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**ADDIS ABABA UNIVERSITY COLLEGE OF BUSINESS AND ECONOMICS,  
SCHOOL OF COMMERCE GRADUATE STUDIES PROGRAM  
DEPARTMENT OF PROJECT MANAGEMENT**

**Assessment of Project Communication Management on Construction Projects: A case of  
Private Real Estate in Ethiopia.**

**By**

**Mezgeb Manaye Gebru**

**A RESEARCH PROJECT SUBMITTED TO  
ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR A MASTER'S DEGREE IN PROJECT MANAGEMENT**

**ADDIS ABABA UNIVERSITY, SCHOOL OF COMMERCE  
ADDIS ABABA, ETHIOPIA**

**Advisor: Bahran Asrat (PhD)**

**March, 2021**

**Addis Ababa, Ethiopia**

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## **DECLARATION**

I declare that “Assessment of Project Communication Management on Construction Projects: A case of Private Real Estate in Ethiopia.” is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Student Name: Mezgeb Manaye Gebru

Signature: \_\_\_\_\_

Date: March, 2021

Addis Ababa, Ethiopia

## **CERTIFICATION**

This is to certify that Mezgeb Manaye Gebru has carried out his research work on the topic entitled “Assessment of Project Communication Management on Construction Projects: A case of Private Real Estate in Ethiopia.” The study is an original work and is suitable for the submission for the reward of MA Degree in Project Management.

**Advisor: Bahran Asrat (PhD):** \_\_\_\_\_

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## **LIST OF ACRONYMS**

PM- Project Management

PMBOK- Project Management Body of Knowledge

PMI- Project Management Institute

IT- Information Technology

PCM-Project Communication Management

CM-Communication Management

EIA-Ethiopia Investment Agency

CCD-Country Club Developers Private Limited Company

PCMP-Project Communication Management Plan

PCP-Project Communication Process

CP-Communication Process

## **Abstract**

Communication plays a significant role in construction project in integrating employees and help to make an effective decision to control project process and success. The aims of this research are to explore the practice of project communication management, construction project communication barrier, reporting and feedback systems and communication techniques and channel used in construction industry specifically in Real Estate project in Ethiopia. Due to the nature of the issues addressed in the study, the mixed-methods approach was employed. Questionnaires and semi-structured Interview are primary data collection instruments which were distributed to the project manager, office engineers, site engineers and foremen that works on three private Real Estate project in Ethiopia. The questionnaires were distributed for 50 respondents and its return rate was 94%.The qualitative data were collected from 6 professional worker in the three selected private Real Estate project in Ethiopia. Descriptive statistical models were employed to analyze the data to be gathered from respondents. The researcher observed that, Project communication management in Real Estate project in Ethiopia is practiced, but it needs major improvement and Professional workers including project manager understands project communication management is vital to the success of project. The study also discovered that, Poor and distorted information, inexperience interpretation of working drawings, late dissemination of information and poor means of communication are the major causes of project delay, increase in cost, and failure in Real Estate project in Ethiopia. In construction industry project communication, proper management of the communication in the project, and escaping project communication barrier are the basic pivotal for the success of the project. Finally, how to use effective project communication management to overcome project delay, improving the use of high-tech technologies in project communication management and techniques to overcome communication barrier in construction projects are the recommendation of the study.

**Key words:** *project communications management, project communication, communication, communication barrier, Real Estate.*

## **CHAPTER ONE: INTRODUCTION**

### **1.1. Introduction**

This chapter introduces the project by presenting the context of the study as well as the background to the project communication management in construction project in Ethiopia and the background to private Residential Real Estate developer in Ethiopia . The chapter then discusses the problem statement, followed by the research questions and objectives. Finally, present the rationale and scope of the study as well as the definitions of key terms.

### **1.2. Background of the study**

Compared to other developed countries, the Real Estate industry, especially one those owned and run by private investors in Ethiopia, has a limited years of experience. The companies that are operating in this regard have been mainly unsuccessful for several reasons, one of which is related to poor design and implementation of project management plan. Empirical evidence suggests that communication plays an important role in ensuring better performance in the construction projects. This is because a building project incorporates several aspects that involve the participation of a group of people who are better disposed to do the job (Adejoke, 2017). According to Ceric (2010), communication that takes place in construction projects is multi-disciplinary and it involves several levels in an organization and a multitude of perspectives and interpretations (Ceric, 2010).

Regarding the importance of communication and communications management in construction projects, Emmitt and Gorse (2007) highlight that individuals and groups that participate in construction projects must work in collaboration in sharing, collating and integrating huge chunks of information in order to materialize the major objectives of the project. It is through effective communication that a bridge among various stakeholders with diverse culture and organizational backgrounds, varied expertise, interests and perspectives is created. This influences the outcome or the extent to which the project can be executed successfully (PMI, 2013).

The success of communication in construction projects depends on the interaction among several stakeholders. Thus, the members of the process of communication can be between two or more individuals or organizations that participate in the construction project (Gunham & Senol, 2012).

Regarding this, Thomason (1988) argues that it is through the meaningful interaction among group, team or network members that successful flow of information can be materialized. In other words, communication and information management is crucial in realizing construction projects (Emmitt & Gorse, 2003).

Highlighting the crucial role that communication plays, Čulo and Skendrović (2010) reported that project managers use nearly 90% of their time communicating or engaging with shareholders of the respective project. The eventual outcome of the project is the result of the interaction and synchronization of the processes of the project intending to meet the expectations, cost resources and date of completion (Dinsmore and Cabanis-Brewin, 2014). It is through successful communication that a bridge is built between sundry stakeholders with varied organizational and cultural backgrounds and various levels of expertise, interests and perspectives (PMBOK, 2017). PMI (2013) reported that 55% of project managers consider effective communication as instrumental to the success of a project. Thus, the management and coordination of information exchange among participants is vital in project success (Melzner et al., 2015).

Furthermore, the increase in positive decision-making and innovation is significant in improving communication in the industry (Hoezen, 2011), and to circumvent misunderstanding that engenders conflicts arising out of incorrect messages thereby resulting in the failure of a project (Zulch, 2014).

Communication management is an essential ingredient of project management. This is because it forms the heart of the project management emerging because of substantial impacts on the projects, which construction projects area a part of (Taleb et al., 2017). Besides, the satisfaction of customers, and project effectiveness and success are mainly dependent on effective project communication (Bourne, 2015).

Caltrans (2007) notes that the processes of communication management helps to approach a key link between participating individuals and the required information to Realize effective communication. This implies that project communication management is beneficial in assisting the development of a project communication plan, effectively employing relevant methods to disseminate information and to document the project records for future needs (Caltrans, 2007)

Business and residential properties are the forms of Real Estate. These can be sold either by a Realtor or by the individual owning the property. Land ownership is seen as a Real property with sale or transfer right that the law has granted (Miles et al., 2007). However, the principle of sale or transfer follows the land policy regulated by the government of a specific country (Miles et al., 2007).

Raw land, residential homes, and various forms of income property like warehouses, apartment buildings and offices are included in Real Estate entities. In Ethiopia, land is owned by the government with the use of urban land granted through 99-year leases. “Leases or tenancy agreements are normally signed for the duration of one year with bi-annual rental payments made while parking and service charges are typically paid annually by the tenant. Tenancy agreements do not carry rental escalations and are renewed at the same or a renegotiated rate” (JLL, 2016:10).

There are three phases of a Real Estate development project. An early stage or pre-development is the first phase of a project. This is where the emphasis of the developer is on diligence, research, and gaining a license. In terms of duration, this phase is more variable than the other phases (Ian, 2016). Assessing the environment, carrying out surveys, conducting market analysis and feasibility study, and obtaining option rights to buy land, developing site and development and building plans, arranging construction financing and infrastructure improvements are among the major activities in this phase (William, 2018).

Construction constitutes the second phase. This mainly involves constructing the improvements. Since this is subsequent to the pre-development stage, there is a significant reduction in risk (Thierry et. al, 2013). According to Thierry et al., (2013), project marketing, drawing on construction financing, vertical construction, pre-leasing, and arranging for a property manager are among the major activities in this phase. Operation is the third phase. Which forms the primary step in the life of a building. It involves looking for a buyer if this is not taken care of at an early stage, ongoing marketing and leasing, ramping up property management, and achieving stabilization (Thierry et al., 2013).

According to the data from Ethiopian Investment Agency in 2019/2020, there are more than 125 Real Estate companies in Ethiopia. However, there are only operating few ones that are now operating. The researcher has therefore selected three private Real Estate companies. These are Ayat Real Estate, Country Club Development Real Estate, and Sunshine Investment Group) in Ethiopia. The selection of these companies is justified in the methodology section of this paper.

Ayat Real Estate developer, which is among the pioneers in the Real Estate Industry in the country was founded in 1997. The Real Estate developer has so far completed the construction of more than 5,000 residential units (Selam, 2016). They are the most experienced Real Estate developer that focuses only on residential homes. They had a bumpy beginning when they were first building and selling the Ayat Real Estate villa houses in the Ayat area, with rumors of low-quality building materials being spread.

Country Club Developers Private Limited Company (CCD), which is found in in Legatafo town, 17Km from Addis Ababa was founded in 2002. The primary objective of the company's establishment relates to constructing high-end quality residential homes in the country. CCD plans to construct 2200 quality villas, 1000 apartment units and 1000 small houses for a middle-income family. The village is designed to accommodate shopping center, specialized shops, a five-star hotel, hospital, school, clinic, an 18 hole Professional Golfers' Association (PGA) standard golf course, cinema, offices, SPA, Gym, banks, game zones for children, and convention center (Selam, 2016).

Sunshine Real Estate developer is a member of Sunshine Investment Group, which was founded in 1996. Sunshine Real Estate plans to construct 427 villas and 3,254 apartments. The developer target groups are mainly people in the business sector and the Diasporas. The Real Estate developer has different sites in different parts of the capital city of Ethiopia. Sunshine has delivered to the client's 225 villa and 34 apartments in Meri luke and Gerjii sites (Selam, 2016). The developer has an ongoing project in Bole Beshale that contains 313 apartments and 218 villas, from those 280 apartments and 22 villas are completed and handed over to clients. Sunshine Real Estate developer has also an ongoing project in CMC site that plans to construct 175 apartments and 114 villas, from those 82 apartments and 20 villas completed. Sunshine Real Estate had a version to be a construction sector benchmark in Ethiopia for its superior performance.

Given the above background to the critical role of communication in project management, it is important to conduct further research into project communication management on the construction project in private Real Estates in Ethiopia to better understand how project managers manage project communication management throughout the life of the project.

### **1.3. Statement of problem**

The literature on communication in general and project communication in particular clearly show that it is difficult for construction companies to succeed without a clear communication strategy and communication management plan. This means that there should a clearly formulated and documented project communication management plan to realize the objectives for which the construction company is originally founded. Regarding this, Caltrans (2007) underscores that information communication management processes are instrumental in approaching the major link between or among the various private Real Estate companies to ensure that they play a pivotal role in meeting the housing needs of their respective communities. This is also in line with their objectives of maximizing wealth and profit. Caltrans (2007) further notes that the ability to address problems relating to the flow information is among the major areas of communication that a construction company faces in its day-to-day operations. In this regard, Caltrans (2007) suggests that it is very important to employ pertinent communication and communication medium to deal with problems in the construction industry.

Previous research further demonstrate that there are several factors which are responsible for the failure of construction companies in Ethiopia. One of the most important factors or problems is related to information flow and how information and communications are planned and managed in respective construction companies. Globally, the reports of Project Management Institute (PMI) corroborate that problems related to communication are the main contributors to the downfall of construction projects. More specifically, PMI identified that one out of every five failed due to ineffective communication. According to Mei (2014), effective communication is one of the most determinant factors in the success of construction projects. Mei (2014) highlighted that all projects are not likely to succeed. Characteristically, two in five projects fail to realize their project's primary objective, and half of these failures are attributed to poor project communication. Similarly, Luka et al., (2014), demonstrated that the most detrimental factor in Realizing

construction projects in Nigeria was related to construction project delivery. This study further demonstrated that the stakeholders in the industry were convinced that poor communication management was a big contributor to failing to deliver construction projects. Hence, communication is pivotal and it should be applied and managed successfully in the entire life of project (Luka et al., 2014).

