.com).

Authenticates:-is identifying user by confirming who they are (docs.microsoft.com).

Authorizes: - the process of establishing the rights and privileges of a user (docs.microsoft.com).

Security Policy:-Plans and policies that govern access to an organization's system that are explicit, comprehensive, and well-defined (docs.microsoft.com).

DNS: - service that a way to match names (the application or the web you are seeking to IP numbers) (docs.microsoft.com).

Microsoft:-It creates, produces, licenses, supports, and sells computer software, consumer electronics, and personal computers, as well as associated services.(docs.microsoft.com).

Windows sever 2008:- the 4th version of the windows operating system produced by Microsoft (docs.microsoft.com).

Microsoft exchange 2010:- the version of Microsoft messaging platform that replaced exchange server 2007 (docs.microsoft.com).

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter covers review of literatures both theoretical and empirical literature., which includes project design concept, implementation concepts, project design, and implementation practices from previous studies that have similarity, in order to describe and summarize other findings in the area.

2.2 Meaning and characteristics of project design and implementation

2.2.1 Project design

project management consists of five processes(stages) that should be followed in all projects: initiating, planning, executing, controlling, and closing. This standard states that the nature of project management processes is based on the integration of existing processes as well as the objective of each process that must be met(PMBOK, 2012).Project design, according to the Project Management Book of Knowledge (PMBOK), is the first stage of the project life cycle, and it includes everything from who is responsible for completing the project to a description of the project, its goals, outcomes, and objectives all this included in the project design. It outlines when these goals, outcomes, and objectives will be fulfilled, as well as the primary deliverables, items, or features that will be accomplished (PMBOK, 2012).It also contains a budget estimate as well as directions for tracking and evaluating progress. During the project design phase, the main features, structure, performance indicators, and primary deliverables of a project are all planned (Simon, 1969).

The goal of project design is to generate one or more designs/plans that can be used to achieve the project's objectives. Stakeholders will then choose the optimal template for the project's implementation. The project design phase may produce a range of outputs, such as topology, architecture, flowcharts, site trees, HTML screen designs, prototypes, and more.one of the objective of this paper is to assess and examine the design of an upgrading project at commercial bank of Ethiopia

2.2.2 Project implementation

Implementation refers to a specific collection of activities aimed to put an activity or program into action (Fixsen, Naom, Blase, Friedman, & Wallace, 2005,). Project execution or implementation also known as taking the necessary actions to guarantee that the tasks indicated in the project plan are fulfilled. Implementation needs the time, resource and effort it also required to integrate new designs, hardware, software, or procedures into everyday operations (Schwalbe, 2011). The project's vision and all of its plans turns in to reality, and most of the project's financial resources are assigned during the implementation stage of a project moreover, a significant portion of the project budget is allocated to the project's implementation process. Many projects fail during the project implementation phase. As a result, project implementation is an essential component of the project life cycle (PMBOK, 2012). The other objective of this study is to assess the project implementation practice of active directory and Email upgrading project at commercial bank of Ethiopia.

2.3 Importance of project design and effective implementation

According to (Depczyńska and Lanfranchi, 2016) planning is the design of the future, which we want, and effective means of implementation. The main goal is to adequately plan time, cost, resources, to plan quality management, communication management, stakeholder management etc. Another is in order to estimate the work required and to effectively manage risk during project execution. Implementation is important, regardless of the target population's characteristics, program style, or unique program goals. According to study, quality implementation is directly related to project outcomes and can be applied to a variety of aspects of implementation. Projects may benefit more as a result of better project implementation, or they may not benefit at all if project implementation is poor (A. Durlak, 2011).

2.4 Project design and implementation process

During the design phase of ICT projects the system will be designed to fulfil the specifications that have been defined at an early stage. This includes transformation of all requirements into detailed specifications that address every aspect of the system, planning and accessing all possible security risks, and the Project implementation activities in projects include creating deliverables, monitoring and controlling them, as well as time management, risk management, cost management, issue management, quality management, procurement management, change management, acceptance management, and communication management (PMBOK,2013). IT projects are distinguished by their unique risks, the need for rapid development to meet rush-to-market demands, the short life of technology, and multiple dependencies with other projects. The project management tools are the same, but they must be used differently depending on the type and complexity of the project (Gentile et al., 2012).

The same as the designing process the implementation process is very critical; The primary challenges that must be explored in this phase are the deployment of ICT resources in a justified location, proper usage of ICT resources, and ICT acceptance and use. During the implementation stage, the ICT project manager and his team perform critical roles. They work hard to understand the needs of the users and to deal with praise or criticism from stakeholders.

2.5 The impact of project design (planning) and implementation on project success

Planning is an important component of project performance and success. It is a continuous procedure that takes place throughout the duration of a project's delivery (Idoro2012).According to studies, it is highly significant, and the more there is in a project, the more successful the project will be (Dvir, Raz& shenhar, 2003). Time spent on this activity will minimize risk and boost project success. Inadequate analysis and planning, on the other hand, contribute to project failure (Thomas, Jacues, Adams,& Kihneman-wooten,2008). In ICT projects, planning is critical; reports of high failure rates for software projects are widely known. (Sahibuddin, 2011).

According to Poston (1985), testing accounts for 43 % of total project expenditures in software projects, whereas planning and requirements account for just 6 % effort. Planning is a road map that aids in achieving the desired outcome. These planned objectives cannot be accomplished unless the implementation step is successful.

The other crucial component for the success of a project is project implementation. Its processes are quite complicated and need close monitoring of a wide range of factors(Pinto &Slevin, 2008).Among the critical 10 key variables (factors) for successful project implementation identified by researchers are project mission, top management support, project plan, client consultation, personnel recruitment, selection, and training, technician tasks, monitoring and feedback, communication, and troubleshooting..

