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GHANA**

**Effective Communication as Strategy to Enhance Construction Project Performance**

**BY**

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Award of**

**MASTER OF SCIENCE**

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**DECLARATION**

I hereby declare that this report is my own work towards the Master of Science degree in Project Management that it contains no materials previously published by another person nor material which has been accepted for the award of any degree by the university, except where due acknowledgement has been made in the text.

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## ABSTRACT

Effective communication is a professional practice fundamental to all industries across the globe. In managing any project, communication is a core competency that, when properly executed, connects every member of the project team to a common set of strategies, goals and actions. However, despite wide recognition of the importance of communication to project successes, a combination of organizational and personal factors has rendered communication ineffective. It was on this premise that the study sought to examine the role of effective communication on construction projects in some selected construction firms in the Accra metropolis. The study adopted a descriptive research design in form of a survey and a sample size of fifty-nine (59) respondents drawn from D1K1 and D2K2 firms in the Accra metropolis which included project managers, civil engineers, site supervisors among others. A total of 59 questionnaires were administered and 46 were retrieved representing a response rate of 77.97%. Purposive sampling method was adopted in selecting construction professionals whose views are relevant to the issue being looked at, where the researcher tried to create a representative sample without sampling at random. Key descriptive tools used for the analysis included frequency tables whereas mean score ranking together with relative importance index (RII). The study identified 6 strategies to enhance the use of communication media and channels among project team members. These strategies include choosing the appropriate communication media or channel, establish clearly the channels of communication to operatives, keeping communication channels open in all directions among others. Further, the study established measures to improve the performance of communication strategies on projects; these were identified to be at 3 levels of significance. Significance level can be high, moderate, and less in that order. The study thus concluded that, the identified levels of measures be adopted to help improve project performance through effective utilization of communication strategies. It was recommended that project managers or leaders must set clear project objectives to all project participants so to ensure all the project team follow one course. With this, individual tasks become clear to all project members and that would enhance project performance.

**Keywords:** Effective communication; Project performance; Communication media/channels

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## **DEDICATION**

I dedicate this work to my parents my late father Mr. A. O. Dadebo and Madam Florence for inspiring and motivating me. You have always been highly important to me and I love you very much. God bless you richly.

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A study of this kind could not have been successful without the help of God. I therefore, wish to express my sincere gratitude to the Most High God without whom we would not have been what we are today.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

Banihashemi (2011) presented communication as a medium and a means to performance ends, or as the end in itself. According to Alatalo (2012), communication refers to “the exchange of facts, ideas, opinions or emotions and as a way that individuals or organizations share meaning and understanding with one another.” Likewise, Cheng et al. (2001) indicates that communication involves information transfer, that is, a common term that implies processed data, technology, skills, and knowledge. The two contemporary views on communication qualifies communication as being fundamentally about the exchange of information. Tai and Wang (2011) explains that because of the decentralised nature caused by geographical distribution of projects participants including different responsibilities of the various parties, and as well different time to join the project teams; the importance of communication have been highlighted. Considering that communication skills are the most important factor in organizational decision – making and individual success, so having the ability to communicating and interpersonal communication among managers is very important (Nazari et al., 2013: 67-82). Consequently, effective communication among project team stands essential to the success of any type of project.

Effective Communication has been defined as the communication process where the original intended purpose of the message has been successfully delivered, received and clearly understood (Business Jargons, 2017). In different words, effective communication has taken place when each party involved in the communication process communicate and understand the same thing respectively. The message must not be lost in interpretation. The sender of the message must feel that his intended message was well-received and clearly understood (Business Jargons, 2017).

In organizational projects, communication is a core competency that, which when properly executed, connects every member of the project team to a common set of strategies, goals and actions. Unless these components are effectively shared by project leaders and understood by stakeholders, project outcomes are jeopardized and budgets incur unnecessary risk (Tipili and Ojeba, 2014). A research conducted by Femi (2014) shows the relation between communication and employee performance as “Effective communication creates mutual understanding between management and workers which helps in building genuine relationship among both parties in the organizations. Even at an individual and team level, members of the project team find it difficult to function effectively especially when they fail to find a common communication system to manage their operations. The Project Management Improvement Process (PMIP) (2007) puts forward that project managers have the key responsibility to hold the lines in their hands, both internally (to ensure operational excellence) and externally (to ensure understanding of customer’s needs and customer satisfaction).

With respect to projects, the PMIP (2007) defined project communication as the exchange of project-specific information with the emphasis on creating understanding between the sender and the receiver. That is, with the current imperative to improve construction project performance, several literature abounds on improving efficient and effective communication. These literatures offer various approaches and multiple techniques to achieving efficient transfer of information. These techniques also aid the effective conveyance of message in a way that is well-interpreted per the messenger’s intention and then immediately acted on (Dainty et al., 2005). This study intends to explore how effective communication can be used as a strategy to enhance project performance disregarding the structural and cultural threats that undercut the pragmatic intent of many crucial communication practices in Ghana.

## **1.2 STATEMENT OF THE PROBLEM**

One of the most critical issues in project management that have drawn lots of attention in recent times is the management of information flow among project team members (Emmett, 2013). Due to the multiplicity of professionals that often form project team, communication has always been a challenge among team members. The need to effectively utilized appropriate communication media and channels to ensure accuracy, completeness and understandable transfer of information among project team members is critical for the successful completion of projects. Several studies have shown that effective communication improve teamwork, reduce conflicts and rework and contribute significantly to project success (Emmett 2013; Thomas, 2000).

Ineffective communication, on the other hand, has been found to be responsible for the failure of many projects. According to Tipili and Ojeba (2014), ineffective communication practice resulting from factors such as fuzzy objectives, uncertain communication medium, ineffectual system of reporting, and poor communication among the parties involved. Affare (2012) noted that despite wide recognition of the importance of communication to project successes, a combination of organizational and personal factors has rendered communication ineffective. Against the backdrop of communication problems among project team members in the Ghanaian construction industry as reported by many studies including that of Affare (2012), Duodu (2016) and Adinyira (2017), it is important therefore to understand how the effectiveness of communication among project team member's influences project performance. While this is very important, not much empirical studies have been done to examine the effect of effective communication on project performance creating a dearth in knowledge.

### **1.3 RESEARCH QUESTIONS**

The research questions proposed to guide this study are outline subsequently:

- i. What elements of communication are more essential to the management of projects in Ghana?
- ii. How can communication strategy execution be followed up in projects?
- iii. How can the various elements of communication be enhanced to improve upon the execution of projects in Ghana?

### **1.4 AIM AND OBJECTIVES**

#### **1.4.1 Aim**

The aim of this thesis is to examine the role of effective communication on construction project performance in some selected construction firms in the Accra Metropolis.

#### **1.4.2 Objectives**

To achieve the preceding aim of the study, these research objectives were outlined:

- 1) To identify the elements of effective communication key to the management of construction projects in Ghana;
- 2) To identify strategies that would enhance the use of communication media and channels among project team members; and
- 3) To propose measures to improve the performance of communication strategy on construction projects.

### **1.5 SCOPE/DELIMITATION**

The scope of this study was limited to the construction industry in Ghana particularly the Accra metropolis. It included the construction of buildings and the greater built environment of roads, bridges, utilities, and sanitation systems. Building as used here was limited to commercial

buildings (offices and retail buildings); industrial (warehouses, distribution centres, manufacturing plants); and civic structures (auditoriums, schools, hospitals and government buildings) executed by government and private construction firms.

## **1.6 METHODOLOGY OF THE STUDY**

For the purpose of achieving the set objectives of the study, an in-depth review of pertinent literature that centre on the theme of the research was undertaken. Thus, secondary data sourced from reliable information from books, internet, journals, and previous thesis. Generally, this study adopted the quantitative method to provide answers to the research questions and also achieve the research objectives. Explicitly, a survey questionnaire was developed to elicit information from construction professionals of some selected firms (i.e. D1K1 and D2K2 classes) within the Accra metropolis. The survey was structured to capture a comprehensive and an accurate stance of using effective communication as strategy to boost project performance. The data collected was transformed into usable statistics using the computer programme SPSS and analysed accordingly.