As discussed above, the role that communication plays in the success of the construction industry is pivotal. As such, the successful completion of a construction project depends mainly on communication and information flow, which is one of the components of effective communication (Caltrans, 2007). Von and Bruen (2010) reported that the lack of management's communication commitment which was the fifth barrier to achieving quality in construction in Brunei constituted 80% of the failure of the construction industry. Supporting this finding, Luka, et al., (2014) has shown that the experts' performance in the industry is a function of strong communication and information flow. They emphasize that productivity, teamwork and meaningful collaboration are enhanced by good project communication practices on the construction site (Luka, et al., 2014).

Effective project communication impacts the performance of Real Estate projects positively. With regard to this, Masasabi & Ngari (2019: 41) conducted a study in Kenya and found that "there was a strong positive significant linear relationship between the performance of Real Estate projects and project communication." In the same vein, Maame (2012) showed that a continuous communication among the project proponents and its stakeholders proved to be very indispensable in the success of the Ghanaian construction industry. This indicates that poor project communication management still appears to be the most widespread problem in the construction industry. This exemplifies that communication strategies should be planned carefully; otherwise, later failures are eminent. If communication methods are not carefully planned, selected and implemented, delays are more likely, thereby impacting productivity of the stakeholders negatively.

Mitkus (2014) found that construction-related conflicts were reported to be one of the most important reasons behind unsuccessful communication among the people participating in the construction project. This implies that poor communication is the main reason behind the vast majority of the defects in the construction industry (Mitkus, 2014). A case in point is "a poorly detailed drawing, operatives being given incorrect instructions or technical information not being

available.” (BRE, 2011:1). Supporting this finding, Wong et al., (2008: 823) argue: “the absence of communication between participants creates fears of exploitation and betrayal, which results in the avoidance of commitment of the team.”

In spite of the ample evidence supporting the importance of smooth information flow and communication management plan, the construction project in Ethiopia is suffering from major draw backs in this respect. Several noteworthy problems which can be attributed to poor information flow and the absence or poor implementation of communication management plans (Meron, 2018). Some of the major problems regarding information and project communication plan relate to the lack of a well-documented information flow strategy, the poor management of information flow, the lack of a clearly stated project communication plan, and in instances where there are documented project communication management plan, its poor implementation and/or limited timely supervision and monitoring. All these factors contribute to poor performances of real Estate projects in the country which are often criticized for their inefficiency, corrupt practices, delays and lack of quality deliveries, among other pertinent problems. A study conducted by Befekadu, (2017:99) found that the Ethiopian private Real Estate construction sector “is experiencing high cases of delay, budget overruns, poor quality, health and safety issues, pollution, and issues of sustainability as a result of poor project communication practices”

The literature cited above on project communication management clearly depicts that success in construction projects is difficult to achieve if clear and documented information flow and project communication plants are not put in place. It further illuminates close follow-up and monitoring of the implementation of information flow and project communication management are critical in the success of construction projects. The lack, absence or poor implementation of information flow and communication management are likely to engender failures not only of specific construction projects but also of the downfall of the respective construction companies altogether. The private construction companies or real Estate companies in Ethiopia are not immune to these problems as previous research have demonstrated. Therefore, it is important to better understand the communication management practices of private Real Estates in Ethiopia to determine if they are have and are employing workable project communication plan. In Addition to this, project communication is not given due attention in Ethiopia there are few research undertaken on the subject of communications management in Ethiopia. Due to this the researcher tried to fill this gap

by conducting project communication management practice specifically in private Real Estate Developer in Ethiopia.

#### **1.4. Research Questions**

This study aims at addressing the following research questions:

1. What is the project communication management practice in the Real Estate project in Ethiopia?
2. What are the communication barriers on construction projects in private Real Estate in Ethiopia?
3. How much value do construction project professionals place on communication in private Real Estate in Ethiopia?
4. What are the communication techniques and channels used in private Real Estate in Ethiopia?
5. What reporting and feedback systems are used in the construction project in private Real Estate in Ethiopia?

#### **1.5. Research Objectives**

##### **General objective**

The research aim is to assess project communication management within the construction industry in private Real Estate companies in Ethiopia.

##### **Specific objectives**

1. To assess the project communication management practice in the Real Estate project in Ethiopia
2. To assess the communication barriers on construction projects in private Real Estate in Ethiopia.
3. To assess the value placed on communication by construction project professionals in private Real Estate in Ethiopia.

4. To assess the communication techniques and channels used in private Real Estate in Ethiopia?
5. To assess reporting and feedback systems used in the construction project in private Real Estate in Ethiopia.

### **1.6. Research Significance**

Considering the importance of project communication management in the construction companies, specifically in Real Estate companies, and the booming of construction activities in Ethiopia, it is assumed that this research output contributes to identifying communication barriers on construction projects and the effect of project communication management on project delivery in Real Estate construction projects.

Meanwhile, project communication management is an area with a growing body of knowledge, this research can contribute in adding some concepts to the existing body of knowledge with a particular emphasis on private Real Estate Companies in Ethiopia. Even though the research focuses on private Real Estate projects, the findings and the outcome could be relevant to practitioners in other types of construction projects.

### **1.7. Scope of the Study**

Communication within the construction industry is broad and could involve a lot of work. This study was conducted on project communication management practice on housing construction projects. Among entities that are involved in housing projects, only private Real Estate companies that have completed and/or ongoing projects located in Addis Ababa is involved in the assessment.

According to the data in Ethiopia investment agency, there are more than 125 Real Estate companies in Ethiopia and from those, there are three classifications as pre-implementation, implementation, and operation. From those, the operating ones are few and thus the researcher selects three private Real Estate companies (i.e. Country club development Real Estate, Ayat Real Estate, and Sunshine Real Estate) in Ethiopia that have completed and/or ongoing projects located in Addis Ababa based on the number of houses they were completed, the number of ongoing projects at hand, their human resource capacity, and those the ones who respond well.

## 1.8. Limitations of the Study

The researcher has a few limitations concerning the scope and content of the study against achieving its objectives effectively. It was impossible to access some important documents like communication documents that was used between different stakeholders in the project. Accordingly, questionnaire and interviewed based data were obtained. Also, the research is limited to the views of project communication management without linking those perceptions to the respective projects.

## 1.9. Definition of Terms

- **“Communication:** - is the act of conveying meanings from one entity or group to another through the use of mutually understood signs, symbols, and semiotic rules” (Harper 2013:19).
- **“Project communication management:** - Includes the processes required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and ultimate disposition of project information.” (PMBOK 2017:60).
- **“Real Estate:** - is the land along with any permanent improvements attached to the land, whether natural or man-made including water, trees, minerals, buildings, homes, fences, and bridges.” (James 2019:1)
- **“Real Estate developers:** - are the people and companies who coordinate all of these activities, converting ideas from paper to Real property.” (Frej & Peiser 2003:3).
- **“Communication Management:** - involves creating, distributing, storing, retrieving, and disposing of project communications based on the communications management plan.” (Kathy 2012:406).
- **“Controlling communications:** - involves monitoring and controlling project communications to ensure that stakeholder communication needs are met.” (Kathy 2012:408).

## **1.10. Organization of the Study**

The research is organized into five chapters. Chapter one is the introduction and it mainly introduces the topic and purpose of the study. The chapter further presents an overview of the construction industry in Ethiopia in general and Real Estate in particular. This chapter include the introduction of the study, statement of the problem, basic research questions, objectives of the study, definition of terms, the significance of the study, and scope of the study. The second chapter critically review literature that is related to the study, it includes theoretical and empirical literature review about project communication, project communication management, and Real Estate in Ethiopia. Chapter three is concerned with the methodology used for this study. This chapter give a detailed description of the research design, participants, the procedure for data collection, data collection instruments, methods of data presentation and analysis, validity and reliability, and ethical considerations. The fourth chapter summarize the data analyzed and present the interpretation in light of the literature review. The last chapter conclude, summarize, and make a recommendation for further research based on results found from the research.

## **CHAPTER TWO: REVIEW OF RELATED LITERATURE**

### **2.1. Introduction**

The purpose of this chapter is to critically review the conceptual and empirical literature on project communication management in the construction industry in Ethiopia. This chapter is comprised of two main sections. The first section details the conceptual literature, and the second one discusses the empirical literature. Under the first major section, important concepts are described or defined. These include communication, communication management, and project communication management in the construction industry. Previous studies are reviewed in the second major section. This section specifically fleshes out the research gaps that this study sought to fill.

### **2.2. Communication**

Communication used in any project including construction project to share information and/or ideas between workers of the project. The important roles that communication always plays in the lives of individuals, groups, communities, and organizations. The construction industry is no exception. Thus, communication establishes decisive links among all the resources, thereby creating a communal force that helps to realize project objectives. Various studies have established that without effective communication, the success of construction projects is unthinkable (Zulch, 2014). Emmitt and Gorse (2007) identify two forms of communication in a construction industry:

#### **➤ Verbal communication**

This form of communication refers to exchanging messages between two or more parties. It is realized through speaking, telephone phone calls, face-to-face interaction, interviews and letters it can happen formally and informally (Cleary et al., 2003).

Smit and Cronje (2002) point out that formal communication is from upward to downward. This happens laterally and horizontally. This is a typical instance of official information flow which occurs using predefined media or channels. In terms of structure, the formal form of

communication is organized hierarchically, and it follows a strict chain of command (Cleary et al., 2003).

By contrast, informal communication is known to be multi-dimensional. Unlike formal communication, it is not hierarchal. It is a communication that has no hierarchy (Van et al., 2007). Informal communication does not have pre-determined media and routes. Because of this it tends to be fast. Informal communication is also referred to as the ‘grapevine’ and its beginnings are rooted in social relations (Van et al., 2007). It can form part of the formal system if it is incorporated in that system of a given company (Cleary et al., 2003).

### ➤ Nonverbal communication

Nonverbal communication is a process of transferring information in the project using body language and facial expressions (Giri, 2009). In the context of a construction project, nonverbal drawings, signals, and symbols are often used as part of non-verbal communication (Meron, 2018).

### 2.3. Communication process

There are many communication media, which are often adopted by construction projects or project teams. Figure 2.1 shows the different elements in the process of communication

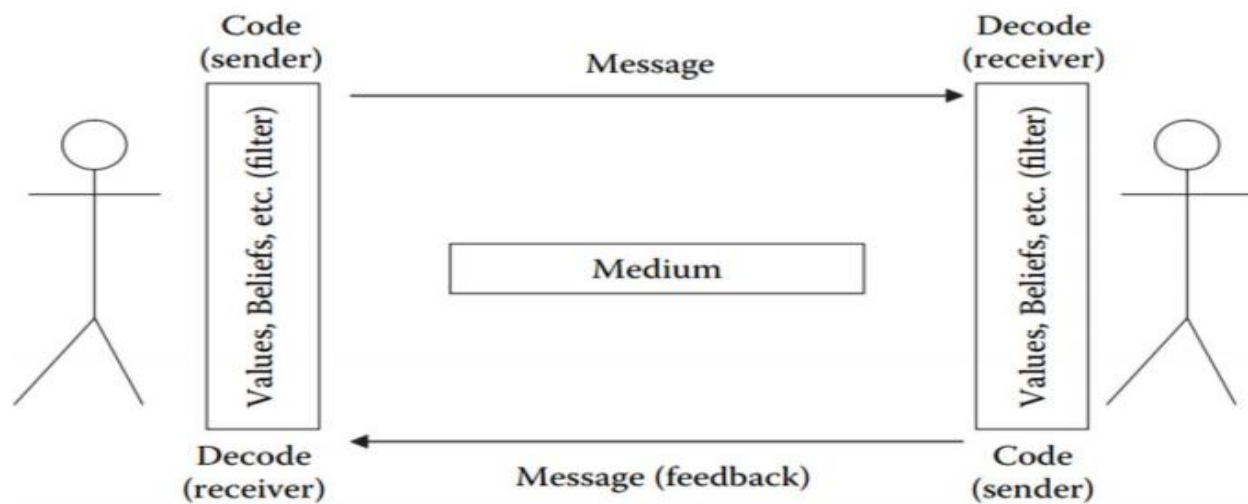


FIGURE: 2.1. COMMUNICATION PROCESS (Adopted from Kliem, 2008)

**Sender**

This is can be a person, a group of persons or an organization that sends information to a receiver (PMI, 2013).