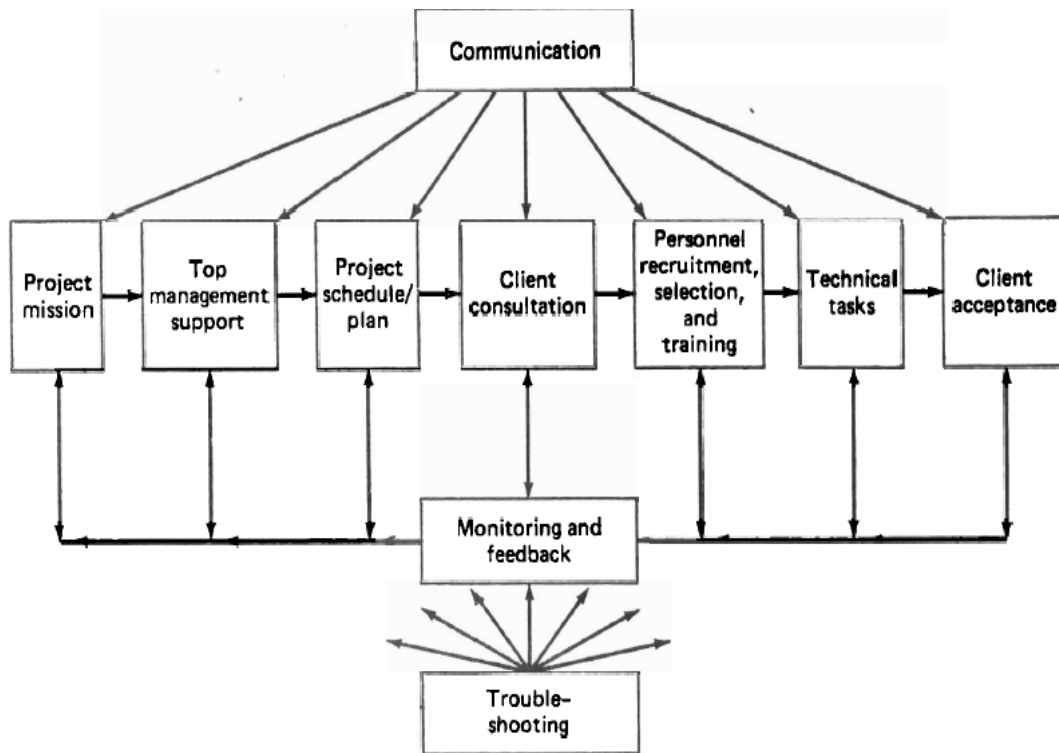


Figure 1 Ten key factors of the project implementation profile. (Randall L. Schultz and Dennis P. Slevin)

2.6 Review of Empirical Studies

Researchers have undertaken some evaluation studies on factors linked to IT project design and implementation. However, no study on this project has been done. To effectively deploy software such as a banking system, the implementation team (project team) must have the necessary resources and level of expertise, as well as a defined strategy based on the project scope, and ensure that the inherent risks are managed to safeguard the business from failure. If the contract is signed, the provider (vendor) should have a precise execution strategy, as well as sufficient skills on the area and also should have service plan. (Ngui, 2015). Due to data migration, integration of numerous processes, and consolidation of numerous systems, according to Rishi (2014), the risks and possible losses during core banking transformation or upgrade projects are highly significant.

Planning has been found as a key contributor to project success in several empirical studies on project management success factors (Murphy et al., 1974; Slevin & Pinto, 1987; Aronson & Lechler, 2009). All project managers must develop a good project plan and follow it until the project is successfully completed (Dvira, Razb, and Shenhar, 2002).

Dvir et al. (2003) analysed project planning using and developing a 6-item measure. One scale item is "Project concept is always properly specified." Cronbach's alpha reliability for project planning is 0.838 and According to studies, there is a substantial correlation between project success and planning. A review of relevant studies reveals unexpectedly consistent empirical evidence on the relationship between planning and success. According to the survey, 20% to 33% of work is spent on planning (Serrador & Pedro, 2012).

2.7 Conceptual Framework of the Study

According to Svinicki (2010), a conceptual structure is an interconnected collection of ideas (theories) about how a specific phenomenon works or is related to its sections, and it serves as the foundation for understanding the causal or correlational patterns of interconnections through events, ideas, observations, principles, information, perceptions, and other aspects of experience. A conceptual framework is a visual or written output that visually or narratively depicts the principal elements to be investigated, the important causes, definitions, or variables, and the assumed relationships between them (Miles & Huberman, 1994). Since this study is an assessment study conceptual framework is not needed.

CHAPTER THREE: RESEARCH METHODOLOGIES

The goal of this chapter is to describe the research methodology and design that is used to carry out this study. It will go over the research design, target population, data collection methods, validity and reliability, data analysis methods, and ethical considerations.

3.1 Research design

According to Zikmund (2003), the research design described as “a master plan that specifies the methods and procedures for collecting and analysing needed information”. The function of research design is to allow for the collection of relevant evidence with the least amount of effort, time, and money (Kothari, 2004). According to Kothari, research designs can be exploratory, descriptive, diagnostic, or experimental. Grover (2015) defines research methods as quantitative, qualitative, and mixed methods. Descriptive research seeks to answer the questions who, what, when, where, and, in some cases, how (Cooper & Schindler, 2014).

This method of design is a systematic inquiry that concerns itself with describing phenomena by asking specific individuals or groups about their perceptions and attitudes in order to obtain relevant information about the event (Kothari, 2004). Because the purpose of this study is to assess an upgrading project implementation practices in CBE, it is of the descriptive design type. The design will assist in getting a more in-depth understanding of the event under study. In addition, descriptive research architecture allows for the use of a variety of data collection methods.

The study is structured as a case study because it is intended to be developed in depth to a specific case, which is the upgrading of AD and E-mail in a specific financial institution called CBE. In terms of research timeline and approach, the research will use a cross-sectional method because it is intended to observe and will be conducted in a single point in time and took primary data using the results of the closed-ended questionnaires to learn more about the active directory and email upgrading project design and implementation practice by analysing the findings of the study.