## **1.7 SIGNIFICANCE OF STUDY**

It is expected that this study will provide a better understanding into the challenges with project delays and failures with respect to ineffective communication. And how these inefficiencies can be improved upon to enhance the execution and delivery of construction projects in Ghana. It is also envisaged that recommendations from this study, if implemented by the appropriate authorities will go a long way to better the industry. Moreover, this study should serve as a source of reference for further studies in related areas.

## **1.8 STUDY'S OUTLINE**

This study is categorized into five (5) consistent chapters. The first chapter, chapter one, introduces the study, encompassing the background of the research study, its aim and objectives, scope, methodology, and significance. The second chapter covers the theoretical frame work which is review of pertinent literature in relation to the theme of the study. The chapter three focus on the research methodology as it outlines the compliance assessment tool, questionnaire design and development, the determination of sample size and administration of questionnaires as well as method of data analysis. The chapter four details out the analysis and interpretation of the data gathered which features a discussion of the data. The chapter five concludes the whole research indicating the summary of the findings, recommendations and conclusions.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

The introductory part gives out the theoretical and practical aspects of communication and connects this to how communication can be used to augment construction project performance. As outlined subsequently, the chapter delve into the following topics from other related literature: The general overview of communication; The crucial role an effectual communication plays f\on construction; Project communication; Patterns of Communication in the Construction Industry; Communication media and channels; Strategies for ensuring effective usage of communication media and channels; and Measures for improving communication strategies. The information gathered here will be again touched on in the last but one chapter of this document for the purposes of discussions.

#### **2.2 GENERAL OVERVIEW OF COMMUNICATION**

Communication is viewed by Haiemann (2011) as the imparting of ideas and making oneself understood by others. It is also the process by which information is passed between individuals and/or organizations by means of previously agreed symbols. Communication is the process by which one party (a sender) transmits information (i.e. message). It is a continuous process between the two parties involved and it occurs in many levels, such as intra-individual communication level (Keith, 2014). Information is transmitted in two ways: - e.g. from a sensory organ to the brain and secondly, interpersonal level is a situation in which the transmission of information is just between two individuals. Communication can also occur within or between an individual or group.

Consider for example, the architect conversing with the project manager on an issue like how to effectively how the design details of a construction site should be done will mean they will

have to come into agreement on the effects those details will most like have on operations and how to make the right amendments to the design details. This process of reaching an agreement will can be aided by a number of tools such using graphics to communicate a visually. Using this example, the architect and the project manager communicate using terms and references unique to the construction industry. The communication channels are both verbal and non-verbal. Years of knowledge, skill, and experience in their unique fields had enabled them communicate at a level that ensures mutual understanding. Without this knowledge, skill, and experience with characterises the layman, communication becomes almost impossible (Dainty et al., 2005).

Communication in itself is quite ambiguous, taking on different meaning at different times under different conditions. This concept extends throughout this thesis as elements of effective communication key to managing projects are explored and strategies to enhance the use of communication media and channels among project team members are examined.

Notwithstanding the complications encountered in trying to understand and define communication, it is still imperative to uncover its meaning by breaking it down into its fundamental constituents. The constitutional meaning of communication can be summarized as follows:

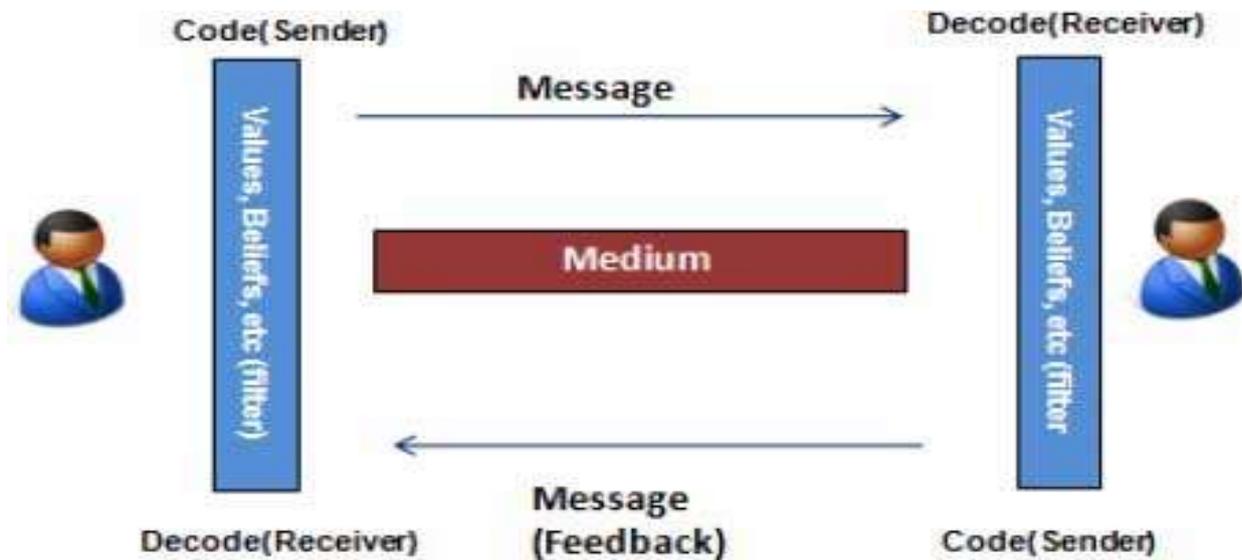
- It involves the exchange of information (processed data, technology, skills, and knowledge) (Cheng et al., 2001).
- It connects us all, both far and near (Keith, 2014).
- It is characterised by an interaction between or among two or more people respectively in a social context. As such, it is a cultivated social skill (Dainty et al., 2005).

- It involves the conveyance of one's opinions, feelings, facts and values (Haiemann, 2011).
- It can extend beyond the individual to organizations, groups, and even nations (Haiemann, 2011).
- Communication can be seen as a transactional process where something is exchanged between the parties involved (McKinney et al., 2004).

### **2.3 COMMUNICATIONS PROCESS**

Communication can be defined as the process of transmitting information and common understanding from one person to another (Keyton, 2011). The word communication is derived from the Latin word, "communis," which means common. The definition underscores the fact that unless a common understanding results from the exchange of information, there is no communication. As already stated, effective Communication has been defined as the communication process where the original intended purpose of the message has been successfully delivered, received and clearly understood (Business Jargons, 2017). In different words, effective communication has taken place when each party involved in the communication process communicate and understand the same thing respectively. The message must not be lost in interpretation. The sender of the message must feel that his intended message was well-received and clearly understood (Business Jargons, 2017).

Figure 1 reflects the definition and identifies the important elements of the communication process (Cheney, 2011)



**Figure 1 the communication process.**

Source: Adopted from Haiemann (2011)

### **2.3.1 PATTERNS OF COMMUNICATION WITHIN ORGANIZATION**

Studies have revealed that organizations consider communication skills to be the prime quality expected in a candidate (Yate, 2009). Communication in organizations can be broken down into two dimension. They comprise the vertical communication and then horizontal communication. The vertical type of communication involves both downward and an upward direction within the organization. This of communication transfers information between the various levels in the organization. The horizontal type of communication, however, denotes that form of communication between individuals within the same division, or department.

#### **2.3.1.1 DOWNWARD COMMUNICATION**

The transfer of information from employees at a high level to a lower level within an organization is what is called a downward communication. Traditional views of the organization procedures in company have been measured by downward communication flows such as flow transmit from higher to lower levels of the organization, from project manager to

the site supervisor, from the site supervisor to the artisans and labourers on site. Communication downward in construction is usually through design drawings, contract documents, letters, speeches, company board policy manuals and procedure handbooks amongst others. What downward communication does is to allocate various responsibilities, disseminate instructions and directions in members on a construction project, educate on job procedures and policies, pointing out problems needing attention, and finally giving feedback on employees' performance (Robbins and Judge, 2010). Robbins and Judge (2010) again added that downward communication is critical to the success of any organization.

Downward communication is a one-direction sort of communication with information flowing down from the higher-ups (project managers, engineers, architects, contractors etc.) to their subordinates (artisans, labourers, site engineers, site foreman etc.) (Robbins and Judge., 2010). In some context, the higher-ups become the subordinates depending on where and who the information is flowing from. For instance, a contractor will be at a lower level when he receives instructions from the architect.

