ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

PRACTICE OF COMMUNICATION MANAGEMENT IN IT PROJECTS: THE CASE OF COMMERCIAL BANK OF ETHIOPIA (CBE)

BY: ABADI GEBREANENIA

JUNE, 2020

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A RESEARCH PROJECT SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS IN PROJECT MANAGEMENT

ADVISOR

SOLOMON MARKOS (PhD)

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Statement of Declaration

I, **Abadi Gebreanenia**, hereby declare that the thesis entitled: **"Practice of Communication Management in IT Projects: The Case of Commercial Bank of Ethiopia (CBE)"** has been conducted by me under the guidance and supervision of Solomon Markos (PhD). I also declare that all materials and sources used for this project research have been accredited appropriately. I am also declaring that this work had not been submitted for the award of any academic Degree or Diploma Program in this or any other institution

Abadi Gebreanenia

Signature _____

Date_____

Statement of Certification

This is to certify that **Abadi Gebreanenia** has carried out this research project work on the topic entitled *"*Practice of Communication Management in IT Projects: The Case of Commercial Bank of Ethiopia (CBE) under my supervision. This work is original in nature and it is sufficient for submission for the partial fulfillment for the requirements of the award of Masters of Art in Project Management.

Solomon Markos (PhD)

Signature: _____

Date**:** _____

Approval Sheet

PRACTICE OF COMMUNICATION MANAGEMENT IN IT PROJECTS: THE CASE OF COMMERCIAL BANK OF ETHIOPIA (CBE)

By

Abadi Gebreanenia

Approved by the Board of Examiners

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External Examiner Name	**Signature**	**Date**
_____	_____	_____

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List of Acronyms

CBE	Commercial Bank of Ethiopia
PM	Project Management
PMI	Project Management Institute
PMBOK	Project Management Book of Knowledge
IT	Information Technology
CM	Communication Management
ICT	Information Communication Technology
IT PMO	Information Technology Project Management Office
SPSS	Statistical Package for Social Science
SD	Strongly Disagree
SA	Strongly Agree
PMO	Project Management Office
SDLC	Software Development Life Cycle
PMKAs	Project Management Knowledge Areas
ITSM	IT System Management
CBE IT PMO	Commercial Bank of Ethiopia Information Technology Project Management Office
ITIL	IT Infrastructure Library

Abstract

At the time where project management becomes as a norm for many organizations, research suggests that communication management is one of the key areas in project management. This research, therefore, examines the current practice of communication management in IT projects in the case of the Commercial Bank of Ethiopia. In this descriptive survey, an online questionnaire (survey) through Google form has been distributed for all the IT PMO members of the Commercial Bank of Ethiopia and an interview has been conducted with selected managers, team leaders. The finding of the study indicates that the current practice of communication management in the study areas shows a gap with respect to the benchmark practice of Project communication principles outlined by PMI. In addition, the communication skills of team leaders and managers have been found as not satisfactory and a medium level conflict, an indication of miscommunication, has been observed between the study organization and its stakeholders such as vendors and consultants. The communication channel, commonly used by the organization, was an email that has limitations in project management processes. Finally, the level of intention /focus given to communication management by the study organization was also below what it should have been. Accordingly this result the study organization is recommended to use more formal communication instead of informal, enhance the communication skills of its managers & team leaders, using communication tools designed for project management, and follow communication processes outlined by PMI.

Key*words*: *Project Management, Communication Management, Project Communication*

Chapter 1: Introduction

1.1. Background of the Study

As per the definition of a project given by the Project Management Institute a project is a temporary endeavor undertaken to create a unique product, service, or result (PMI, 2013). Here, according to the definition, the term temporary is not to mean duration of a short time but to describe the nature of projects that a project has a definite starting and ending or the so-called time plan (PMI, 2013). This can be explained as the time starting from inception or initiation of the project to the closure of the project. The closure of a project can be a successful execution of it or termination of the project due to different internal and/or external environmental factors like critical budget shortage or unrealistic feasibility (ISO 21500, 2012).

Project management covers several aspects of business or the so-called knowledge areas, such as project integration management, scope management, time management, cost management, quality management, human resources management, communications management, risk management, and procurement management (PMI, 2017).

Communications management, one of the ten knowledge areas of project management, is the main focus of this research. Clearly S. (2008) said the term communication originates from the Latin word communicate, which means 'to make common', and when communicating, a common understanding is created. In Project management, there must be communication, exchange of messages, between all individuals and all stakeholders of the project in order to support each other. Otherwise, there will not be a common understanding of what, how, when, why to execute the project and the end result may be a failure or project will be terminated.

Communication regulates the relationship between the project stakeholders and project manager and how the members of the project work to achieve the established project objectives (Rodríguez, 2017). When communication is ignored in project management, misunderstanding may result in the project stakeholders. Misunderstanding is one of the factors that lead to project failure.

Task conflict was positively related to project success, while enhanced communication among teams stimulated the positive effect of task conflict and process conflict and relationship conflict affected each other and were negatively related to project success, leading to poor communication among teams (Wu et al., 2017). In addition, the researchers add, formal communication and communication-willingness were positively related to project success, but informal communication affected project success negatively. Due to this reason, the authors recommend that instead of using informal communication, using formal communication among various project stakeholders and teams during the operation of projects is recommended by the research.

"IT departments in different organizations consume, on average about half of all corporate capital expenses" Pulse of The Profession (2013). On the opposite way, Pucciarelli et al. (2009), describes that based on the 2009 IDC (International Data Corporation), "25% of IT projects experience outright failure and up to 50% of the projects require material rework, and 20% to 25% do not provide Return on Investment (ROI)". This shows that IT projects are one of the top categories with higher project failure rates.

PMI Pulse of the Profession (2018) which highlights feedback and insights from 4,455 project management practitioners, 447 senior executives, and 800 project management office (PMO) directors from a range of industries and all around the globe indicates "One out of five projects is unsuccessful due to ineffective communications management". This shows the big contribution, 20 percent, of communication management for the failure of projects if it's not managed according to the Project Management Institute and other similar institutes procedures for communications in projects.

This paper focuses on project communication processes (within the project management of IT Projects); planning of communications, project report performance, channels of communications as well as the internal and external communication conflict levels, relative importance of PMKAs, observed findings, and conclusion of the study.

1.2. Background of the Organization

Commercial Bank of Ethiopia (CBE) was founded in 1942 and by then its name was 'the state Bank of Ethiopia' and later it established as Share Company in 1963 and holds its current name "Commercial Bank of Ethiopia" as per the bank's website profile, (www.Combanketh.et, 2020). At this time, it is one of the biggest governmental enterprises in Ethiopia and it is the only state's commercial bank. The website adds that CBE has a great contribution in conducting governmental and non-governmental investments and Mega Projects all over the country. Currently, Commercial Bank of Ethiopia has about 40,000 employees with different educational backgrounds.

In addition to providing banking services like loans and savings, Commercial Bank of Ethiopia (CBE) is also recognized in the implementation of banking Information Communication Technologies (ICT). Particularly, CBE invests huge capital for IT projects in order to meet International Banking standards. To run into these banking standards and World Trade Organization requirements, CBE has been implementing several IT projects and strategic plans. The bank's profile adds also "CBE has planned to have a vision of becoming world-class commercial bank by the year 2025".

Fetene (2018) depicts the value of IT as "In the pursuit of becoming a world-class commercial bank, Information Technology (IT) has been massively implemented in CBE as a medium for improving competitiveness and to take a role in encouraging the accomplishment of mission, vision, and objectives of the bank". This is an indication that almost all the systems, tools, and services of the banking industry are the result of IT and the people. That is why the bank is investing in IT and accomplish the plan.

Because of the study organization's high implementation of IT projects but with low project success rate the researcher preferred to assess the communication management of IT Projects conducted so far in Commercial Bank of Ethiopia. It includes the internal and external communication forms mostly used in projects, the availability of internal and external conflicts, the communication skill of managers and team leaders, and the practice of using tools designed for project management and others.

1.3. Statement of the Problem

Rajkumar (2010) describes the role of communication in project management as “there are no more important to the success of a project than effective communication. More effective communication means better project management, which is obviously known to everyone in project management, but we do face difficulties in implementing it due to various factors like the nature of the project, structure of the organization, and others". In addition, the research, by Rajkumar presented to PMI, also reveals that for project manager about ninety percent of his/her time is spent on communication. This is due to the fact that all the stakeholders like project team members, PMO managers, clients, consultants, and others have a direct contact with the project manager using different channels of communication.

Communication management helps to facilitate understanding between stakeholders, human resources, procurement management and all these affect the risk, scope, time, and cost management of the project management indirectly.

As per the researcher's preliminary interview with senior managers of Commercial Bank of Ethiopia's IT PMO about the projects implementation processes and its results, even if the department has accomplished many projects that laid a foundation for the critical success path of the bank, it has faced many problems alongside. The following key challenges have been identified in this interview.

The first challenge that has been occurred in many projects is the problem of 'on schedule’ delivery of projects. Although it can’t be defined numerically, almost all projects have shown delay comparing with the planned time for the projects to be finished. And some projects have completed more than two times higher than the planned time. This time delay may also lead to financial problems or cost overruns.

Another challenge that has faced for the bank’s IT PMO is the project requirement’s fulfillment to the needs of the customer. After finalizing the project life cycle phases, some projects have missed planned or unplanned requirements that are very valuable for the needs of the business or

customer. This challenge may indicate the stakeholders' participation and communication process has to be investigated.

