



TITLE OF DISSERTATION: Communication as a tool for effective project execution at selected construction sites in Cape Town, South Africa.

by

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ABSTRACT

This study aims to establish the essence of communication as a tool for effective project execution at selected construction sites in Cape Town, South Africa. There is increasing evidence that communication practices can play a significant role in accomplishing high quality construction projects. Communication has been precisely singled out as a foremost construction project management practice that can have an effect on successful project execution. Failure to convey the proper messages results in projects delay or project failure as the employees or subordinates will not be given the right instructions on what to do. Most companies that are involved in construction projects around Cape Town are failing to complete their projects in the given time, budget and scope due to poor communication. The general objective of the study was to determine if effective communication could lead to the success of construction projects in Cape Town. The study implemented descriptive and association research designs while the study population was drawn from construction a large company within the vicinity of Cape Town. The study used simple random sampling technique while the sample size was 80 employees and 10 managers. The study used questionnaires to collect data while. An excel data analysis tool was used to analyze quantitative data while data was presented using geometric techniques such as tables, bar-graphs and pie charts. The results of the study exposed that the relationship between construction project success and effective communication was significant. The study recommended that construction project companies should have strong and effective communication techniques.

Keywords: *resources, communication, dual loyalty, leadership prototype, organisational politics, communication barriers*

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CHAPTER 1:

INTRODUCTION AND BACKGROUND TO THE STUDY INCLUDING THE LITERATURE REVIEW LEADING TO THE ESTABLISHMENT OF A STUDY GAP

1.1 Introduction

It appears that there is no standard or universal definition for the word communication in the industry or for daily use. Berry (2011:186-206) defines communication as the transferring and exchanging of information as well as understanding from a single person to another person. It requires the use of symbols that carry the same meaning between the individuals concerned. Burke (2010:283-285) concurs and states that "Communication is basically the interactive process of sending and receiving information" This act of transferring information from one place to another enables people to understand the intended meaning of the other party. From the definitions, above, communication is a two-way process in which the participants are simultaneously negotiating meaning (encode-decode) by exchanging information, news, ideas and feelings. Communication is identified as one of the 10 knowledge areas for effective project execution, this element of project execution requires that information be provided to the right people, in the right format and timeously.

Communication is an indispensable tool (Hartman, 2000:28) for effective project execution since information is required to complement different tasks taking place at the same time. Subsequent to the fore-mentioned, communication skills comprise one of the critical competencies required by a project manager to be successful (Henderson, 2008:48). On the average, a manager is estimated to spend most of his or her time communicating in one form or another. Project managers are equally involved with the coordination of tasks performed in different Work Breakdown Structures (WBS) (Hirszenberger et al, 2019:215-224). Therefore, this requires communication which may involve amongst others; meetings, sending of reports to other members, drawing up progress reports and charts explaining the state of the project.

The high failure rate of construction projects is of great concern in project management since the use of projects (management-by-projects) was considered to be efficient and cost saving (Lundin, Arvidsson, Brady, Ekstedt & Midler, 2015:20). Though the project managers and senior managers in construction are people qualified in the construction and built industry, the failure rate remains high.

1.2 Background

Project management success is difficult to define because people have different opinions about what is a successful project execution. Jowah (2013:10-17) differentiates between project management success and project success. Project management success is when the

operation is completed within the stipulated budget, time and specifications. On the other hand, project success means that the objectives in which the project was started for should be met and or achieved. Moreover, there are 10 knowledge areas considered as enabling the project manager to successfully execute the project management process (PMBOK, 2013:287-307). These knowledge areas are illustrated in table 1 below. These are the knowledge areas used in most projects most of the time.

Table 1.1: The 10 key project management areas

| | |
|----------------------------------|-----------------------------------|
| Project Shareholder Management | Project Mixing Management |
| Project Period Management | Project Constraint Management |
| Project Budget Management | Project Worth Management |
| Project Human Capital Management | Project Communications Management |
| Project Threat Management | Project Procurement Supervision |

Source: Own construction plus Bryde, Broquetas & Volm (2013:971-980)

These knowledge areas are considered critical for successful project management success. It is important to note that they used to be 9, but the latest addition to the list (Project Shareholder Management – number one in the table) makes them 10. These knowledge areas are complementary to each other making the management of the process complete and catered for. Some brief information is provided below:

1.2.1 Project management areas

Project Mixing Management: the project is divided into different tasks, most of them taking place at the same time in different places. Some of which may only be performed before or after the other processes – coordinating these different activities becomes the role played by the project manager.

Project Constraint management: the scope of a project is all the tasks that are supposed to be performed to complete the assignment. These are identified and agreed upon between the customer and the project manager and can be normally listed to avoid future misunderstanding.

Project Period Management: the time allocated for the completion of the project is critical, as a result any extra time may mean extra costs not budgeted for – that will impact on the cost of the project resulting in cost overruns. Proper estimation on the time needed will save money – the customer may need to use the project by the scheduled delivery date.

Project Budget Management: one of the critical or scarce resources in project execution, which is extremely sensitive to slight changes in prices, time delays, re-doing work because of error or because of change of scope. Value management techniques may be necessary to avoid cost overruns in the project.

Project Worth Management: the quality may involve meeting the specifications as set by the customer and agreed upon by the project manager (senior management). Failure to meet the specifications may result in re-working which will mean change in completion time and costs to be incurred – Total Quality Management may have to be applied from the beginning of the project execution.

Project Human Capital Management: projects are designed by people, implemented by people to benefit people. The human element in the execution of a project should never be undermined. The proper personnel for relevant tasks, at acceptable remuneration and good working conditions (including benefits) may be necessary to keep a happy workforce.

Project Communications Management: the different task operators at the different activity centres need to be informed about activities, progress reports, problems, successes, and all other relevant information. Communication becomes the glue that puts all these together and allows different units to coordinate their operations. There is a need for a communication plan to facilitate the required progress.

Project Threat Management: any activity that is likely to slow down, disrupt or negatively affect the operations is a risk. Such need to be identified in time and alternative arrangements be made (in the event the risk takes place) by putting a risk management plan in place. Prior planning will always prevent poor performance.

Project Procurement Supervision: another critical aspect of project management is putting in place a proper procurement plan; there should be checks and balances on the quality of materials in relation to specifications, checking on costs to avoid cost overruns, etc. This may include among other things the establishment of procurement plan, entering in contracts with suppliers,

Project Shareholder Management: proper identification of stakeholders and defining their interests and impact on the project is also crucial. This may be followed by the establishment of a stakeholder management planning including management of risks with the stakeholders.

Each one of the 10 project management areas can only be implemented successfully if there is communication going on which may suit the involved parties.

1.2.2 Communication

Communication is a difficult concept to grasp as it is such a multidimensional and vague topic; communication affects people in different ways and through communication people may experience different meaning and context which will impact people differently in different situations (Moser, 2010:31-53). According to Zimmerman (2013:10-45), communication is known as a procedure that conveys information from one individual to another and adapt challenges with a sense of understanding between the individuals. Communication barrier would occur when there is no understanding between the two individuals involved in that communication. Project managers and their project teams spend most of their working time engaged in some form of communication rather than doing the actual physical work (Burke, 2010:280). Communication within a project-based environment comes with a lot of challenges, where individuals from different departments come together for a specific project within the time-frame set out to complete that project; these individuals have their own expertise developed from their departments and conflict may arise when these individuals work together (Petit, 2012:539-553). According to Peppard, Galliers & Thorogood (2014:1-10), communication which is also known as information is a well-known term used to show case meanings such as knowledge, skills, technology, where the sharing of that knowledge and experience is also known as inter-organisational relationship. Berko (2010:9-12) asserts that communication comprises of non-verbal, verbal and verbal modes of passing and or exchanging information. Thus, communication is an activity of conveying meaning from individual to individual with the use of known signs and rules unique to human beings. Human beings are social animals that communicate all the time, and in the process, they form associations and organisations. Robbins, Judge, Millett & Boyle (2011:315-317) refer to effective communication as a result of intentional or unintentional information distribution resulting in desired response.