### **2.3.1.2 UPWARD COMMUNICATION**

Upward communication on the other hand entails the movement or flow of information from lower levels to higher levels within the organization. In modern times, this form of communication has grown in popularity while its formal counterpart has fallen in popularity. Upward communication in a way keeps client and project manager accountable. It also informs them on the activities of workers or their subordinates. Moreover, worker's complaints, feelings, opinions, and perspectives are known through this form of communication. Upward communication is crucial to the organization's success. Without upward communication, proceedings and undertakings on a construction project can be obstructed. The goals and objectives of the project may never be achieved (Tubbs and Moss, 2008). The function of

upward communication can be seen in reducing construction workers' anxiety, managing information required for making informed decisions, and making employees feel part of decision-making.

### **2.3.1.3 HORIZONTAL/ FLAT COMMUNICATION**

Horizontal communication occurs among workers or peers in the institution. This type of communication is progressively usual with the levelling of the hierarchical structure and the introduction of matrix organizations (Greenberg and Baron, 2008). Thus, it is the transmission of information between people, divisions, departments or units within the same level of organizational hierarchy. Robbins and Judge, (2010) and Tubbs and Moss, (2008) highlighted that this type of communication within an organization is a laudable channel for an efficient and effective transmission of information, which also facilitates synchronization among workers. In a research analysis by (Tubbs and Moss, 2008), some significant functions of the horizontal or flat communication were unveiled. This type of communication can help improve coordination between departments regarding task accomplishment; it also encourages effective implementation of upper level decisions the reason been that lower level members within department are allowed to coordinate closely with one another during the formulation of the decision made at the top; conflict resolution is mutually practiced among members in the same department without the engagement of management; and to end it, teamwork is facilitated when a project requires tasks from different people or from different department in order to intensify job satisfaction and motivation by creating more empowerment in communication.

## **2.4 THE RELEVANCE OF COMMUNICATION ON CONSTRUCTION PROJECTS**

Communication, even as discussed in this document, is useful to all organizations, industries, and sectors, not just on construction projects. In every organization, there those few crucial people who are responsible for production and who ensure the effectiveness of information

flow between the project and the organization. Any project is characterised as being short-lived, unique, original, and risky (McKinney et al., 2004). Communication skills is therefore crucial to ensuring efficient management of those systems pertaining to quality, cost, scope, duration on construction projects.

Various literature supports the importance of communication in averting project failure or poor project performance on construction projects. Evidence from a study conducted by Keith (2014) suggests that poor timing, inadequate and inaccurate information is major cause of poor performance of most construction projects in the United Kingdom.

Armstrong (2001) summarised how indispensable communication is to projects when he said:

- **Communication assists in achieving coordinated results** – The objectives of a construction project can be achieved through single mindedness and collaborative effective of members on the project team. This makes communication an important thing.
- **Communication helps to manage change** – change is inevitable during construction projects. Effective communication makes this transition easy and possible. Poor communication can lead to cost overruns, poor design, and avoidable mistakes.
- **Effective communication motivates employees** – the ability to motivate workers is a function of one's ability to communicate effectively.
- **Communication enables contractor to understand the needs, distress, and opinions of their workforce and to know the situation at hand** – An effective exchange of information will aid workers relay relevant information pertaining to the situation on the ground to the contractor, architect etc., and for them to respond swiftly.

## **2.5 ATTRIBUTES OF EFFECTIVE COMMUNICATION FOR MANAGING PROJECTS**

Technology in itself cannot suffice to ensure effectiveness of communication. The fast-changing nature of this world means that the communicator must ride along this tide of change. Regardless, for effective communication to ensue, there are key elements/attributes that effective communication has. These elements spell success or failure depending on their incorporation or otherwise when communicating (Akilandeswari et al., 2015). The elements of effective communication for the management of projects can be discussed under several headings.

### **2.5.1 CONCISENESS**

Message to workers from contractors, project managers, supervisors, site foremen etc. should be structured in a way that it quite brief and straight to the point. The message should relay the intended information with less words as possible. The message must be straight to the point, clear and complete. This quality in an effective communication saves on time. And time is money, which means cost savings as well (Ashraf, 2007).

### **2.5.2 CLARITY**

The client must clearly know what he wants in the design and functionality of the building. The architect, engineer, client, contractor etc. must be clear on what changes they intend to communicate and the reasons necessitating that. Communication without a clear objective will achieve little. Clarity ensures swift response (Akilandeswari et al., 2015).

### **2.5.3 CORRECTNESS/APPROPRIATENESS**

Beyond clarity, information should also take on the element of correctness as Akilandeswari et al. (2015) posits. Correctness here implies no spelling errors, grammatical precision, format and content. As project managers it is a must to make sure statistical data is correct. That is,

project professionals like project managers, engineers, surveyors, designers etc. are supposed to use specific facts and figures especially on sites. Also, they are to ensure propriety of medium and its timing germane to its purpose, and audience (Davies, 1996).

#### **2.5.4 CONDUCTIVE ENVIRONMENT**

The meaning of a message can be lost when conveyed under the wrong environmental conditions. For instance, New coverage of a sporting event will be given less priority in times of war or natural disaster. Project professionals in construction should take into account the knowledge of the atmosphere or environment they are sending information to if they seek to maximize the reception of that information (Ashraf, 2007).

#### **2.5.5 FEEDBACK**

Communication is an exchange. For communication to be what it is, it requires the one who sends and the one who receives. It is an intricate process. Feedback in communication is important. Communication will fail if no feedback is given or if the feedback given was misinterpreted (Akilandeswari et al., 2015).

#### **2.5.6 COMPLETENESS**

The completeness of any message is what gives a full understanding of it. An incomplete message is susceptible to misinterpretation and failure in its understanding. Shortcuts to communication creates this incompleteness (Ashraf, 2007). A message loses its clarity when it's not complete. Completeness of a message ensure that the desired results is met, a good is done, and extra cost are avoided (Akilandeswari et al., 2015).

## **2.7 BARRIERS TO EFFECTIVE COMMUNICATION WITHIN AN ORGANIZATION AND PROCEDURES FOR OVERCOMING THEM**

With communication, there is always the illusion the communication has been accomplished (Shaw, 2011). Communication is known to be the key factor for the success of any construction project. Within any kind of project, individual professionals have to work in collaboration. These professionals include the architect, engineers, artisans, labourers, project manager, client, contractor, etc. The nature of construction require collaboration between all these professionals through discussions and meetings. The implications of a strained relationship amongst these professionals would pose a hindrance to the progress of any project. There are always barriers to effective communications which most professionals tend to overlook. They fail to understand that the process of communication is quite sensitive, complex, and delicate. To make this process simplified, successful, and satisfying to all concerned parties, these various barriers to effective communication must be addressed. And according to Zaineb (2010), these barriers have been exhausted in the proceeding contents of this documents.

### **2.7.1 PERCEPTUAL BARRIERS**

These barriers arise mainly in response to the dissimilitude of professional opinions and viewpoints amongst or between members of project team. Disparities and conflicts of opinions can be a major barrier to effective communication. If construction professionals cannot agree then how can work proceed on any project. This halt and draws back the undertaking of construction projects.

### **2.7.2 EMOTIONAL BARRIERS**

In varied situations, workers may build animosity toward their employers due to personal conflictions. Labourers, artisans, sub-contractors may feel reluctant to communicate and relate well with site engineers, foremen, contractors etc. Poor communication is always a drawback

toward the performance of construction projects. Anger and fear will put strains on the communication process.

### **2.7.3 LANGUAGE BARRIERS**

Language is one of the basic forms of communication and the most effective. An understanding of language gives understanding of the content relayed. In construction, communication can take the form of design drawings, and other technical expressions, signs and symbols. However, the language through with both written and spoken communication take place through must be both known and understood by the parties concerned. A common language speeds up the uptake of information, instruction, and discussion processes. It prevents confusion, misunderstanding and even misinterpretations of drawing, instructions, and even prepared documents. The English language is the most common and required form of communication especially in written form. However, in the Ghanaian context, verbal communication does also take place through local dialects, the popular one being the Akan language.

### **2.7.4 PHYSICAL BARRIERS**

One crucial factor worthy of note is proximity on projects and even in organizations. On most construction sites, and even in their organizations, the system of hierarchy established means that certain authoritative professionals are isolated from the others of “less relevance”. They have closed doors, closed offices and cabins. These offices and facilities are placed at a distance. All these contributes toward the feeling of remoteness. Workers will feel reluctant approaching such high professionals like the architects, surveyors, site engineers etc. This bars the process of effective communication.