The third challenge is the project work process with different organizational, geographical, and cultural practices. Most Commercial Bank of Ethiopia IT PMO project's vendors and consultants are foreign companies from all around the globe. Those companies use different languages, time zone, cultures, organizational cultures, and other differences and this gap has negative effects on the successful implementation of the projects.

Even if it's known that diverse (language, culture, and others) workgroup can contribute better ideas and creativity, communication within a diverse workgroup can create complex and challenging situations (Rajkumar, 2010). As per this principle, the CBE IT PMO communication process includes stakeholders with different diversity of culture language and other norms, the bank needs intention in order to make if it is effective and this effectiveness leads to reduce the low success rate.

As there is a high rate of IT project failure and some challenges are identified in the preliminary interview, what could be done to improve these problems?

In this research, the role or contribution of communication management on the identified key challenges of CBE IT PMO found from the preliminary interview, and other challenges were the main issues. So, considering the low success rate of IT projects and the practice of communication management on IT projects in the Commercial Bank of Ethiopia was assessed and compared with standard frameworks.

In this paper, the researcher identified the practice, problems, and challenges, to manage projects within the communication that affect IT (software) projects. As it is tried to explain in the background section of the research IT projects success rate is not more than 30 percent. So, considering the low success rate of IT projects and the practice and recommendation of communication management on IT projects in Commercial Bank of Ethiopia was evaluated.

1.4. Research Questions

This study attempts to answer the following main research questions;

- What kind of communication form is most common or usual in IT projects of Commercial Bank of Ethiopia?
- How does the practice of project communication management look like in IT projects in CBE?
- How does Communication management determine success for IT projects with respect to the other knowledge areas in Commercial Bank of Ethiopia?

1.5. Research Objectives

1.5.1 General Objective

The general objective of this study was to evaluate the practice of project communication management process and suggest recommendations for the study organization, Commercial Bank of Ethiopia (CBE) IT Projects Management Office.

1.5.2 Specific Objectives

The objectives of the study are to:

(i) Identify which form of communication is mostly used in IT projects in the context of CBE and its effectiveness. And suggesting advantages and disadvantages of the commonly used form of communication in the study organization.

(ii) To assess the project communication management practice of IT projects in the context of Commercial Bank of Ethiopia and establish recommendations based on the findings.

(iii) Determine the extent to which project communication management is important (factor) relative to the other knowledge areas of Project Management in the context of IT PMO of the Commercial Bank of Ethiopia?

1.6. Significance of the Study

This research was aimed to fill the literature gap related to evaluating communication management implementation within IT projects communication management. Specifically, this research will serve as preliminary work for further study on the issue. In addition, this study is also helpful to increase the awareness and practice of effective of communication management implementation, and therefore, the study is beneficial to other organizations engaged in implementing similar project communication management. In general, this study can also help in identifying the strong and weak practices of communication management in software (IT) development projects.

1.7. Scope of the Study

The scope of this descriptive survey research is only to evaluate the practice of communication implementation process in IT PMO and geographically in Commercial Bank of Ethiopia (CBE) Head Quarter, Addis Ababa. This result shows only the finding of communication management practice in CBE IT PMO even though the results of the study can be extended and applied to other IT projects too. To collect the data a census with a Liker scale and a semi-structured interview has been applied.

From the ten knowledge areas of project management knowledge areas this study focused on project communication management of Commercial Bank of Ethiopia, Information Technology Project Management Office.

1.8. Limitation of the Study

As the research considered the practice of communication management, it shows only the positive and negative findings of communication management practice in the study organization. That means the research didn't clarify the magnitude of the positive and negative impacts of communication management on project success. The financial, as well as time constraints, forced the researcher to limit the scope of the study. The current pandemic, COVID-19, also limits for

face-to-face communication of respondents and in addition, it limits the response rate, 82%, of the census as all employees were not in their workplace at the time of the research.

1.9. Definition of Terms

Terms	Definition of Terms
Communication	It is the exchange (giving, receiving, processing) and interpretation of information in the mode of verbally, non-verbally, actively, passively, formally, or informally (Wu et al., 2017).
Communication Management	Process of managing information exchange and understanding between stakeholders and within the project team/s in projects
Paralanguage	"Non-lexical component of communication by speech, for example, intonation, pitch and speed of speaking, hesitation noises, gesture, and facial expression" Oxford Dictionary.
Project	A project is a task with planned time, budget and scope undertaken to create unique objectives and goals (PMI, 2008).
Informal Communication	"Informal-communication refers to the exchange of information transmission outside the organization's formal communication channels" (Wu et al., 2017).
Formal Communication	A form of communication that happens according to the rules and regulations of the organization and it is featured with serious, binding and confidential rules to do and/or not to do Wu et al. (2017).
Stakeholder Management	It holds the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project PMI (2013).
Risk Management	"It includes the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project" PMI (2004).
Integration Management	The processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project

	Management Process Groups PMI (2013).
Quality Management	The processes and activities of the performing organization that determines quality policies, objectives, and responsibilities PMI (2017).
Human /Resource Management	Human Resource Management includes the processes that organize, manage, and lead the project team.
Scope Management	It includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully PMI (2013).
Time Management	Project Time Management includes the processes required to manage the timely completion of the project PMI (2013).
Cost Management	It 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 PMI (2013).
Procurement Management	It includes the processes necessary to purchase or acquire products, services, or results needed from outside the project team PMI (2013).

1.10. Organization of the paper

This research contains five chapters, starting from introduction, literature review, the methodology of research, data analysis, and research findings, and conclusion and recommendation, as shown in the table below.

Table 1.1 Structure of the research

Chapters	Contents and Organizations
Chapter One: Introduction	This chapter contains the background of the study, statement of the problem, basic research questions, objectives of the study, definition of terms, the significance of the study, scope of the study, limitation of the study, and organization of the thesis.
Chapter Two: Literature Review	The related literatures on the theoretical, empirical, and conceptual framework of the project on Project Management, Communication Management, IT projects, communication methods, channels have been reviewed. Both international and local related literatures have been also used.
Chapter Three: Research Methodology	Under this chapter, type, and design of the research, the research approach; the sources of data; the data collection tools or instruments employed; validity and reliability of the data collected; the procedures of data collection; and the methods of data analysis used are described.
Chapter Four: Data Analysis & Research findings	This chapter summarizes the results of the study. In addition, it interprets and discusses the findings of the research study comparing with related literatures reviewed in chapter two.
Chapter five: Conclusions and Recommendations	This chapter comprises sections including conclusions and recommendations. Conclusions are drawn from the summary of findings and finally, recommendations are put based on the findings, in the study organization.

Chapter 2: Literature Review

The aim of this chapter, a literature review, was to give detailed information about project communication management tools, processes, and practices conducted in different organizations and countries. Moreover, a review of related literatures helped to adopt the best methods and approaches for communication management practice in the research area. As Creswell (2013) defined literature review is a piece of a recap of journal articles, books, and other documents that define the past and the current state of information on a specific research study. Therefore, the literature review enables the researcher to discover existing knowledge in a specific area, which is communication management in this research.

2.1. Theoretical review

The main purpose of theoretical literature review in this study was to provide an insight to the origin and growth of Communication, Communication management, project management, Communication flows, common Communication sources, and Communication management process by conducting a review on journal articles, books and other documents conducted in the study area.

2.1.1 Project Management

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements (PMI, 2018). Project management is about understanding exactly what your objectives are from the project to be attained, what resources you'll need to complete the tasks, how you're going to accomplish them, and how long time plan it will. In a nutshell, these are the time, scope, and cost of the project.

Similarly, (Robert & Wysocki, 2014) described Project Management as it is an organized common-sense approach that utilizes the appropriate client involvement in order to meet sponsor needs, expectations and delivers expected incremental business value. Clients and other

stakeholders work together starting from initiation to closure of the project to deliver the desired objectives and goals which are the aim of the project.

Another definition of project management by (Weldebrhan, 2019) explains as it is the application of processes, skills, knowledge, methods, and experience to realize specific project goals and objectives according to the project acceptance criteria within agreed parameters or professionally the so-called project scope.

There are several standards and methods for project management but ISO 21500 and PMBOK, were the most relevant of choice (Miguel and Ferreira, 2016). According to PMBOK, project management has ten project management knowledge areas like the ISO 21500:2012 and forty-seven (47) processes.

Table 2.1 - ISO 21500: 2012 subjects and PMI knowledge areas

No	ISO 21500: 2012	PMBOK
1	Integration Management	Integration Management
2	Scope Management	Scope Management
3	Time Management	Time Management
4	Cost Management	Cost Management
5	Quality Management	Quality Management
6	Resource Management	Resource Management
7	Communications Management	Communications Management
8	Risk Management	Risk Management
9	Procurement Management	Procurement Management
10	Stakeholder Management	Stakeholder Management

Source: (Miguel and Ferreira, 2016)

From the ten knowledge areas of project management the researcher has focused on practice for communication management of IT projects in Commercial Bank of Ethiopia, PMO, and recommendations proposed based on the finding.

2.1.2 Communication Management

Communication is transmitting something from one person to another, one or more, either verbal or non-verbal, for example, body posture or images (ISO 21500, 2012). This is the literal meaning of communication and the communication in project management indicates the transmission of a message from one person to another person within the project team/s and between the project members to other organizations, persons, and stakeholders.

In a study titled "Impact of Knowledge Areas for Project Management on Project Quality" by Dahleez, (2017) identified that communication management is the first top knowledge area with 84.15% score followed by project scope management, project integration management, and project quality management at levels of 83.52%, 83.18%, and 83.01% respectively.