3.2 Description of study area and target population

The study focuses on assessing project implementation practices of AD & E-mail upgrading project, which is being implemented in Ethiopia by CBE beginning in 2021. According to Hair et al. (2010), a target population is defined as a specific group of people or objects for whom questions can be asked or observations made in order to develop the necessary data structures and information. As a result the target population will be the individuals that are participating in the implementation of the upgrading project and other affected stockholders. Because the number of project participants is small, all members of the population or census sampling is used, with a total of 33 participants.

3.3 Sampling technique/methods and sample size

The general objective of the study was to assess the active directory and email project design and implementation practice in commercial bank of Ethiopia. The number of objects chosen from the universe to make up a sample is referred to as the sample size (Kothari, 2004). A sample size that is too small may miss important aspects of the study; on the other hand, a sample size that is too large may result in high costs, increased complexity, and even inaccuracy in test results (Ajay & Micah, 2014; Kothari, 2004). As a result, an appropriate sample size must be used to effectively represent the target population. The population size of this study was small and all 33 staffs that are involved in the project are selected to fill a questionnaire since the number is manageable for data collection through questionnaire.

3.4 Data collection – source, types, instruments

Primary data were collected in order to achieve the study's goal. The instruments utilized to collect a primary data are a questionnaire and an interview (Cohen, 2013). As a result, the primary data was collected via a close ended questionnaire. The survey consists of closed-ended questions aimed at gathering respondents' opinions on CBE upgrade project design and implementation practices. The closed-ended questions were useful in capturing CBE project design , implementation practices and related PM knowledge areas such as, budget management, quality management, and so on. Web based questionnaire is distributed to all participants. The questionnaire is structured in the "Likert-5-Point Scale of Responses" format.

This has the advantage of flexibility for several choice responses, with five representing strongly agree, four agreeing, three neutral, two disagreeing, and one strongly disagreeing. The analysed data is presented and interpreted using mean and standard deviation then applied to interpret as part of the descriptive study nature.

3.5 Data analysis – model, techniques, software

A primary data for the study was gathered using questionnaires. So, SPSS (Statistical Package for Social Sciences) software version 26.0 is used to analyse quantitative data from respondents and other statistical tools such as Excel and tables are also used. Because this was a descriptive research, the data was examined using techniques such as the mean and standard deviation applied to interpretation as part of the descriptive analysis method.

3.6 Reliability and validity analysis

Reliability refers to the precision and consistency of measurement results. It refers to the repeatability of a measurement or a sample. The ability of an instrument to measure what it is designed to measure is referred to as validity. Cronbach's Alpha (Cronbach, 1951) is used to test internal accuracy in a questionnaire with many Likert scale questions. Since measurements are vulnerable to errors and uncertainty, it's critical to check the validity and reliability of the data collection instrument before relying on it to produce accurate results. The researcher tried to design the instruments using credible sources such as published books, papers, and previous research in the field to ensure the quality and reliability of the data used in this analysis. The study also received feedback from the research advisor on the questionnaire in order to minimize instrument errors that could affect the study's reliability and validity. The questionnaire was reviewed and commented on by the advisor. The questionnaire was revised in response to the feedback, and the final version was validated.

Reliability Statistics		
Independent Variable	Cronbach's Alpha	N of Items
Schedule management practice (Q6)	.875	6
Cost management practice (Q7)	.897	6
Scope management practice (Q8)	.725	6
Quality management practice (Q9)	.893	5
Communications management practice (Q10)	.903	6
Risk management practice (Q11)	.899	5
Resource management practice (Q12)	.906	5
Integration management practice (Q13)	.837	5
Procurement management practice (Q14)	.840	4
Stakeholder management practice (Q15)	.810	3
Top Management Support practice (Q16)	.860	5

Table 1 Results of each variable's reliability tests

3.7 Ethical Consideration

The research respected by the ethical considerations of Addis Ababa University College of Commerce and CBE. Any business or other information aspects that are confidential are treated and protected. Participants had the option to discontinue participation at any time; their identities did not revealed in this report, and data is kept confidential. As a result, no participant identifiers appeared in any publications arising from this study. The information gathered was solely for the purpose of study.

CHAPTER 4: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The main objective of the research as described on chapter one is to evaluate the design and implementation of AD and E-mail upgrade project at CBE. It is also to evaluate the related PM knowledge area practices this includes: the implementation schedule management, budget management, scope management, resource management, integration management, communication management, and quality management, risk management, stakeholder's management, procurement and senior management support practices. In order to reach this goal, this chapter summarizes the outcomes of the data obtained from respondents using web-based questionnaire.

The questionnaire was created using a Linkert form scale, where 1 represent strongly disagree, 2 disagree, 3 uncertain, 4 agree, and 5 strongly agree, in order to get a response from respondents on the project's design and implementation practise. The data are reported using descriptive statistics to allow for a simple and detailed analysis and explanation. To examine the obtained data, SPSS Statistics version 26 was employed, mean and standard deviation is calculated. Therefore, the following is a summary of the findings and interpretation of the data analysis. The analysis is presented and discussed in more detail below.

4.2 Biographical Information of the Respondents

The first section of the questionnaire asked for general biographical information such as gender, age, educational background, experience, and position of respondents who involved in the project, and the responses of the respondents are provided in the tables below.