## **2.7.4 PSYCHOLOGICAL BARRIERS TO EFFECTIVE COMMUNICATION**

The process of communication is a continuous stream. Everyone is caught in this continuous stream, even in the construction industry. All these professionals are communicating and continuously do so for the successful completion of projects: the client, the contractor, the consultant, the project manager, the construction manager, the quantity surveyor, the sub-contractors etc. Amongst the barriers that impede the effectiveness of the construction process is the psychological aspects.

### **2.7.4.1 Communication Flow**

The theory of communication theory states that there is a limit to the degree to which one can communicate depending on the level of knowledge that person is privy to. For instance, an engineer can only understand the architect's drawings as much as his knowledge and experience will allow. A contractor can interpret drawings to the extent of his understanding. Limited knowledge and experience affect both the sender's ability to communicate what's exactly on his mind and for the receiver to understand exactly what he means.

## **2.7.5 CONTENT BARRIERS TO EFFECTIVE COMMUNICATION**

Content barriers are stated to be the factors that cause hindrances, distractions, disturbances or obstacles during the course of the communication process; barriers that occur during the course of the communication process tend to distort, block, alter or misrepresent the information that is being exchanged between the sender and the receiver. No matter what place or area it is, whether it is a workplace, home, recreation park, shopping complex etc. barriers tend to take place within the course of communication everywhere. What is important is the identification of those barriers and adoption of measures in order to overcome them. Content barriers have been identified into the following categories: (Smith, 2015).

### **2.7.5.1 Personal Bias**

Personal biases prevent one to approach another with information or an instruction. How workers feel towards the site foreman, contractor, site engineer will influence their inclination to communicate with them.

### **2.7.5.2 Team Diversity**

Diversity in religious background, cultures, societies, beliefs, opinions, traditions, ethnicity, customs etc. affects how project team professionals communicate, the extent of their communication, and how effective they communicate. Different languages and even caste systems put tension and creates difficulties in the communication process.

### **2.7.5.3 Lack of Confidence**

Confidence levels determine how well one communicates. The approachable attitude one has is influenced by his or her level of confidence. Feelings of shyness even amongst construction professionals will end up omitting certain details from what is communicated. A shy sender of a message or an introvert will either avoid communicating or only partially communicate all that he or she intends. Either ways, the quality and personality of lacking confidence bars effective communication.

### **2.7.5.4 Organizational Structure**

The complexity of an organizational structure creates confusion and uncertainty on who to report to or even communicate to. Even in construction, simplifying the hierarchical structure of who to report to, the procedures involved and the process to that end will enhance the effectiveness of communication. Clarity and simplicity are one of the key attributes of communication if it is to be effective.

### **2.7.5.5 Distractions and Interruptions**

Minor distractions and influences like noisy background, poor internet connection, poor telephone connection etc., all affect the extent to which communication can be effective.

### **2.7.5.6 Rank Differences**

This adds to the physical barrier. Hierarchical structure even on the project team creates a caste system which intimidates subordinates. This makes subordinates unwilling to approach their superiors. All these influences affect how effective communication will be.

## **2.8 OVERCOMING COMMUNICATION BARRIERS**

### **2.8.1 ELIMINATING DIFFERENCES IN PERCEPTION**

On each construction project, when individuals are recruited, their performance, qualifications, skills, abilities, knowledge, attitude should be taken into consideration; there should be proper training and development programs, employee selection procedures and individuals should possess effective communication skills especially regarding the English language, they should be fluent in English, in speaking as well as in writing.

### **2.8.2 REDUCTION AND ELIMINATION OF NOISE LEVELS**

Noise is the most common barrier which occurs everywhere, for instance, when family members are communicating at home, constant noise comes from busy neighbourhoods, or at the workplace too while working on the computers, people may get engaged in informal conversations, hence that leads to emergence of noise levels. It is necessary to identify the sources of noise and then formulating measures in order to eliminate those sources.

### **2.8.3 ACTIVE LISTENING**

The receiver should listen to the speaker with awareness and in a considerate manner; he/she should respond by asking questions, the speaker should always be aware of the fact that the

listener understands everything that he is saying and this overcomes the barrier to effective communication.

#### **2.8.4 SIMPLE ORGANIZATIONAL STRUCTURE**

The hierarchical levels within the project team should be optimum in number; the operations and functions implemented within the organization, the leadership skills, span of control, authority, rules, policies should be organized appropriately and put into operation in an effective manner.

#### **2.8.5 AVOID INFORMATION OVERLOAD**

Employers as well as the employees should not overload themselves with work; they should manage their work for the day accordingly, extended working hours should be avoided and employees should also take out time during their working hours to listen to the subordinates and workers' grievances; they should practice effective time management skills.

#### **2.8.6 PROVIDE CONSTRUCTIVE FEEDBACK**

While making provision of feedback to the employees and subordinates, negativity should be avoided and feedback should always be delivered in a constructive manner; negative feedback is stated to be a barrier to effective communication. The content of the feedback can be negative, if the superior feels that there have been some misinterpretations, but it should be communicated in a constructive manner with a positive attitude.

#### **2.8.7 FLEXIBILITY IN MEETING THE TARGETS**

Employees when they are employed within an organization, should work towards accomplishing the desired goals and objectives, they should not be put under pressure to complete a particular assignment within a particular time period, in other words, they should be allowed sufficient time, especially when the task is extensive; in accomplishing the

organization's goals and objectives, it is essential to have effective means of communication and flexibility should be allowed in meeting of the targets.

## **2.9 COMMUNICATION MEDIA AND CHANNELS**

Messages to be communicated through the right channels. This presents several challenges with regards to the construction industry given the number of levels or boundaries the message must pass through. Construction is becoming increasingly integrated and extensive. Collaborative acts like partnerships, strategic alliances, and the pressures of client satisfaction are taking communication beyond the organizational borders. Employees must work with suppliers and customers further buttressing this point (Dainty et al., 2005).

The channelling medium of the message has an impact on the effectiveness of the process of communication. The construction industry categorizes the media in two: the one-way, and then the two-way media. The one-way focuses on sending the message with no opportunities for feedback while the two-way allows for feedback. Examples of one-way communication may include letters and emails, while phone calls and conferences constitute those of two-way communication (Dainty et al., 2005).

### **2.9.1 STRATEGIES FOR ENSURING EFFECTIVE USAGE OF COMMUNICATION MEDIA AND CHANNELS**

Tai and Wang (2008) said that effective communication does boost the level of productivity. In this context, a strategy may be defined as the onset of corporate behaviour. An organisation's strategy encapsulates its goals, its direction and details out what needs to be done to achieve that. To ensure effective utilization of communication media and channels, it is important that a construction manager chooses the appropriate communication media or channel. For instance, the choice of the type of media will be partially dependent on the transmitter. The first thing to consider will be what the objective for the communication is (Yang et al., 2011). The second

consideration will what the communication needs. This is influenced by the message's inherent nature, the need for consistency, the recipient, the available channels, the need for feedback.

## **2.10 MEASURES FOR IMPROVING COMMUNICATION STRATEGIES**

Those who work most closely with teams will naturally be the most trusted sources of information. It is essential, therefore, to equip managers with the knowledge they need and the tools and structures to communicate effectively with their team. Preparing managers as messengers is not merely a matter of circulating common talking points. Just as they will be sharing these updates with their teams in person, so too should they have the opportunity to hear it directly from project's key stakeholders.

In all your communications, the use of simple graphics, charts, photos and even videos can help to draw employees' attention and make the information easier to digest. Kernbach et al. (2015) explored how visualization can be harnessed in business strategies. Their study involved 76 managers, and their conclusion was that being exposed to graphic representation of strategies, managers were more likely to pay more attention than otherwise. Therefore, using these graphical representations ensured an effective conveyance of information.

In order to achieve effective communication among project team, it is always best to have construction professionals equipped with interpersonal skills in communication. Good interpersonal communications skill is another fine way of ensuring effective communication on a project. Henderson (2008) asserted that increased productivity had a correlative relationship with project leaders having good interpersonal communication skills. A project is likely to suffer in performance when the project manager lacks the requisite communication skills. There is a swift efficient flow of information in a way that ensure collaboration, integration, and coordination within the project team.