Operational communication is a vital factor that construction companies should implement for project success. Defining the abilities and application of communication desirable is very crucial especially when an individual want to communicate effectively and efficiently whilst lack of communication culminates in construction project failure (Thomsett, 2010:198). Expertise cannot be implemented without effective communication as stated by Robles (2012:453-465) who noted communication as the critical skill that a project manager needs to have. According to Busse, Aboneh & Tefera (2014:64), there are different methods that have been developed and introduced to people and businesses throughout the years such as developing a

knowledge network to improve communication. Even though relevant concepts have been extracted in the need to aid the knowledge network, communicative actors were not clearly identified which leads to confusion on how the knowledge and information flow (Paulin & Suneson, 2015:73-94). Akinyele (2012:1-38) suggests that human beings by nature depends on communicating views, thoughts and news all the time.

Gondal & Shahbaz (2012:127) concluded that in establishments where official and casual communication exists, communication plays a significant role in structuring the activities and intentions. Managing communication is mentioned as one of the important factors for the success of any task, be it projects (Rocha-Lona, Garza-Reyes & Kumar, 2013:137), or production processes.

According to Slort *et al* (2014:1037) communication in the health care professional needs to be done skillfully because there are many health issues that may occur and would be difficult to identify and address hence leading to patients not receiving proper treatment which will result in patient's health being in danger. Likewise, in projects, in reference to Nitithamyong & Skibniewski (2011:14-42) project communication is the exchange of project-specific information (in this case information relating to the training and related issues) where it is important to create understanding between the sender and the receiver. Liang, Priyantha, Liu & Terzis (2010:309-322) pointed out that, the responsibility of sending the information and to make it clear lies with the sender so that the receiver can be able to acquire the correct and intended information. It depends with the giver and the receiver to ensure that the information is conveyed fully and properly understood (Bourne, 2011:19).

It is therefore vital for a project manager to fully advance the listening skills and effectively receive information through listening to questions and views from team members as well as being capable to completely understand and interpret communication from all the shareholders (Steyn, Carruthers, du Plessis, Kruger, Kuschke, van Eck S & Visser, 2013:320-322). According to Zulch (2016:1-35), a projected communication competency and leadership prototypical may seal the negated for a model that is used by construction project supervisors as a possible enhancement tool for improved project communication as well as for improving their overall communication competencies. Silverstone (2017:19-36), summarised the importance of communication to organisations as follows:

Attaining coordinated results – in order for an establishment to function, an action by a group of persons need to take place since independent action leads to different consequences from the establishment's intentions. Synchronized outcomes thus demand effective communications.

Managing change – most establishments are subject to constant change which in turn affects their workers. Change can also disturb communication in an optimistic and undesirable way. Recognition and readiness to embrace change is expected only if the motives for this change are properly articulated.

Inspiring employees – various employees are inspired by different situations like salary/wage increment and professional change which is the extent to which an individual or person is inspired to work effectively for his/her association. Feelings in this regard will depend upon the quality of communications from senior managers within their organisation.

Understanding the needs of the labour force – for establishments to be able to respond effectively to the desires of their workers, it is crucial that they develop a well-organised channel of communication. This two-way network must permit for feedback from the labour force on organisational policy in a manner that promotes an open and honest dialogue between employees at all levels and the top-level managers of the organization (Gilley, Godek & Gilley, 2009:4).

1.2.3 Project communication lines

It is important to determine the lines of communication from the start of a project and the methods of managing information (Fisk & Reynolds, 2010:36). Thus, Huang, Zmud & Price (2010:288-302), proposed two primary lines of communication, which are: formal communication and informal communication.

Proper communication can be classified as upright, straight, or diagonal and may manifest in several ways such as spoken, transcribed, direct, indirect just to mention few as postulated by Tubbs & Moss (2008: 477-490). Upright communication is regarded as a skyward/upward communication movement and descending/downward communication is movement of information between different levels of the institution (Huy & Shipilov, 2012:73). Downward communication starts from top management and flows down through to workers to provide information on goals, approaches and guidelines (Campbell, 2011:287) whilst top management receives information or reports of what will be transpiring at the lower levels through upward communication.

1.2.4 Types of communication

When managing projects, one should classify the communication styles involved in the institution/organisation that he/she will be employed in. Gustafsson, Kristensson & Witell (2012:311-327) alluded that all the types of project communication involved in an

establishment and particularly in construction companies have certain types of communication which are listed below:

Verbal communication: According to Perumal & Baker (2011:1-8), the exchange of information from one individual to another or group of individuals in terms of verbal communication is an effective way of communication and a face-to-face conversation is very efficient. Managers and workers improve their operational performances through communication by using verbal skills as mechanisms of persuasion (Walumbwa, Mayer, Wang, Wang, Workman & Christensen, 2011:204-213). An understanding between the two parties involved in the exchange of information makes communication to be successful.

Interpersonal Communication: Management functions can best be explained by interpersonal communication and they are; managing, planning, controlling and leading (Bambacus & Patrickson, 2008:52).

Group Communication: According to Cho, Swami & Chen (2009:641-650), if two or more people exchange information and impact one another by the decisions taken in the discussion, that is known as group communication.

Written Communication: Written communication can best be described by symbols printed or handwritten. Individuals or corporations exchange these symbols via messages sent by emails, mails, notes, memos and proposals, and in construction companies project managers and other stakeholders involved should deliver their messages clearly, sufficiently and effectively if they want to be successful in their projects (Perumal & Bakar, 2011:2).

Public Communication: project manager practice public communication by addressing some shareholders like the communal where the project is taking place (McCarthy, 2010:263). Interaction between the project manager with his audience (community) helps the project manager to get a better understanding on what they want and that forms part of communication (Emmitt & Gorse, 2003:45).

1.2.5 Communication skills

In the construction industry, it is important to understand the skills required by the project manager in order to complete any project (Goldsmith & Newton, 2011:165). Reedet.al (2009:1933-1949) noted that project managers require precise communication competencies in order to communicate with definite individuals, groups and organisations. Some of the communication abilities that project managers require are reliance and respect, objectivity and justice, being a role model, inspiration, user-friendliness, transparency, self-assurance, flexibility, clearness, truthfulness, capability, emphasis and solidity (Goldsmith & Newton,

2011:165). Zulch (2014:677-680), added some communiqué skills to the list which are work in partnership, explaining and interrogative, pay attention, verbal capability, reflecting gatherings, writing proficiency and performance skills, self-disclosure and happiness. All these communiqué skills will be briefly clarified below to provide a strong understanding in how they narrate to project management:

- **Reliance and Respect**

In project management, reliance and respect are core things that project managers do not easily display and it takes time to earn them (Andi & Simanjuntak,2008:111).

- **Objectivity and equality**

According to Zulch (2016:8), project managers should not be prejudice and take sides when facing a complicated situation as they check with their project shareholders.

