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CONSTRUCTION PROJECT MANAGEMENT (COTM 6101)

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Abstract

All the various stages of construction rely on professionals transferring appropriate and relevant information to develop a buildable design that meets the client's requirements. As the project unfolds and the design is realized, information in the form of drawings, specifications and construction methods must be communicated from one expert to another. Therefore, using an appropriate communication method and communication medium to resolve construction and design problems is essential. In order to fully appreciate communication in the YONAGU ENGINEERING PLC construction industry.

The first chapter which is the introduction describes the general and specific objective of the project, the scope and limitations and the methodology used during undertaking this study.

The second chapter is the literature review part which has been tried to define communication, and its overall process as well as its channel of communication. It also discusses the pre-design activities like planning, managing and controlling communication, performed by the employer and other professionals.

The case study is discussed under chapter three, collection data from YONAGU ENIGINEERING PLC by questionnaire system and analyzes the outcome.

Finally, the seminar established that poor communication had resulted in project delays, project cost overrun and project abandonment. Project communications was also shown to strongly affect the performance of professionals within the construction industry.

List of table and figure

Figure 3.1, a chart showing how the respondent in YONAGU ENIGINNEERING PLC related the significance of communication on a project

Table 3.5 shows the ranking of all Respondents on Barrier communication in YONAGU ENIGINNEERING PLC construction projects

Figure 3.5 a chart showing how the frequency of occurrence of the various communication barrier

CHAPTER ONE

INTRODUCTION

1.1 Background

Communication is a wide-mentioned term that attracts major attention throughout the literature, where studies confirmed that it is the foundation of every human interaction between different parts of the dialogue, and it gives meanings and solidity to the conducted activities. First and foremost, the dictionary defines the word communication as the process of imparting and interchanging ideas, viewpoints or information, by speaking, writing or signals (Folland.Roynold.o, 1983) .Basically, communication is transferring

any information between people (Luiten, Gijsbertus T"bar" and Frits p Tolman, 1997) . Metaphorically, communication can be the pipeline that transfers information from one individual to another (Axley, Stephen R, 1984). However, studies concluded to the barriers that may occur during the implementation of the project. These barriers can be verbal, environmental, emotional or interpersonal (Fox, s, 2001) Moreover, to effectively communicate, proper communication management schemes must be adopted to set the path for accurate distribution and sharing of the project information. The construction industry is fragmented due to the many stakeholders and phases involved in construction projects. This has led to problems related to communication and information processing that created adversarial relationships between the different parties involved in a project. One of the most common complaints from construction managers is the difficulty in requesting information or relaying information to every member of the construction. Current project management practices are often isolated and concerned with managing problems related to individual stages of the projects. As a result, problems of reworking occur due to conflicting information and information not received in time to the parties concerned Communication management is the essential component of the project management that defines the required processes of proper planning, collecting, distribute and retrieve project information among the project participants (PMI, 2013a). It was widely mentioned in literature due to its significance of developing an approach of information sharing between the

individuals in different levels. On top of that, the stage of planning the project communication management is fundamental through developing a communication management plan that assists the project manager to defines the involved parties, determine the information to be shared, and allocate the most convenient methods of communicating to fulfill the project requirements.

1.2 Objective of the study

1.2.1 General objective

To investigate and analyze the communication management between the stakeholders involved construction industry.

1.2.2 Specific objective

The specific objectives of this seminar are to identify and discuss:

- Identify and develop an understanding of communication management
- Investigate the principle of effective communication management
- Identify the practice and tools to solve communication management problem construction industry

1.3 scope and limitation of the study

1.3.1 The scope of the study

Communication within the construction industry construction industry in Ethiopia is broad .construction industry comprises of all players (contractors, consultants' and clients) involved in the construction infrastructure and environment .this study deal with the effective communication between YONAGU ENIGINEERING PLC construction industry parts, environment and the possible communication structure.

1.3.2 Limitation of the study

The only limitation of this study is unwillingness of the client to answer our question because they don't have time to fulfill the questionnaire paper.