Goals and objectives are swiftly achieved to the extent to which information can be conveniently and efficiently relayed (Espinosa et al., 2015). Again, Espinosa et al. (2015) observed the frequency of conveying information resulted in increased familiarity with the task. This increases the success probability of the project in its completion. The project team must therefore be innovative ways to quickly transfer information to the parties involved in the project. In this regard, Schwalbe (2013) discovered that employing technology can expedite the process of transfer.

In addition, Schwalbe (2013) also claims that creating, presenting, distributing organizational documents in electronic form is another way of ensuring swift transfer of information. Schwalbe (2013) further pointed to the use of cloud services in enabling this swift exchange. Software can be another employed technological tool to assist in this direction (Bontempi, 2003; and Bee, 2013). In that regard, the use of these technologies will enhance quick exchange of information and enable team members with different professional backgrounds to share information in facilitating effective communication.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

This study included reviewing of germane literature, design of questionnaire survey, and finally exploratory interviews. The study was limited to some selected firms (i.e. D1K1 and D2K2) within the Accra metropolis so the researcher could ascertain the actual situation on ground with respect to the role of effective communication on project management. Whereas the reviewed literature aided in positioning the study within its hypothetical context, the questionnaire established basic facts concerning the elements of effective communication key to construction management; strategies that would ensure the various communication channels are utilized effectively; and measures to improve the execution of communication strategy. Finally, the exploratory interviews brought out germane information from respondents like the Architect, Quantity Surveyor, Project Manager among others.

#### **3.2 RESEARCH DESIGN**

Kallet (2004) posited that research design defines the guidelines directing a research to the extent that the research variables can be controlled to make available answers to the research questions. Malhotra and Burks (2007) added further that research design makes provision for procedural information needed to attain information required to solve the research problem. To this study, the research design adopted was the descriptive research design. The researcher adopted this design so as to get the clear picture of the situation as it naturally happens. That is to say, situations are in most cases described using this type of research design. Descriptive research design is used to validate of current practices, make judgement and as well develop theories. In this study, a survey questionnaire was used to address the study's objectives captured in the first preceding chapter. Further, the study employed quantitative research approach as it involves relatively large sample size, empirical data collection, survey

questionnaire utilization, and finally interpretations to data set with the use of statistical methods which will be explained in details in the succeeding sections. The use of survey questionnaire by the researcher was tied to the fact that it is the only method available with respect to presenting the current picture of a profession, group and organization (James, 1999). Again, according to Ayyash et al. (2011) questionnaire survey is less expensive and it does not consume much time to conduct.

### **3.3 RESEARCH STRATEGY**

Saunders et al. (2009) draws no clear distinction with regards to research design and research strategy. However, their study made specific accent showing how the choice of research strategy is guided by the research questions including the research objectives. That is, research strategy includes the plan which provide mounting answers to the listed set of research questions. Yin (2003) and Saunders et al. (2009) made it clear that, there are big overlaps considering the various types of research strategies. However, the contemplation would be on the choice of an appropriate strategy. According to Saunders et al. (2012), research strategy can be categorized into seven. They include: ethnography, experiment, archival research, action research, survey, grounded theory, and case study. This study employed the survey strategy for the reason being that it has strong relation with the deductive logic Saunders et al. (2009) posits. Survey research permits a large number of data to be gathered from a sizable population at a least cost. This according to Saunders et al. (2012) is obtained by the usage of questionnaire administered to a sample which are then standardized to allow easy comparison. The use of Likert scales which are popular methods of collecting information for surveys was employed. Again, the researcher gathered information from respondents through posting some of the questionnaires, and face to face method of data which is the case of a survey research strategy.

### **3.4 RESEARCH METHODS**

According to Fellows and Liu (2015), research method defines the ethics and measures of logical thought applied to a scientific investigation. Thus, research method stands to be an important component in the conduct of research. The three types of research methods commonly used are: quantitative, qualitative and mixed/triangulation methods. Chan et al. (2003) posits that, several contradictions have been made with regards to which among the three methods is most reliable. In the mid-19<sup>th</sup> century and 20<sup>th</sup> century, Chan et al. (2003) indicate that, the qualitative research method proliferated as it provided sound and statistical evidence to the field. Some researchers according to Cheng (2001) also focused on using both the qualitative and the quantitative research methods to gather relating information with practice as they look for significant success factors, including practical models and formulation of concepts.

This study employed the quantitative method to examine the role of effective communication on project management and also identify the key elements of effective communication for managing projects; strategies to ensure the various communication channels and media are utilized effectively; and measures to improve the performance of communication strategies. Thus, the survey questionnaire was designed to capture the research questions including the research objectives in the first chapter of this document. The adoption of quantitative method was that its deductive and again it makes use of experimental methods which aims to test hypothetical generalizations for large sample size.

### **3.5 SOURCE OF DATA**

This study made use of a two-stage approach to source for data; primarily, a review of germane literature was conducted to bring bare the subjects on communication in project management including the key elements of effective communication in managing projects. Pertinent literature which the study made use of included web-based resources, journal articles, as well

as academic and professional books. The information gathered from the literature review including the preliminary findings were used to develop the survey questionnaire. Dwelling on the primary data source, direct information was gathered from the study's respondents. IIII

### **3.6 TARGET POPULATION**

With the study's main focus being to assess the role of effective communication on construction project performance in some selected construction firms in the Accra metropolis, the survey population comprise mainly of some selected professionals including Architects, Civil Engineers, Quantity Surveyor, Construction Managers, Project Managers among others from the D1K1 and D2K2 firms in the Accra metropolis. These professionals were the targeted respondents for the study. The population size for the study was 59 construction professionals.

#### **3.6.1 Sampling Techniques and Sampling Size**

In a survey research, sampling is essential. Babbie (1990) argued that it is necessary because of time and cost constraints. In this study, as already indicated in the chapter one, the target population is the professionals in the construction industry. Thus, the sampling frame was extracted from the registered number of D1K1 and D2K2 building contractors based on the Ministry of Works and Housing classification in the Accra Metropolis. In order to establish a suitable sample size, the following formula from Creative Research Systems (2003) and Ankrah (2007) was used:

$$SS = \frac{z^2 \times p (1 - p)}{c^2}$$

Where;

SS = sample size

z = standardized variable

p = percentage picking a choice, expressed as a decimal

c = confidence interval expressed as a percentage

Here the confidence interval was set at 95% based on the reasons put forward by Maisell and Persell (1996) cited in Manu (2012). The argument was that 95% confidence interval is used to find a balance between the level of precision, resources available and usefulness of the finding. The percentage picking a choice was also assumed to be 50% which according to Manu (2012) represents the worst-case scenario. Based on these assumptions the sample size is calculated as:

$$SS = \frac{23.6(2) \times 0.5(1-0.5)}{0.1(2)}$$
$$= 59$$

Having known this, the required sample is then calculated. The required sample size for the questionnaire survey is 59 which was chosen for the study. For every firm visited, at least two site personnel were administered with questionnaire. Architects, Civil Engineers, Quantity Surveyor, Construction Managers, Project Managers among others gave the needed information to carry out the research. Thus, in all a total of 59 was chosen for the study as questionnaires were administered to the aforementioned professionals.

### **3.6.2 Sampling Methods Used**

Simple random sampling method was used to select the various construction firms among the many, to which questionnaires were administered. Numbers were assigned to the firms from which the required numbers were selected for the study and firms were picked without replacement using random numbers. A total of ten (10) construction firms were visited. This was to ensure that as much as possible biasness is removed or is minimized and a fair representation is obtained. Further, purposive sampling technique was then used to select respondents to which the questionnaires were administered in the firms visited. Thus, judgment of the researcher was used to select cases that enabled him to answer research questions and to meet objectives. Purposive sampling involves choosing professionals whose views are relevant

to the issue being looked at, where the researcher tried to create a representative sample without sampling at random. Quota sampling involves a choice of respondents who represent the diversity itself according to relevant proportions. Here, respondents were chosen in equal proportion and weight assigned to each.

### **3.7 DESIGN OF SURVEY QUESTIONNAIRE**

The use of questionnaire as a data collection tool must be designed to be friendly towards respondents to enhance their involvement and to also maximize their response rate. Again, questionnaire should be designed in a way to be devoid of technical words as the use of plain language will yield maximum response. According to Babbie (1990), flexibility in questionnaire design alongside the avoidance of monotony enhances questionnaire to be interesting for the respondents. Consequently, the design of the survey questionnaire was such that the aforementioned thoughts were considered and also at the start of every part for answering the questionnaire are set of instructions to direct the respondents.