Respondent Gender

		Frequency	Percent	Valid Percent
Gender	Female	12	36.4	36.4
	male	21	63.6	63.6
	Total	33	100	100

Respondents' Age in Years

Age in Years		Frequency	Percent	Valid Percent
	18-25	1	3.0	3.0
	26-35	26	78.8	78.8
	36-45	5	15.2	15.2
	46-55	1	3.0	3.0
	Total	33	100.0	100.0

Respondent Educational Qualification

Educational Qualification		Frequency	Percent	Valid Percent
	Degree	26	78.8	78.8
	Masters	7	21.2	21.2
	Total	33	100.0	100.0

Working level of respondents

Working Level		Frequency	Percent	Valid Percent
	Junior	1	3.0	3.0
	IT Officer	3	9.1	9.1
	Senior	12	36.4	36.4
	Expert	13	39.4	39.4
	supervisor	2	6.1	6.1
	Managerial	2	6.1	6.1
	Total	33	100.0	100.0

Respondent Working Experience

Working Experience		Frequency	Percent	Valid Percent
	<2	1	3.0	3.0
	2-5	13	39.4	39.4
	6-10	13	39.4	39.4
	11-15	3	9.1	9.1
	>15	3	9.1	9.1
	Total	33	100.0	100.0

Table 2 Respondent biographical information

The respondents(project participants) were requested their age as per the above table, and the study finding showed that more than half of the participant were male(63.6) and the remaining were female(36.4), this shows balanced number of male and female in role and in decision making is not incorporated in the project of AD and E-mail upgrading. The respondents are also asked their age and the average(26 out of 33) are between the age of 26 and 35 which indicate the high range of participant age is between 26 and 35, the other 5 of the respondents are between 36 and 45, the remaining 2 between the age of 18 & 25 and 46 & 55. This indicates most of the participants are in a good working age to contribute on the designing and implementation of the project.

For educational qualification the majority of respondents, 78.8 present (26), hold a bachelor's degree, while only 21.2 present (7) hold a master's degree. None of the respondents had a diploma or a doctorate degree. In CBE, experience with a first degree is valued more than a higher educational qualification. As a result, it is assumed that respondents with this educational qualification will be able to understand and respond to the questionnaire appropriately

Following that, the participants are asked about their level of position, and the majority of them, 39.4 % and 36.3 %, are experts and seniors, respectively, with the remaining two supervisors (6.1 %), two managers (6.1 %), three IT officers (9.1 %), and one junior (3 %)specifying that the majority of the project participants have good position during the project. finally the respondent asked their level of experience and as shown on the finding the respondents who took part in this study had work experience in the organization, with 39.4 (13) having 6-10 years of experience, 39.4 (13) having 2 to 5 years of experience, 9.1 (3) having greater than 15 years of experience, 9.1 (3) having 11 to 15 years of experience, and 3 present (1) having less than 2 years of experience. This shows that a larger percentage of respondents are seniors who have past experience with CBE in general and the project in specific.

4.3. Project Design and Implementation Practices

This section presents, analyses, and interprets the distribution of responses about project design and implementation techniques relating to project management knowledge and management support practice. Respondents' attitudes toward how the various dimensions are

practiced in project design and implementation are measured using a 5-point Likert scale, with respondents selecting the response option that best expresses their perspective on that practice where, SD=Strongly Disagree=1, D=Disagree=2, U=Uncertain=3, A=Agree=4 and SA=Strongly Agree=5. Hence, the means, standard deviations, and frequency distributions of responses and respondents are used. According to some authors, a mean from 1 to 1.8 is interpreted as SD, a mean from 1.81 to 2.60 as D, a mean from 2.61 to 3.4 as U, a mean from 3.41 to 4.2 as A, and a mean from 4.21 to 5 as SA (AlMarashi& Al Zghool, 2018). Therefore, the quantitative analysis, presentation, and interpretation of the replies obtained from 33 respondents concerning project design and implementation technique are as follows.

4.3.1 Schedule Management Practices

Tables 4-2 summarize the responses obtained from respondents on how project schedule management is practiced during Active directory and E-mail upgrading project implementation.

NO	Schedule Management Practice	N	Mean	Std. Deviation
1	Initial project schedule is maintained throughout the project	33	3.61	1.144
2	The estimation of duration for activities is good	33	3.64	1.055
3	Effective scheduling tools and technique like CPM or PERT is used	33	3.27	1.126
4	Activities in the project implementation plan (PIP) are well defined	33	3.55	1.121
5	Activities in the project implementation plan (PIP) are well sequenced	33	3.55	1.121
6	Effective sequencing tools like Network diagrams, activity diagram is used	33	2.73	0.984
	Over all mean		3.55	

Table 3 Schedule Management Practices

Participants in the survey were asked to rate if initial project schedule had maintained throughout the project. As illustrated in the preceding table, the average response rate of the survey collected from participants is 3.61 with standard deviation of 1.144. This implies that the average response that respondents perceive for initial project schedule had maintained throughout the project is agreed. The average response of respondents for how good the estimation of duration for activities is 3.64 and with standard deviation 1.055 which indicates the average respondent response for this category is also agree. The average response rate if

effective scheduling tools and technique like CPM or PERT is used is 3.27 and the standard deviation is 1.126. This indicates, there is variation on the responses and the average response is around uncertainty.

Regarding the idea for activities in the project implementation plan (PIP) are well defined and Activities in the project implementation plan (PIP) are well sequenced, the average response of respondents for this two components is similar with mean value of 3.55 and standard deviation of 1.121. This result show the average response rate for activities in the project implementation plan (PIP) are well defined and activities in the project implementation plan (PIP) are well sequenced is tends to agreement.

However, the average response of respondents for effective sequencing tools such as network diagrams and activity diagrams is 2.73. This indicates that there is some variation in the responses, with the average being somewhere between uncertainty and disagreement. Even though there is a tendency to agree a significant number of respondents uncertain and disagree, indicating that effective sequencing tool was not used during the project.

4.3.2 Cost Management Practices

The mean and standard deviation of respondents who responded on how project cost management was practiced during project implementation are summarized in table below.