1.4 Methodology

Questionnaires strategy was used on this study. questionnaires were sent to 50 people that consists the YONAGU ENGINEERING PLC contractor, consultant and other construction worker on which 90% response were received. Their respondent was familiar with the team project communication of construction management.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The right to communication is a basic human right, which points to every human beings basic need to express what he or she thinks about any matter. It's essential to that morality of inter-subjectivity whose prime characteristic is the relationship and also sets freedom, equality and solidarity above all else. In construction industry a group of professionals therefore need to communicate with each other in order to accomplish their work, project information is extensively and inclusively exchanged throughout the duration of project planning and executing. It was outlined that communication is highly required whenever a project is implemented by and involves humans. Project manager spend about 90% of their time communicating with the involved parties to the project therefore the project final results are directly affected by the communication. Additionally, improve communication in the construction industry to increase innovation and positive decision making.

2.2 communication definition

- The work (cherry.c, 1978). (Danity, 2006), (Drucker.p, 1985), (Katz.D and Kahn,R.I, 1978), Goczol and scoubeau (2003), define communication is interaction between individual and managers for effective and successful work, and also there will be conflict due to

the enormous diversity on the construction environment, poor communication between the owner, the designer and the contractor. For this reason, effective communication is important for the construction industry.

Characteristic of communication

- Communication is a continuous, on-going and dynamic process
- Communication requires a sender and a receiver party
- Communication have information or message
- Communication requires sympoles, signs, behaviours, speech, writing and signals
- Communication need all parties to understand the same things on the same way
- Communication is transactional and irreversible

2.3 Method of communication

The role of this structure of communication is give information for the stakeholder and facilitating information between them. This structure can be formal and informal.

- A. Formal communication is scheduled ,arranged between participate ,preset on agenda and use formal langue .its most important because they are the one that divided the task and give meaning to the organization structure predefined before the construction project begins and imposed among the actors involved.

- B. Informal communication is unscheduled, spontaneous, random participants, unarranged agenda, use informal language and rich content.

Construction industry uses the formal and informal structure to achieve their goal. There is communication between parts of the stricter that can circumvent others, bypassing the formal communication protocol. These informal procedures seem more realistic when studying the decision and confirm the greater flexibility existing in the communication that generates inevitable uncertainties in the construction process, but which, in turn, favor the correct execution of construction projects without delay

2.4 project communication management

Project communication management is the knowledge area that employs the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval and ultimate disposition of project information. The project communications management processes provide the critical links among people and information that are necessary for successful communications. Project managers can spend an inordinate amount of time communicating with the project team, stakeholders and customer .everyone involved in the project should understand how communications affect the project as a whole. Effective communication creates a bridge between diverse stakeholders who may have different cultural and organizational backgrounds, different levels of expertise and

different perspectives and interests, which impact or have an influence up on the project execution or outcome.

Project communication management processes include

A. Communication plan

The construction project needs to be planned to keep project processes on track to obtain success requirements. Project information is mainly provided and distributed through the overall project management plan, this plan focuses on developing an appropriate approach and plan for project communications based on stakeholder's information needs and requirement available organizational assets. The way how to plan, arranges the project as well as to set the project communication goal and requirements .moreover it illustrated that the communication management plan elaborates the frequency of communication occurred during the project duration between the projects participants.

B. Communication manage

The process of creating, collecting, distributing, storing, retrieving and the ultimate disposition of project information in accordance with the communications management plan

C. Communication control

The process of monitoring and controlling communication throughout the entire project life cycle to ensure the information needs of the project stakeholders are meet.

2.5communication channel and method

In construction industry communication occurs in various direction because communication involve more than one person .there is upward and downward (vertical)communication its communication from the construction organization and the customer organization, down ward is from superior to sub-ordinate and up ward is from sub-ordinates to superior. Lateral (horizontal) communication take place between the co-worker and colleagues. The construction forms their organization upward, down ward and lateral communication channel.