The survey questionnaire consisted of two sections, that is, Part 'A' and 'B'. The first section (i.e. Part 'A') captured the profile of respondents as it looked at the respondents' contextual background information. The second section being Part 'B' was designed to capture questions on the elements of effective communication key to the management of projects; strategies for ensuring effective utilization of communication media and channels; and measure to improve the performance of communication strategy in projects. Knowing the variables through the review of literature, the Likert scale Ratings was used.

### **3.8 DATA ANALYSIS**

As indicated previously the quantitative method approach was used in analysing data. Primary data obtained from questionnaire administered to construction professionals was analyzed with the aid of SPSS. The SPSS software assisted in breaking down the raw data that was collected

from the field into simpler quantitative and tabular form for easy understanding and assimilation. Emphatically, the key descriptive tools used for the analysis section included frequency tables whiles mean score ranking and relative importance index (RII) was used to analyze the research data. The goal of data analysis was to ask relevant questions about the data that answer the research questions on which the study was based.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.1 INTRODUCTION**

The chapter four gives an account on the following: analysis, discussions and findings of the survey data gathered from respondents. The analysis was carried out in accordance to the study's set objective. The scope of this research was the Accra metropolis as the study attempted to assess the role of effective communication on construction project performance in some selected construction firms in the Accra metropolis. Notwithstanding, fifty-nine (59) questionnaires were designed and administered to D1K1 and D2K2 construction firms within the study area. Out of the 59 questionnaires administered, 46 questionnaires constituting 77.96% were returned.

#### **4.2 ANALYSIS OF DEMOGRAPHIC DATA**

This section presents the demographics of respondents. The aim of this section is to generate understanding on respondents' background. For a fact, confidence and reliability in data collected is more on the bases that the background and profile of the respondents is known.

##### **4.2.1 Nature of Respondents' Organizations**

The questionnaire was administered to the following categories of construction firms as they execute most of the projects in the country. Table 4.1 presents the findings after the data analysis.

**Table 4.1 Nature of Respondents' Organizations**

<b>Organization</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Public institution	8	17.39
Private firm	19	41.30
Public listed company	7	15.22
Government department	12	26.09
<b>Total</b>	<b>46</b>	<b>100.0</b>

**Source: Field Survey, 2018**

From table 4.1, a total of nineteen (19) respondents representing 41.30% are from private firms. Likewise, eight (8), seven (7) and twelve (12) of the respondents representing 17.39%, 15.22% and 26.09% respectively are from public institutions, public listed companies, and government departments in that order. The nature of respondents' organizations suggests that Ghana's construction industry has more of the private construction firms compared to the other categories of firms.

#### **4.2.2 Respondents' Positions in their Organizations**

This subsection identifies the positions occupied by the respondents in their respective organisations. Table 4.2 established the positions respondents hold and it posits itself to the succeeding interpretations.

**Table 4.2 Respondents' Positions in their Organizations**

<b>Positions</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Project Manager	11	23.91
Site Supervisor	8	17.39
Quantity Surveyor	13	28.26
Civil Engineer	8	17.39
Architect	6	13.04
<b>Total</b>	<b>46</b>	<b>100.0</b>

**Source: Field Survey, 2018**

From table 4.2, eleven (11) of the respondents representing 23.91% are Project Managers. Site Supervisor as well as Civil Engineers constitute 17.39% each out of the forty-six respondents interviewed. Furthermore, thirteen (13) and six (6) of the respondents representing 28.26% and 13.040% respectively are Quantity Surveyors and Architects in that order. It is evident that the study had fusion of diverse professionals; this propped the information provided.

#### **4.2.3 Respondents' Years of Experience in the Construction Industry**

This section sought to identify the number of years' respondents have in the construction industry. Respondents' years of experience in the industry have much to do with them having enough idea as to how effective communication is utilized during projects in the Ghanaian context. Table 4.3 presents responses from respondents.

**Table 4.3 Respondents' Years of Experience in the Construction Industry**

<b>Years of Experience</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Less than 5 years	9	19.57
5 to 10 years	18	39.13
11 to 15 years	6	13.04
Above 16 years	13	28.26
<b>Total</b>	<b>46</b>	<b>100.0</b>

**Source: Field Survey, 2018**

From table 4.3, nine (9) of the respondents representing 19.57% have less than 5 years working experience in Ghana's construction industry. Eighteen (18) of the respondents have 5 to 10 years' working experience. Similarly, six (6) of the respondents have 11 to 15 years' working experience; they represent 28.26%. Finally, thirteen (13) of the respondents have above 16 years' working experience. It can be inferred that majority of respondents have between 5 to 10 years' working experience. All the respondents also have enough experience and are thus seemly participants to answer questions tied to the research objectives.

#### **4.2.4 Number of Projects Handled in the Last Two Years**

The study demanded respondents to indicate the number of projects they managed in the last two years. The emphasis laid on this question was to identify how frequent respondents encounter project communications as professionals. Table 4.4 presents the responses.

**Table 4.4 Project(s) Handled in the Last Two Years**

<b>Project(s) Handled</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1 to 5 projects	19	41.30
6 to 10 projects	11	23.91
11 to 15 projects	9	19.57
Above 16 projects	7	15.22
<b>Total</b>	<b>46</b>	<b>100.0</b>

**Source: Field Survey, 2018**

From table 4.4, nineteen (19) of the respondents representing 41.30% have managed 1 to 5 projects within the last two years. Eleven (11) of the respondents also indicated to have managed 6 to 10 projects in the last two years; they represent 23.91%. Similarly, nine (9) and seven (7) of the respondents representing 19.57% and 15.22% respectively indicated to have managed 11 to 15 projects and above 16 projects in that order. The preceding results point out that respondents have exposure to project management and consequently the importance of effective communication to managing project's activities.

#### **4.2.5 Forms of Communication**

To identify the forms which respondents' project communications take, respondents were directed to indicate by ticking in the appropriate box (es) the various forms of communication provided in the questionnaire. Table 4.5 the results after the analysis.

**Table 4.5 Forms of Communication**

<b>Form</b>	<b>Mean</b>	<b>SD</b>
Verbal/Oral	4.37	0.734
Electronic	4.23	0.746
Written	4.17	0.791
Audiovisual	3.95	0.805
Non-verbal	3.82	0.813

**Source: Field Survey, 2018**

Verbal/Oral communications had the highest mean of 4.37 and thus ranked as the most used form of communication for managing projects according to the study's respondents. Followed next are Electronic communications (mean = 4.23; SD = 0.746); Written communications (mean = 4.17; SD = 0.791); Audiovisual communications (mean = 3.95; SD = 0.805); and lastly Non-verbal communications (mean = 3.82; SD = 0.813). The preceding results show that verbal/oral communication constitute the most used form of communication for managing projects. And as Dainty et al. (2005) indicates it is easier and faster to convey thoughts to other project team mates using verbal/oral communications. It can be deduced that respondents prefer using the easier and faster means of passing on information to the other.

### **4.3 ANALYSIS OF DEPENDENT VARIABLES**

This section presents and discusses the analysis of the dependent variables. It does so by using two main statistical tools; mean score rankings and relative importance index. The findings are presented in tabular forms to clear up the discussions.

### 4.3.1 Elements of Effective Communication

This section was framed in a close-ended question where respondents were asked to indicate the level of significance of the identified elements of communication key to managing projects with the help of a ‘Likert scale’ (see Appendix 1). 1=Very Insignificant; 2 = Insignificant; 3 = Moderate; 4 = Significant; 5 = Very Significant. Table 4.6 presents response from the study’s respondents.