**Message**

This constitutes the information passed on to the receiver in the form of speech, pictures, symbol etc. Without message communication cannot take place, and therefore it forms an important component of the communication process. Verbal written or pictorial messages can be conveyed (PMI, 2013)

**Encoding**

Before messages are sent to the receiver, they are encoded in the form of sounds, texts or pictures or other forms (PMI, 2013).

**Medium**

In the communication process, senders use medium to transfer message receivers. In organizational settings, memorandum, a computer, telephone, cell phone, apps, or televisions can be the major media of information or message transfer (PMI, 2013).

**2.4. Project Communication Model**

Inactivity of sharing information that helps the employees of a construction project to perform their part in the project, the model of communication is developed to describe the procedure of communication in the project. The Shannon–Weaver communication model which was formulated in 1949, is often considered the 'mother of all models'(Erik & David, 2005). Many past and present studies have employed this model in order to understand the communication process in organizational settings (Fiske, 1982). Figure 2.3 depicts Shannon-Weaver's project management communication model.

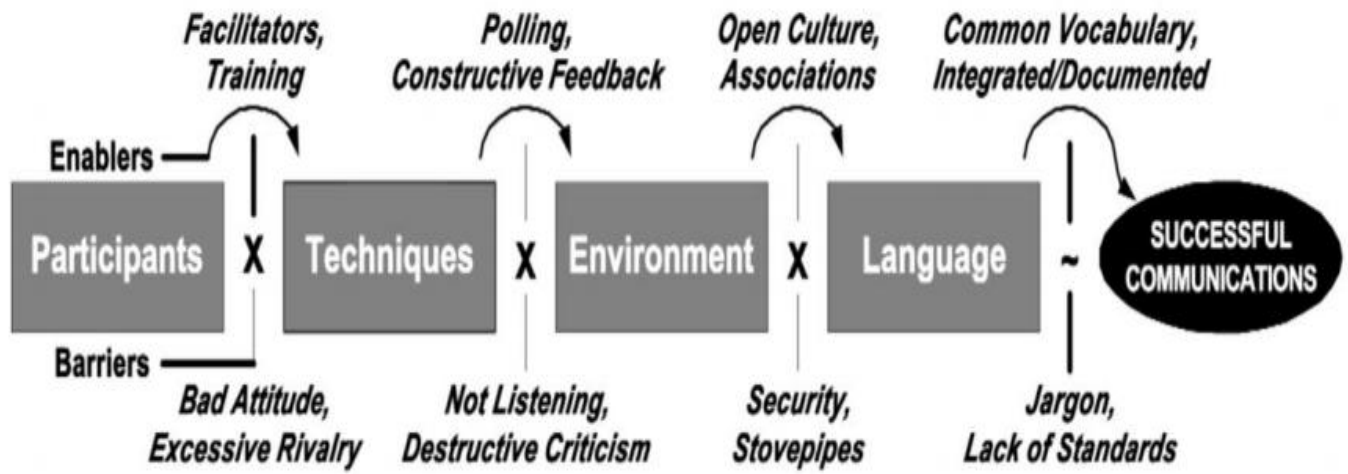


FIGURE: 2.2. THE PROJECT MANAGEMENT COMMUNICATION MODEL DESIGNED BY SHANNON-WEAVER MODEL (Adopted from Affare, 2012)

## 2.5. Effective Project communication

One of the major things in the construction project is to think through how effectively distribute the information throughout the life of the project. It is a two-way information sharing process involving the sending of a message by one party and the comprehension of the same by another party receiving the conveyed message (Adejoke, 2012). Adejoke (2012) underlines that effective communication is not a mere transfer of information since it involves comprehending the emotions and intentions behind the conveyed information.

## 2.6. Barriers of Project Communication

Carvalho (2008) argues that understanding the process of effective communication looks a very straightforward matter. It is, however, a complex process practically. This complexity, when accompanied by ineffective communication, results in what is referred to as communication barriers. Communication barriers occur because messages may not be received accurately in line with the sender's intentions. Hence, that is why communicators in the communication process are often advised to check that their message is clearly understood (Carvalho, 2008).

There are different communication barriers which may manifest themselves in the process of communication without being limited to any stage. Communication barriers can result in wastage of time, money and other important resources. Pertinent people in the communication process should be able to address these barriers in order to realize effective communication (Komi- Sirviö and Tihinen, 2005).

Various types of projects are faced with different common challenges in the process of communication. These communication barriers among the participants can engender conflicts and delays at any stage of the project. Different studies have confirmed that communication barriers of lack of effective communication can cause up to 74% of the main problems occurring in construction projects. (Komi- Sirviö and Tihinen, 2005).

### **2.7. Project Communication management**

Communication management is integral to project management. Such processes as planning, collecting, distributing and retrieving project information for or among the participants of a project are some of the most important components that are defined by project management (PMI 2013a). Project communications management has a crucial role to play an important role in the success of projects since it is through such a process that coordination and understanding are among project stakeholders in the organization are garnered (Gómez, 2007).

### **2.8. Project Communication management plan**

The type of communication that a construction project needs can be determined by the project manager and the project team. This is done taking into account stakeholder analysis. A project communication management plan constitutes the essential document of the project. As a key element, it emphasizes ways of planning, arranging, observing and controlling the project communication. It is also a means through which project communication goals and requirements are set (Kliem, 2008, PMI, 2013a). Moreover, according to, Bilczynska (2014), the frequency of communications taking place in the project life cycle among the participants is elaborated in the plan.

Communication management plan, as a key document, is a tool that can be used to present timely and relevant information to the stakeholders of the project (PMBOK, 2017). It is a periodic process that is performed as the need for it arises in the project life cycle. The following figure presents a summary of the inputs, the tools and techniques, outputs of the communication management plan.

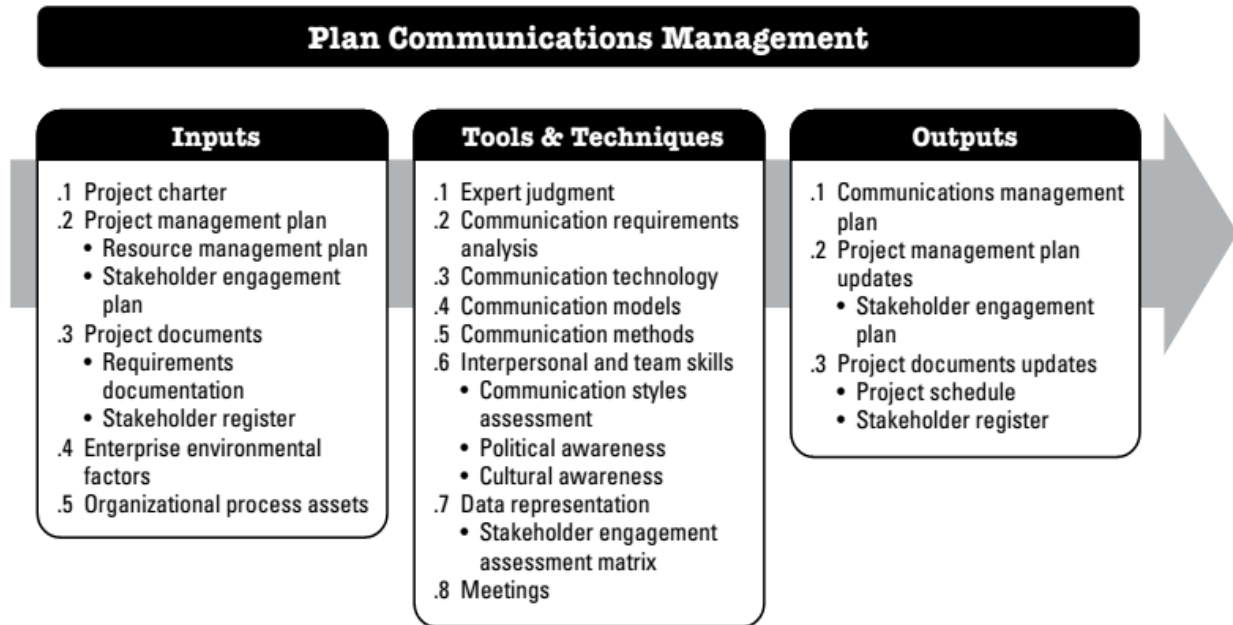


FIGURE: 2.2. PLAN COMMUNICATIONS MANAGEMENT: INPUTS, TOOLS & TECHNIQUES, AND OUTPUTS (Adopted from PMBOK 2017)

## 2.9. Communication in construction industry

Emmitt (2007) and Christopher (2010) note that the realization of project objectives is mainly a function of how effective the communication among the teams of the project is. In this regard, Carlsson et al. (2001) note that there are three forms of interpersonal communication. These are oral, written or graphic, and nonverbal communication. Oral communication is defined as the process of using symbols to send important messages. There are several ways through which it can be realized. These are face-to-face, telephone, meetings, and presentations. The communication happening through letters, e-mails, fax, reports, memos, legal documents, plans, etc. are part and parcel of written communication. The third type of communication, nonverbal communication, involves transmitting messages with the help of nonverbal means: facial expressions, eye contact, posture, gestures, etc. (Giri, 2009).

Zerjav and Ceric (2009:2) argue: “Most construction professionals are aware that communication in construction projects is reasonably inefficient in comparison to other industries”. This is the main reason why companies and professional organizations are putting substantial effort into improving communication practice in the construction industry. It is very indispensable for construction professionals to engage in continuous communications in the entire cycle of the construction project (Olaniran, 2015). This involves their engagement with external and internal parties who work towards the realization of the company goals and objectives goals.

In summary, it can be argued that communication plays a pivotal role in the project cycle. Without effective communication, it is difficult to achieve the objectives for which the construction project.

## **2.10. Empirical Review**

This section of the chapter reviews previous research on the project communications management. Because project communication is not given due attention in Ethiopia, it is difficult to find research undertaken on the subject of communications management in Ethiopia.

Meron (2018) studied the role that project communication management plays in enhancing project performance in building construction projects. According to Meron (2018), there is a robust indebtedness regarding the role that project communication management plays in Ethiopia’s construction industry. Meron (2018: 46) also reported “that various levels and channels of communications have been established within the clients and consultants or consultants and contractors.” The study has, however, identified problems relating to project communications in the construction industry in Ethiopia. The study pinpointed “poor leadership, unclear communication objectives, unclear channels of communication, ineffective reporting system, and ineffective communication between the parties on the project, lack of well-trained personnel, and lack of professionals by the clients.” (Meron, 2018: 48). According to the study, the construction projects in Ethiopia were able to perform well and this was because “project communications planning and implementation and using tools and techniques played an important role in improving the performance of construction projects.” (Meron, 2018: 45).