"Typically there are five types of communication or flows in a project management process" (Kerzner, 2017 and PMI, 2016). These are:

Downward Communication – This type of communication is originated from the project manager or other top management to the lower-level managers or members, from the executive managers to the project manager and typically serves for the manager to pass job details and what is to be done.

Upward Communication – This type of communication is emanated from the lower members to the top managers like team leaders, managers, and executives in hierarchical order. This flow is important to provide comments on how the project is performing, progress, and report delivery. This allows team members to feel committed to the project, to be able to express their views and opinions on the implementation of the project.

External Communication – Usually this kind of communication is held by the project manager with external stakeholders of the project or other organizations that have any association with the project in progress (Kerzner, 2017).

Horizontal Communication – Horizontal communication can be between the various team members or managers but with the same or similar hierarchical position and it allows creating team spirit within the project team/s.

Diagonal Communication – It is communication with other units and teams and the main purpose of diagonal communication is to get responses from subject matter experts helping on solving a problem faced in the project implementation process (Kerzner, 2017).

PMI (2008) describes project communication management as a combination of five phases that needs to be performed in sequential order. Those are:

1. Identify Stakeholders
2. Plan Communications
3. Distribute Information
4. Manage Stakeholder Expectations
5. Report Performance

1. Identify Stakeholders

According to the book the first phase, identifying stakeholders includes the tasks of collecting the list of stakeholders, prioritizing the stakeholders based on their impact on the project, and recording in a tool that is suitable for next time communication (PMI, 2008).

Identifying stakeholders uses inputs like project charter, procurement documents, enterprise environmental factors, and organizational process assets to get the output of stakeholder register and stakeholder management strategy, according to the book. To convert the inputs to these outputs it uses expert judgment and stakeholder analysis tools and techniques.

2. Plan Communications

The second phase plan communication describes planning how, where, when, who and why will the communication be performed in the project implementation process. It is a process of determining the project stakeholder information needs and defining a communication approach (PMI, 2013).

Communication planning uses similar inputs like identifying stakeholder phase but the output of this phase is communication management plan and project document updates (ISO-2500). To transform the inputs to outputs it uses the tools and techniques; communication requirements analysis, communication technology, communication models, and Communication methods.

3. Distribute information

Distribute information means letting the stakeholders know any relevant information and managing stakeholders and this phase is performed throughout the entire project life cycle and in all management processes (PMI, 2008).

In addition, the book confirms that in distributing information to stakeholders the inputs project management plan, performance reports, and organizational process assets are being used. Using the planned communication methods and information distribution tools 'an organizational process assets update' is delivered as the final output of this phase.

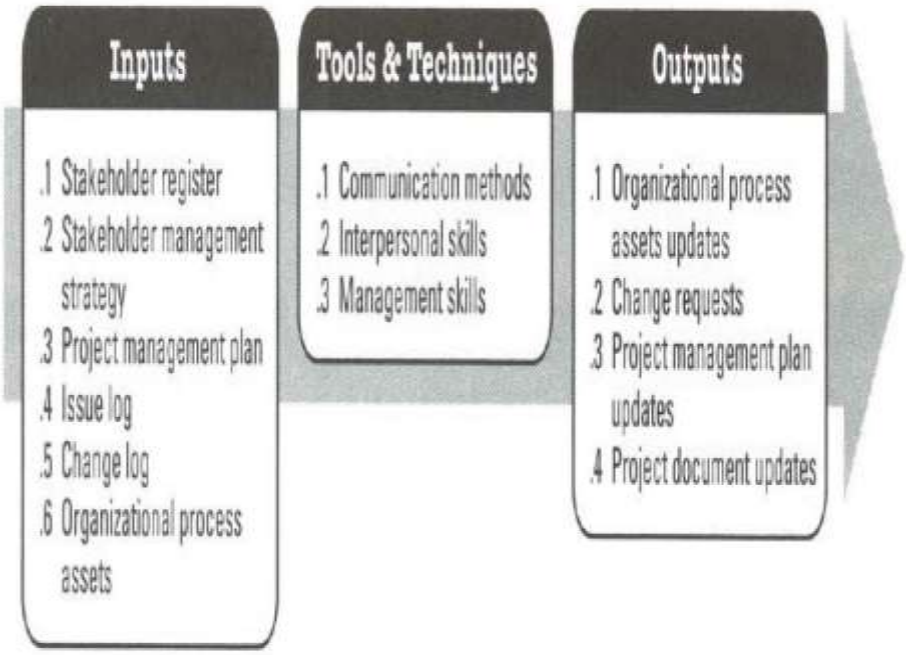
4. Manage Stakeholder Expectations

Manage Stakeholder Expectations is a process to communicate and work with stakeholders to meet their needs and address any issues as and when they occur (PMI, 2013). Managing project stakeholder expectations effectively helps organizations to facilitate:

- Organizational process assets updates
- Change requests
- Project management plan updates
- Project document updates

Manage Stakeholder Expectations phase has the following inputs, tools & techniques, and outputs as shown in the below figure.

Figure 2.1 manage stakeholder expectation



Source: (PMI, 2008)

5. Report performance

The final phase report performance is described by PMI (2008) that it indicates to communicate every progress of the project phase and challenges, if exists, to the stakeholders and for each project team. The book adds that performance reports include the following example: a simple status report, progress measurements, forecasts provide, and performance information on areas such as scope, schedule, cost, and quality.

According to the book to deliver the 'Report Performance', inputs like project management plan, work performance information, work performance measurements, budget forecasts, and organizational process assets are used and the outputs are performance reports, organizational

process assets updates, and change requests. To deliver the outputs from the inputs we use variance analysis, forecasting methods, communication methods, and reporting systems.

Forms of Communication

The book titled 'Project Management - A Systems Approach to Planning, Scheduling, and Controlling' written by Kerzner (2017) describes as there are various forms of communication methods. And each form of communication has different characteristics as in the following table.

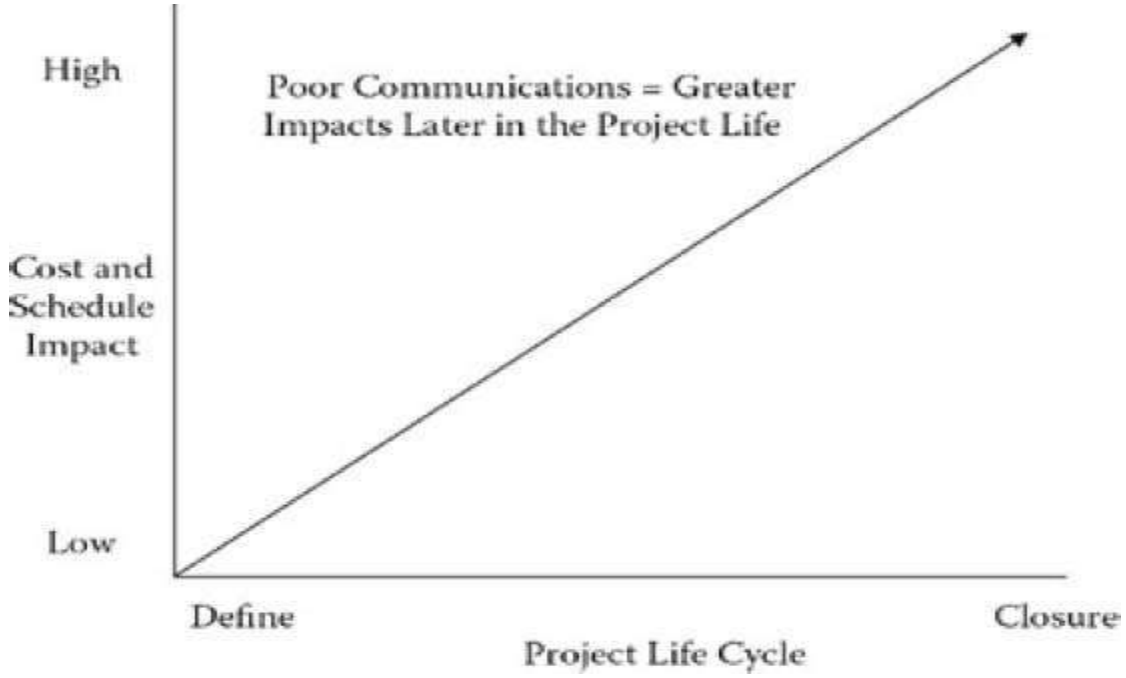
Table 2.2 forms of communication and their characteristics

Form of Communication	Characteristics	Examples
Written Formal	• Precise • Transmitted through the medium of correspondence	• Project charter, scope statement, project plan, WBS, project status • Complex issues • Contract related communications • Memos
Written Informal		• Email, notes, letters, etc. • Regular communication with team members
Oral Formal	• A high degree of flexibility • Use the medium of personal contact, group	• Presentations, speeches, • Negotiations
Oral Informal		• Conversation with team members • Project meetings • Break-room or war-room conversations
Non-verbal Communication	• More than half of total communication	• Facial expressions, hand movements, tone of voice while speaking, etc.

Source: Kerzner (2017)

“The effect of bad communication on project describes that if there is a complication in communication in the early phase of projects, there will be a high impact on the project later" Rajkumar (2010). The correlation depicts graphically as follows.

Figure 2.2 Effect of poor communications on project



Source: Rajkumar (2010)

2.1.3 IT Project Management

Hashmi (2016) describes IT as Information Technology is a major department in most organizations and its impact is felt throughout the company. In addition, the report reveals that due to this reason “companies are spending about 50% of their expense for IT projects”. Similarly, (Pucciarelli et al. 2009) said in a report that IT departments now consume, on average about half of all corporate capital expenses. But on the other hand, IT projects failure rate is very high. A (KPMG, 1997) survey on software projects shows that "over 61% of the projects those are analyzed were failed”. Similarly, Bloch et al. (2012) suggest Software projects run the highest risk of time plan and cost overruns over other projects.