The communication activities involved in these processes may often have many potential dimension and interaction that need to be considered, this include

- Internal communication with the project team like contractor ,consultant and External communication with customer, public or other project organization
- Official communication is by using newsletters ,annual report and unofficial communication is by using off the record communication
- Verbal communication is by using written, oral and non verbal communication is using body languages.
- Formal communication is by using reports, minutes, briefing and informal communication is using email, memos, ad-hoc discussion.

There is various method of communicating information in construction industry. The information exchange could be by verbally and delegated,

most data exchanged in written format either as hard copy or soft copy. Even if information is exchanged verbally such as through project meetings and instructions, this information will be documented and stored for future reference. Scope of work and details of construction are communicated by means of drawings, contract documents, addenda and specification.

The methods of communication in the construction industry are listed below (Mehra, 2009)

- A) Formal Writing- this takes the form of project plan, project charter, specification, reports
- B) Formal verbal- this is presentation and speeches
- C) Informal writing- this includes memos, e-mail, notes etc.
- D) Informal verbal- in this category are meetings, stakeholders and conversation.
- E) Non verbal messages- is using body language
- F) Para-verbal message

2.6 communication system

Communication system is an instrument used to transfer information between internal and external construction stakeholders. The project manager has responsibility to examine communication needs, stakeholder analysis and select appropriate communication system for information

distribution .the communication plan should determine how project documents will be organized and distributed .the document includes meeting ,status reports, customer requests .the guidelines for distribution will be appropriately communicated to project team members. Information transfers have four fundamental process and element

Sender (source)► Message→ channel (Medium)► Receiver

- A. Sender -is an information source ,who initiates communication
- B. Message -is the information it self
- C. Medium-is the communication method used to transmit the message, the message may sent using traditional mail, email, phone call and face-to-face. Telephone is the most popular message transfer.
- D. Receiver-the person to whom the information is sent

2.7 Communication in design stage

At this stage communication is between the client (owner) and the consultants and is a continuous process from inception to completion of the project .the clients statements of requirements which including information such as the size of the building, nature of the building, fund available, building function and time limitation of the project will be made available to the counsultants.If there is lack of early consultation and co-ordination affect communication and project delivery time. The architect prepares a general outline of client requirements after carrying out feasibility studies with the other consultant and communicates it to the rest of the members of the design team for collective action. As soon as the client approval is

obtained, the Architect and Engineer start preparing the working drawings, schedule and specification and at the same time seeking the opinion of the quantity surveyor who sees to the cost implication of the project to see if the project design is still within the approval budget.

2.8 Communication between design team and Building team

The construction start their will be some difficulty in detailed drawing.

These problems in May case could have been overcome there been consultation between the architect and builder at an earlier stage. On the other hand may builders cause a lot of delays? These are many situations to the builder or site agent that he is going to have to seek the architect's advice or ask about certain point, but it is not mentioned until such late stage that delay occurs.

2.9 YONAGU ENGINEERING PLC

YONAGU ENGINEERING PLC is a multi-disciplinary consulting firm established in 2014 G.C as private independent consultant by senior civil engineer (Yonas Agusha) who has been working in different government institution in different position and acquired lots of experience in the construction industry and incorporated on 2016 G.C as a private limited liability company, since then the company has undertaken and successfully completed a number of projects, diverse in nature and size. The goodwill, the company earned has fetched repeat orders from its clients. The YONAGU ENGINEERING PLC industry set-up

The key stakeholders in the construction industry in YONAGU

ENIGINNEERING PLC are clients, professional consultants and contractors,

- A. Clients- are public sectors, private sectors ,international organization and in-cooperative sectors
- B. professional consultants
- C. contractors,

CHAPTER THREE

Case study

3.1 Introduction

This chapter explains the procedure of this seminar .it explains the availability and selection of appropriate method that helped addresses the key question raised also analyze the method.

3.2 Data collection strategy

Qualitative strategy was adopted in this study due to the fact that a quantitative method follows a deductive approach in relation to theory and concerned with measurement. The common data collection techniques used in quantitative is questioner, its hard and reliable data collected method. The question which this study sort to explore was how professional working on a construction project communication in YONAGU ENIGINNEERING PLC company.