Fikadu (2018) examined the factors affecting communication management in project delivery in the Ethiopian healthcare projects. The study reported: “project stakeholder communication

practices depend on the project phase, which varies with project's life cycle" (Fikadu, 2018:36). The study also noted: "the behavioral and structural factors were found to be the challenges of effective communication" (Fikadu, 2018: 38).

Benita Zulch (2014) identified important attributes that should be exhibited by construction project managers. Accordingly: "Developing trust, collaboration, and teamwork; ranked second is allowing team members to take responsibility for their work; third is sharing the vision of the project with the project team; fourth task orientation and fifth people orientation." (Benita 2014: 176)

A study by Project Management Institute 2013 under the title: "The high cost of low performance: The Essential Role of Communications" researchers concluded that "More than half of the money at risk in projects is due to poor or substandard communication." (PMI, 2013: 4). The study further highlighted: "Ineffective communication was cited as the primary cause for one-third of the project failures reported as hurting the success of over half of the respondents' projects." (PMI 2013: 4). The study has also ascertained that successful construction projects are attributed to effective or successful communication among the stakeholders of the project (PMI, 2013). BRE guidance on the construction site communication (Anon, 2011: 6) states: "Every year defects in the UK construction industry cost at least £20 billion to repair or re-establish. Some of the flaws was the result of poor project communication. This guidance offers tips on how to improve communication in and outside construction sites (PMI, 2013).

A study by Hala Taleb et al., (2017) reported that one of the factors responsible for the success in construction industry is communication. This is because the study has found "project managers consume 90% of their time communicating with project participants." (Čulo and Skendrović, 2010). However, the study has identified barriers to communication have contributed to the failure of construction projects. The study also highlighted that communication management plan is one of the crucial ingredients of overall project management plan (Hala Taleb et al., 2017).

Priyadharshini & Sashara (2016) concluded that poor communication management negatively affects the performance of projects. The study found that 74% of construction projects were unsuccessful due to poor communication. The specific factors that the study pinpointed include project participants' insufficient and improper communication.

Mei (2014) identified in the recent PMI's 2013 Pulse of the Profession reported that effective communication is a determinant factor for project success. The study also found that effective communication allows construction companies to perform well. The report further indicated that all projects are not equally successful. The reported noted: "Two in five projects do not meet the project's original goal or intent and one-half of those unsuccessful projects are related to ineffective communication." (Mei, 2014: 2)

A study by Ksenija (2010) reportedly indicated that the success of construction projects is affected by effective communication. According to the study, a communications plan helps project managers to implement effective and efficient communication. According to the study, "Urgency of need for information, accessibility of technology, anticipated project staffing, duration of the project, project milieu, were among the factors that adversely affected communications management plan" (Ksenija, 2010: 231).

Ishaq et al., (2018) analyzed the causes and effects of poor communication between clients and contractors in the construction industry in Nigeria. The study reported that poor project performance was registered due to little or no cooperation among stakeholders and their personal interests. The study recommended that better project performance can be materialized by: "Identifying barriers to communication among stakeholders in construction industry contribute to perfecting communications that result in enhancing project delivery" (Ishaq et al., 2018: 20).

Elnaz et al., (2019) did a study under the title: "Identifying Effective Project-Based Communication Indicators within Primary and Secondary Stakeholders in Construction Projects". This study revealed that the quality of internal communications among project participants was affected by the interactions they engaged in during the different phases of the project. The study has further pronounced: "The clarity of the project's scope and the owner's goals, as well as the number of required approvals, also affect the quality of internal communication among the owners, designers, contractors, and subcontractors (Elnaz et al., 2019:5). According to the findings of the study, "The characteristics associated with stakeholder management, project resources, and project targets were the most effective indicators for the quality of internal communication." (Elnaz et al., 2019:5).

In general, the above studies have pronounced the important role that communications and communications management plays in the success of construction projects. According to the

studies, poor communication management results in ineffective and inefficient project performance.

### 2.11. Conceptual Framework of the Study

The figure 2.3 below defines the conceptual framework of this study.

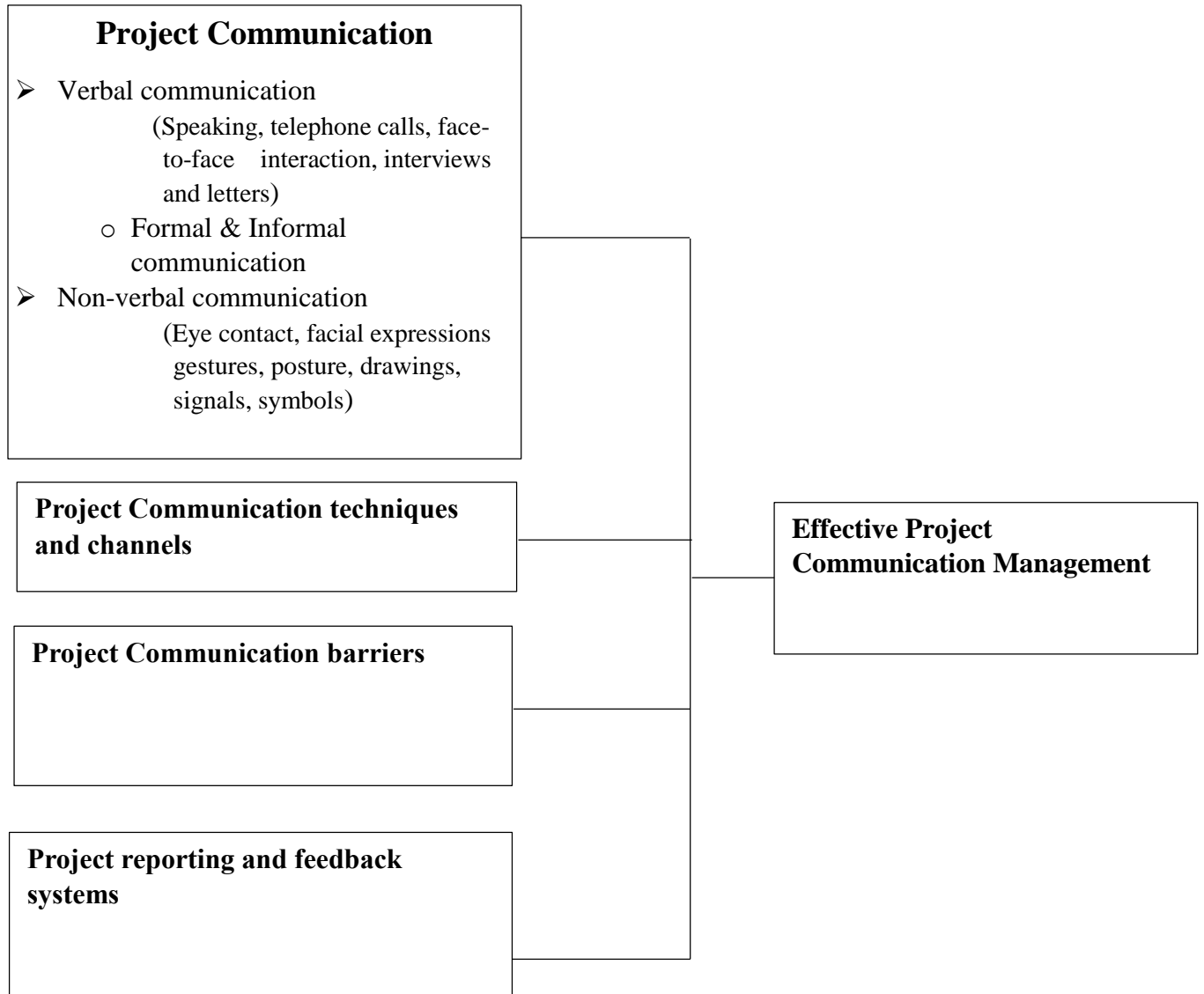


FIGURE 2.3 CONCEPTUAL FRAME WORK (Owen source)

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1. Introduction**

The purpose of this chapter is to present and describe the methodology of the study. It focuses on the research design, target population, data collection tools and techniques, validity and reliability, and ethical considerations of the study.

### **3.2. Research Design**

A research design, also called research blue print, refers to the procedures and plans that researchers employ to gather, analyze, interpret and report research data (Creswell, 2009). It guides all the activities from problem statement through data collection and analysis and reporting of research findings. Without a clearly stated and described research design, researchers find it difficult to undertake their study effectively and efficiently (Creswell, 2009). In short, research design helps to address basic questions in the research process: how to collect data, how to measure data, and how to interpret data (Patton, 1994; Creswell, 2008; 2012).

According to Shields and Rangarajan (2013:71) “Descriptive research is used to describe the characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. Rather, it addresses what question”. Descriptive research attempts to create a picture of the current form of businesses (Stangor, 2011). With the help of descriptive research design, researchers can describe their respondents’ answers that they provide to questionnaire and interview items. (Shields and Rangarajan 2013)

One of the advantages of this research design is that it can create a moderately complete picture of the state of affairs or what a phenomenon looks like at a particular point in time. It is also helpful to generate or develop questions that can be dealt with in advanced critical inquiries (Stangor, 2011). In addition, “the descriptive studies are generally relatively quick, easy and cheap to conduct” (Sagar, 2020:3).

### **3.3. Research Approach**

This study employs mixed-methods as its research approach. The mixed-methods research approach combines aspects of qualitative and quantitative approaches. Creswell (2009:4) remarks: “It involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in a study.” Since it combines aspects of both approaches, it is possible to address the weaknesses in one approach by the strengths of the other approach (Choy, 2014). Similarly, Johnson et al. (2007:123) underline: “Mixed-methods research is the type of research in which a researcher combines elements of qualitative and quantitative approaches (e.g. the use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration.” The approach assists in capturing the research problem as comprehensively as possible. It also adds depth and breadth to our understanding of the research problem and ensures the triangulation of research findings.

The quantitative approach is a means for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures (Creswell, 2009). Hammarberg et al., (2016) argue that the quantitative research method is more suited to finding factual data. More specifically, they point out that this method is appropriate when general or probability information is sought on opinions, attitudes, views, beliefs, or preferences; when variables can be isolated and defined; when variables can be linked to form hypotheses before data collection; and when the problem or question is known, clear and unambiguous (Hammarberg et al., 2016). Hence, the quantitative approach seeks to quantify human behavior to test theories, build hypotheses, and, most importantly, arrive at factual data.

One of the strengths of the quantitative approach is that if is designed it carefully, it is more likely to produce reliable and verifiable results. Furthermore, it is relatively less time-consuming during administration, analysis, and reporting because of the pre-determined set of questions (Choy, 2014; Creswell, 2012). A quantitative approach is suitable for a larger sample size, which in turn increases its reliability and validity (Choy, 2014; Creswell, 2012).

The qualitative approach, helps to: “answer questions about experience, meaning, and perspective from the standpoint of the participant” (Hammarberg et al., 2016:499). The experiences of people, the meanings they attach to events and their perspectives on an array of topics are not measurable in quantitative terms (Hammarberg et al., 2016). This descriptions emphasise that qualitative research relies on the accounts provided by the research participants to understand social phenomena or a research problem, in non-numeric terms.

The strengths of the qualitative approach are it allows researchers to capture various issues through open-ended and broad inquiry, without being limited to only quantifiable aspects of human behavior (Choy, 2014), it helps the researchers to understand the research problem in light of the experiences and events affecting research participants (Hammarberg et al., 2016). And it is also the flexible approach that allows the researchers to shape their research questions as the study progresses since it is not based on a pre-determined set of questions, which is often the case in quantitative research (Choy, 2014).

### **3.4. Description of Study variables**

One of the basic steps conducting scientific studies is designing or identifying research variables. The literature on research identifies various types of variables, but of relevance to the current study are independent and dependent variables (Junhong & Debi, 2010). The independent variables for this study are project communication and project communication plan. The dependent variable of this research is effective project communication management in the construction industry specifically in the private Real Estate project in Ethiopia.