No.	Cost Management Practices	N	Mean	Std. Deviation
1	A proper management for cost escalation is used	33	3.39	0.864
2	Budget allocation for the project activities is appropriate	33	3.21	1.219
3	Effective cost management tool is used	33	3.18	0.917
4	Project cost is being properly controlled	33	3.15	1.121
5	Cost efficiency of the project is ensued b computing suppliers/ vendors	33	3.12	1.053
6	Project cost is effectively y estimated	33	2.97	1.104
	Over all mean		3.17	

Table 4 Cost Management Practices

The table illustrates, the average response of survey participants is 3.39,3.21,3.18,3.15,3.12 & 2.97for a proper management for cost escalation is used, budget allocation for the project

activities is appropriate, effective cost management tool is used, project cost is being properly controlled, cost efficiency of the project is ensued by computing suppliers/ vendors and project cost is effectively estimated. This shows that the tendency of respondents is towards uncertainty. According to the mean value considerable number of respondents is uncertain in the cost management practices in general.

This indicates, more project participants are unaware of the costs. The researcher reviewed some of the closure documents of the project phases and observed there was cost overrun. The cost overrun came from some technical scope changes introduced during the project implementation phase and resource constraints. This indicates, projects are disposed to cost overrun due to change in scope and constraints and it is important to have a good estimation of cost for work breakdown and closely monitor changes and constraints. Otherwise, the project's cost management performance will be poor.

4.3.3. Scope Management Practices

The following is a summary of the responses received on how scope management is used in project implementation.

NO.	Scope Management Practices	N	Mean	Std. Deviation
1	Stakeholder's requirements are properly collected	33	2.76	1.3
2	Detailed description of the project is developed	33	2.67	1.362
3	Project work is subdivided to smaller manageable components	33	2.55	1.277
4	Project scope changes is managed appropriately	33	3.12	1.166
5	Activity list and attribute is properly seated	33	2.91	1.208
6	Effective scope management tools like WBS, Project Charter, Project Scope Statement, is used	33	2.64	1.113
	Over all mean		2.775	

Table 5 Scope Management Practices

Survey respondents are asked to rate scope management practices, as shown in the table such as, Stakeholder's requirements, Detailed description of the project, Project work is subdivided to smaller manageable components, Project scope changes is managed appropriately, Activity

list and attribute is properly seated, Effective scope management tools like WBS, Project Charter and Project Scope Statement, is used. Accordingly, the respective average response was 2.76, 2.67, 2.55, 3.12, 2.91 & 2.64.

This shows that respondents' responses to all scope management-related activities in project implementation range from disagreement to uncertainty, indicating that stakeholder requirements were not properly gathered, a detailed project description was developed, project work was not subdivided into smaller manageable components and project scope changes were not appropriately managed.

4.3.4. Quality Management Practices

For the project's quality management practices, the following responses have been gathered.

No.	Communication Management Practices	N	Mean	Std. Deviation
1	Appropriate communication plan is developed	33	3.55	1.121
2	There is timely communication of project information	33	3.45	1.003
3	Information need of stakeholders is satisfied	33	3.27	1.039
4	Effective mechanism to deal with communication barrier is used	33	3.27	0.876
5	Project Performance is reported regularly	33	3.7	0.847
6	Effective feedback mechanism is used	33	3.3	1.159
	All over mean		3.415	

Table 6 Quality Management Practices

Respondents' average scores on quality management techniques are centred on "uncertain" and "agree". More respondents are uncertain and disagree that planned quality was properly implemented and Quality is assured for each activity, however, a large number of respondents agree that a quality plan is being prepared. This variation illustrates that various people have varied perspectives on the success of quality implementation. This aligns with (Prabhakar, 2008), who claims that quality is intertwined with issues of technical performance, specifications, and functional objective achievement, and that it is achievement against these criteria. Quality, according to Atkinson (1999), is an emergent property of people's various attitudes and beliefs, which frequently change over the course of a project's

development life-cycle. Similarly, while more respondents agree that quality was monitored to ensure that customer expectations were met during project implementation, a significant number disagree.

When the results are generalized, with different perceptions about the success of quality practices in project management, more respondents agree that a quality plan is developed and planned quality is properly implemented in project implementation. Relevant quality standards, on the other hand, are not identified. This means that while customers' quality requirements may be met, some CBE technical standards related to quality are not being properly identified, resulting in quality issues in the system's future operation.

4.3.5 Communication Management Practices

The results of the project's communication management techniques are shown in table.

Table 4-6: Communication Management Practices

No.	Communication Management Practices	N	Mean	Std. Deviation
1	Appropriate communication plan is developed	33	3.55	1.121
2	There is timely communication of project information	33	3.45	1.003
3	Information need of stakeholders is satisfied	33	3.27	1.039
4	Effective mechanism to deal with communication barrier is used	33	3.27	0.876
5	Project Performance is reported regularly	33	3.7	0.847
6	Effective feedback mechanism is used	33	3.3	1.159
	All over mean		3.415	

Table 7 Communication Management Practices

According to the data, respondents' mean score on the appropriateness of communication plan development practice in project implementation is 3.55, with a standard deviation of 1.121, indicating a trend toward agreement. With a mean value of 3.45&3.7 and a standard deviation of 1.003 present 0.847, respondents agree that there is timely transmission of project information and that Project Performance is reported on a regular basis.

According to the response Stakeholders' information needs are met, an effective mechanism for dealing with communication barriers is used, and an effective feedback mechanism is used, but there is a wide range of responses and the average score is close to uncertainty.

When the finding is generalized appropriate communication plan was developed. There was timely communication of project information practices in the project implementation and there was a regular project performance report. However it is difficult to be certain that an effective mechanism for dealing with communication barriers was in place, as well as an effective feedback mechanism. Furthermore, it is difficult to conclude that effective information communication monitoring ensures that the project's and stakeholders' information needs are met.

4.3.6. Risk Management Practices

The following is a summary of responses regarding risk management practices in project implementation.