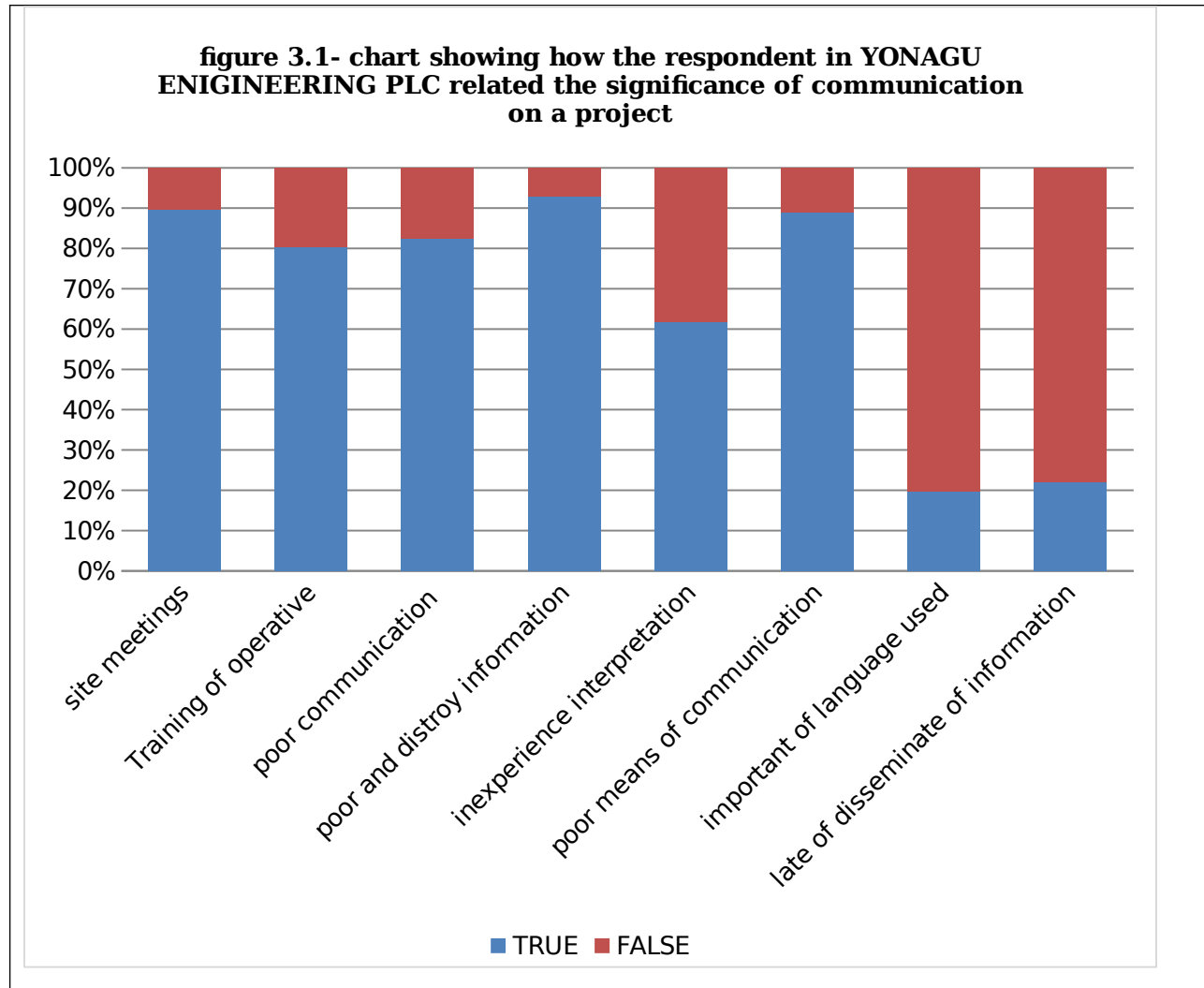
3.3Data collection

Based on the objectives and the study questions, questionnaire was developed to obtain an extensive, as practable, form these project professional .the questionnaire consisted of closed ended questions. For the purpose of this study was intended to the communication in the YONAGU ENIGINNEERING PLC Company. 5-points ranking system and a three-level scale of low, moderate, and high were utilized where the respondents were asked to indicate from the list of how communication is achieved currently on site, how important each is and how frequent those occurs.