### **3.5. Data collection Method**

The general aim of this research is to assess project communication management practice within the construction industry in private Real Estate in Ethiopia. As described above, data for this study was collected using semi-structured interview and questionnaires. An interviews are important tools to generate narrative data that allow researchers to study the views of people in great depth (Dörnyei 2007). One of the uniqueness of interviews is that they allow researchers to capture information that is not accessible through observation and questionnaires (Blaxter et al., 2006).

The second method that was used to collect data for this study is questionnaires. This step helps to design the subsequent quantitative data-gathering tools based on the familiarity with the research problem. Primarily, the questionnaire as a data-gathering tool is suitable for collecting quantitative data which in turn can support qualitative data from other tools of data collection such as interviews (O'Leary, 2014). The questionnaires are mainly objective; this type of questionnaire assists in generating quantitative data. This happens when the questionnaire is designed and tested carefully (O'Leary, 2014). Given this, the questionnaire for this study is designed from the literature in the area and from previous structured questionnaire used to assess similar research agenda. However, certain subjective items are included in the questionnaire to get a better picture of the communications management practices of the Real Estate industry in Ethiopia.

### **3.6. Target Population and Sample Design**

According to the data from Ethiopian Investment Agency in 2019, over 125 Real Estate developers in Ethiopia have been licensed. These companies are classified into three groups depending on their status: pre-implementation, implementation, and operation. Among the currently operating companies, the researcher has selected three private Real Estate companies taking into account their performance so far, and the cost, time and energy constraints to not include others. Therefore, Country club development Real Estate, Ayat Real Estate, and Sunshine Real Estate which own completed as well as ongoing projects located in Addis Ababa based was selected.

The subjects of the study was selected conveniently. Based on the information from the project management office of CCD Real Estate, there are 14 branch managers / project manager, 15 office engineers, 70 site engineers and 74 foreman. Ayat Real Estate has 1 project manager, 4 office engineers, 4 site engineers, and 31 foreman. Sunshine Real Estate has 2 project managers, 2 office engineers, 2 site engineers, and 18 foremen. The Real Estate companies are selected using purposive sampling because of their performance records. Collectively, they have 237 professionals who constitute the target population for this study.

### **3.7. Sample size**

Malhortra and Peterson (2006) and Zikmund (2003) suggest when researcher selects large sample size, they are more likely to generate more accurate and reliable data. However, due to time

constraints and the nature of the population, Carvalho’s (1984) sample determination method is preferred in this study to determine sample size.

TABLE: 3.1. SAMPLE SIZE DETERMINATION (Source: Carvalho, 1984)

Population size	Sample Size		
	Small	Medium	Large
51-90	5	13	20
91-150	8	20	32
151-280	13	32	50
281-500	20	50	80
5001-1200	32	80	125
1201-3200	50	125	200
3201-10,000	80	200	315
10,001-35,000	125	315	500
35,001-150,000	200	500	800

Since all the participants are in the same industry (construction industry), there is a homogeneity of the research subjects. Table 3.1 above shows a large sample size for 237 populations is 50. To select 50 respondents among 237 participants, stratified sampling method was used to choose from each strata (i.e. project manager, office engineer, site engineer, and foreman). Stratified sampling is a method of sampling from a population which can be partitioned into subpopulations (Botev and Ridder 2017). Using the formula of stratified sample size allocation the sample size for project manager =3, office engineer =5, site engineer =16 and foreman =26. Simple random sampling was used to select respondents with in the strata.

### 3.8. Data analysis

The main goal of this research is to describe the project communication management practice of Real Estate projects in Ethiopia. Descriptive statistical models were employed to analyze the data to be gathered from respondents. The descriptive statistics was used to reveal the main features of the gathered data in the study. Hence, descriptive statistics including mean, standard deviation, and percentages were computed to summarize and analyze the data that was gathered using the data-collection tools.

The data that was garnered through the data-collection tools were analyzed both quantitatively and qualitatively. Quantitative analysis was performed with the help of descriptive statistical tools for the data that were collected using the questionnaire. In line with the guidelines suggested by Harry & Deborah (2012), percentages, means, and grand means were used to report a series of questions that collectively measure a particular trait. For qualitative data that were collected through the semi-structured interviews, the qualitative models were applied for describing and interpreting responses from different respondents. Microsoft Word was used to support the descriptions using charts and graphs.

### **3.9. Validity and Reliability of analysis**

Several measures were taken to ensure the validity and reliability of this study. First, the mixed-methods approach was used to circumvent the drawbacks inherent in either of its constituents. Using a mixed-methods approach helps to integrate different tools of data collection and methods of data analysis (Creswell, 2012; Patton, 2002). For example, quantitative approaches that employ questionnaires and structured interviews have limited options such as “yes” or “no”. The explanations or justifications for this type of answer can be captured accurately using qualitative approaches in which research subjects have the freedom to express their views, attitudes, and perceptions (Creswell, 2012).

Second, the data-gathering tools were pilot tested to confirm if they were relevant and designed in line with the objectives of the study. Five Employees that work on Real Estate project took part in the pilot testing. Such a test also helped me to estimate how much time it took the research participants to complete the interviews and questionnaires. The pilot testing was in line with the arguments advanced by Bell and Waters 2014 as well as O’Leary (2014) who claim that pilot testing helps to ensure if data collection tools are effective. In the same way, Hassan, Schattner, and Mazza (2006) illustrate that piloting data-gathering tools will help to determine if the study protocol is feasible by identifying its weaknesses. Hassan, Schattner, and Mazza (2006) further argue that it will help to determine if the data-gathering tools are asking the intended questions, and if they are the most suitable tools to collect the required data.

Hence, these suggestions helped me to reduce the length of some of the questions in the interview and questionnaire. In addition, they helped me to merge redundant items and remove irrelevant ones.

Third, to check the internal consistency of measurements, the Split-half method and standard of error were used. Under the split-half method, the Spearman-Brown prophecy formula was used. Responses for Likert scale based questions were divided into two groups to apply the spearman-Brown prophecy formula so that the relationship among the two groups was evaluated.

$$r_{xx'} = \frac{2 * roe}{1 + roe}$$

, where *roe* is correlation between even and odd answers (Kelley, 1994)

### **3.10. Ethical Considerations**

Ethical research is likely to report valid and reliable results (Warren, 2011). One of the most important objectives of research ethics is to protect human participants in a study. The researcher should protect the participants against any suffering, pain, incapacitation, or offence (Warren, 2011). The other objective of research ethics is beneficence, which involves: “moral obligation to act for the benefit of others” (Warren, 2011: 225). According to Warren (2011), beneficence has two implications. First, it should provide benefits to the participants. Second, it should protect the participants against any harm.

To meet the university's ethical standards, I was contact the officials from the private Real Estates and explain the purpose of the study and sought their staff's willingness to participate in the study. When I was obtain the assurance of the officials, I was contact the participants of the study to highlight that there will not be any harm they were likely to encounter due to their participation in the study. Furthermore, the researcher was inform all information obtained in this research was strictly used for academic purposes and respondents were assured of the confidentiality of information given where necessary.

## **CHAPTER 4: DATA ANALYSIS AND INTERPRETATION**

### **4.1. Introduction**

In line with the mixed-methods research approach and the descriptive survey design the study employed, the first part of this chapter presents and interprets the quantitative data that is collected through questionnaires, while the second part presents and interprets the qualitative data collected through interviews. The data collected were analysed quantitatively and qualitatively and some results are presented using graphs, tables, and charts.

### **4.2. Response Return Rate**

This study employs mixed-methods as its research approach. The mixed-methods research approach combines aspects of qualitative and quantitative approaches. For the quantitative questionnaires were used as data collection tools. The questionnaires were distributed to 50 respondents that was determined based on Carvalho sample determination method. From distributed questionnaires to respondent 47 was returned and its return rate was 94% that was above the minimal acceptable response rate 75% asserted by Bailey (1987).

### **4.3. Profile of the Study Participants**

This section presents the profile of private Real Estate project who participated in the quantitative phases of the study. Table 4.1 below present's biographical information on the participants' gender, qualifications, position and experience.

TABLE 4.1. PROFILE OF THE STUDY PARTICIPANTS

<b>Item</b>	<b>Attributes /Characteristics</b>	<b>Category</b>	<b>Number of Respondent</b>
1.	Gender	Male	43
		Female	4
		Total	47
2.	Qualification	PhD	0
		Master's Degree	1
		Bachelor Degree	21
		Diploma	25
		Other	0
		Total	47
3.	position	PM	2
		Office Engineer	4
		Site Engineer	16
		Foreman	25
		Total	47
4.	Experience	Less than 5 years	7
		5 - 10 years	13
		10 - 15 years	27
		16 years and above	0
		Total	47

(Source: Owen survey)

Table 4.1 above depicts that the number of private Real Estate employees who participated in this study was 47. Concerning gender, there were four female respondents when the study was conducted, whereas there were 43 (91.49%) male respondents, reflecting the gender imbalance in

the Ethiopian construction industry in general. Out of the 47 private Real Estate employees in the study, one of them holds a Master's Degree, whereas the majority of them have Bachelor's Degree and Diploma. The above table further shows that 27 private Real Estate employees have more than ten years of experience in the Real Estate project, whereas 7 and 13 of them have less than 5 and 5-10 years of experience, respectively. The participants that have more experience on the Real Estate project can help the researcher to get in-depth and accurate information, because they know the project communication management of the industry well. It can be seen from the data in Table 4.1 that, two of them are project managers, 4 are site engineers, 16 office engineers, and 25 of them are foreman. All participant were from the position that pass though project communication daily, this indicates the researcher can get better information about construction project communication management.

#### 4.4. Project communication management practice on the Real Estate project in Ethiopia

This section was used to assess project communication management practice in Real Estate projects in Ethiopia. The respondents were requested to express their agreement or disagreement with the project communication management practice using a Likert Scale of five points. The findings from questionnaires are:

TABLE 4.2. PROJECT COMMUNICATION MANAGEMENT PRACTICE ON THE REAL ESTATE PROJECT IN ETHIOPIA

No	Project communication management practice in Real Estate project in Ethiopia.	Total number of participants (n)	$X = \sum v \times$	$\mu = \frac{\sum v \times f}{N}$	$\delta = \frac{\sqrt{(xi - \mu)^2}}{N}$
1.	Your company has project communication management plan	47	158	3.36170	1.17465
2.	Your company developed appropriate project	47	162	3.44680	1.06807

	communication approaches and plans to communicate with its stakeholders.				
3.	Your company encourage two way communications	47	161	3.42553	0.91662
4.	On-going communication between project proponents and its stakeholders are practiced in your company.	47	163	3.46808	1.06892
5.	High value is given for project communication management.	47	160	3.40425	1.31536
6.	Communication plan reviewed regularly, and adjusted if need.	47	111	2.36170	1.04016
7.	Project manager and stakeholders (Engineers, Foreman and others) communicate throughout the project.	47	181	3.85106	0.98884
8.	There is no communication barrier in your company.	47	116	2.46808	1.06892
9.	Project manager properly handle communication barrier.	47	139	2.95744	1.23697

(Source: Owen survey)

**Grand mean=4.30278**

The grand mean of 3.193849 illustrates that the management of project communication in Real Estate project in Ethiopia is promising. Referring to individual items in the table above, it is evident that the Real Estate project in Ethiopia has a project communication plan. This can be explained by the mean score 3.36170 of the respondents express their agreement with the statement. On the other hand, more than half of the respondent express their disagreement with the statement that states communication plan reviewed regularly, and adjusted if need.

The second item was about the development of appropriate project communication approaches and plans to communicate with its stakeholders. Almost half of respondents were express their agreement with the statement.