No.	Risk Management Practices	N	Mean	Std. Deviation
1	Risk management is planned	33	3.85	0.939
2	Individual project risks are identified properly	33	3.64	1.055
3	Risks are analyzed	33	3.79	1.023
4	Risks are timely addressed	33	3.33	1.137
5	Risks are monitored effectively	33	3.4	0.929
	Over all Mean		3.65	

Table 8 Risk Management Practices

According to the table, the average score on risk management planning is 3.855 with a standard deviation of 0.939, the average score on individual project risks are identified properly and risks are analysed is 3.64 & 3.79, which tends to agree. However, based on the frequency distribution, a significant number of respondents are uncertain. For the risk management practices that include timely addressing project risks and monitoring risks effectively, considerable numbers of respondents are uncertain. More number of respondents is uncertain that Risks are monitored effectively. The central tendencies are also close to the middle but with high dispersion from the mean.

More respondents agreed that individual project risks were properly identified, risks are analysed however, significant respondents are uncertain whether the risks are timely

addressed and monitored. This indicates, there was risk management plan, risks are identified and analysed but Risks are not addressed timely and effectively monitored.

4.3.7 Resource Management Practices

The attitudes of respondents toward resource management practices are summarized in Table below.

No.	Resource Management Practices	N	Mean	Std. Deviation
1	Resource management is planned	33	3.42	1.226
2	Activity resources are properly estimated	33	3.41	1.2
3	Project team is developed effectively	33	2.6	1.25
4	Allocated resources are used as planned	33	2.56	1.234
5	Appropriate HR management tool for Motivation, Conflict handling, Training & development and Reward & recognition is applied	33	2.52	1.253
	Over all mean		3.018	

Table 9 Resource Management Practices

According to the above table, respondents rated resource management as planned and Activity resources are properly estimated with a mean of 3.42 and 3.41 and a standard deviation of 1.226& 1.2. The frequency distribution also reveals that a greater proportion of respondents agree with it.

Most respondents disagreed or were unsure about other resource management practices such as effective development of project teams and spending of allocated resources as planned and Appropriate HR management tool for motivation, conflict handling, training & development and reward & recognition is applied.

When the results are summarized, it is clear that more respondents agreed that resource management was planned, activity resources were properly estimated, but the project team was not effectively developed, allocated resources are not used as intended, and Appropriate HR management tools for motivation, conflict resolution, training and development, and reward and recognition are not used.

4.3.8 Integration Management Practices

The following table summarizes responses on integration management practices.

No.	Integration Management Practices	N	Mean	Std. Deviation
1	Project charter that authorizes the project existence is developed	33	3.55	0.905
2	An integrated project management plan is developed	33	2.52	0.869
3	Project knowledge is managed effectively	33	3.1	1.137
4	Progress is monitored to meet the project management plan goals	33	4	0.935
5	Project activities are being finalized appropriately	33	2.56	1.164
	Over all mean		3.53	

Table 10 Integration Management Practices

More respondents agree and are aware that the project charter was developed and Progress is monitored to meet the project management plan goals, according to the mean score of 3.55 & 4 with a standard deviation of 0.905 & 0.935. Some respondents are unaware of the development of the project charter and project management plan goal. The remaining mean scores are centered on the areas of uncertainty and disagreement on the formulation of an integrated project management plan, effective project knowledge management, and finalizing project activities appropriately.

When the finding is summarized regarding project integration management approaches, project charter has developed and progress is monitored to meet project management goal on the other side an integrated project management plan is not developed, project knowledge was not managed as much as possible and the project activities were not properly completed.

4.3.9. Procurement Management Practices

The responses found for procurement management practices are summarized in the table below.

No.	Procurement Management Practices	N	Mean	Std. Deviation
1	Potential vendors (sellers) were properly identified	33	3.76	1.091
2	Contracts were awarded appropriately	33	3.52	0.972
3	Relationships with the vendors is properly managed	33	3.82	0.917
4	Contracts were properly closed	33	2.65	1.003
	Over all Mean		3.638	

Table 11 Procurement Management Practices

According to the table, mean scores of 3.76, 3.52, and 3.82 indicate that more respondents agreed that potential vendors were properly identified, contracts were appropriately awarded, and vendor relationships were properly managed. The mean score of 2.65 indicates that more

respondents are unsure that the contracts were properly closed. In general, more respondents agree that potential vendors were properly identified, contracts were appropriately awarded, and vendor relationships were properly managed.

However, while a significant number of respondents agreed that contracts were properly closed, a greater number of respondents disagreed that contracts were properly closed. This suggests that, despite good project procurement practices, there were issues with contract closure. According to the (PMI, 2017), all procurement contracts and activities must be completed in order to control procurements and meet the requirements and terms of legal agreements between sellers and buyers.

4.1.10 Stakeholder Management Practices

The responses on stakeholder management practices in project implementation are summarized below.

No.	Stakeholder Management Practices	N	Mean	Std. Deviation
1	Stakeholders are identified	33	3.7	0.984
2	The engagement of stakeholders is planned	33	3.55	1.148
3	Stakeholders participation in the project is managed well	33	3.4	1.062
	Over all mean		3.55	

Table 12 Stakeholder Management Practices

According to the table, the average response of respondents is 3.70, 3.55, and 3.42 for the items of identifying stakeholders, planning stakeholders' engagement, and effectively managing stakeholders' participation. This indicates that respondents agree that stakeholders were identified and that stakeholder engagement was planned. However, respondents are unsure that stakeholder participation in the project was well managed, as evidenced by a wide range of responses from the mean. Based on the response of the participant Stakeholders were identified, stakeholder involvement was planned, and stakeholder participation in the project was successfully handled.

The overall response tendency for project design and implementation is clustered in the uncertainties, which are schedule, cost, quality, communications, risk, integration, stakeholders and procurement management practices. This suggests that there are issues in the practices related to these knowledge areas. In the project management knowledge areas, the following issues have been identified: activity durations are not well estimated and the

initial schedule is not maintained; cost estimation is not appropriate; planned quality is not properly implemented; monitoring the various information needs of each stakeholder is not satisfied; and individual risk identification problems, risk analysis, risk monitoring and addressing. Project activities are also not completed, project team is not established and procurement contracts are not properly closed.