- **Being role models**

Project managers should be role models to their project team as they should practice what they orate as well as providing guidance and support when required by their project team members (Chiocchio, Forgues, Paradis & Iordanova, 2011:78-91).

- **Inspiration**

The project team should have similar vision on the achievement of the project with the project manager which can only take place when the project manager inspires his team members as articulated by Skeels & Grudin (2009:95-104). There are several ways to inspire a team so that they are competent to complete the objectives set out by the project manager (Baguley, 2010:106).

- **User-friendliness**

Communiqué between the project manager, shareholders and project team should transpire without any barricades and conflict taking place, for an effective project life cycle to take place; further to that a high volume of communication between them is needed (Kerzner, 2018:255-6).

- **Clearness**

Being transparent in project management means that all sorts of information about the project needs to be open and freely available to shareholders and clients; therefore, the project manager should be responsible for anything that transpires in the project (De Paoli, 2011:2).

- **Self-confidence**

Self-confidence is a communication expertise that all project managers need to have (Anderson, 2008:250), but over self-assurance may lead to egotism that would cause conflict between team members and the project manager.

- **Flexibility**

Flexibility relays to project management when a project manager can adjust into problematic situations and be able to deal with the amount of pressure given to them so that they can be

able to complete the project in time and within the allocated budget (Sauer & Reich, 2009:182-193).

- Collaborate

Project team members are gathered or grouped according to their expertise set so that progress can be seen (McIntosh, Luecke & Davis, 2008:59).

- Explaining and Questioning

People can only understand something until it is clarified to them which is recitation of something to someone in a more in-depth explanation as stated by Sethi & Seth (2009:32-40) and they further noted that questioning forms part of interpersonal communication.

- Paying attention

Construction project managers need to master the most important skill in communication which is listening and can decode the information that is being sent to them (Wang et al, 2014:122-130).

- Verbal competency

According to Laufer, Shapira & Telem (2008:81), construction project managers are involved in oral communication most of the time, thus means effective verbal communiqué is a competence that a construction project manager should have (Riley, Horman & Messner, 2008:146).

- Reflecting

Reflecting is a cooperative process where a message is repeated as it was, whereby project managers can clearly reflect communicate and comprehend them appropriately so as a way to encourage team members to successfully lead project achievement (Turnhout, Neves & De Lijster, 2014:581-597).

- Clarity

All the methods and medium styles of communication should be decoded and clarified before being disseminated to various shareholders. This means the project manager should know what is happening in the project and should be able to take something complex and simplify it so that the audience can understand it (Siebers, Macal, Garnett, Buxton & Pidd, 2010:204-210).

- Integrity

Integrity can be linked with ethical behaviour since a project manager should have good ethical practices and this is important in project management (Zulch, 2016:1-35).

- Competency

In project management, project managers should be able to show their ability to challenge, inspire, enable, model and encourage team members in doing their work (Ramazani & Jergeas, 2015:41-52).

- Focus & Stability

Project managers should not crack when they are under pressure, as they should be able to remain calm and make the right judgments to find solutions which are a prerequisite for construction (Keil, Lee & Deng, 2013:398-414).

- Gathering, writing capability & demonstrations

Gatherings are the construction project manager's main forum to manage projects and communicate with team members and shareholders as supported by Tan, Carrillo & Anumba (2011:338-347) who articulated that meetings are important for sharing facts, problem solving, creating ideas and lastly decision making. Written reports and minutes of meetings are crucial for running a project and may be used as evidence in the event of a clash or argument (Waga et al, 2013:725). Furthermore, demonstrations are used to convey or enlighten the advancement of a project to shareholders and team members (Steyn, 2008:321). A good demonstration with visual support may create a powerful impact to someone who knows the information presented.

- Self-disclosure

Self-disclosure is when individuals get to know each other by sharing and revealing information about them (Park, Jin & Jin, 2011:1974-1983). Self-disclosure in project communication means project managers show trust so that team members may feel free to approach them and share information about them.

- Humour & Laughter

The ability to see the funny side of projects is an important communication skill for project managers, because if used appropriately, and funniness can help managers to handle stress and break tension (Gido & Clements, 2012:331).

1.2.6 Communication planning

Communiqué planning ensures that shareholders are well informed at all times (Ramsig, 2009:353). It is necessary to get stakeholders involved in the planning of the communication, as they will raise their different views on what they want in terms of the project. Communication planning is used in many other aspects of management, such as for high quality care and improved patient understanding (Slort, Blankenstein, Bart, Knol, van der Horst, Aaronson, & Deliens, 2014:1037), as well as the benefits of communication in managing stress and reaching broad audiences (Cervone, 2009:76), and further map out a system of ensuring information disseminates to the correct individuals and that prospects are met. It is difficult to be a project manager in terms of producing a successful project. Project teams are alternated in a regular basis in terms of the project that is being done at the moment, and the project manager needs a good strategic communication channel to communicate with the teams and make sure that the message is effective and clearly received (Ramsig, 2009:353).

Conflict among stakeholder can develop due to many reasons such as different views concerning the success of the project, miscommunication and misunderstanding which may

give rise to ineffective communication (Steyn et al., 2013: 320-322). According to Daim et al (2012:199-212), communication planning involves choosing the type of communication to be used in the project. The form of communiqué used is determined by the conditions and situations in an organisation. Face-to-face interaction amongst team members and the project manager raises the quantity of effective communiqué in projects (Frehsee, 2013:17). However, according to Bourne (2010:22), the communiqué circumstances result in the following:

- ✓ The influx of electronic mail, text messages and computer-generated teams has changed communication.
- ✓ In a computer-generated team, possibly most of the communiqué is based on the words in electronic mails and text communications.
- ✓ The instructions of operative communication are diverse and the extent of acceptance of these “new instructions” is likely to differ by time of life.

1.2.7 Matrix Structure

Companies involved in multi-project environment that share resources and deliver quality projects on time and on budget are ideal examples of good project management organisations. In the early 1960s, matrix management was developed, and it was officially used in the United States of America aerospace industries. Saaty (2013:52-64) cited that a combination of a functional structure and a project structure led to the development of a matrix structure. Schnetler, Steyn & van Staden (2015:11-26) stated that many studies have been done on matrix structures and the advantages and disadvantages of matrix structures relating to organisations that use the structure.

Matrix structure with its different forms added another option to organisational structure other than the well-known traditional structure (functional structure) and the project-based structure (McEvily, Soda & Tortoriello, 2014:299-345). Lechler & Dvir (2010:198-210) alluded that matrix structures have an advantage over some characteristics of functional structure and project structure in terms of responsibility being shared in the matrix structure between the functional managers and project managers. Matrix organisations created a sharing of information system that increases the flow of communication in various departments in a project being executed (Schnetler, Steyn & van Staden, 2015:11-26).

1.2.7.1 Characteristics of a Matrix Structure

Organisations are likely to experience risks in their projects; the written work below will show the advantages and disadvantages of using a matrix structure (Sheldrick, 2015:3-8). Prammer & Neugebauer (2012:24-45) highlighted that the written work will show the following risks that occur in organisations that affect projects; namely, dual loyalty that occur in organisations which causes risks of loyalty conflicts and unclear accountability; authority being bias,

meaning only certain people get special treatment during the execution of the project which leads to conflict in the organisation and that causes delays in the project. One of the root causes of power struggles and conflicts in organisations is the overlapping of responsibilities and authority which causes the risks of delays.