A study on Communications Management in Scrum (IT) Projects (Holzmann and Panizel, 2011) also highlights the importance of communications management in IT project management as applied these days. And the report reminds that professionals and project managers should be aware of the impact of effective communications on project success and to be able to identify the weak areas in their system of communications.

(Jusoh *et al.*, 2018 & & Rajkumar, 2010) describes that about 90% of the time in IT projects is spent on communication by the project manager to the other stakeholders. The communication of the project manager is mainly to the project team, executive management official, clients, consultants, and others, as depicted in the following picture.

Figure 2.3 project manager communication scenario

Source: (Jusoh *et al.*, 2018)

Dahleez (2017) study investigated in one country shows that organizations implement their projects considering project management knowledge areas with high levels, from all the ten PMKAs, project communication management scores the highest (84.15%) relative importance for quality project implementation. (Alami, 2016) also described that Information Technology projects are one of the top categories of projects that need effective communication management for successful implementations.

According to the report from CBE, most of the big IT projects are implemented with the coordination of foreign companies from different companies. This makes it to have communication in diverse workgroups in terms of language, culture, and geographical location between the bank and stakeholders specifically the vendors. "Diversity can lead to more ideas and higher levels of creativity, giving the organization more options and choices; thus resulting in better outcomes for the organization and better products and services for its customers" (Rajkumar, 2010).

However, Rajkumar argues that communication within a diverse workgroup can create more complex and challenging situations too. And he clarifies that people with varying perspectives and experiences have different interpretations and contexts for symbols, words, phrases, and other communication schemes. They also may use nonverbal, which holds more than half of human communication, expressions differently. What is appropriate to one culture or person may be offensive to another with a different culture. And this challenge of diversity leads to the so-called conflict between teams and stakeholders.

Starting from the inception of the CBE's IT PMO, the following major IT projects have accomplished by the department: - Core Banking, Network & IT Infrastructure, Enterprise Resource Planning (ERP), CBE Birr, Contact/Call center project, ITSM (ITIL Framework), New Datacenter construction project, Core Banking upgrade, Help Desk based on ITIL, Mobile Banking, Internet Banking, ATM banking, ATM Monitoring System and so on.

So, considering the relevance of communication management on project management, this research focuses on evaluating the practice of communication in IT projects in CBE and other factors related to it.

2.2. Empirical review

Zulch (2014) research illustrates that the project managers' skill to communicate with stakeholders has an impact on the cornerstone areas of project management and communication is needed to effectively communicate the quality, which is the result of the interrelationship between scope, cost and time.

A research conducted by Affare (2012) in Ghana identified that poor communication had resulted in project delays, project cost overrun, and project abandonment. The research adds that project communication was also shown to strongly affect the performance of professionals and the benefit of a good communications management system can be seriously constrained in the projects' life cycle.

The study undergone in one Ethiopian organization by Asrat (2018) identifies the following key challenges to effective communication on projects in the company. As per the report, these incorporate; poor leadership of projects, ineffective communication between stakeholders, unclear communication goals, poor reporting system, uncertain channels of communication (using informal communications), lack of well-trained professionals by clients.

In addition, the study, by Asrat, shows "project communications planning and implementation and using tools and techniques played an important role in improving the performance of projects". Meanwhile, it also recognized that poor communication had resulted in project cost & time overruns and in some cases project termination. Project communication was also shown to strongly affect the performance of professionals within the construction industry.

Many researches have been published about the role of communication management all over the world and all researches confirmed that communication management has a big effect on project implementation successfully.

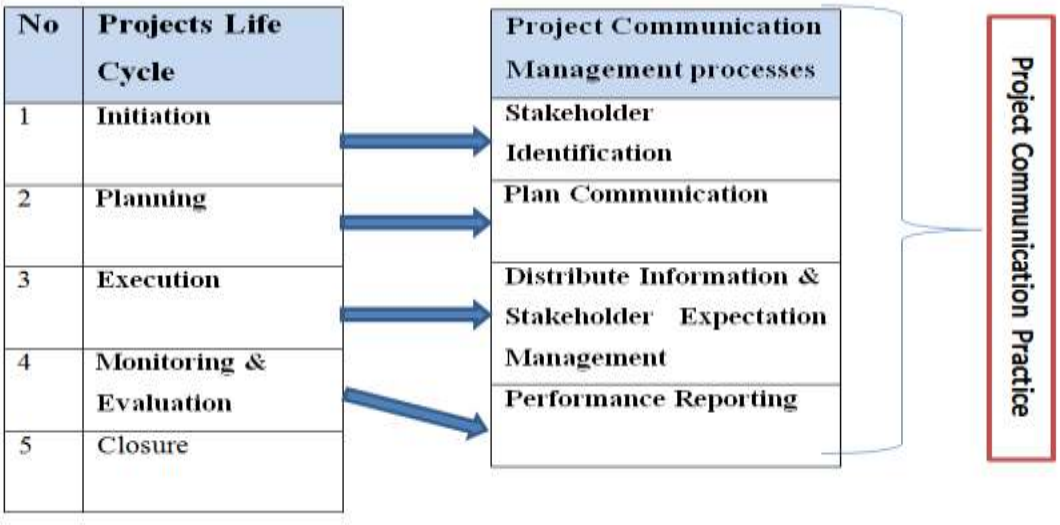
In Ethiopia, there are few pieces of research about the effect and challenges of communication management on projects and the status of communication management in different organizations. But most of the researches show that the result of a specific organization and specific departments instead of showing the role of communication management all over the country.

In this research local researches by Weldebrhan, (2019) titled "Challenges of Software Development Projects: In the Case of Information Network Security Agency (INSA)" and research by Meron Asrat, 2018, titled "The Role of Project Communication Management in improving project performance of building construction projects: A case study of Modcon Engineering PLC" have been used mainly. Both research show that communication management is one of the top challenges that lead to project failure.

2.2. Conceptual Model

The below conceptual model of project communication is used to illustrate what the researcher expects to find throughout the research, including how the processes being used are considering might relate to each other.

Figure 2.4 Conceptual model



Source: (Own compilation)

Chapter 3: Research Methodology

3.1. Introduction

This chapter mainly consists of the research methodology applied for the study specifically, on the research design, target population, sampling design, source of data, data collection methods, reliability and validity of the research, method of data analysis, and at the end some ethical issues have been explained. In this study, a combination of questionnaires and an interview (qualitative and quantitative) have been used.

3.2. Research Design and Approach

Creswell (2012) describes research design as a set of distinguishing features that you can use to collect, analyze, and interpret data using quantitative and qualitative research methodologies. The book adds that research design and approach is a scheme that describes what research approach to follow, the target population, sample size and method, and tools of data collection and analysis used to answer the research questions specified in chapter one research questions section. As per the book, there are three types of research approaches: Quantitative, Qualitative, and Mixed method (qualitative and quantitative).

The research design applied for this research project was descriptive and a mixed-method approach was appropriate when both qualitative and quantitative data collection techniques and analysis procedures were applied in research design. Accordingly, a mixed (qualitative and quantitative) approach with a high emphasis on the quantitative approach (questionnaire) was employed. It was basically a quantitative approach but an interview also used to validate the questionnaire mainly.

A case study structure is used for this study because it enables for an in-depth understanding of a bounded system like activity, event, process, or individuals based on extensive data collection (Creswell, 2013).

The book also indicates that a Cross-sectional research type is used over a longitudinal research survey as it is the most popular form of survey used in education and suitable for the researcher to collect data at one point in time. Accordingly, the researcher has applied a cross-sectional type of research survey to collect data from the target population.

3.3. Description of the Study Variables

The study was conducted in the Commercial Bank of Ethiopia head office, Addis Ababa. The bank has two types of Project Management Offices called the construction Project Management Office and Information Technology Project Management Office. As the research area is on IT projects only the later one is incorporated in this study. Accordingly, the data was collected from IT PMO of the bank employees (managers, team leaders, and experts) using census and an interview from the selected managers.

3.4. The population of the Study

Commercial Bank of Ethiopia, the oldest and largest state bank, has been carrying out several IT projects and strategies. Commercial Bank of Ethiopia has planned a vision of becoming a world-class commercial bank by the year 2025 (profile of Commercial Bank of Ethiopia 2019). To do so, starting from 2010 it established a Project Management Office (PMO) to implement new projects in an effective way. Currently, the bank's PMO has two types of project offices. The first category is for projects to be executed by external or outsource methods like construction and maintenance.

The second category is for projects to be implemented fully by the organization's internal capacity or by cooperating with vendors and consultants. This category holds, IT PMO, focused mainly on IT projects and the main intention of this study is for these types of projects (IT projects). This IT PMO has 8 managers, 16 team leaders, and about 81 staff members (IT experts with different work experience), a total of 105 population size.

Therefore, the population of the study is staff members (technical team), team leaders, and managers of IT PMO of the Commercial Bank of Ethiopia. i.e those are the respondents for the questionnaire and/or interview of the study.

As the researcher applied mixed methods of data collection questionnaires and interviews, a mixed approach has been used for this study. For the interview data collection method, an intentional selection of respondents is used. That means respondents with high experience on the PMO and respondents with high influence on the project implementation processes have been selected.

For the questionnaire data collection technique, all the staff members (experts), team leaders, and managers were included in the study using a census survey.