3.4 The significance of project communication management in construction industry

We were asked to assess how true or otherwise the following statement were with regards to project communication in the construction industry in YONAGU ENGINEERING PLC:

- Site meetings are an important channel of communication between the consultants and contractor on site.
- Training of operatives is necessary for onsite communication.
- Poor communication often results into delay, increase in cost, abandonment, amongst other problems.
- Poor and distorted information will affect the level of work done on site.
- Inexperience interpretation of working drawings can cause a failure in building components.
- Poor means of communication leads to distorted information on site.
- The importance of language used among operatives is very essential for effective communication on site.
- Late dissemination of information will affect output on site negatively



From the Figure 3.1 above, 87% of all the respondents said that site meetings are an important channel of communication between the consultants and contractor on site. Only 10% said that site meetings are not important communication channel between the contractors and the consultants. With regards to training of operatives being necessary for onsite communication, 78% answered the affirmative. 80% of total respondents of 97 said that poor communication had often resulted in project delays, project cost overrun, project abandonment etc. however,

17% said disagreed with that statement. A majority of 90% agreed that poor and distorted information relayed do affect the level of work done on site. With regards to inexperience interpretation of work drawings can cause a failure in building components. 60% of the respondents said that that statement was true, with 37% saying that the statement was false. 86% of the respondents said that poor means of communication leads to distorted information on site. Also 78% of the respondents said that the sort of language used among operatives is very essential for effective communication on site. Finally, 71% of the respondent also said that late dissemination of information will affect work output on site negatively.

3.5 Barrier to Communication Management on Construction Projects in YONAGU ENIGINNEERING PLC

Responder were asked to state how frequent and information barriers occurs during project initiation through the post implementation review .the frequency index formula was used to rate the frequency of occurrence for each of the communication barrier :high(3),middle(2),low(1) this method was analyze to find out the communication barrier which were really occurred on construction project.

Frequency index(F.I)= $\frac{3n_1+2n_2+n_3}{3(n_1+n_2+n_3)}$:were n1 is number of respond who answer “high”,n2 the number of respond who answer “middle”,n3 the number of respond who answer “low”.

Table 3.5 shows the ranking of all Respondents on Barrier communication in YONAGU ENIGINNEERING PLC construction projects

	Barrier of communication	Frequency of occurrence of each factor quoted by respondent			Total number of respond	F.I	Ran k
	All responded	1	2	3			
1	Poor listener	8	10	22	40	0.825	10
2	Poor leadership	10	12	18	40	0.9	6
3	Unclear communication objective	12	13	15	40	0.963	3
4	Unclear channels of communication	10	13	17	40	0.9125	4
5	Ineffective report system	11	10	19	40	0.9	6
6	Ineffective communication between the parties on the	10	8	22	40	0.85	9

	project						
7	Limited resource	10	10	20	40	0,875	8
8	Information filtering	8	10	15	40	0.975	1
9	Lack necessary skills	9	16	15	40	0.9125	4
10	Lack of trust	5	10	15	40	0.63	11
11	Language dysfunctional	10	18	12	40	0.97	2