Benefits associated with matrix structure:

- Suitable in dynamic situations
- Equivalent prominence on project management and practical efficiency
- Endorses harmonization across functional components
- Make best use of scarce resources

Weaknesses associated with matrix structure:

- Dual chain of command meaning two bosses
- Intercession required in order to portion resources
- Workforces are caught between carrying out project and functional demands

Kanter (2009:93) stated that a matrix structure is characterised by having a relationship between two bosses which are functional managers and project managers.

1.3 Problem Statement

Communication is vital in construction projects where people at different levels depend on the communique disseminated to them. Failure to convey the proper messages results in projects delay or project failure as the employees or subordinates will not be given the right instructions on what to do. Most companies that are involved in construction projects around Cape Town are failing to complete their projects in the given time, budget and scope. The delay in the project completion is laid on poor communication amongst construction stakeholders from top to bottom. Due to failure of construction projects to be completed in time, some construction companies are losing their potential clients who are resorting to other construction companies who have proved to be doing well as a result of the communication methods used. It is for this reason that the researcher seeks to use communication as a tool for effective construction project execution.

1.4 Research questions

- Does effective communication lead to the success of construction projects?
- How can communication be used as an effective tool to successfully execute construction projects?

1.5 Research objectives

The objectives of this research are as follows:

- To determine if effective communication can lead to the success of construction projects.

- To identify how communication can be used as an effective tool to successfully execute construction projects.

1.6 Research design and methodology

1.6.1 Research method

Perfetti (2017:145-174) regard research methodology as processes, meaning the way the research will be done. There are two methodologies commonly practiced in research which are the quantitative and qualitative methodologies. Quantitative method is also known as the positivist approach and is used generally in natural sciences and related fields whilst qualitative also known as anti-positivist approach which is mainly used in social sciences to measure attitudes and perceptions (Garner, Wagner & Kawulich, 2016:81-90). The researcher has selected to use both methods to maximise the benefits coming from these different forms

1.6.2 Research design

This research will use quantitative and qualitative descriptive designs to produce evidence as they are useful in knowing in-depth information about the subject matter. Thomas (2017:104-105) defines research design as the road map or path to be followed or what is to be done during the research which is of critical importance in any research undertaking. This outlines all the important steps or processes to be followed in any scientific research, as this allows for promotion of objectivity in the research. It is equally important to note that the methods used may determine the quality of the research outputs.

1.6.3 Target population

Population in this study refers to organisations with specific uniqueness which consists of a total collection of individuals from the on-going. The target population will be the construction industries within the vicinity of Cape Town where several construction projects are carried out. The targeted people are project managers or leaders and their subordinates or people that are on the ground executing the projects as this type of research require getting first-hand information from the participants.

1.6.4 Sampling methods

The minimum of 90 respondents has been consulted, to get an adequate and fair understanding of the results. One organisation has agreed in principle to assist with the research, and from this, the respondents will be randomly sampled with the help of purposive sampling technique.

1.6.5 Sample size

The sample comprises the people that are directly affected by construction projects. About 80 construction workers, 10 construction project managers and supervisors will be used for this research.

1.6.6 Data collection

Albuquerque, Ramos, de Lucena & Alencar (2014:15-37) articulated that the selection of the right research techniques is of paramount importance as it determines whether one will collect the right data using the right tool. The researcher will use structured questionnaires, interviews, existing literature and observations. It should be noted that each of the individual technique used to obtain data is linked to specific analysis and interpretation processes. This should be done in line with the objectives of the research as they determine the research sample.

1.6.7 Data analysis

An excel analysis tool and Statistical Package for the Social Sciences (SPSS) will be used for the capturing and analysis of data, because of its availability to the researcher. This will also assist in the construction of the histograms, tables, pie charts, and any other forms of diagrammatic illustrations necessary for the research. The relationships of the variables will therefore be used to interpret the findings from the survey.

1.7 Ethical consideration

Researchers have on numerous occasions carried out research without considering the conditions, values, beliefs and or interests of their target population. Too often they have trampled on the civil rights of the objects of their study, be they human beings or animals. In view of this, there have been many complaints from human and animal rights organisations in relation to practice of the researchers towards the target population. In accordance with the regulations of the Cape Peninsula University of Technology on ethical considerations, the research will respect the target population's rights, amongst others, which are; to present the respondents as anonymous; they have a right to refuse to participate in the research. They are free to pull out while they are in the process of the interviews or filling in of questionnaires. They have a right to know what is expected of them and why they may participate in the research. And many other issues such as not wanting to answer certain questions, etc.

1.8 Significance of the research

An understanding of the role played by communication as an indispensable construction project management tool will assist in lowering the construction project failure rate. Subsequent to that, project managers can be able to manage their projects successfully through giving clear instructions. Whilst the level of technical skills training in South Africa

remains high, it is still not clear what causes the high failure rate. Getting to know exactly what the problem may be will assist in directing training towards eradication of the cause for the high failure rate.

1.9 Classifications of chapters

Chapter 1

Introduction and Background to the study including the literature review leading to the establishment of a study gap. Followed by the explanation on research design and research methodology.

Chapter 2

Broad overview of communication with emphasis on literature used current or new constructions to enable a full grasp of the subject.

Chapter 3

Broad overview of communication models and case studies that may aid in the understanding of the possible causes of failure for these projects.

Chapter 4

Research design and research methodology compared and contrasted with the subsequent choice of what design and methodology to be used for the research.

Chapter 5

This chapter will present data analysis, presentation of graphs, pie charts, histograms bar charts and tables to illustrate the relationships between variables.

Chapter 6

Summarisation of findings, generalisation of aspects that can be generalised, discussion on the results, conclusions and recommendations.

1.10 Chapter summary

This study focuses on the impact of communication in construction projects. Communication has been viewed differently by construction companies and the way those companies use communication varies. Considering the level of contradiction, a survey analysis using a questionnaire titled "Communication as a tool for effective project execution at selected construction sites in Cape Town, South Africa" is conducted to get more facts regarding the issue at hand. The population to be targeted for this research will be subordinates in different department and units of work in the specific company. A minimum of ninety people will be used for this research through the use of structured questionnaires.

CHAPTER 2

THE REVIEW OF COMMUNICATION IN THE CONSTRUCTION ENVIRONMENT

This chapter will give an overview of communication in projects; types of communication, communication processes and communication medium will be explained and lastly the impact of communication in the construction industry.

2.1 Definition of communication

Communication has been studied in different fields, to mention just few of these fields, such as business, sociology, psychology and they gave their own definition of the concept communication (Vlăduțescu, 2013:6-12). Firstly, it is important to understand communication and how it is used in project management and the construction environment.

The term communication came from a Latin word *communicare*, which means to make common (Schement, 2017:173-187). Communication can be experienced in different forms from verbal to non-verbal such as the use of symbols, numbers and words to convey meaning. Trevarthen (2016:225-265) defines communication as the process of creating inter-subjective meaning through on-going verbal and non-verbal practices including conversation, metaphors, rituals, stories etc. Thus, communication in any working environment or industry is very crucial as it leads to the attainment of organisational goals, project success and building relationships amongst stakeholders. In the business environment and non-business environment, information is distributed amongst people from one person to the other and that forms the communication channel.