Table 3.1 population size

No	**Position**	**Number of Respondents**
1	Managers	8
2	Team Leader	16
3	Staff (Expert)	81
Total		105

Then no sampling technique has been adopted as a census study was adopted where the entire population is included in the survey research to be studied. Using the census study helps the research result to be more accurate by avoiding the errors that can happen in sampling the population.

3.5 Types, sources of data and data collection method

Data collection is conducted using both types of data sources, primary and secondary data sources. Secondary data sources are collected from the project documents of IT PMO of the bank like contract documents, project performance reports, project charter, and other similar documents. The primary sources of data are collected using questionnaires and interviews with the managers, team leaders, staff members of the IT PMO.

The questionnaires were collected from the respondents, in the census population, using a Google Form, an online web-based interface, and an email containing a link to the Google Form, and some instructions have been sent to be filled. After the forms, Google Form had been filled by the respondents, the result is ready to be downloaded or exported. Then the exported data are to be fed to the data analysis tools (SPSS, MS Excel Sheet) for interpretation.

The second type of primary source of data which was an interview collection was conducted with managers and team leaders. This type of data collection method has been done by intentionally selecting respondents of the interview that are selected by their high contribution to the question of the interview. That means respondents of the interview were selected by the intention of the researcher: based on his demands and who could justify the demands.

3.6. Validity and Reliability

The tendency toward consistency found in repeated measurements is referred to as reliability. Similarly, the tendency toward consistency found in repeated measurements is referred to as reliability. This can be checked by comparing the responses for similar or consistent questions of the questionnaire and interview. And as the data collection method for the questionnaires part is a Google form, user inputs are validated by the application and it has a positive role for data reliability and validity.

The validity of data was checked in relation to different researches and PMI communication management practices including the questionnaires. The reliability of qualitative data has been

checked by using different methods like Cronbach's alpha reliability test by using SPSS (Statistical Package for the Social Sciences). The Cronbach alpha for the below 8 questions was ranged from the minimum 0.734 to the maximum one 0.794. Conferring the Cronbach's alpha test result indication from 0.7 to 0.8 is considered as good, from 0.8 to 0.9 very good and above 0.9 is considered as more reliable data but doesn't show diversity.

Table 3.2 Cronbach's Alpha (reliability test)

No	Variable	Cronbach's Alpha
1	Identify, prioritize & manage stakeholders	0.749
2	Plan communication	0.733
3	Distribute Information	0.794
4	Manage Stakeholder Expectations	0.735
5	Report Performance	0.734
6	System, tool to share info for stakeholders	0.745
7	Roles of stakeholders have been prepared	0.787
8	Plan reviewed regularly	0.779

Besides, triangulation, evidence from different sources to validate and confirm the same finding has been used. This is to indicate that the researcher used to compare the results of the interviews, from questionnaires and from observations of the reference project documents and facilitated to reach to the conclusion.

3.7. Data Analysis Method

The book titled 'Educational Research' written by John W. Creswell describes data analyses as a process converting raw data to meaningful results (knowledge) that consists of breaking down the data into parts to answer the research questions. In the process, quantitative data analysis, you analyze the data using mathematical procedures, called statistics.

Data analysis is the process of coding, classifying, and tabulating information required to perform quantitative or qualitative analysis according to the research design and appropriate to the data Mosby (2009). The researcher examined the collected data (questionnaire and interview) to detect errors and omissions and to correct these when possible and assigned numerals (Likert scale) to answers that enable them to put responses into a limited number of categories. The research's data analysis was done by descriptive statistics using Statistical Package for Social Sciences 23 (SPSS) and Microsoft Excel version 2016. The results obtained from the analysis were drawn in graphs and based on these findings, tangible conclusions and recommendations are presented.

Descriptive statistics measures like percentage, variance, frequency, sum, measures of central tendency (mean and standard deviation), Cronbach coefficient (alpha), and others have been used to assess the validity and reliability of the data collected and to validate the objectives of the study.

3.8. Ethical Issue

In this research ethical consideration was considered by preserving the confidentiality of information about the organization and respondents both for the questionnaire and interview. Furthermore, the gathered data were only used for this research, not to be used for other aims, or not transferred to the third party, to be limited to its use between the researcher and the respondents. Finally, the respondents were instructed not to write any personal information like their name and other personal code while responding to the questionnaire or interview. This is applicable to avoid any bias that can lead the research to the wrong results.

Chapter Four: Research Findings and discussions

4.1. Introduction

This chapter focuses on the presentation and analysis of the data, questionnaire, collected via web-based forms called Google forms. This method of data collection is suitable if respondents have access to the internet and have a knowhow of computing skills. The data was exported from the application and fed to SPSS and Microsoft Excel for further analysis. The outcomes from the research are mainly presented in the form of frequency, mean, and standard deviation table. The process of data analysis presented in the following subtopics.

4.2. Response Rate

From a total of 105 questionnaires distributed to the IT PMO experts, team leaders, and managers of CBE, 87 responses have been submitted through the web-based interface, Google form. Even though it was a census and all the population was expected to respond but due to the current pandemic and other cases like annual leave, maternal /fraternal leave, and others 82.8% response rate has been recorded.

Saldivar (2012) suggests that for a census survey more than 75 % response rate is preferable for validity and reliability of the research. And this research's response rate is more above the limit. All these respondents replied to the first part, personal information, and the second part that incorporates the questionnaire for the research.

4.3. Demographic Profile of the Respondents

As understanding the demographic profile of respondents is vital for the outcome of the research, respondents are requested to fill their personal information before the questionnaires' questions. Accordingly, the respondents' gender, education level, age range, experience, position, and the number of participation in projects have been included.

Table 4.1 Demographic Profile of the Respondents

No	Description		Respondents		Total	
			n	%	N	%
1	Gender	Male	69	79.3	87	100
		Female	18	20.7		
2	Age range	<25	3	3.4	87	100
		25-30	33	38.0		
		30-40	42	48.3		
		>40	9	10.3		
3	Education level	Diploma	0	0	87	100
		Bachelor	60	69.0		
		Masters	27	31.0		
4	Experience	1-3	12	13.8	87	100
		3-7	33	37.9		
		7-10	30	34.5		
		>10	12	13.8		
5	Project Participation	1	51	58.6	87	100
		2	12	13.8		
		3	15	17.2		
		>=4	9	10.3		
6		Expert	68	78.2	87	100
		Team leader	14	16.1		
		Manager	5	5.7		

N=Total population n= Frequency % = Percent

As per the above general demographic profile of the respondents six characteristics; gender, age, their position in the bank, educational status, experience, and the number of project participants have been identified. Describing the demographic characteristics of the respondents helps analysis to be more meaningful for readers.

Accordingly, from a total of eighty-seven respondents, the gender ratio is 79.3% male and 20.7% female. Only 20.7% of female participation implies that the study organization has a lack of gender diversity. Even if several researchers argue that women's participation in projects is still low, but it is recommended to make gender diversity balanced between males and females.

Meanwhile, the educational background of the respondents is limited only to Masters MSc/MA and Bachelor degree (BSc/BA). Then respondents with a Master's degree and Bachelor degree are 31% and 69% respectively. All the project respondents have a minimum Bachelor degree and this reflects that the employees have a good educational background for project implementation and communication processes.

Regarding the age of the respondents it has been divided into ranges; less than 25 years old, from 25-30 years old, from 30-40 years old, and more than 40 years old. Hence the majority of the respondents, 48.3% are in the age from 30-40 years old and the next from 25-30 years old range holds 38% of the respondents. The age range of more than 40 years old and less than 25 years old contributes to a total of only 12%. This indicates that the organization has a young workforce that has good capability for project implementation processes.

Another respondent's demographic profile is the number of project participation in the IT PMO. Therefore, from a total of 87 respondents, about 58.6% of the respondents have participated only in one project as seen in the below figure. In this demographic profile, most of the respondents' have low project participation experience and this can affect negatively the project communication process in the organization.

Similar to the age profile, the experience of the respondents was also divided into four ranges and from 3-7 years of experience covers 37.9%, 7-10 years of experience 34.5%. Respondents

with 1 - 3 years experience and more than 10 years experience covers with 13.8% for each experience range. Most of the employees have good experience in the bank that contributes a positive impact in projects implementation but the experience of the employees on the projects is low as indicated in projects participation section above.

The sixth demographic profile is the current position of the respondents. As per the current structure of the IT PMO, it has a hierarchy of positions: technical experts, team leaders, managers, and directors. Therefore, from the total respondent, the technical expert contributes to 78.2% and the rest team leaders & managers with 16.1 % and 5.7% respectively. The availability of staff with different roles and positions in the project contributes to improving project performance and communication processes.

4.4. Communication Management

The questionnaire contains consists of three sections, excluding the personal information of respondents. The first section describes the communication mode or channel methods used to communicate with project teams and other stakeholders of projects in the study of the organization. In addition, the communication skills of managers & team leader, conflict levels between project team/s and between stakeholders in projects, and success rate of projects have been included in this section.

The second section incorporates the questions required to grasp the current practice of communication management in the study organization. The final section is about the focus given to communication management by the study organization, CBE IT PMO. To do this we compared the focus (consideration) of communication management with respect to the other knowledge areas of project management.

4.4.1 Communication Mode and other parameters

In the study of communication channels practice for IT PMO, face to face communication, telephone, written (letter, memo), Email, and tools designed for communication like OpenProject, Jira, or others are selected as options. Then, the respondents replied that for internal communication (between team/s, team leader, and project manager) 48.3% of their communication is face-to-face communication mode. In addition, 42.5% of the respondents use Email communication for daily activities in projects.