4.4.2 Management Support Practices

The table below summarizes the respondents' attitudes toward management support practices in project implementation.

No.	Top Management Support Practices	N	Mean	Std. Deviation
1	Senior managements are committed in following-up the project	33	3.58	1.119
2	Top managements are good at committing resources	33	2.97	1.287
3	There is quick decision making of higher managements for the project	33	2.94	1.197
4	Top managements managed staff training appropriately	33	2.7	1.237
5	There is an appropriate incentive management	33	2.61	1.321
	Over all mean		2.96	

Table 13 Top Management Support Practices

The central tendency 3.58 and measure of dispersion 1.119 of respondents shown in the table indicate agreement that senior management support was committed to following-up on the project. However, according to the frequency distribution, some respondents are unsure and disagree about making quick decisions. The central tendencies, 2.97, 2.94, 2.70 and 2.61 with Their respective measures of dispersion show that the responses are clustered around the uncertainty of whether top management was good at committing resources, managing staff training appropriately, or providing appropriate incentive management, respectively, and the respective standard deviation shows that there is variation in responses..

When summarized, more respondents agree that senior management were committed in following-up the project. But, more respondents disagreed that top managements are good at committing resources, there is quick decision making of higher managements for the project, top managements managed staff training appropriately and there is an appropriate incentive management.

CHAPTER 5: SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

The summary of findings, conclusions, and recommendations are discussed in this chapter.

5.2 Summary of findings

The study's goal is to evaluate Commercial Bank of Ethiopia upgrading project design and implementation processes by examining a recent active directory and E-mail upgrading project. The evaluation focused on how project design, project implementation, and management support are practiced during project implementation.

Using web-based questioners, all the 33 respondents/participants was selected from the project, including managers, supervisors, experts, seniors, IT officers, and juniors. All 33 responses are collected and analysed using SSP version 26 to determine the mean and standard deviation on a 5-point Linkert scale. The responses are presented, analysed, and interpreted in Chapter 4 above.

The following are a brief description of the findings:

- Initial project schedule is maintained throughout the project. Microsoft, the vendor who assist the implementation of the project provided the schedule for each upgrading phases which are Envision, plan, build, stabilize & deploy and the study found initial project is maintained throughout the project.
- The estimation of duration for activities was good. Microsoft had maintained a good estimation of duration for activities and modifies some estimation of schedules based on CBE request during the evaluation period and the study found that the estimation of duration for activities appeared good.

- Effective scheduling tools and technique like CPM or PERT was used. Microsoft had developed the schedule that need to complete each phase and CBE agreed on the provided schedule, but based on the study it seemed, effective scheduling tools and technique was not used.
- Project Implementation Plan (PIP) was developed and the activities were well defined and sequenced. Activity definition and activity sequencing are two of the processes included in the project schedule management that are required for timely completion of project and, the study found the project implementation plan and activities seemed well defined and sequenced.
- Regarding effective sequencing tools like Network and activity diagrams, the study found that even though there was some positive response, effective sequencing tools was not used in the upgrading project.
- A proper management for cost escalation is used. CBE management teams have the responsibility related to cost escalation of projects and the study found that a proper cost management for cost escalation is used. Although a number of respondents considered as the project cost management is well practiced the overall finding reveal that the cost management practice appeared poor
- Project scope management practices including collecting the requirements, defining the scope, developing Work Breakdown Structure (WBS) and managing the scope changes were not properly practiced in the project implementation.
- The quality management processes such as the planned quality was successfully implemented to meet customer expectations in the project implementation. However, quality standards were not properly identified as the finding revealed.
- In the communication management practices of the project implementation, appropriate communication plan was developed and there was timely communication of the project information. According to the study, it is difficult to say whether all

stakeholders' information needs were met during the project implementation, effective mechanism to deal with communication barrier and feedback mechanism.

- In the risk management practices the survey find that risk management plan were developed, risks are identified and analysed but Risks are not addressed timely and monitored effectively.
- In the project resource management: resource management was planned, activity resources were properly estimated, but there is no project team, the project is conducted by the operation team. Allocated resources are not provided & used as intended and also appropriate HR management tools for motivation, conflict resolution, training and development, and reward and recognition are not used.
- In the project integration management approaches,: that project charter has developed and progress is monitored effectively to meet project management goal on the other side respondents project knowledge was not managed well and the project activities were not properly completed.
- In terms of procurement management practices, in the case of CBE, potential vendors were properly identified, contracts were properly awarded, and vendor relationships were properly managed. Procurement contracts, on the other hand, were not properly closed.
- Stakeholders were identified, stakeholder involvement was planned, and stakeholder engagement in the project was successfully managed in the stakeholder management practice in the case of CBE.
- In terms of management support practices, it's difficult to say that senior management is good at committing resources, at making quick decisions for the project, at managing staff training appropriately, and appropriate incentive management.

5.3 Conclusion

The overall response tendency for project design and implementation of AD and E-mail upgrading projects is categorized as uncertainty, which includes schedule management practice, cost management practice, quality management practice, communications management practice, risk management practice, integration management practice, stakeholder's management practice, procurement management practices, and management support practice.

This suggests that there are issues in the practices related to project design and implementation. In the project design and implementation of AD and Email system upgrade, the following issues have been identified: activity durations are not well estimated, the initial schedule is not maintained, effective sequencing tool was not used, cost estimation is not appropriate; gap in closely monitoring changes and constraints, planned quality is not properly implemented; monitoring the various information needs of each stakeholder is not satisfied; effective mechanism for dealing with communication barriers was not used ,risks was not timely addressed and monitored. Project activities are also not completed effectively, project team is not established, integrated project management plan is not developed, project knowledge was not managed, procurement contracts are not properly closed, top managements were seemed not good at committing resources, at managing staff training and there is no appropriate incentive management. This indicates that the project design and implementation practices used at CBE during the AD and Email upgrade project appeared unsatisfactory.