Communication involves giving, receiving, processing and interpreting information which can be verbally, non-verbally, actively, formally or informally (Bright, Kayes, McPherson & Worrall, 2018:981-994). Effective communication is important to project management as it connects different stakeholders who are involved in a project and who have diverse cultural and organisational backgrounds, different levels of expertise and various perspective and interests in the project execution. Thus, effective communication in construction projects leads to improved team motivation and it increases the work ethics in project execution, as noted by Sanders, Elangeswaran & Wulfsberg (2016:811-833) that effective communication ensures the transmission of right information to the right people at the right time. In order for construction projects to be completed well, they will depend on the accuracy and continuity of the exchange of information between project teams. Liu, Van Nederveen & Hertogh (2017:686-698) argued that two thirds of construction problems are caused by poor coordination, and inefficient means of communication and information flow. This is due to the fact that construction project managers spend most of their time solving or fixing problems

created from poor communication, lack of timely information and out-dated information (Flouris & Lock, 2016: 39-58).

2.2 Characteristics of communication

According to Erba, Ternes, Bobkowski, Logan & Liu, (2018:42-47), there are six characteristics of communication and they are listed below as follows:

- Communication as a process: which means that communication is viewed as an on-going process, it is continuous and dynamic.
- Communication requires a sender and a receiver: meaning a sender sends a coded message and the receiver decodes the message and provides feedback.
- Communication has information in terms of a message or content.
- Communication requires a medium: meaning in order for communication to be processed and understood, a medium is required like symbols, signs, behaviours, speech, writing or signals.
- Communication requires all parties to understand what is going on so they can limit the chances of experiencing communication barriers.
- Communication is transactional and irreversible.

2.2.1 Communication channels

Communication channels are very important in all organisations and they follow different directions which are vertical, horizontal, diagonal and lateral (Serrat, 2017:39-43). According to George, Siti-Nabiha & Jalaludin (2018:36-48) upward, downward a lateral flow of communication are the three channels that project managers need to utilise once the project has started to ensure communication between all the involved people.

- Upward channel: is when the information flows from the lower levels (project team) of a chain of command to the superior levels (corporate management and client).
- Downward channel: is when the information flows from the higher levels (corporate management and client) of a chain of command to the lower levels (project team).
- Lateral channel: is the flow of information between persons at the same organisational level (team member to team member, stakeholder to stakeholder or project manager to project manager).

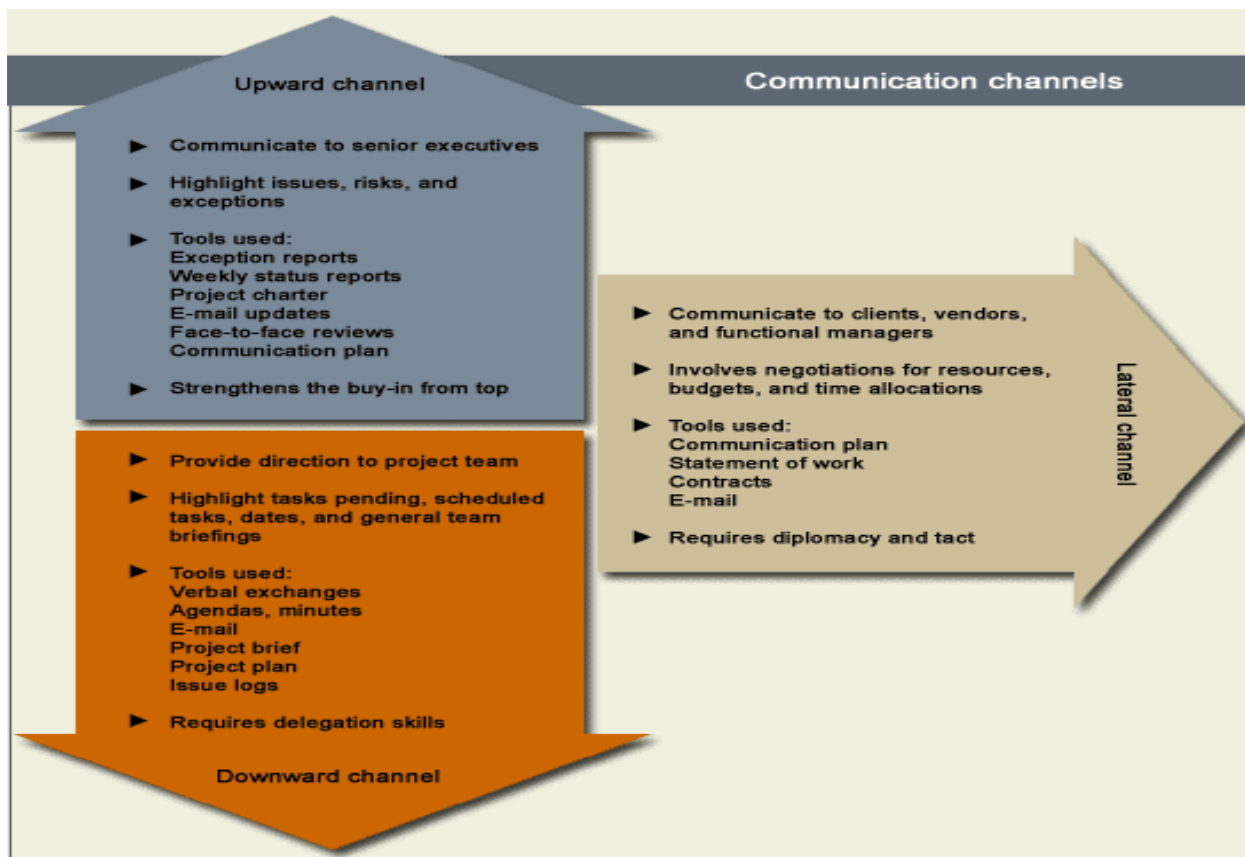


Figure 2.1: The three communication channels of a project manager Source: Keyton (2011)

As indicated in figure 2.1 above, a construction project manager makes use of three communication channels which are upward, downward and lateral. These communication channels enable the manager to be able to manage a project well if properly used.

2.2.2 Communication Models

Throughout the years there have been several models to define communication process and these models are based on or come from different researchers in the past (Steinberg & Darling, 2017:161-170). There are three main communication models used in the construction industry as originally postulated by Shannon & Weaver (1949:3), Schermerhorn, Hunt & Osborn (1994:563) and Te'eni (2001:251-312). Figure 2.2 below talks about the Shannon and Weaver (1949) model, which derives from a mathematical theory of communication and it shows a linear process from the sender through to the receiver.

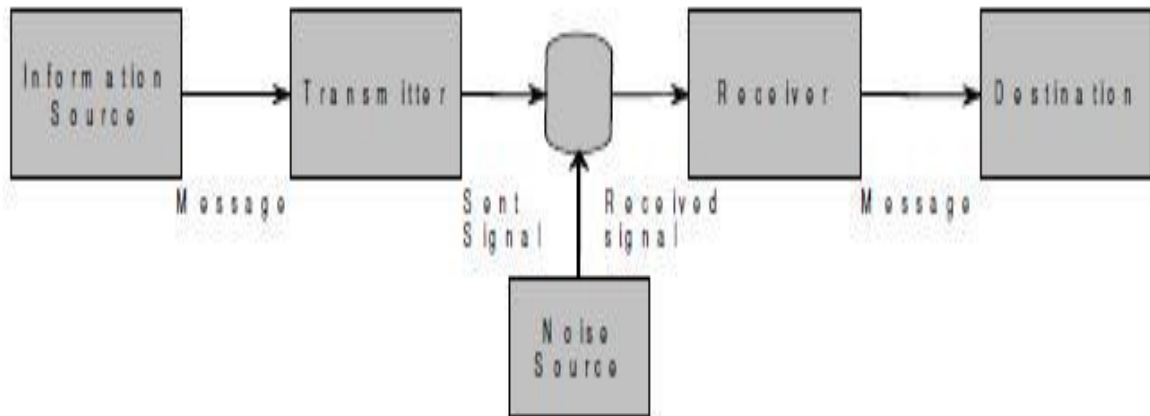


Figure 2.2: Communication Model of Shannon and Weaver Source: Shannon & Weaver (1949:3)

The model presents three components involved in the communication process which are: Sender to Channel then to the Receiver and vice versa. The model shows how messages are transmitted into signals from the sender to the receiver via a channel and the receiver transmits the signal back into a message for their use. The disadvantage of this model is that the receiver does not give feedback on the message. In a construction environment, communication (information) is sent to all stakeholders or participants involved and the only way that information can be redeemed relevant is if all stakeholders receives the information that was distributed and be able to give feedback (Brennan & Merkl-Davies, 2018:553-577). Lack of feedback in the Shannon and Weaver (1949) communication model led to the development or the modification of the Shannon and Weaver (1949) model to give rise to the Schermerhon et al., (1994) communication model that is shown in figure 2.3 below.