**Table 4.6 Elements of Effective Communication**

Element	Level of Significance					Total	Mean	RII	Rank
	1	2	3	4	5				
Conducive environment	6	10	6	11	13	46	3.67	0.833	1st
Conciseness	4	8	7	12	15	46	3.84	0.817	2nd
Feedback	4	7	7	13	15	46	3.96	0.804	3rd
Correctness/Appropriate	3	6	8	13	16	46	4.07	0.773	4th
Completeness	2	6	8	14	16	46	4.13	0.736	5th
Clarity of thought and	2	3	8	15	18	46	4.21	0.727	6th

**Source: Field Survey (2018)**

From table 4.6, ‘Clarity of thought and expression’ ranked 6<sup>th</sup> with a mean of 4.21 and RII value of 0.727. ‘Completeness’ ranked 5<sup>th</sup> with a mean of 4.13 and RII value of 0.736. ‘Correctness/Appropriate’ ranked 4<sup>th</sup> with a mean of 4.07 and RII value of 0.773. ‘Feedback’ ranked 3<sup>rd</sup> with a mean of 3.96 and RII value of 0.804. ‘Conciseness’ and ‘Conducive environment’ ranked 2<sup>nd</sup> and 1<sup>st</sup> respectively with means of 3.84 and 3.67 and RII values of 0.817 and 0.833 in that order. Akilandeswari et al. (2015) posits that for an effective communication among project members, the project manager must first and foremost

understand what he/she wants to convey and why. To the researcher it is very essential that the employee understands the purpose of the message. It is therefore not surprising that the study produced the preceding outcomes as respondents recognized the essence of project managers making their thoughts and expressions clear to their subordinates, likewise the subordinates to project managers. And according to Ashraf (2007) this replicates in boosting project performance as project information flows clear from all directions among the project team.

#### 4.3.2 Strategies to Improve Communication Media and Channels' Usage

Similarly, this section was framed in a close-ended question where respondents were asked to rate among the identified strategies the ones they agree will help improve communication media and channels usage during project execution using a 'Likert scale' (see Appendix 1). 1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree. Table 4.7 presents response from the study's respondents.

**Table 4.7 Strategies to Improve Communication Media and Channels' Usage**

Strategies	Mean	Standard Deviation (SD)	Rank
Use of graphical representations to disseminate information among project's stakeholders	3.68	0.836	1st
Reviewing communication plan for adjustment on regular basis if need be	3.74	0.819	2nd
Training of operatives on communication media and channels for onsite communication	3.81	0.807	3rd
Keeping communication channels open in all directions	3.96	0.771	4th
Establish clearly the channels of communication to operatives	4.03	0.737	5th
Choosing the appropriate communication media or channel	4.17	0.718	6th

**Source: Field Survey (2018)**

From table 4.7, respondents ranked ‘Choosing the appropriate communication media or channel’ 6<sup>th</sup>; it is evident with a SD value of 0.718 and a mean of 4.17. ‘Establish clearly the channels of communication to operatives’ followed next with a SD value of 0.737 and a mean of 4.03. ‘Keeping communication channels open in all directions’ is ranked 4<sup>th</sup> by respondent with a SD value of 0.771 and mean of 3.96. It was closely followed by ‘Training of operatives on communication media and channels for onsite communication’ with a SD value of 0.807 and a mean of 3.81. ‘Reviewing communication plan for adjustment on regular basis if need be’ is ranked 2<sup>nd</sup> with a SD value of 0.819 and a mean of 3.74. ‘Use of graphical representations to disseminate information among project’s stakeholders’ is ranked 1<sup>st</sup> with a SD value of 0.836 and mean of 3.68. It is important that a construction manager chooses the appropriate communication media or channel (Yang et al., 2011) so that its usage would be augmented to replicate boosting project performance. For instance, factors underpinning the choice of which media to adopt will involve a degree of choice on the part of the transmitter.

#### **4.3.3 Measures to Improve Communication Strategies**

Respondents were asked to indicate their level of agreement to the identified list of measures to improve the performance of communication strategies for project performance boost using the Likert scale. Measures with means between 3.0 and 3.5 were considered less significant. Likewise, those within 3.5 – 4.0 and above 4.0 were considered moderately significant and highly significant respectively. The table 4.8 presents the response from the study’s participants.

**Table 4.8 Measures to Improve Communication Strategies**

Measure	Level of Influence					Total	Mean	RII	Rank
	1	2	3	4	5				
Being flexible towards other stakeholders especially subordinates	13	9	12	7	5	46	3.28	0.839	1st
Training project leaders to have excellent interpersonal communication skills	14	9	11	6	6	46	3.42	0.826	2nd
Creating an atmosphere of openness	15	10	11	6	4	46	3.49	0.813	3rd
Rapid exchange of information among different team members	16	10	10	6	4	46	3.65	0.781	4th
Regular conduct of meetings among project's key stakeholders	16	11	10	6	3	46	3.87	0.744	5th
Organizing every aspect of the project in electronic project management systems	17	11	10	5	3	46	3.93	0.731	6th
Using appropriate technologies for communication and information dissemination	17	13	9	4	2	46	4.06	0.703	7th
Setting clear project objectives to operatives	18	13	9	4	2	46	4.14	0.686	8th
Establishing communication plans and strategies from the outset of the project	18	15	8	3	2	46	4.27	0.662	9th

**Source: Field Survey (2018)**

From table 4.8, the most significant measures include ‘Creating an atmosphere of openness’ (mean = 3.49; RII = 0.813); ‘Training project leaders to have excellent interpersonal communication skills’ (mean = 3.42; RII = 0.826); and ‘Being flexible towards other stakeholders especially subordinates’ (mean = 3.28; RII = 0.839). The least significant measures include ‘Establishing communication plans and strategies from the outset of the project’ (mean = 4.27; RII = 0.662); ‘Setting clear project objectives to operatives’ (mean = 4.14; RII = 0.686), and ‘Using appropriate technologies for communication and information

dissemination' (mean = 4.06; RII = 0.703). Similarly, 'Organizing every aspect of the project in electronic project management systems' (mean = 3.93; RII = 0.731); 'Regular conduct of meetings among project's key stakeholders' (mean = 3.87; standard deviation = 0.744); and 'Rapid exchange of information among different team members' (mean = 3.65; RII = 0.781) were identified as moderately significant measures after the analysis.

Thus, the study has identified nine (9) measures to improve the performance of communication strategies to enhance project performance. Out of the 9 measures identified, three (3) were rated highly significant; three (3) were rated moderately significant; and three (3) as less significant measures in that order. The most significant measures to improve communication strategies according to respondents affirm studies by Kernbach et al. (2015), Schwabe (2013), Bee (2013) and Henderson (2008)

## **CHAPTER FIVE**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

The aim of the study is to to examine the role of effective communication on construction project performance in some selected construction firms in the Accra metropolis. Consequently, the study sought to identify the elements of effective communication key to the execution of construction projects in Ghana; strategies that would enhance the use of communication media and channels among project team members; and measures to improve the performance of communication strategy on projects. The chapter five summarizes the findings of the study and as well gives evidence-based recommendations of the research based on the findings identified from literature.

#### **5.2 REVIEW OF RESEARCH OBJECTIVES**

Under this section, the objectives of the study were revisited to highlight the extent to which they were achieved. Preceding this was a methodological approach that involved literature review process, questionnaire design phase, survey questionnaire administration phase, and finally a data analysis section using relative importance index as well as mean score ranking.

##### **5.2.1 Findings on Objective One**

The background knowledge gained from literature on elements of effective communication key to the managing projects help the researcher in designing the questionnaire to tackle the first objective. Six (6) elements of effective communication were revealed and successively subjected to respondents as directed in the questionnaire. After rigorous analysis the following were identified: Clarity of thought and expression ranked 6<sup>th</sup> with a mean of 4.21 and RII value of 0.727. Completeness ranked 5<sup>th</sup> with a mean of 4.13 and RII value of 0.736.

Correctness/Appropriate ranked 4<sup>th</sup> with a mean of 4.07 and RII value of 0.773. Feedback ranked 3<sup>rd</sup> with a mean of 3.96 and RII value of 0.804. Conciseness and conducive environment ranked 2<sup>nd</sup> and 1<sup>st</sup> respectively with means of 3.84 and 3.67 and RII values of 0.817 and 0.833 in that order.