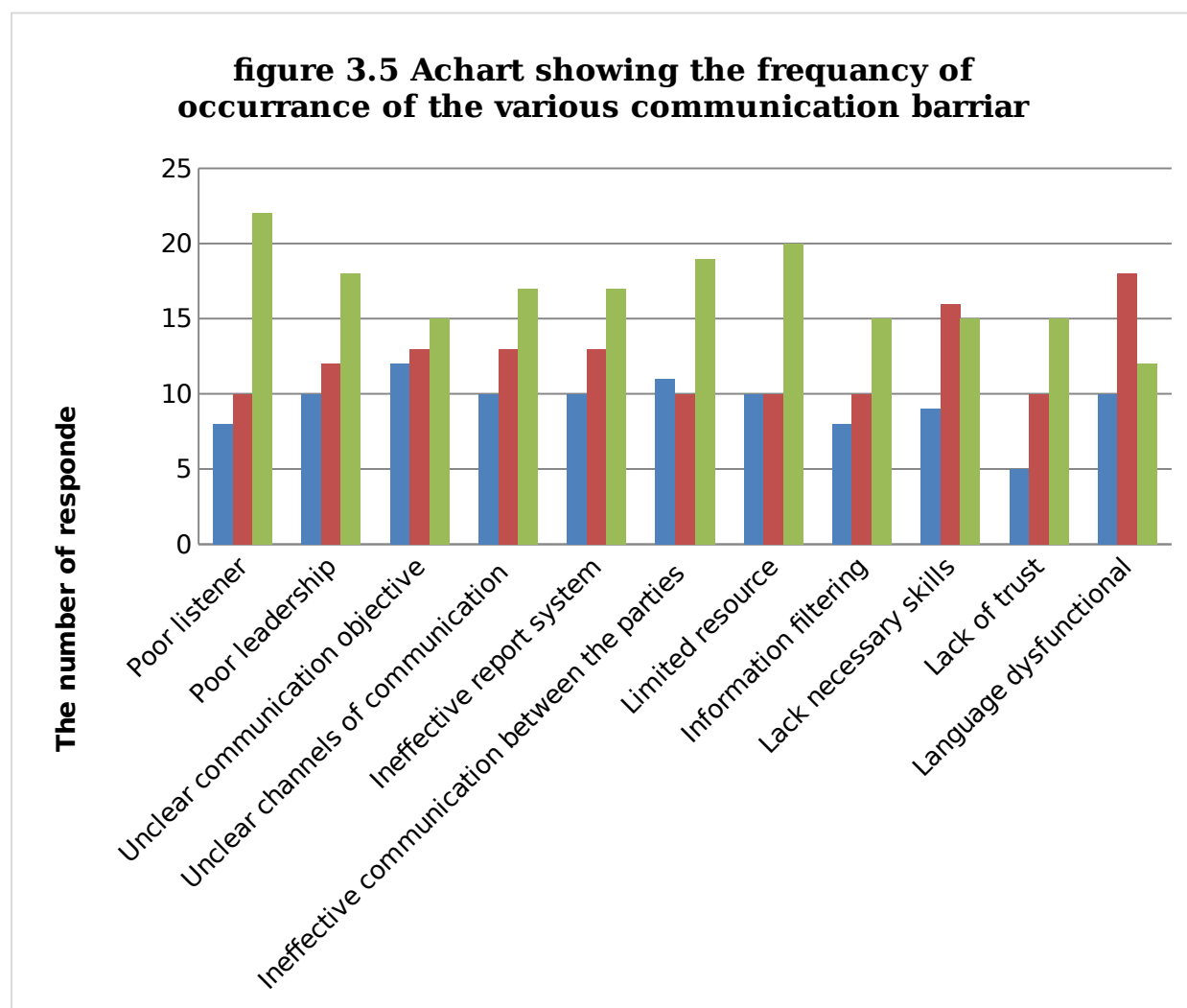


Table 3.5 and figure 3.5 summaries the frequency of occurrence indices and the ranks for each of the communication barriers as perceived by all the three contact groups of respondents.

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Chapter four

Conclusion

Within the YONAGU ENIGINNEERING PLC construction industry, there is a strong appreciation of the importance of project communication and its importance within the industry. Indeed, various levels and channels of communications have been established within the construction industry, for example communication between the clients and consultants or consultants and contractors. In spite of that, there have been many hindrances to effective communication on construction project in YONAGU ENIGINNEERING PLC. These includes; poor listeners, poor leadership, unclear communication objectives, unclear channels of communication, ineffective reporting system, ineffective communication between the parties on the project, stereotyping and language

difficulties. Finally, the research established that poor communication had resulted in project delays, project cost overrun and project abandonment.