Table 4.2 communication channels and other parameters

Criteria	Email		Telephone		Verbal		Written		PM Tools		$\bar{x}$	SD
	N	%	N	%	N	%	N	%	N	%		
Internal communication	37	42.5	3	3.4	42	48.3	3	3.4	2	2.3	Mean & SD not relevant	
External communication	72	82.8	0	0.0	6	6.9	6	6.9	3	3.4		
	Very poor		**Poor**		**Good**		**Very good**		**Excellent**		$\bar{x}$	**SD**
Projects Success Rate	6	6.9	30	34.5	42	48.3	9	10.3	0	0.0	2.62	0.77
Managers comm. Skills	6	6.9	15	17.2	51	58.6	15	17.2	0	0.0	2.86	0.78
Conflict level	**None**		**Few**		**Medium**		**High**		**Extreme**		$\bar{x}$	**SD**
Internal	9	10.3	51	58.6	18	20.7	9	10.3	0	0.0	2.31	0.80
External	3	3.4	28	32.2	30	34.5	26	29.9	0	0.0	2.91	0.87

n= Frequency $\bar{X}$= Mean SD= Standard deviation

For external communication, between stakeholders out of the project teams, the respondents answered that 82.8% of their activity was performed by email communication. This is due to the fact that the vendors of the project product/services owners were abroad and email was one of the best methods. This result shows a similar result to the interview conducted with selected managers.

Project success rate

Regarding the projects' success rate of IT PMO, respondents were requested to rate it as "Very poor, Poor, Good, Very good, and Excellent" and the average response was mean ($\bar{x}$=2.62) and standard deviation (SD=0.77). Mean Values have been interpreted by using the criteria suggested by (Scott, 1999). He suggested that for Likert type scale ranging from 1 (Very poor/ highly dissatisfied) to 5 (Excellent/Highly Satisfied), interpretation should be as; mean up to 2.9 is considered as Disagree, from 2.9 to 3.1 means neutral or to central value and mean above 3.1 is considered as an agreement.

According to this classification of the mean ($\bar{x}$=2.62) shows that respondents are not satisfied (it's poor) with a project success rate of their organization. Project success is assumed by delivery of projects on time or as per its plan, on its planned budget and achievement of the project's intended objectives. The result of the conducted interview with selected managers indicates a similar result, poor project success.

Project Managers communication skills

Regarding the communication skills of their team leaders and project managers, respondents' reply was 58.6% neutral, 17.2 % satisfied, 17.2% not satisfied and about 9.9% dissatisfied. As can be seen from the above table the mean for this response ($\bar{x}$=2.86) and according to the Likert scale interpretation (Scott, 1999), this mean ($\bar{x}$) indicates that the communication skill of managers was not satisfying. But PMI (2013) indicates that communication skills are critical for project managers. In addition, Jusoh et al. (2018) show 90% of the time in IT projects is spent on communication by the project manager to the other stakeholders and as per this finding without good communication skills of managers his/her task can't be successful.

Project conflict

In order to identify the internal (between project team) and external (between project teams and other stakeholders) conflict level in the project implementation process in the study organization,

the researcher included questions and the following result has been found. For internal and external conflict levels the mean was ($\bar{x}$=2.31) and ($\bar{x}$=2.91) respectively. That means the internal conflict in study organization was low but external conflict was a medium level, higher than the external conflict level.

The result of the interview conducted with the managers also matches with this result, survey result. There was a lower conflict level between project team/s (internal conflict) but higher between the bank and stakeholders mainly vendors and consultants. But Wu et al. (2017) indicate that conflict has a negative relation with the project success. So, observing the availability of external conflict means the project success rate of the bank is impacted by these conflicts.

4.4.2 Practice of Communication Management

The main purpose of the research was to assess the practice of communication management in the implementation of IT PMO (projects) in the study organization and respondents were requested to forward their opinion on it. The study organization's practice was compared with the PMBOK procedures, processes, principles, and recommendations for communication management on project implementation.

As per the book recommendations, communication management should include the following five processes:

- Identify Stakeholders
- Plan Communications
- Distribute Information
- Manage Stakeholder Expectation
- Report Performance

Therefore, the respondents' response is summarized in the below table, with its percentage, mean and standard deviation, for comparison with PMBOK principles of communication management in the project implementation process with respect to their IT PMO practices.

Table 4.3 practice of communication management

No	Criteria	S. Disagree		Disagree		Neutral		Agree		SA		$\bar{x}$	SD
		N	%	n	%	n	%	n	%	n	%		
1	Identify, prioritize & manage stakeholders	3	3.4	52	59.8	6	6.9	17	19.5	9	10.3	**2.74**	**1.14**
2	Plan communication	3	3.4	42	48.3	24	27.6	15	17.2	3	3.4	**2.69**	**0.92**
3	Distribute Information	1	1.1	27	31.0	21	24.1	31	35.6	7	8.0	**3.18**	**1.01**
4	Manage Stakeholder Expectations	3	3.4	38	43.7	24	27.6	19	21.8	3	3.4	**2.78**	**0.95**
5	Report Performance	6	6.9	39	44.8	24	27.6	15	17.2	3	3.4	**2.66**	**0.96**
6	System, tool to share info for stakeholders	3	3.4	40	46.0	27	31.0	14	16.1	3	3.4	**2.70**	**0.90**
7	Roles of stakeholders have been prepared	2	2.3	28	32.2	12	13.8	34	39.1	11	12.6	**3.28**	**1.12**
8	Plan reviewed regularly	9	10.3	36	41.4	28	32.2	13	14.9	1	1.1	**2.55**	**0.91**
Average												**2.82**	**0.99**

S. Disagree =Strongly Disagree, SA=Strongly agree n= Frequency $\bar{X}$= Mean SD= Standard deviation

The first question asked to assess the practice was if the study organization identify, prioritize, and registers stakeholders in a suitable tool that enables them to have proper communication. Then 60% of the respondents' responses disagreed, 19.5% agreed, 10.3 strongly disagreed, 3.4% strongly disagreed and the rest 7% uncertain about that. To generalize, the mean value for this questionnaire ($\bar{x}$=2.74) indicates that respondents didn't agree with this as per the Likert scale interpretation (Scott, 1999).

Regarding the project communication planning process, 42 (48.3%) of the respondents disagreed and 17.2% agreed and 3.4% strongly disagreed. On the other hand, 27.6% of the responses show

that they are not sure about what it looks like the practice of communication planning in their project life cycle.

However, for the 3rd question that detects the practice of making relevant information available to project stakeholders as planned, the majority of the respondents which is 35.6% agreed and 8% strongly agreed with it. On the other hand, 31% of them disagreed. On average with a mean ($\bar{x}$=3.18) implies distributing information to stakeholders has been practiced in their project implementation.

Another questionnaire that has been asked to the respondents was the process of communicating and working with stakeholders to meet their needs and addressing issues when they occur: manage stakeholder expectations. For this point, 43.7% of them disagreed and 3.4% strongly disagreed. Nevertheless, 21.8% agreed and 3.4% of them strongly agreed and 27.6% of the respondents undecided neither to agree nor disagree.

The fifth question was if the study organization had the practice of collecting and distributing performance information, including status reports, progress measurements, and forecasts. As a result, about half of the respondents supported disagree and strongly disagree while 17.2% agreed for the practice. The overall response inferred this practice was not as per the PMBOK principle of distributing performance information to stakeholders with a mean ($\bar{x}$=2.74) and standard deviation SD=0.96.

Another question presented to the respondents was the existence and use of a system, tool, or technique that allows all teams and stakeholders to share challenges, progress report, or any information of the project. The response was 46% disagree, 3.4 strongly disagree and 31% undecided. But only 16% of the respondents agreed and 2.7% strongly agreed. Overall, with a mean ($\bar{x}$=2.74) the response implied that comparing with the PMBOK principles the study organization practice was not satisfying.

Meanwhile, for question number 7 that evaluates if there were clear communication processes, clarifying roles of stakeholders have been prepared, a total of 51.7% of respondents agreed and

strongly agreed for this practice. Contrariwise, a total of 34.4% of respondents disagreed & strongly disagreed and 13.8% neutral on the issue.

The last question was to check if the communication plan was being reviewed regularly, and adjusted if need be. Therefore, 41.4% of respondents' reply shows disagreement and 10.3% strong disagreement. In addition, 32.2% of the respondents are indeterminate about the issue and the rest 16% reply show a positive attitude to it. Overall, the response of the respondents' data shows disagreement on the practice with a mean ($\bar{x}$=2.55) and a standard deviation of 0.91.

To summarize the response of the respondents on the practice of communication management on the study organization with respect to the PMBOK principles of project communication management, the result shows an average mean ($\bar{x}$=2.82) and average standard deviation (SD=0.99). This shows the study organization is not conducting its project communication management as per the PMBOOK principles of communication management practices in the following aspects.

The study organization has limitations in using a system, tool or technique to share information for stakeholders, identifying & prioritizing stakeholders by their interest and impact, identifying stakeholders roles & responsibilities preparation, planning communication, reviewing planes and adjusting according to the result of the review, and continuous performance reporting to stakeholders as per their expectation.

In working as per the processes of communication management outlined by PMI, the study organization has poor practice according to the survey and interview with selected managers. PMI Pulse (2013) indicates that organizations that followed their project management activities as per the guidelines of PMI have scored better project success than organizations not followed. In addition, as the study organization has adopted PMI project management, it is should work the communication management processes too accordingly.

4.4.3 Communication Management and Other knowledge Areas

In this third section of the questionnaires, the focus is to find out the relative importance of Project Management Knowledge Areas and identify the attention given by the study organization to communication management. To do so, the questionnaire requested respondents to rate for each knowledge management area from 1 to 5 points. Then the relative importance of Project Management Knowledge Areas score of the study organization has been compared with other researches results and to yield recommendations accordingly.