Item 3 and 4 were designed to examine two-way communication and on-going communication in the Real Estate project in Ethiopia. With their rating, below half of the respondents express their agreement with the statement that two-way communication is encouraged in Real Estate projects in Ethiopia. The majority of the respondents show their agreement to On-going communication between project proponents and its stakeholders are practiced in Real Estate project in Ethiopia.

Item 5 was designed to assess the value that is given to the project communication management in Real Estate projects in Ethiopia. The data shows that 70.21 % of the respondents were express their agreement to the statement high value is given to the project communication management in Real Estate project in Ethiopia.

Item 8 and 9 focus on the communication barrier in the Real Estate project in Ethiopia. Based on the data from table 4.5 above the respondents express their disagreement with the statement states that there is no communication barrier in the Real Estate project with the mean score of 2.95744. In the meantime to the statement states that the project manager properly manages this communication barrier few respondents express their agreement.

In summary, this section of the questionnaire yielded notable results regarding the practice of Real Estate projects on project communication management plan, project communication approaches, two-way communications, ongoing communication, the value given for project communication management, communication barrier, and handling of communication barrier in Ethiopia.

The finding from open ended question that is related to this section is summarized below:

- The project manager is not technically reach in project communication management in the Real Estate project in Ethiopia.
- Most Project manager in the Real Estate project in Ethiopia has no qualification in project management field. This make the communication more difficult in a project.
- No project communication plan and communication practice in the Real Estate project in Ethiopia.
- Communication between low level employees in Real Estate project are poor and results in the project failure.
- The project communication in Real Estate project in Ethiopia is not well organized.
- The value given for project communication management in the construction project by the top managers and Real Estate owners are very low.
- Incomplete drawing of the project.
- The communication in Real Estate project based on the interest of owner and it is not strong.
- The communication in the Real Estate project is highly focus on how to maximize the profit of owner than how to facilitate work flow in the project and complete the project on time.

The findings from the semi-structured interviews conducted with six professional employees of private Real Estate in Ethiopia. For ease of analysis and anonymity, the respondents of the interview were coded using R1-R6. The finding from semi-structured interviews “What is the main aim of communication in the construction project?”

In response to this interview question, R1 highlighted:

*The main objectives of communication in construction projects are to (a) pass information from one employee to the other (b) share information with employees who do not have the required information (c) explain the meaning behind the information that is communicated (d) use the information to do the required activities effectively and efficiently*

Likewise, R2 acknowledged:

*The main aim of communication to make employees successful at their job by ensuring that they obtain and access the required information at the right time.*

The views of the two respondents are evidence project communication in the construction industry is mainly used to share information /ideas between employees that lead the project to success.

In the same vein, R3 confirmed that communication in the construction project used to access various type of information that is important in the work process. R3 comments:

*The main aim of communication in construction projects is to help access various types of information at various levels and ensure the smooth conduct of the construction project.*

R4 seemed to share the same view about the main aim of communication in the construction project. The respondent pointed out:

*The main aim is to pass directions or instructions, information, knowledge and skills from one professional to the other in the construction industry.*

Finally R5 and R6 pointed out:

*Since many professionals participate in construction projects and since they are complex, the communication among the employees should have the required quality. That is, the knowledge, information, experiences, etc. of one employee can be shared with the others using communication.*

This part generated results that corroborate the project communication management practice in private Real Estate projects in Ethiopia. The result in Table 4.2 above elicited different responses from the Real Estate project professional workers. The data highlight that the respondents had a better understanding of the project communication management when to establish and review communication plan, clearness and openness of communication, the effectiveness of communication strategy, importance of communication, and effect of poor communication on the construction project in Ethiopia. This is supported by open-ended questions and interview that the respondents were responds that project communication management implemented in the construction project, but it is necessary to use project communication strategy to properly manage.

The respondents from the interview showed their understanding of project communication management by properly listing the main importance of project communication management in the construction projects as (a) pass information from one employee to the other (b) share information with employees who do not have the required information (c) explain the meaning behind the information that is communicated (d) use the information to do the required activities effectively and efficiently.

In summary the project communication management practice in Real Estate projects in Ethiopia is promising, but it needs some improvement. The finding of this study was aligned with the finding of the research that was done on this area by Meron (2018) the researcher highlighted that there is a good understanding of project communication management and its importance in the construction industry in Ethiopia.

#### **4.5. Project Communication Barriers on Real Estate Project in Ethiopia**

This section measured the potential influences of project communication barriers on Real Estate projects in Ethiopia. To this end, 15 items were used to which the respondents indicating how each barrier affects communication in the Real Estate project in Ethiopia.

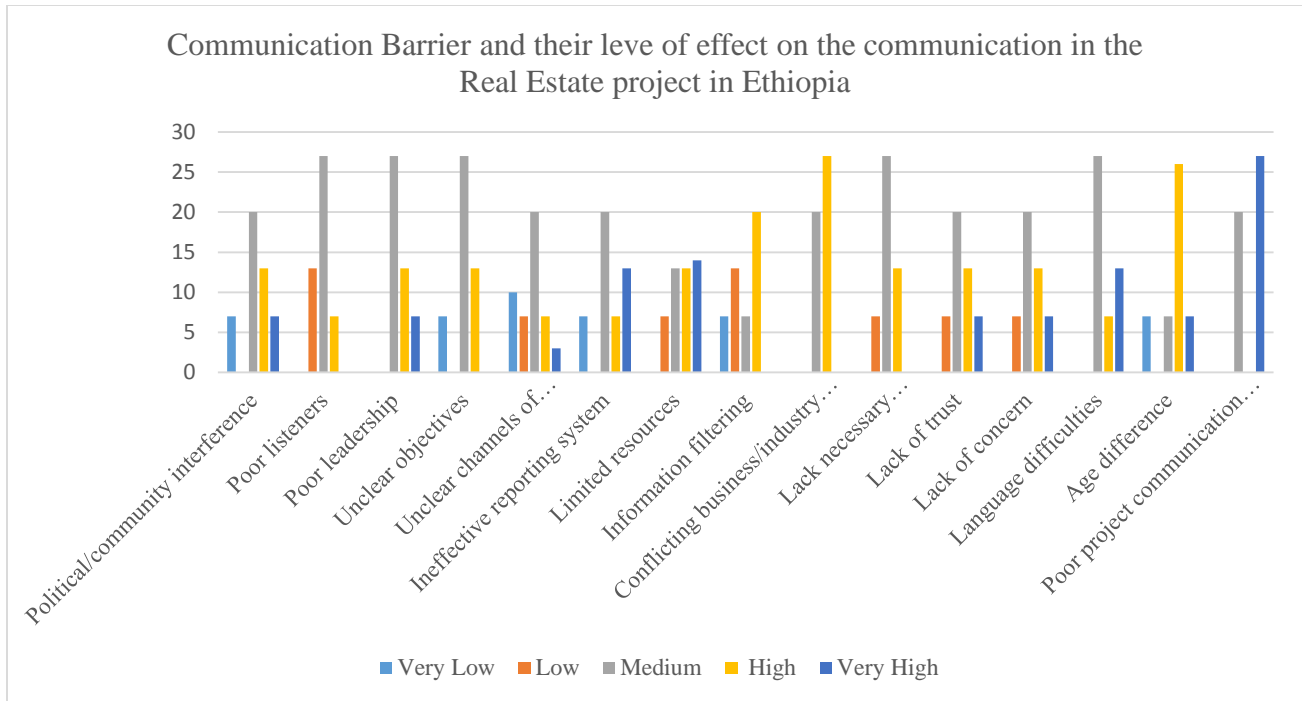


CHART 4.1 COMMUNICATION BARRIER AND THEIR LEVEL OF EFFECT ON THE COMMUNICATION IN THE REAL ESTATE PROJECT IN ETHIOPIA. (Source: Owen survey)

As the data shown the quantitative findings by chart 4.1 from the communication barriers listed; Poor listeners, Poor leadership, Unclear objectives, Lack of necessary communication skills, political/ community interferences, lack of trust, lack of concern, unclear channels of communication, ineffective reporting system and Language difficulties are the communication barriers that has a medium effect on the communication in the Real Estate project in Ethiopia. On the other hand the respondents' rate poor communication management planning the one that has a very high effect on the communication in the Real Estate project in Ethiopia. Also, the respondents' rate that information filtering, conflicting business/ industry ethics and age difference in the industry are the communication barrier that has a high effect on the communication.

The finding from open ended question that is related to this section is summarized below:

- The project manager is not technically reach in project communication management in the Real Estate project in Ethiopia.

- Most Project manager in the Real Estate project in Ethiopia has no qualification in project management field. This make the communication more difficult in a project.
- No project communication plan and communication practice in the Real Estate project in Ethiopia.
- Communication between low level employees in Real Estate project are poor and results in the project failure.
- The project communication in Real Estate project in Ethiopia is not well organized.
- The value given for project communication management in the construction project by the top managers and Real Estate owners are very low.
- Incomplete drawing of the project.
- The communication in Real Estate project based on the interest of owner and it is not strong.
- The communication in the Real Estate project is highly focus on how to maximize the profit of owner than how to facilitate work flow in the project and complete the project on time.

The findings of the interview question on the role of effective communication and communication barrier in the construction industry in Ethiopia from different respondent are listed below:

In response to this interview question, R3 pointed out:

*Project communication is very essential for construction projects. This is because the various departments in construction projects have different responsibilities, all the departments work towards a common goal and depend on one another for their success. This shows that the success of the projects is based on the communication and the relationships among the departments. There are different communication barrier in construction industry in Ethiopia, some of them are poor listener, using improper channel of communication and lack of communication skill.*

According to R4 the role of effective communication in Real Estate projects and communication barrier expressed:

*Since there is large exchange of information among construction workers, communication plays a pivotal role in ensuring the correct flow of information and using the information for the intended purpose. In addition, good communication flow helps to reduce the conflict or misunderstanding and suspicion among employees. The communication barrier in construction project is due to value given for project communication management in the construction project by the top managers and Real Estate owners are very low.*

R1, R2, R5, and R6 were expressed their filling to the role of effective communication in Real Estate projects almost in the same way using different wording. The summary of the respondents are:

*There is information exchange among construction managers through different mechanisms. This exchange of information is made possible through effective communication. Since Real Estate developers construct and sell houses, they need communication to make sure that their houses are sold. The major communication barriers in this industry are lack of trust, skill difference between workers, poor way of communication, and language difference.*

According to Maane (2012), there are different barriers in the construction industry. As the quantitative data in chart 4.1 above shown from the communication barriers listed; Poor listeners, Poor leadership, Unclear objectives, Lack of necessary communication skills, political/ community interferences, lack of trust, lack of concern, unclear channels of communication, ineffective reporting system and Language difficulties are the communication barriers that has a medium effect on the communication in the Real Estate project in Ethiopia. On the other hand the respondents' rate poor communication management planning the one that has a very high effect on the communication in the Real Estate project in Ethiopia. Also, the respondents' rate that information filtering, conflicting business/ industry ethics, and age difference in the industry are the communication barrier that has a high effect on the communication. The data obtained from interview supported this by indication the communication barrier in construction industry is due to lack of trust, skill difference between workers, poor way of communication, language difference, and value given for project communication management in the construction project by the top managers and Real Estate owners are very low.

However, the open-ended data showed that the major communication problem in private Real Estate project in Ethiopia is due to the qualification of the project manager (i.e. project managers has no qualification in the field of project management and lack of project communication management plan in the construction project in Ethiopia). In addition to this, the data from open-ended question highlighted that the project communication in private Real Estate in Ethiopia miss the goal of communication due to highly focus on how to maximize the profit of the owner than how to facilitate workflow in the project and complete the project on time. This means the interest of the owner is the major barrier to project communication in the private Real Estate project in Ethiopia.