### **5.2.2 Findings on Objective Two**

To achieve the objective two, strategies to enhance the use of communication media and channels among project team members were identified from literature and was thus designed in a question form where respondents were directed to rate them based on their level of agreement with each strategy. The data gathered was subjected to mean score ranking which revealed the following: Choosing the appropriate communication media or channel ranked 6<sup>th</sup> with a SD value of 0.718 and a mean of 4.17. Establish clearly the channels of communication to operatives followed next with a SD value of 0.737 and a mean of 4.03. Keeping communication channels open in all directions ranked 4<sup>th</sup> with a SD value of 0.771 and mean of 3.96. It was followed by training of operatives on communication media and channels for onsite communication with a SD value of 0.807 and a mean of 3.81. Reviewing communication plan for adjustment on regular basis if need be' is ranked 2<sup>nd</sup> with a SD value of 0.819 and a mean of 3.74. Use of graphical representations to disseminate information among project's stakeholders' ranked 1<sup>st</sup> with a SD value of 0.836 and mean of 3.68.

### **5.2.3 Finding on Objective Three**

Similarly, this objective was achieved through quantitative means. Survey questionnaires were administered to the study's respondents and subsequently, statistical tools used i.e. (Relative Importance Index). Consequently, the study identified nine (9) measures to improve the performance of communication strategy on projects, and out of the 9 measures, three (3) were rated highly significant; three (3) were rated moderately significant; and three (3) as less

significant measures in that order. However, the highly significant measures include creating an atmosphere of openness; training project leaders to have excellent interpersonal communication skills; and being flexible towards other stakeholders especially subordinates. The less significant measures include establishing communication plans and strategies from the outset of the project; setting clear project objectives to operatives; and using appropriate technologies for communication and information dissemination. Organizing every aspect of the project in electronic project management systems; regular conduct of meetings among project's key stakeholders; and rapid exchange of information among different team members constituted the moderately significant measures.

### **5.3 CONCLUSION**

The study has identified the elements of effective communication key to managing projects in Ghana precisely in the Accra metropolis. The study has again identified 6 strategies would enhance the use of communication media and channels among project team members. These strategies include choosing the appropriate communication media or channel, establish clearly the channels of communication to operatives, keeping communication channels open in all directions among others. Finally, it was established that measures to improve the performance of communication strategies on projects were at 3 levels of significance. Significance level can be high, moderate, and less in that order. The study thus concluded that, the identified levels of measures be adopted to help improve project performance through effective utilization of communication strategies.

### **5.4 RECOMMENDATIONS**

Communication is an essential ingredient of all of managerial requirements for any kind of project. Thus, it is important to highlight ways to improve its impact on projects to enhance

performance. The study therefore proposed the following recommendations to augment effective project communication for project management.

1. Clarity of thoughts and expressions to project team members stands significant for project management; thus, project managers especially must be trained to have excellent interpersonal communication skills as it will be a boost to project performance.
2. Project managers or leaders must set clear project objectives to all project participants so to ensure all the project team follow one course and not the other. With this, individual tasks become clear to all project members and that would enhance project performance.
3. Training of project team members on communication media and channels is a good course for ensuring rapid information exchange among different team members on the same project.

## **5.5 LIMITATIONS OF THE RESEARCH**

This research encountered few limitations in its endeavour which resulted some constraints in the research accomplishment. The following outlined the limitations encountered during study:

1. It was difficult in reaching out to respondents due to their busy schedules, however, this was overcome through constant follow-ups. Also, the study's respondents who were not able to make it for the direct interview were contacted on phone for the interview.
2. The study also limited its scope because of time and financial constraints to only the construction sector and thus only solicited for the views of construction professionals without consideration of the other professionals belonging to the various sectors of Ghana's economy. There is the possibility of having other views from the side of

professionals so that findings would not be biased to favour just only the construction industry.

## **5.6 RECOMMENDATION FOR FUTURE RESEARCH**

For future research, the study thus proposed that a study must be conducted to highlight the challenges in implementing the various elements of effective communication on projects in Ghana. With this, it is of the view that the subversive factors weighing down project performance in Ghana by means effective communication would be brought out to and be addressed accordingly.

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## **APPENDIX 1**

### **SURVEY QUESTIONNAIRE**

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI**

**COLLEGE OF ART AND BUILT ENVIRONMENT**

**DEPARTMENT OF BUILDING TECHNOLOGY**

**(TOPIC: EFFECTIVE COMMUNICATION AS A STRATEGY TO ENHANCE)**

**PROJECT PERFORMANCE**

Dear Sir/Madam,

Thank you in advance for your enormous contribution to this study. The aim of this survey is to assess the role of effective communication on project management in the Ghanaian construction industry precisely in the Accra metropolis. Please fill in the questionnaire using the instructions, which will not take you more than 15 minutes. Please note that the information provided is anonymous and will only be used for academic purpose. Thank you once more for your appreciated time. Please be free to contact the number(s) provided below should in case you have any queries.

(NAME: PAUL ATSU DADEBO)

Department of Construction Technology

KNUST.

Tel: 0244760793

Email: paulatsu1973@gmail.com

## **SECTION A: BACKGROUND INFORMATION**

Please respond to the following by either ticking the appropriate box or writing in the blank space provided.

Q1. Please indicate the nature of your organization.

- a) Public institution [ ]
- b) Private firm [ ]
- c) Public listed company [ ]
- d) Government department [ ]
- e) Other (specify) .....

Q2. Which among the following describe your position?

- a) Project Manager [ ]
- b) Site Manager [ ]
- c) Quantity Surveyor [ ]
- d) Civil Engineer [ ]
- e) Architect [ ]
- f) Other (specify) .....

Q3. Please indicate how long have you been working in the construction industry.

- a) Less than 5 years [ ]
- b) 5 to 10 years [ ]
- c) 11 to 16 years [ ]
- d) Above 16 years [ ]

Q4. How many projects have you handled in the past two years?

- a) 1 to 5 projects
- b) 6 to 10 projects
- c) 11 to 15 projects
- d) Above 16 projects

Q5. Did you ever had any form of communication on the project(s)?

- a) Yes [ ]
- b) No [ ]

Q6. If yes, please indicate the form it took by ticking the appropriate box(es)

- a) Verbal/Oral      [   ]
- b) Non-verbal      [   ]
- c) Audiovisual      [   ]
- d) Electronic      [   ]
- e) Written      [   ]

**SECTION B: QUESTIONS ANCHORED TO RESEARCH OBJECTIVES**

**Q7. Elements of Effective Communication Significant to Managing Construction Projects**

The following are set of identified communication elements imperative to managing construction projects. Please carefully tick in the appropriate box the number that corresponds to your view. Use the following Ranking Scale. *1=Very insignificant; 2 = Insignificant; 3 = Moderate; 4 = Significant; 5 = Very Significant*

No.	ELEMENTS OF EFFECTIVE COMMUNICATION	Levels of Significance				
		1	2	3	4	5
1	Clarity of thought and expression					
2	Correctness/Appropriate					
3	Feedback					
4	Completeness					
5	Conducive environment					
6	Conciseness					
	<i>Other (please specify)</i>					
7						
8						
9						

**Q8. Strategies to Enhance Effective Utilization of Communication Media and Channels on Construction Sites**

Please kindly rate on the scale the level of agreement to the following strategies per your professional expertise in the construction industry. Please tick in the appropriate box. *1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree*

No.	STRATEGIES	Levels of Agreement				
		1	2	3	4	5
1	Use of graphical representations to disseminate information among project's stakeholders					
2	Choosing the appropriate communication media or channel					
3	Training of operatives on communication media and channels for onsite communication					
4	Establish clearly the channels of communication to operatives					
5	Keeping communication channels open in all directions					
6	Reviewing communication plan for adjustment on regular basis if need be					
	<i>Other (please specify)</i>					
7						
8						
9						
10						

### Q8. Measures to Improve Communication Strategies in Construction Projects

These are set of identified measures that can be adopted to improve the execution of communication strategies in construction projects. Please, read every statement carefully and tick in the appropriate box the number that corresponds to your view. Use the following Ranking Scale. *1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree*

No.	MEASURES	Levels of Agreement				
		1	2	3	4	5
1	Rapid exchange of information among different team members					
2	Using appropriate technologies for communication and information dissemination					
3	Organizing every aspect of the project in electronic project management systems					
4	Training project leaders to have excellent interpersonal communication skills					
5	Establishing communication plans and strategies from the outset of the project					
6	Regular conduct of meetings among project's key stakeholders					
7	Setting clear project objectives to operatives					
8	Creating an atmosphere of openness					
9	Being flexible towards other stakeholders especially subordinates					
	<i>Other (Please specify)</i>					
10						
11						
12						

**THANK YOU!**