This seminar has shown that, project communication strongly affect the performance of professionals within the construction industry. Therefore, clearly establishing and managing the structures of communication on project must always be on the agenda of team leaders and management before the commencement of every project

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Appendix one

Introduction

Just like in any other discipline of business the important of communication cannot be overemphasized in managing project .one of the main factor that contributed to the failure of these project is poor or insufficient communication. For this reason there is a need to assess the current management of project communication in the construction in YONAGU ENIGINNEERING PLC.

This seminar is therefore being undertaken to find out from the primary stakeholders to any construction project (namely the client, consultant and contractor) how, in their opinion communication is being carried out and whether that has an effect on project deliveries in YONAGU ENIGINNEERING PLC. It is my belief that the stakeholders will 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: Respondent profile

1.1 What type of organization do you belong?

- a) Clients organization ☐
- b) Contracting firm ☐
- c) Consulting firm ☐
- d) Other (specify).....

1.2 Which of the following describe your position?

- a) Quantity surveyor ☐
- b) Project manager ☐
- c) Architect ☐
- d) Principal consultant ☐
- e) Managing director ☐
- f) Contractor ☐
- g) Other (specify).....

1.3 How many years of experience do you have in the YONAGU
ENGINEERING PLC?

- a) Less than 5 years ☐
- b) 5 years to 10 years ☐
- c) 10 years to 15 years ☐
- ☐

d) 16 year and above

1.4 Have you ever had any form of communication on ☐ project? ☐s No

1.5 If yes, what for did it take?

Specify.....

Section Two; Question relating to project communication on construction project in YONAGU ENIGINNEERING PLC.

2.1 Below are statements relating to project communication on construction projects in YONAGU ENIGINNEERING PLC? From your experience, please express your opinion on how important or True and Otherwise of each statement on project communication on YONAGU ENIGINNEERING PLC construction projects and also rate the frequency of occurrence for each on projects in YONAGU ENIGINNEERING PLC.

(Please tick the approximate cell).

- i. Site meetings are an important channel of communication between the consultants and contractor on site.

True ☐ False ☐

- ii. Training of operatives is necessary for onsite communication

True ☐ False ☐

- iii. Poor communication often results into delay, increase in cost, abandonment, amongst other problems.

True ☐ False ☐

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

True ☐ False ☐

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

True ☐ False ☐

- vi. Poor means of communication leads to distorted information on site

True ☐ False ☐

- vii. The importance of language used among operatives is very essential for effective communication on site.

True ☐ False ☐

- viii. Late dissemination of information will affect output on site negatively.

True ☐ False ☐

Please tick the approximate cell.

Relative importance: 1 - Not important, 2 - Quite/low important, 3-

Moderately Important, 4 -Important, 5 - Very important

Frequency of occurrence: 3 - High, 2 - Medium, 1- Low

	General overview of communication on project	Relative Importance					Frequency		
		1	2	3	4	5	1	2	3
1	Project communication management is vital to the success of constructional projects								
2	Communication plans and strategies must be determined /established at the outset								
3	Culturally sensitive and appropriate communication is necessary								

4	Project managers should have excellent communication skills								
5	Two way communications must be encouraged								
6	On-going communication between project proponents and its stakeholders								
7	Effective communication reflecting openness and tolerance of cultural differences								
8	Clear communication clarifying roles of stakeholders								
9	Open communication is required to provide management with some control								
10	Meetings help overcome communication barriers and increase performance level								
11	Project proponents and stakeholders communicate throughout the project								
12	Communication plan reviewed regularly, and adjusted if need be								
13	Project type and duration has a bearing on communication strategy and structure								
14	Appropriate communication media for specific purposes/audiences are necessary								
15	Effective communication strategies are needed to minimize potential disputes and misunderstandings								
16	Understanding the language(s) and practices of local culture enhances communication								
17	Communication gives project stakeholders the opportunity to comment or cast a vote								