#### **4.6. Communication Channels used in the Real Estate project in Ethiopian**

This section was used to identify the project communication channels that are used to share information/idea between the employees of the Real Estate project in the Ethiopia construction industry. From several channels of communication, the quantitative part of the study was choice (13) various channels of communication concerning the project. The selected communication channels were made available to respondents to select the channel they used in the project with the factors using ‘Yes’ or ‘No’ response. Chart 4.2 below presents the responses of the respondents within the industry.

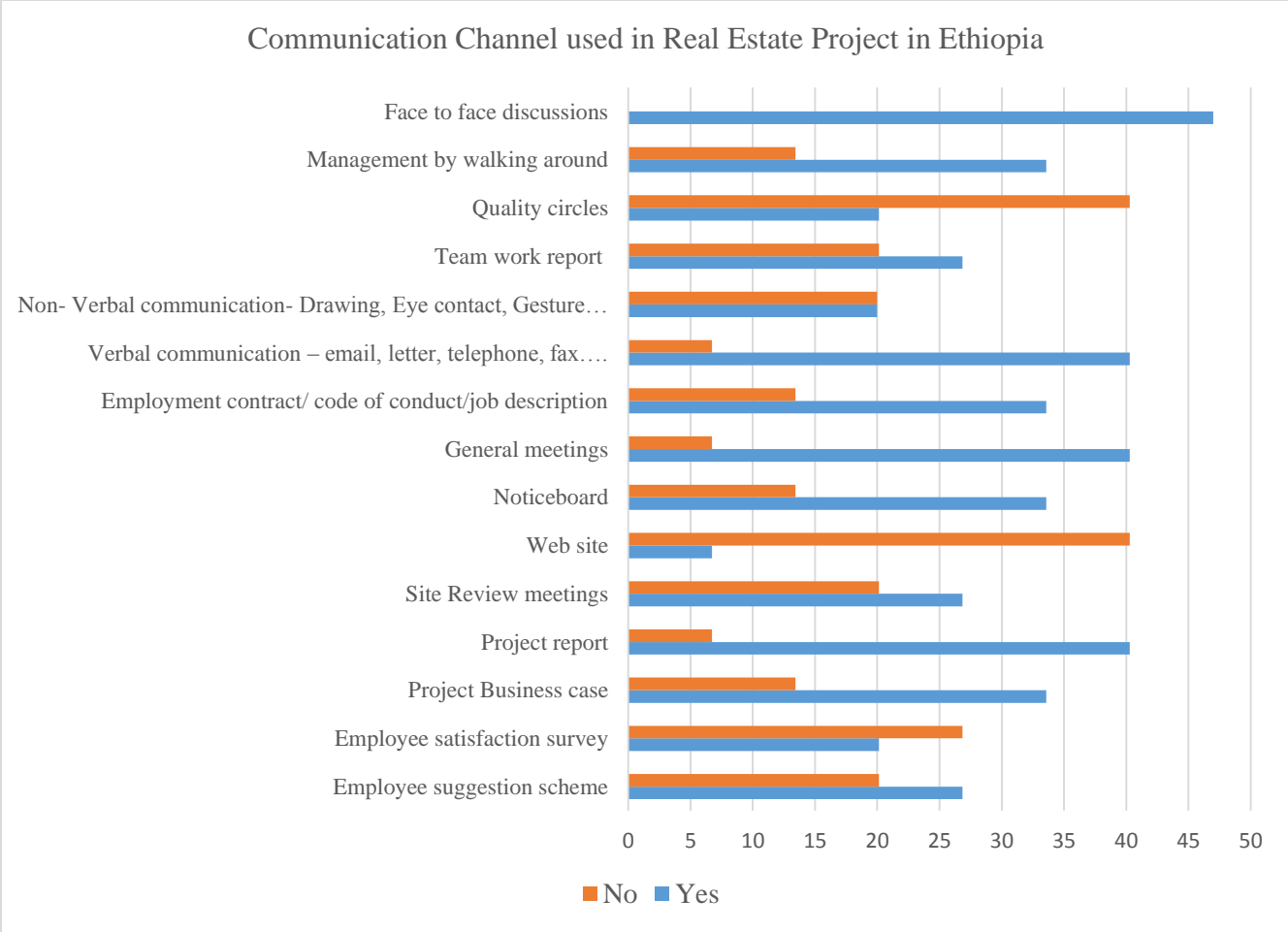


CHART 4.2 COMMUNICATION CHANNELS USED IN THE REAL ESTATE PROJECT IN ETHIOPIAN (Source: Owen survey)

In summary, the items in chart 4.2 above elicited different responses from the respondents from the Real Estate project in Ethiopia on the channels of communication used in their project. The data indicates that the respondents use different types of communication channels to share information/ideas in the project. From the various communication channels; face to face discussion, project report, Management by walking around, teamwork report, verbal communication, employment contract/code of conduct/job description, general meeting, noticeboard, site review meeting, project report, project business case, and employee suggestion scheme are the channels that are commonly used in the Real Estate project in Ethiopia. On the other hand employee satisfaction survey, web site, and quality circles are the channels that are not common communication channels in Real Estate projects in Ethiopia.

The findings from semi-structured interview on this area showed that the majority of the respondents, the exchange of information in the construction project performed through different traditional channels that is not efficient. But using high-techs make communication management simple and fast and materializes the timely completion of the project. However, the current negative attitude towards the use of technologies in the construction industry, technical know-how, and that they think the technologies are expensive to have made not to use the technologies. In the future, they want to address these issues and use the technologies properly.

The result of questionnaire highlighted that the respondents from the Real Estate project in Ethiopia on the channels of communication used in their project. The data indicates that the respondents use different types of communication channels to share information/ideas in the project. From the various communication channels; face to face discussion, project report, Management by walking around, teamwork report, verbal communication, employment contract/code of conduct/job description, general meeting, noticeboard, site review meeting, project report, project business case, and employee suggestion scheme are the channels that are commonly used in the Real Estate project in Ethiopia. On the other hand employee satisfaction survey, web site, quality circles, and High-tech technologies are the channels that are not common communication channels in Real Estate projects in Ethiopia.

From the responses of questionnaire that is shown in chart 4.2 above from all the various communication channels that dealt with some form of face to face contact interaction had the highest number of respondents that is taking place on private Real Estate project site in Ethiopia. The result supported by the findings of Gorse et.al, (1999) that face-to-face communication in construction industry perceived to be the most effective medium of communication. Their results are also supported by Carlsson et.al. (2001) who conducted research on this area on the construction industry in Swedish and Maane (2012) who conducted project communication management research on the construction industry in Ghana.

Also, the findings from the interview supported the finding from the questionnaire stated above. In addition it highlighted that the exchange of information in the construction project performed through different traditional channels in Ethiopia. There is a negative attitude towards high-tech technology (like; Share points, Slack, WorkflowMax, wikis, Wrike, etc. ) that makes construction

project communication management simple and fast and materializes the timely completion of the project in Real Estate project in Ethiopia.

#### **4.7. Constructional project professionals value on project communication in private Real Estate in Ethiopia**

In the table 4.2 above item 5 was designed to assess the value that is given to the project communication management in Real Estate projects in Ethiopia. The finding shows that 70.21 % of the respondents were express their agreement to the statement high value is given to the project communication management in Real Estate project in Ethiopia.

The findings of the interview question in this section that say “Who is responsible for issuing communication and how much value for communication in Real Estate projects?” from different respondents listed below.

Although R2 and R5 articulated their views in various ways, their response to this item felt that the major responsible person for issuing communication in the Real Estate project in Ethiopia is the project manager. R2 highlighted:

*During meeting the majority of communication is issued by project managers; however, all stakeholders have the responsibility to issue communication to facilitate two way communication in the Real Estate project. The value given for project communication is moderate.*

Likewise R5 acknowledged:

*The major responsibility of a project manager is responsible for holding continuous discussion with various posted people to decide what should be done when and how it should be done. Thus, it is the project manager who issues communications and give high value for communication in the construction project.*

R1, R3, R4, and R6 articulated their views in various ways, their response to this item felt that all stakeholders of Real Estate project are responsible for issuing communication. For instance, R3 responded as:

*Since construction projects cannot be successful without effective communication, all stakeholders including site supervisors, foremen, team leaders, office engineers, office managers etc., need to work as a team and therefore issue communications and gives high value for communication.*

R1, R4, and R6 responded as:

*It is for the project manager to issue communication. However, in order make sure that the communication in the project is a two-way process, all project stakeholders should issue communication.*

The result from questionnaire indicates that high value is given for project communication management by the constructional project professionals in Real Estate project in Ethiopia. However, the findings from the open ended question reveal that the value given for project communication management by the top managers and Real Estate owners are very low and use the project communication mainly for profit maximization.

The finding from the interviews highlighted that construction projects cannot be successful without effective communication, all stakeholders including site supervisors, foremen, team leaders, office engineers, office managers etc., need to work as a team are issue communications during different phase of project to overcome any problems in the project due to this high value was given for the project communication by the constructional professionals in Real Estate project in Ethiopia.

#### **4.8. Reporting and feedback systems used in the construction project in private Real Estate in Ethiopia**

The fifth interview question was designed to explore the reporting and feedback system used in the Real Estate project in Ethiopia. In responding to this question, R1 and R2 stated:

Although there are different reporting and feedback mechanisms, all the employees in my Real Estate do these in writing since all the reports and feedback should be filed.

R3, R4, R 5, and R6 had the same response to the reporting and feedback system in the Real Estate project:

To perform the project's activities smoothly, the company uses various kinds of reporting and feedback mechanisms. For example, telephone calls, in-person appearance, written communications and short weekly meetings are used to report and obtain feedback.

According to Maane (2012), Project Annual Report, Project Status Report and Customer Satisfaction Survey were the major reporting and feedback mechanism used in the construction industry. Based on the finding from interview and some observation during data collection the main reporting and feedback system in the private Real Estate project in Ethiopia was in writing form or written communication since all the reports and feedback should be filed. In addition to perform the project's activities smoothly, the construction industry in Ethiopia uses various kinds of reporting and feedback mechanisms. For example, telephone calls, in-person appearance, and short weekly meetings are used to report and obtain feedback.

## **CHAPTER FIVE: FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1. Introduction**

This study set out to investigate project communication management practice in the construction industry in Ethiopian private Real Estate developers. The study employed the mixed-methods research approach, and the data for the study were gathered using both qualitative and quantitative data gathering tools. The data collection process was conducted in two phases. Phase I constituted the quantitative data collection, while Phase II constituted the qualitative data gathering. Accordingly, in Phase I, the quantitative data was collected using a questionnaire and the data sources were 47 participants that work in three private Real Estate projects, in Phase II, the qualitative data were gathered using semi-structured interviews, and the data sources were 6 participant that works in three private Real Estate projects in Ethiopia.

Chapter Five, the final chapter of the study, presents a synthesis of the major findings, implications for practice, and recommendations arising from the findings. The major findings are obtained in the study and presented as follows:

- Project communication management in Real Estate project in Ethiopia is practiced, but it is not satisfactory or it is not properly managed.
- Project communication management in Real Estate projects in Ethiopia needs major improvement.
- Real Estate project in Ethiopia has communication plan, but not practiced in all Real Estate, implemented properly and not reviewed regularly, and adjusted if need.
- The project manager is not technically reach in project communication management in the Real Estate project in Ethiopia.
- Recruiting a qualified project manager is not practical for Real Estate developers in Ethiopia. They assign a senior Engineer (the one that has at least 10 years' experience) as a project manager rather than recruiting a qualified project manager.
- Poor and distorted information, Inexperience interpretation of working drawings, late dissemination of information, and poor means of communication are the major causes of project delay, increase in cost, and project failure in Real Estate projects in Ethiopia.