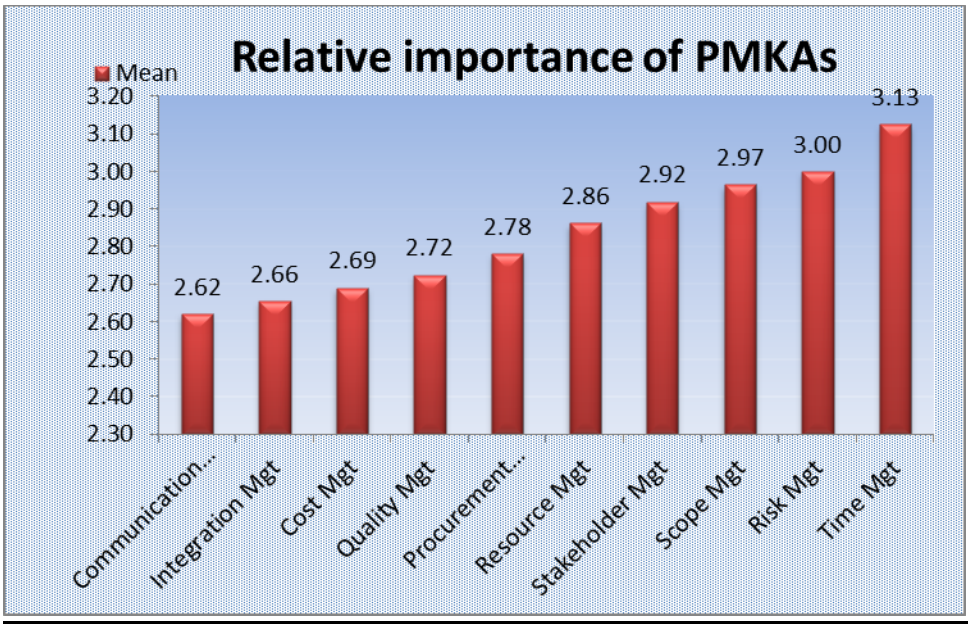
Based on the respondents' reply the following table shows the overall statistics in terms of frequency, percentage, mean, and standard deviation of all the ten knowledge areas of project management.

Table 4.4 relative importance of PM knowledge areas

No	Project Management Knowledge Areas	Project Management Knowledge Areas relative importance score										$\bar{x}$	SD
		Applicable (1)		Important (2)		Very Important (3)		Critical (4)		Very Critical (5)			
		N	%	n	%	N	%	n	%	n	%		
1	Integration Management	12	13.8	36	41.4	18	20.7	12	13.8	9	10.3	2.66	1.19
2	Scope Management	3	3.4	26	29.9	32	36.8	23	26.4	3	3.4	2.97	0.92
3	Time Management	12	13.8	18	20.7	19	21.8	23	26.4	15	17.2	3.13	1.31
4	Cost Management	12	13.8	25	28.7	31	35.6	16	18.4	3	3.4	2.69	1.04
5	Quality Management	12	13.8	27	31.0	21	24.1	27	31.0	0	0.0	2.72	1.05
6	Resource Management	6	6.9	27	31.0	30	34.5	21	24.1	3	3.4	2.86	0.98
7	Communications Management	12	13.8	21	24.1	45	51.7	6	6.9	3	3.4	2.62	0.93
8	Risk Management	15	17.2	18	20.7	18	20.7	24	27.6	12	13.8	3.00	1.32
	Procurement Management	10	11.5	23	26.4	34	39.1	16	18.4	4	4.6	2.78	1.03
	Stakeholder Management	10	11.5	20	23.0	29	33.3	23	26.4	5	5.7	2.92	1.09

As the respondents rated the relative importance of project management knowledge areas the data were analyzed and ordered as per the results. The order of the ten knowledge management areas according to the response from the respondents in the study organization is presented in the bar chart below.

Figure 2.8 Relative importance of PMKAs



Source: Research result

As per the result of the above chart time management, risk management and scope management are the knowledge areas that were selected as top (very critical) areas for the successful implementation of projects. That means these three knowledge areas are very critical and need special attention in project implementation.

Next levels of knowledge management areas selected by the respondents were stakeholder management, resource management, and procurement management in order. Quality management, cost management, and integration management project management knowledge areas were ordered in 7^{th}, 8^{th}, and 9^{th} respectively.

Meanwhile, communication management was selected as the least important, relative, of all the ten knowledge areas in the study organization. But there is no actual rank between the ten project management knowledge areas.

However, most research ranks communication management by its importance from first to sixth and this shows that the study organization's focus given to communication management is lower when it is compared with the research's reference organizations. To support this in a study titled "Impact of Knowledge Areas for Project Management on Project Quality" by Dahleez, (2017)

identified that communication management is the first top knowledge area that affects the quality of projects. But the result of the interview for selected managers also shows that communication management is not considered as the other important knowledge areas of project management.

Chapter Five: Conclusions and Recommendations

5.1. Introduction

As outlined in chapter one, the primary objective of this research was to access the practice of communication management in project management in IT PMO of Commercial Bank of Ethiopia. This includes examining the current practice communication management and finally to provide recommendations on how to improve the current flaws and implement the project communication process in a better way. This chapter aims to place the findings from chapter four into the context of the aim and objectives, to improve the project success, which represents the original motivation of the study. Now the final chapter of the research which includes the summary, conclusion, and recommendations for study organization has been presented hereafter.

5.2 Summary of major findings

The aim of this study was to assess the practice of communication management of IT projects conducted in CBE IT PMO. To achieve this descriptive survey and an interview was applied. The number of respondents, 87 out of a total of 105 populations, in the survey was enough to the research to make any type of decision using the data. There were a total of 32 questions. These questions were two types: interview questions and completed questionnaires. Out of these, 32 were Likert questionnaires and five of the total questions were interview questions.

Therefore, the major findings of the research 'The practice of communication management in IT projects the case of CBE' are presented hereafter.

- The current project success rate (completing projects as per the projects plan, cost, and achieving its objectives) in IT PMO is not satisfying, as per the respondents' response it indicates a poor project success rate with a mean ($\bar{x}$=2.62).

- The most common communication channel in the study organization was differed based on the geographic location of the stakeholders
    - For External communication with vendors, consultants an email is a usual communication channel due to the fact that mostly these are foreign companies and bout 82% response support this logic.
    - For internal communication, between team/s, formal communication is a verbal (face to face) that covers about 48.3 and email with 42.5% responses.

- Managers' and team leaders' communication skills (including the skill of how to solve a conflict in the project and stakeholders) were not satisfactory as per the respondents' viewpoint which is rates by the mean ($\bar{x}$=2.86) and (SD=0.78).

- The conflict levels (internal and external conflicts) have been also evaluated with the following result.
    - The level of internal conflict (within team/s) shows that there were only a few conflicts in project implementation and to have such frequency is inevitable.
    - But the level of external conflicts, with vendors and consultants, was observed to be higher than internal conflict and scored as medium level mean ($\bar{x}$=2.91).

- The relative importance of the ten PMKAs was requested to be ranked by the intention or focus given to them by the study organization was presented as in the following table below. Communication management was ranked last with a mean ($\bar{x}$=2.62).

Table 5.1 rank of PM knowledge areas

Knowledge Area	Rank	Knowledge Area	Rank
Time management	1st	Procurement management	6th
Risk management	2nd	Quality management	7th
Scope management	3rd	Cost management	8th
Stakeholder management	4th	Integration management	9th
Resource management	5th	Communication management	10th

- The practice of working as per the five communication management process defined by PMI was evaluated by the respondents with a mean ($\bar{x}$=2.82) and (SD=0.99) with the following subprocess results.

    - The practice of identifying stakeholders, understanding their interests, involvement, and impact on the project in the initiation phase of the project was observed as poor with a mean ($\bar{x}$=2.91).

    - The practice of communication planning (what, how, who, when, why to communicate with stakeholders and project team/s) was rated by respondents with a mean ($\bar{x}$=2.69).

    - However, making information available to project stakeholders was good with a mean ($\bar{x}$=3.2). But it is expected more improvement by the study organization to reach the benchmark point.

    - Regarding having a procedure or process of stakeholders expectation to communicate and work with stakeholders to meet their needs and address any issues when they occur was weak with a mean ($\bar{x}$=2.66).

    - In adopting procedure or process report performance information, which includes project status reports, project progress reports, and forecasts of the projects evaluated with a mean ($\bar{x}$=2.66).

    - Clarifying and preparing the roles of stakeholders in the project communication process have been rated with a mean ($\bar{x}$=3.28).

5.3 Conclusions

In this descriptive survey research, the practice of communication management on IT projects in the case of CBE, the following conclusions have been identified.

Regarding the communication forms mostly used in the IT PMO more informal communication forms were detected than formal communications. But according to Wu et al. (2017) informal communications have negative relations with project success while formal communications have a positive relationship. The use of project commutation tools in particular and project management tools, in general, was also not practiced by the study origination.

The communication skill of managers and team leaders was not satisfactory according to the respondents' view. Considering the fact that 90% of project manager's time is spent on project communication but their communication skill is not satisfactory, it's simple to imagine how it could damage the project success.

Meanwhile, the level of internal and external conflicts in the study organization, medium level of external conflict, and a few levels of internal conflict have been observed. But Wu (2017) and other researches indicate that conflict has a negative relationship with project success and conflict is primarily caused by miscommunication.

In addition, the study organization limitations in implementing the practice of communication management processes outlined by PMI. The five communication management processes are: identify stakeholders, plan communications, distribute information, manage stakeholder expectations, and performance reports with respect to their order.