5.4 Recommendation

Based on the findings and conclusions, the researcher suggests some recommendations to improve future project design and implementations and for future related studies. In the future, when designing and implementing upgrading projects:

- Regarding to the project management practices related to project design and implementation, commercial bank of Ethiopia have to use effective tools and project management technics to plane the project effectively, to make ready the necessary resource and project team, proper technical and project management training for the

project team and for the project manager before the beginning of the project should be maintained, scheduling tools should be used for effective estimation of project schedule, CBE also have to set quality standard, stakeholders' information requirements satisfaction must be monitored timely. Project activities and contracts should be finalized and closed appropriately. Lessons learned from previous project implementations must be applied, particularly when estimating schedules, budgeting for each activity, and monitoring risks and scope changes.

- The higher management support on following up of the project and making quick decisions are important practices to be learned for future projects. In addition to their support, senior management must manage staff training and incentives in a fair and appropriate manner, which aids in the successful implementation of projects.

It is suggested for future researchers that:

- To conduct similar studies that assesses the project design and implementation practice of other ICT upgrading projects in other financial institutions.
- To investigate the impact of project design and implementation practices on project success.
- To employ qualitative and quantitative data in order to better pinpoint the problem and suggest better recommendations.

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Appendixes

Annex 1

Questionnaires

Dear respondent,

My name is Feven G/Egziabher and I am post graduate student of project management at Addis Ababa University school of commerce. This questionnaire is designed to collect relevant information for the research carried out on the topic: "**The assessment of project design & implementation practice of Active directory and E-mail upgrading project in Ethiopia financial institution: The case of commercial bank of Ethiopia**". The study is for academic purposes, as part of the Master of Project Management program's requirements. As a result, your responses will be kept confidential, and you are kindly requested to complete this survey. If you have any question please don't hesitate to contact me.

Please accept my sincere gratitude in advance for your assistance.

1. General Profile:choose one from the alternative given to answer the questions

Code	General Profile					
Q1	Gender	Female			Male	
Q2	Age	18-25	26-35	36-45	46-55	
Q3	Educational Qualification	Diploma	Degree	Master's Degree	Doctorate degree	
Q4	Experience	<2	2-5	6-10	11-15	>16
Q5	Position during the project period	Junior	IT-Officer	Senior	Supervisor	Manager

2. Close Ended Questions: project design/plan and implementation practice

Please choose one of the five scale of all questions under each categories that best describes your perception of how project design/plan & implementation practices are applied in Active directory and E-mail upgrading project , with Strongly Disagree(SD)=1, Disagree(D)= 2, Uncertain(U)= 3, Agree(A)= 4 and Strongly Agree(SA)= 5

6. Schedule Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q6.1	Initial project schedule is maintained throughout the project					
Q6.2	The estimation of duration for activities is good					
Q6.3	Effective scheduling tools and technique like CPM or PERT is used					
Q6.4	Activities in the project implementation plan (PIP) are well defined					
Q6.5	Activities in the project implementation plan (PIP) are well sequenced					
Q6.6	Effective sequencing tools like Network diagrams, activity diagram is used					

7. Cost Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q7.1	Project cost is effectively estimated					
Q7.2	Budget allocation for the project activities is appropriate					
Q7.3	Project cost is being properly controlled					
Q7.4	Cost efficiency of the project is ensured by computing suppliers/ vendors					
Q7.5	A proper management for cost escalation is used					
Q7.6	Effective cost management tool is used					

8. Scope Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q8.1	Stakeholder's requirements are properly collected					
Q8.2	Detailed description of the project is developed					
Q8.3	Project work is subdivided to smaller manageable components					
Q8.4	Project scope changes is managed appropriately					
Q8.5	Activity list and attribute is properly seated					

9. Quality Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q9.1	Relevant quality standards are identified					
Q9.2	Quality plan is developed					
Q9.3	Planned quality is properly implemented					
Q9.4	Quality is being monitored/controlled for meeting customer/CBE expectations					
Q9.5	Quality is assured for each activity					

10. Communication Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q10.1	Appropriate communication plan is developed					
Q10.2	There is timely communication of project information					
Q10.3	Information need of stakeholders is satisfied					
Q10.4	Effective mechanism to deal with communication barrier is used					
Q10.5	Project Performance is reported regularly					
Q10.6	Effective feedback mechanism is used					

11. Risk Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q11.1	Risk management is planned					
Q11.2	Individual project risks are identified properly					
Q11.3	Risks are analyzed					
Q11.4	Risks are timely addressed					
Q11.5	Risks are monitored effectively					

12. Resource Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q12.1	Resource management is planned					
Q12.2	Activity resources are properly estimated					
Q12.3	Project team is developed effectively					
Q12.4	Allocated resources are used as planned					
Q12.5	Appropriate HR management tool for Motivation, Conflict handling, Training & development and Reward & recognition is applied					

13. Integration Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q13.1	Project charter that authorizes the project existence is developed					
Q13.2	An integrated project management plan is developed					
Q13.3	Project knowledge is managed effectively					
Q13.4	Progress is monitored to meet the project management plan goals					
Q13.5	Project activities are being finalized appropriately					

14. Procurement Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q14.1	Potential vendors (sellers) were properly identified					
Q14.2	Contracts were awarded appropriately					
Q14.3	Relationships with the vendors is properly managed					
Q14.4	Contracts were properly closed					

15. Stakeholder Management practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q15.1	Stakeholders are identified					
Q15.2	The engagement of stakeholders is planned					
Q15.3	Stakeholders participation in the project is managed well					

16. Senior management support practice of AD and E-mail upgrading project

Code	Variable	SD=1	D=2	U=3	A=4	SA=5
Q16.1	Senior managements are committed in following-up the project					
Q16.2	Top managements are good at committing resources					
Q16.3	There is quick decision making of higher managements for the project					
Q16.4	Top managements managed staff training appropriately					
Q16.5	There is an appropriate incentive management					