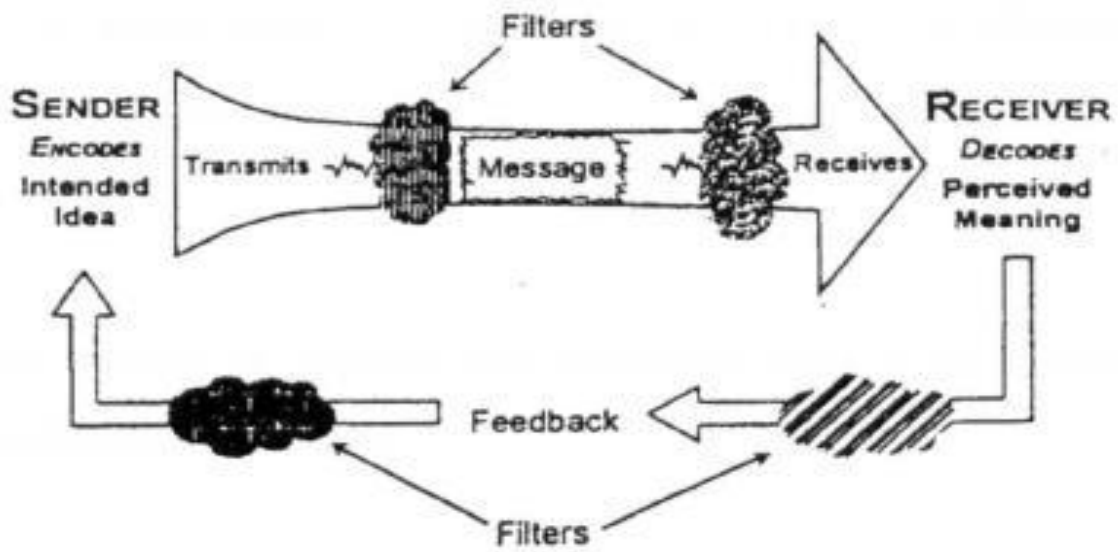


Figure 2.3: Communication Model of Schermerhorn, Hunt and Osborn - Source: Schermerhorn, Hunt & Osborn (1994:563)

The model suggested that since feedback is part of the communication that takes place between the sender and the receiver; the sender and the receiver need to possess certain attributes and these attributes will enhance their performance and communication effectiveness. These attributes will largely depend on the skills, knowledge and behaviour that the sender and receiver possess. Communication in the construction industry and in construction process is so complex, and the complexities rise at a high rate during the construction stages (Wu, Wang & Wang, 2016:21-31). The Schermerhorn model fails to address or solve the complexities that rise in the construction industry and construction process. According to Harvey (2017:155-198), there has only been one model that has clearly identified some complexities occurring in the construction industry and construction process and it is the Te'eni (2001) communication model. The Te'eni (2001) communication model identifies three major complexities concerning the communication process, and in any communication setting which are goals, medium and strategies. The sender, receiver and the project environment must be able to resolve and handle the threats of the complexities to achieve communication effectiveness. Below is figure 2.4 showing the Te'eni communication model:

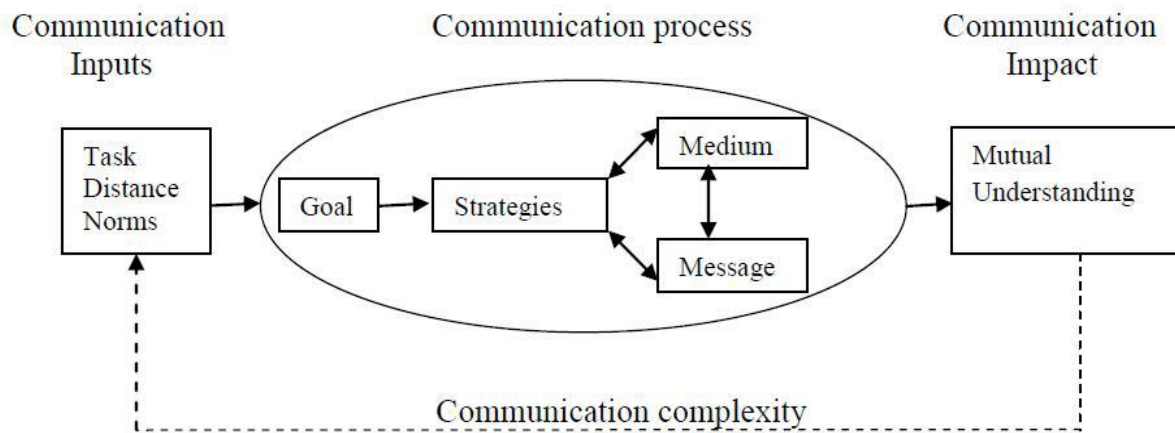


Figure 2.4: The Te'eni (2001) communication model. Source: Te'eni (2001:251-312)

According to Te'eni (2001:251-312), a deep understanding on project environment, knowledge, skills for communication will increase the ability or ways in which communicators experience equal understanding in accurate feedback exchange between one another. The attributes (project environment, knowledge, skills) greatly reduces the complexities being experienced through communication; therefore, acceptable effective communication can be experienced through the reduction of communication complexities among the team, and also increase the level of understanding and good relationship in the team (Te'eni, 2001:251-312).

Manvi & Tangade (2017:19-30) noted that the main components of communication process are the sender, receiver, the channel and networks, medium through which the message is transferred, and lastly the message to be shared. Effectiveness in communication and teamwork on construction projects, ascertain an understanding and knowledge of the project attributes, communication plan, strategies and management to project framework and characteristics of project typologies that depend on the three elements of communication process which are the sender, receiver and message.

2.2.2.1 The sender

According to Waisbord (2018:1-40), the sender in a communication model is known as the person, group or organization that starts the communication and sometimes is also known as the originator of the communication or information. For effectiveness of communication to occur, the sender is required to possess the right skills, knowledge and communication behaviour to accurately encode the message so that the receiver may be able to decode it successfully for mutual benefit (Goodwin, 2019:168-185). Thus, the sender should choose the right channel or medium for the encoded message to transfer it. Furthermore, the sender can either use verbal or non-verbal communication style in any situation to pass the message so that the receiver can understand the information being communicated to them.