Finally, the overall project communication management processes and project success rate of the study organization were observed to be poor. Even if the project communication management and total project success rate of the study organization are found to be poor, it is important to study the other PMKAs to decide in which area has observed more or less mismanagement. The focus given to communication management by the study origination was also poor.

5.4 Recommendations

As discussed before, the findings of the research were too far from the benchmark principles, BMBOK communication management processes, and here the findings were summarized as follows. And the processes of communication management identified from the research in the study organization are also categorized as positive findings, rated as good practice by the respondents, and negative findings on the other hand.

Positive Finding

- Regarding the communication channels or forms for external communication more than 82% and for internal communication about 42% form of communication is done by email. And this is a good practice as it enables to have fast method communication and it is considered as a modern way of exchanging information. But due to the fact that email communication has limitations in sharing knowledge with other members of the project team/s, stakeholders, especially after the projects are finalized. In addition, email communications are not easy to track the status of tickets and project progresses and other information.

  So, it's recommended to use systems (tools and or software) that are designed for project management and communication and support email communication as additional features like Teamwork project, OpenProject, Jira, and others. In addition, these tools help the other knowledge areas of project management massively.

- In distributing information, making information available to project stakeholders was rated as good even if it is expected more improvement is to be done to reach the benchmark point.

- Clarifying and preparing of roles of stakeholders have been rated as good but still, this also needs improvement.

- The level of internal conflicts (within team/s) shows that there were only a few conflicts in project implementation and its good practice that should be continued.

Negative Findings

- The current project success rate (completing projects as per the projects plan, cost, and achieving its objectives) in IT PMO is not satisfying and this could damage the study organization in economic and customer satisfaction rates.

  Hence, it is recommended to consider restructuring the process of communication management of projects and the other knowledge areas of project management principles to leverage the current success rate of IT projects.

- The most common communication forms in the study organization are email and verbal (face to face) for external and internal communications respectively. However, both email and most verbal communications are considered as informal communication. But (Wu et al., 2017) and other researches state that formal communication and communication-willingness were positively related to project success, but informal communication affected project success negatively. So, it is recommended to use formal communications instead of informal communications.

- Managers and team leaders communication skills (including the skill of how to solve a conflict in the project and stakeholders) is not satisfactory as per the respondents' viewpoint. About 90% of the time in IT projects is spent on communication by the project manager to the other stakeholders (Jusoh *et al.*, 2018 & Rajkumar, 2010).

  Considering this fact and assuming the current communication skill of managers and team leaders needs a way like training to improve communication skills and this enhancement has a big role in the improvement of the project success rate of the study organization.

- Even if the conflict level of internal conflict is few but the level of external conflicts, with vendors and consultants, was observed to be higher than internal conflicts and scored as medium level. This indicates that there was no formal communication between stakeholders or there was a miscommunication between stakeholders.

  Adopting communication management as per the PMBOK project management communication principles or adopting other frameworks and working as per the principle will solve the conflict.

- The practice of identifying stakeholders, and understanding their interests, involvement, and impact on project success, was observed as poor and this practice should be reflected in the planning phase of projects and this is helpful to ease the next level of stakeholder communication.

- The practice of communication planning (what, how, who, when, why to communicate with stakeholders and project team/s), review plan regularly, and implementing according to the plan was also weak as per the respondents' opinion. And it is recommended to adopt the practice of communication planning by deciding:

  - What tools and techniques to use for communication between stakeholders
  - How communication will be performed for all stakeholders
  - Who will be responsible for communications between stakeholders
  - When and why communication will be triggered etc

- The practice of having procedures and processes to communicate and work with stakeholders to meet their needs and address any issues if occurred was also weak and adopting procedure and process of communication management is recommended.

- In adopting procedures and processes to collect and distribute performance information, which includes status reports, progress measurements, and forecasts of the projects was also observed to be lower. As discussed above having a system, tool, software that can

use for project management communications have a big role in alleviating this problem and other related issues.

- Last but not least was the focus given to communication management with respect to the importance of other knowledge areas of project management by the study organization. It was one of the main objectives to be assessed in this research. Accordingly, the result depicts from the ten knowledge areas time management was selected as the most important for the success of a project and communication management as the least important to project success.

  But this shows that the low focus given to communication management is not proper and a better understanding of it is needed to be adopted and implemented.

5.5 Suggestions for Further Studies

In this research different forms of communication have been compared and contrasted with their benefit to project success, the practice of communication management processes implementation has been assessed and the focus given by the study organization to communication management with respect to the other knowledge areas of project management also evaluated. In addition, the communication skills of managers and team leaders and conflict levels in external as well as internal project teams have been assessed.

However, in this research, the practice of communication management, the influence or impact of these communication management factors to project success was not studied and it is suggested for further studies.

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Appendix A*:* *Questionnaire*

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

Dear Participants,

I am Abadi Gebreanenia a student of Addis Ababa University college of Business and Economics, School of Commerce project management department, conducting a research project for Master of Arts in project management (MAPM) on the **practice of communication management of IT projects in case of Commercial Bank of Ethiopia (CBE)**.

For successful accomplishment of the research paper I need your assistance. The survey will take about 10 minutes of your time. The information gathered is anonymous and will remain strictly confidential. It will be used only to advance knowledge and for the dissemination of the overall results at academic or professional forums. Only the researchers will have access to the data collected. Completing this questionnaire will be considered as your consent to participate in our research project and permission to use the data collected from this questionnaire in future research.

The questionnaire has personal information as introduction and it contains 3 sections with total of twenty (20) objective questions.

Thank you in advance for taking your precious time to fill out the questions.

Personal Information of Respondents

1. **Gender**: Male ☐ Female ☐
2. **Age**: <25 25-30 ☐ 30-35 ☐ 35-40 ☐ >40 ☐
3. **What is your level of education**: Diploma ☐ Bachelor Degree ☐ Masters ☐ PHD ☐
4. **Experience on the bank**: 1-3 ☐ 3-7 ☐ 7-10 ☐ >10 ☐
5. **Your current position**: Expert ☐ Team leader ☐ Manager ☐ Director ☐
6. **In how many projects have you participated in CBE** 1☐ 2☐ 3☐ >=4☐

Section I: communication forms in project management phase & success rate

1. From the following communication tools and techniques which one do you use frequently within the project team/s?

   Verbal (face-to-face) ☐ Telephone ☐ Electronic (Email) ☐ Written (letter, memo) ☐
   Tools designed for project management communication like OpenProject, Jira or others ☐

2. From the following communication tools and techniques which one do you use frequently with project manager, vendors, consult, higher officials, clients and other stakeholders?

   Verbal (face-to-face) ☐ Telephone ☐ Electronic (Email) ☐ Written (letter, memo) ☐
   Tools designed for project management communication like OpenProject, Jira or others ☐

3. Projects success rate in your organization (in terms of time cost and objectives achievement of the project)
   Very poor ☐, poor ☐ , Good ☐, Very Good ☐ , Excellent ☐

4. Project managers and team leaders communication skill with in the project and other stakeholders

   Very poor ☐, poor ☐ , Good ☐, Very Good ☐ , Excellent ☐

5. Level of conflict (disagreement) between the member of the project and/or between teams of the project in project

   None ☐, Few ☐ , Medium ☐, High☐ , Very high ☐

6. Level of conflict (disagreement) between client (Bank) and other stakeholders (Vendor, consultant and others) in project

   None ☐, Few ☐ , Medium ☐, High☐ , Very high ☐

Section II: Practice of communication management

For the following 7 questions, please select the level of agreement for each question.

1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

No	Questionnaires	Level of Agreement Low ←→ high				
	Section II	**1**	**2**	**3**	**4**	**5**
1	**Identify stakeholders** Stakeholders are identified, prioritized, and registered in a suitable tool that enables to have proper communication					
2	**Plan communication** A communication plan (what, how, who, when, why to communicate with the stakeholders and project team/s) is planned and implemented accordingly.					
3	**Distribute Information** We make information available to project stakeholders as planned (using suitable tools and techniques)					
4	**Manage Stakeholder Expectations** We have procedure or process to communicate and work with stakeholders to meet their needs and address any issues as and when they occur.					
5	**Report Performance** We have procedure or process to collect and distribute performance information, which includes status reports, progress measurements, and forecasts of the project.					
6	We have a system, tool, or technique that allows all teams and stakeholders to share challenges, progress report, or any information of the project.					
7	Clear communication processes, clarifying roles of stakeholders have been prepared					
8	Communication plan reviewed regularly, and adjusted if need be throughout the project life cycle.					

Section III: Importance of project management knowledge areas for success of project

Evaluate the importance of the following knowledge areas of project management to success of your project.

No	knowledge areas	Importance for project success Low ← importance → High				
		1	2	3	4	5
1	Integration Management					
2	Scope Management					
3	Time Management					
4	Cost Management					
5	Quality Management					
6	Resource Management					
7	Communications Management					
8	Risk Management					
9	Procurement Management					
10	Stakeholder Management					

1=Applicable, 2=Important, 3=Very important, 4=Critical, 4=Very critical

Appendix A*: Interview*

Interview Questions

1. How it looks like the current status of IT project success rate in terms of time plan, cost and achieved objectives in CBE?

2. Do you use project management tools that include communication management as a feature and? If you don't have yet, do you have a plan to do so?

3. What is the formal method of communication between stakeholders and why you choose it over the other options?

4. Were there any conflicts occurred between the bank and other stakeholders like vendor, consultant or any other?

5. How do you feel the effect of communication management on the project success rates of your company?