- Although Professional workers including project managers understand Project communication management is vital to the success of the project, they give low attention to project communication management in the Ethiopian construction industry.
- Meeting and project report are the major techniques and approaches of project communication used in Real Estate projects or generally in the construction industry in Ethiopia.
- Poor communication management planning, information filtering, conflicting business/ industry ethics, and age difference in the Real Estate project are the major project communication barrier in Ethiopia. The project manager in the Real Estate project in Ethiopia is incompetent to properly manage those barriers.
- From the various type of communication channels in a construction project; face to face discussion, project report, Management by walking around, teamwork report, verbal communication, employment contract/code of conduct/job description, general meeting, noticeboard, site review meeting, project report, project business case, and employee suggestion scheme are the channels that are commonly used in the Real Estate project in Ethiopia.
- A two-way communication process is not encouraged in Real Estate projects in Ethiopia. The one-way communication process is the most used in the construction industry in Ethiopia.
- The communication in the Real Estate project in Ethiopia is highly focused on how to maximize the profit of the owner/ developer than how to facilitate work flow in the project and complete the project on time.
- There is a negative attitude towards high-tech technology (like; Share points, Slack, WorkflowMax, wikis, Wrike, etc. ) that makes construction project communication management simple and fast and materializes the timely completion of the project in Real Estate project in Ethiopia.
- Project communication approaches and plans to communicate with its stakeholders in the Real Estate project in Ethiopia needs improvement.
- Construction projects in Ethiopia use the meeting as a tool to overcome communication barriers and increase project performance levels.

- In the Ethiopian construction industry, cultural sensitivity and appropriate communication are necessary during the communication between different parties in the construction project.
- In a Real Estate project in Ethiopia, the main responsible person to issue communication is the project manager.
- Telephone calls, in-person appearance, written communications, and short weekly meetings are the mainly used techniques to report and obtain feedback in Real Estate projects in Ethiopia.

## **5.2. Conclusions**

The study sought to examine project communication management practice in private Real Estate projects in Ethiopia. The data for the study were gathered through semi-structured interviews and questionnaires. The data were then analyzed qualitatively and quantitatively.

The study highlighted one of the hotly contested issues in the Ethiopian construction industry specifically in Real Estate projects. The findings from the study demonstrated that project communication management in the Real Estate project needs major improvement. It underlined that the Real Estate project has a communication plan but not implement properly. Besides that, there are many barriers of communication on the construction project in Ethiopia. These include; poor communication management planning, information filtering, conflicting business/ industry ethics, age difference, poor listeners, poor leadership, unclear objectives, Lack of necessary communication skills, political/ community interferences, lack of trust, lack of concern, unclear channels of communication, ineffective reporting system and language difficulties.

One of the most noteworthy findings that emerged from this study was that Poor and distorted information, inexperience interpretation of working drawings, late dissemination of information, and poor means of communication are the major causes of project delay, increase in cost, and project failure in Real Estate projects in Ethiopia. In private Real Estate projects in Ethiopia project communication management plan, effective management of the communication in the project, and escaping project communication barriers are the basic pivotal for the success of the project.

### **5.3. Recommendations**

The findings of the study demonstrated that the project communication management practice, the communication barrier, project communication technique and channel, the effect of project communication management on the project delivery, and reporting and feedback techniques used in Real Estate in Ethiopia. The shortcoming of this study was the data collected from only three private real Estate developers in Ethiopia due to time constraints. If the data were collected from more than three real Estate developers the results might be different. It is therefore recommended that future studies should conduct on more private real Estate developers to explore in-depth findings.

### **5.4. Suggestions for further research**

This study reported the practice of project communication management, the main causes of communication barrier in the project, communication channels used in the project, the effect of project communication on the project delivery, and reporting and feedback techniques used in Real Estate in Ethiopia. Therefore, it is recommended that future study should concentrate on the following:

- Design effective project communication management to overcome project delay in Real Estate project in Ethiopia
- How to improve the use of high-tech technologies for project communication management in the Real Estate project in Ethiopia
- Design techniques to overcome communication barrier in Real Estate project in Ethiopia

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## Appendix A: Questionnaire

### Addis Ababa University School of Commerce Department of

#### Project Management.

The purpose of this questionnaire is to gather data on project communication management practice in private Real Estate construction project in Ethiopia. I am grateful to you for your willingness to take part in this research project. I believe that the information you supply will contribute to our understanding on the current management of project communication in private Real Estate construction industry in Ethiopia.

This study is conducted as part of a graduate study at Addis Ababa university. It is my belief that the stakeholders were provide practical and convincing answers to the questions below to enable me present a good report. Thank you in advance for your contribution to this research study. Please respond to the following by either writing in the blank space provided or ticking the appropriate box.

#### Section one: General information

**Please, fill in this section with appropriate information about yourself. Use a tick (√) mark against each item, where appropriate.**

1. Gender of Respondent

Male  Female

2. Your Level of Education

Diploma  Bachelor Degree  Master's Degree  PhD  other .....

3. Your position?

a) Site Engineer  b) Project Manager  c) Office Engineer  d) Foreman

f) Others (specify) .....

4. Your experience on the construction industry?

a) Less than 5years  b) 5 years to 10year  c) 10 years to15 years

d) 16 years and above

## **Section Two – Questions Relating to Project Communication on Real Estate Construction Projects in Ethiopia**

Below are statements relating to project communication on construction projects in Ethiopia. From your experience, please express your opinion on how project communication management important, techniques and approaches of communication, who is responsible for project communication, and also rate the frequency of occurrence for each on projects in Ethiopia.

(Please tick the approximate cell).

1. Do you think project communication properly managed in Ethiopian construction Industry?

a) Yes

b) No

2. Dose project communication management affect project delivery in construction project?

Yes

NO

3. Site meetings are an important channel of communication between the project manager and site Engineer.

Yes

NO

4. Poor communication often results into delay, increase in cost, rejection, amongst other problems.

Yes

NO

5. Poor and distorted information will affect the level of work done on site.

Yes

NO

6. Inexperience interpretation of working drawings can cause a failure in building components.

Yes

NO

7. Poor means of communication leads to distorted information on site.

Yes

NO

8. Late dissemination of information will affect output on site negatively.

Yes

NO

9. How much value do constructional project professionals place on communication?

a) Low

b) Medium

c) High

10. Who is responsible for the project communication process in Ethiopian construction industry? ( you can select more than one)

a) Project officer

b) Project team leader

c) Site Engineer

d) Foreman

e) Project manager

f) Other (specify).....

11. What are the techniques and approaches of project communication used in your company or in Ethiopian construction Industry? ( you can select more than one)

a) Meeting

- b) Project report
- c) On site communication
- d) Verbal communication  
(Speaking, telephone calls, face-to-face interaction, interviews and letters)
- e) Non-verbal communication  
(Drawings, Eye contact, facial expressions gestures, posture, signals, symbols)
- f) Other (Specify).....

**Section Three: Importance of project communication management in the construction project.**

**Instruction:** For the closed ended questions in table forms, please use the following keywords to answer. And put a tick mark (√) on the space provided.

(Please tick the approximate cell).

**Relative importance:**

SA: Strongly Agree (5)

A: Agree (4)

N: Neutral (3)

D: Disagree (2)

SD: Strongly Disagree (1)

General overview and Importance of project communication management on the construction project in Ethiopia		Relative Importance				
		SD	D	N	A	SA
1	Project communication management is vital to the success of constructional projects.					
2	Communication plans and strategies must be determined /established at the beginning of the construction project.					

3	Culturally sensitive and appropriate communication is necessary.					
4	Project managers should have excellent communication skills.					
5	Two way communications process must be encouraged					
6	Clear communication clarifying roles of workers					
7	Open communication is required to provide management with some control					
8	Meetings help overcome communication barriers and increase project performance level.					
9	Communication plan reviewed regularly, and adjusted if need be.					
10	Project type and duration has a bearing on communication strategy and structure.					
11	Appropriate communication media for specific purposes/audiences are necessary					
12	Effective communication strategies are needed to minimize potential arguments and misunderstandings					
13	Poor project communication management is the major cause of project delay, cost overrun and failure.					
14	project communication affect project delivery					

**Section Four - Questions Relating to Communication Barriers on Ethiopian Construction Projects**

Below are potential influences of project communication barriers in Ethiopia. From your experience, please tick the appropriate cell by indicating how each barrier affects effective communication on Ethiopian construction projects.

**Relative importance:**

1 – Very low

2 –low

3– Medium

4 –High

5 - Very high

<b>Project Communication barrier in Ethiopia construction industry (Private Real Estate)</b>		<b>Relative affect</b>				
		1	2	3	4	5
1	Political/community interference					
2	Poor listeners					
3	Poor leadership					
4	Unclear objectives					
5	Unclear channels of communication					
6	Ineffective reporting system					
7	Limited resources					
8	Information filtering					
9	Conflicting business/industry ethics					
10	Lack necessary communication skills					
11	Lack of trust					
12	Lack of concern					
13	Language difficulties					
14	Age difference					
15	Poor project communication management planning					

**Section Five - Questions Relating to Communication Channels on Ethiopian private Real Estate Construction Projects**

Below are some communication channels, techniques and approaches of project communication in Ethiopia. From your experience, please tick the appropriate cell by indicating “Yes” or “No” to whether any of the communication channels below is present at any of the project you are currently involved in.

<b>Communication Channel, techniques and approaches</b>		<b>Yes</b>	<b>No</b>
1	Employee suggestion scheme		
2	Employee satisfaction survey		
4	Project Business case		
5	Project report		
6	Site Review meetings		
7	Web site		
8	Noticeboard		
9	General meetings		
10	Employment contract/ code of conduct/job description		
11	Verbal communication – email, letter, telephone, fax....		
12	Non- Verbal communication- Drawing, Eye contact, Gesture...		
13	Team work report		
14	Quality circles		
15	Management by walking around		
16	Face to face discussions		
17	High-tech technologies (Share points, WorkflowMax, Slack, Wrike etc.)		

**Section Six - Questions relating to your company on the project communication management practice.**

	<b>View of your company on the project communication management.</b>	SD	D	N	A	SA
1	Your company has project communication management plan					
2	Your company developed appropriate project communication approaches and plans to communicate with its stakeholders.					
3	Your company encourage two way communications					
4	On-going communication between project proponents and its stakeholders are practiced in your company.					
5	High value is given for project communication management.					
6	Communication plan reviewed regularly, and adjusted if need.					
7	Project manager and stakeholders (Engineers, Foreman and others) communicate throughout the project.					
8	There is no communication barrier in your company.					
9	Project manager properly handle communication barrier.					

**Open ended questions**

**Instruction:** For the open ended questions below, please fill your answers for each question in the blank space provided.

1. What are the communication problems you encountered during working on Real Estate project(s)? Please State/list the problems as much as you can.

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2. Forward any recommendation you would like to suggest on the project communication management of real Estate projects in Ethiopia?

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Thanks You!

## **Appendix B: interview**

### **Addis Ababa University School of Commerce Department of Project Management.**

The purpose of this interview is to gather data on project communication management on construction project in Ethiopia.

I would like to extend my gratitude to you for your willingness to participate in this study. It is believed that the information you provide will contribute to our understanding of how construction industry in Ethiopia manage communication and apply project communication management. Your identity will be kept confidential and the answers you provide to the questions in this interview will be reported as aggregates.

I would like to hear your views on the following aspects of project communication management in construction industry in general.

1. What is the main aim and practice of communication in the Real Estate project?
2. What is the role of effective project communication management on the project delivery in the real Estate project and what are communication barrier in construction industry?
3. Are there any high-tech technologies involved in the communication process in your construction company? i.e. Share points, WorkflowMax, Slack, wikis, Wrike etc. that can facilitate the communication effectiveness & efficiency ?, How about long-term communication plan, if any?
4. Who is responsible for issuing communication and how much value for communication in Real Estate projects?
5. What reporting and feedback systems used in the construction project in private Real Estate in Ethiopia?

I would like to extend my gratitude to you for spending your precious time discussing with me your views of these topics. I will contact you for further or any additional information if it is convenient for you.