2.2.2.2 The receiver

Communication process can only be completed when the receiver has received the encoded message and the receiver decoded the message and gives feedback to the sender (Markovic & Salamzadeh, 2018:11). In order for the message to be decoded successfully and effectively by the receiver, an understanding and breaking down of the information to allow feedback depends on the knowledge and skills that the receiver possess. According to El-Sabek & McCabe (2018:118-140), if information is poorly communicated aided with the lack of understanding of the scope of the project in a construction project-based environment, it influences the project characteristics and creates complexities in project's success. The receiver is mostly known as an important individual in a communication process especially in the construction communication as he/she will have to either disseminate the information or use it to execute the duties (Namhata & Patnaik, 2019:343-373). Therefore, the receiver needs to have a mutual understanding of the information for execution to be done successfully and efficiently.

2.2.2.3 The Message

The sender and receiver exchange information in a form of data, and the message is transmitted in a communication network (Bi, Ho & Zhang, 2015:117-125). According to Ho & Hancock (2019:33-41), a message is any verbal or non-verbal information that is exchanged between the sender and receiver in a form of data, as well as symbols. In a communication environment, information that is communicated by the sender is encoded in a form of a document or data and it is decoded by the receiver then feedback is given back to the sender (Jiang, Li & Xu, 2014:52-64). Silverstone (2017:19-36) noted that the information in a communication process is classified as classic resource and perception resource views with information that is unchanging and motionless. This information can be developed, stored, transmitted and received by an organisation to benefit the firm and that is known as classic resource view. Classic resource is mostly linked to a construction environment because information such as working drawings (Hasan, Baroudi, Elmualim & Rameezdeen, 2018:916-937), specifications, and budgets remain still for the duration of the project at the construction stage and it is used effectively unless variation order could change it. Silverstone (2017:19-36) viewed perception resources as processed data that is dynamic, constantly changing and often interpreted differently by different parties.

In the construction environment, messages or information can be viewed according to three categories which are technical information, commercial information and management and control information (Dave, Kubler, Främling & Koskela, 2016:86-97). There are several ways in which construction project managers, project team and quantity surveyors communicate in

construction projects to disseminate information such as the Bill of Quantities, Specifications, Working Drawings, Costs, Prices, Submittals and Production Drawings as well as contract status log (Sanchez & Joske, 2016:103). According to Chaffee & McLeod (2017:50-99), messages in the communication process are spread out into three main characteristics in a construction environment which are production information where it focuses on getting the work done; innovation information where it deals with problem solving and lastly, maintenance information which is used to solve personal problems. A systematic procedure in coding the information is used in production information whilst innovation information receives multiple and conflicting interpretations in any communication framework (Land, 2018:11-57) and it is more consistent with formal and informal communication among project participants.

2.2.2.4 The medium of communication

The tool or technology that is required in sending a message from a sender to a receiver is called a medium (Chioino, Contreras, Barrientos & Vives, 2018:81-87). According to Bacon (2018:59-68), communication media is divided into two main types of media which are soft and hard media; this explanation was based on engineering, procurement and construction project; hard media is classified to include contracts, procedure, plans, reports, policies and regulations, where soft media is classified to include team building sessions, disputes, and face-to-face exchanges (Binder, 2016:93-94). The two media uses two different communication channels, where the hard media uses a formal channel and the soft media uses an informal channel. According to Low, Liu & He (2009:85-95), communication media can be classified into four groups namely, non-verbal media, oral media, written media and electronic media as shown from table 2.1 below:

Table 2.1: Types of communication media in construction project

| | Oral media | Written media (paper based) | Electronic media |
|------------------------------|----------------------------|--------------------------------|-----------------------|
| Facial expressions and signs | Face-to face discussions | Fax | e-mail |
| Body language | Meeting / discussion forum | Post | Voicemail |
| Speaking tones and stresses | Telephone discussions | Bulletin | Video conferencing |
| | | | Internet and intranet |

Source: Low, Liu & He (2009:85-95).

Other researchers studied the classification of communication media and researchers like Remidez & Jones (2012:33-36) classified communication media as Lean and Rich where Lean communication media focuses on rules, forms, procedures, and database and it uses platforms like post, fax, bulletin, e-mail, and internet. Rich communication media on the other hand focuses largely on meetings, preferable face-to-face conversations and video conferencing (Low, Liu & He, 2009:85-95).

2.2.2.5 Feedback

According to Govaertset.al (2018:478-492) the receiver sends feedback to the sender to inform them that they have received and understood the message. The sender should take further precaution to ensure that the receiver understood the message that was sent to them, so that the feedback produced by the receiver helps the sender assess whether the information received was the intended message. Feedback in a communication process is regarded as the most critical component which allows the sender to know whether the message sent to the receiver had the required impact, understanding and achieve the desired set goals (Bland, Bouteiller, Herault, Bosilca & Dongarra, 2013:244-254). According to Dainty et al. (2006), feedback is the message sent back by the receiver to the sender to achieve communication process. Communication process is not complete without feedback. Feedback sent from the receiver to the sender can take any form, but it usually takes a verbal written form or non-verbal form (Nickolayev, Svintorzhitskaja, Bondar & Ermakova, 2015:159-168). The sender never knows if the transferred message was received without feedback. Thus, feedback is the reaction a receiver makes in response to the message that the sender sends.

2.2.3 Barriers in Communication

Anything that interferes with the communication process is called a barrier or noise. Several barriers impact largely on the effectiveness of communication among the project team, and if left unattended they will result in project delays as well as project failure. According to Zulch (2016:1-35), barriers in communication process are divided in the following groups:

- Physical Barrier – telephone interruptions, lack of privacy in an office.
- Physiological Barrier – poor health, physical disability.
- Psychological Barrier – anger, depression, fear, nervousness, distrust.
- Perceptual Barrier – social background, education and training, intelligence, interests, personal values, ethics, reputation and knowledge base, experience, competence and skills.
- Social and physical environmental influences – relationships
- Organisational pressure – work pressure.
- Semantic Barrier – not understanding the meaning of certain words, expression etc. such as slang, jargon and an accent.

- Environmental Barrier – it affects both the sender and the receiver; includes leadership styles, personality, timing and decision making.

2.2.4 Communication in the construction industry

Co-ordination and collaboration within the project team is very important for the success of the project; the performance of the team depends on the effectiveness of communication between the project team in the construction industry (Zou, Kumaraswamy, Chung & Wong, 2014:254-274).

2.3 Chapter summary

Communication which is an essential component in the running of an organisation have been discussed in detail as an overview of communication in projects; types of communication, communication processes and communication medium have been explained as well. Further to that, the impact of communication in the construction industry has been aired out together with the communication process and channels that communication follows. The barriers of effective communication have been aired out as well in relation to what project teams and project managers may avoid or eliminate in order to have effective, efficient and successful communication. Having the above in place, one can deduce that justice to the chapter has been done. The next chapter will then focus on theories and models of communication and its relevance to project execution.

CHAPTER 3

THE THEORIES AND MODELS OF COMMUNICATION AND THE RELEVANCE TO PROJECT EXECUTION

3.1 Introduction

Project execution is comprised of nine (9) knowledge areas that have ever since been increased to fourteen (14) (Basu, 2017:114-126) with other project management institutes increasing them to thirty-two (32). Regardless of how many they may be, communication remains amongst them as vital and signaling the indispensable nature of communication in project management. Even though management by projects has shown an unprecedented increase in the industry with everyone thinking it is the best way to manage the scarce resources, the failure rate remains very high (Porter & Kramer, 2019:323-346). This failure rate is pronounced amongst the hard skill engineering projects mostly, where the larger part of the management is almost exclusively engineers qualified in those respective disciplines (Murphy, O'Donnell & Jameson, 2019:365-396). The failure of these project execution processes led to new thinking about using leaders and not managers in project execution. The difference between a leader and a manager can be understood by way of the difference in the definitions. A leader is an individual who uses power to influence other people to change their behaviour and work towards an agreed objective voluntarily (Kim, Kim, Han, Jackson & Ployhart, 2017:1335-1358). A manager on the other hand is an individual who uses authority to get things done using systems and policies (Mohamed, Sylvain and Jacques: 2014: 286). The difference is essentially that leaders have followers whereas managers have subordinates, this difference means that managers are task oriented and leaders are people oriented (Bligh, 2017:21-42).

3.2 Leadership and communication

Since leadership is people focused it lends itself to people orientation and acknowledges that projects are done by people, through people and for people (Jawah, 2013:708-719). To get people to work and attain the required results entails among others keeping a good relationship with people and thereby enabling one to create a mental contract of cooperation with the followers. Lee, Park & Lee, 2015:797-807) posit that communication is the breeding ground for an effective relationship, thus effective leaders are effective communicators. Communication also means responsiveness as noted by Lakemanet al (2017:1-9) in that feedback is expected since communication is a two-way system involving the receiver and the sender of the message. These two alternates at different times and an understanding between each other which cements the relationship. On this note, Joslin & Müller (2015:1377-1392)

opine that there are numerous differences between project leaders and project managers. These differences are illustrated in table 3.1 below:

Table 3.1: Differences between project leaders and project managers

| PROJECT MANAGEMENT | PROJECT LEADERS |
|--|--|
| Project managers focus on systems | Project leaders focus on people |
| Project managers are appointed | Project leaders are chosen by team members |
| Project managers administer | Project leaders innovate |
| Project managers focus on conforming and maintaining | Project leaders focus on challenging and developing |
| Project managers have short sighted visions | Project leaders have a long-term perspective |
| Project managers prefer/accept the status quo | Project leaders challenge the status quo |
| Project managers are risk adverse | Project leaders are risk opportunists |
| Project managers plan, budget and control. | Project leaders create the future horizon |
| Project managers develop communication systems | Project leaders are interpersonal in their communication |
| Project managers focus on organisation structures | Project leaders focus on people |
| Project managers like problem solving | Project leaders aim to inspire and motivate |
| Project managers focus on targets and goals | Project leaders focus on creating change |
| Project managers want to control their project | Project leaders are passionate about the project |
| Project managers focus internally on the project | Project leaders focus externally on the client, competition, the market and new technology |

Source: Joslin & Müller (2015:1377-1392)

It is important to note that whilst these differences are clear, they merely represent the extreme ends of the type of leader or manager. Many project practitioners directing the execution processes use both leadership and management, too often determined by the circumstances.

However, there are some that may be more of managers than leaders in that their focus is the task and not the people that perform the tasks.

Whilst leaders are not born but made, Grint, Jones & Holt (2016:3) asserted that it may be necessary to note that the view that the choice of leadership style has more to do with how the leader or manager perceives the followers or subordinates. The attitude of the practitioner towards the people they are in charge over is the first determinant of how they will treat the people. This is the basic principle of the X and Y theories (Allen-ile, and Eresia-Eke, 2008:14). Leadership in any organisation and or structure, it may be educational, political, religious or commercial, it is difficult to explain unless to accept that the practice of leadership leads to the flourishing of morale, team synergy and enhanced interpersonal relationships and cooperation (Cervone, 2014: 76). Communication remains paramount to this new atmosphere and becomes the tonic that takes care of conflicts, discords and mistrust.

3.3 Communication theories

A theory is defined by Grunig (2017:17-44) as a set of ideas intended to explain phenomenon. Theories have been advanced in many fields and they are a result of studies (empirical or hermeneutical) which are then used to understand relationship of phenomenon. The communication theory stems from the field of information theory which relates to the technical processing of information between human beings (Mason, 2017:41-48). The theory of communication can be understood as fundamentally originating or based on the need to send information from one source to another in exactly the same form or in a similar form (Waisbord, 2018:1-40). Communication by its definition implies that there is more than one way of transmitting meaning from one source to another reciprocated. From this, communication may take the form of symbols, signs, words or actions depending on whether the communicating parties understand each other. The communication theory is a derivative of the information theory. It is on this basis that the current theory of communication is developed, and over the years human beings (and animals) communicate with each other among themselves. The history of the information theory includes amongst other the things, cable transmissions, telegraphic transmissions, and the current day communication through waves in the air or by way of emails (Rikitianskaia, Balbi & Lobinger, 2018:758-779).

The development of the information theory led to the construction and designing of the communication theory and this theory is based on the postulates from different researchers. Chief researcher and author on the subject amongst others are Werner (Schilke, Hu & Helfat, 2018:390-439) who looked at the theoretical aspects of reasoning and about knowledge. The fields of psychology and sociology where also influential in the construction of the communication theories complementing what was known then as scientific knowledge about

communication. The communication theory is based on the presence of specific elements, as listed in table 3.2 below.

Table 3.2: Elements of the Communication

| | |
|--------------------|--|
| Source: | Shannon calls this element the "information source", which "produces a message or sequence of messages to be communicated to the receiver |
| Sender: | Shannon calls this element the "transmitter", which "operates on the message in some way to produce a signal suitable for transmission over the channel. |
| Channel: | For Shannon, the channel is "merely the medium used to transmit the signal from transmitter to receiver. |
| Receiver: | For Shannon, the receiver "performs the inverse operation of that done by the transmitter, reconstructing the message from the signal. |
| Destination: | For Shannon, the destination is "the person (or thing) for whom the message is intended". |
| Message: | The message is a <u>concept</u> , information, communication, or <u>statement</u> that is sent in a verbal, written, recorded, or visual form to the recipient |
| Feedback | The response to the message sent by the sender to the receiver constitutes the feedback, this may be in different forms |
| Entropic elements, | The response does not have to be according to the sender's expectations, the response could be positive or negative |

Source; own construction from existing literature on communication

The transmission of information according to these postulates starts with the source which uses a sender to carry or transmit the message through the channel (medium) to the receiver (intended) who reconstructs the message to a particular meaning. The destination of the message therefore encodes the symbols into content at which point the communication process has completed its first journey. It is expected that the recipient of the message will give feedback by decoding the information back to the sender who becomes the decoder. The models of communication derived from the theories of information and the theories of communication.

3.4 Communication models

Harrison (2018:209) postulate that a model in a scientific sense is a theory represented diagrammatically or in the form of a table. A model as a form of a design that would be used to represent what would otherwise be the theoretical (if not practical) answer to a current problem. The models developed by the researchers were intended to assist in the

development of a mathematical theory for communication. This became a valuable tool for the communication engineers dealing with the capacity of communication channels and how much “bits per second” could be contained by the systems (Pirandola, Laurenza, Ottaviani & Banchi,2017:15043). This also aided in making information measurable and hence the current stage of the information theory, consequently, many models of communication have been developed over the years (Saifi, Dillon & McQueen, 2016: 309).

As alluded to in earlier chapters, communication is the process used for the transference of information or messages from one source to another receiver (Dinget.al 2015:86-93). This involves transferring the information from a sender to a receiver thus enabling the source and receiver (sender and receiver) to understand each other in a given context. Communication models are essentially conceptual or theoretical frameworks used to understand communication as a process for effective information distribution and handling. Consequently, numerous models have been conceptualised over the years, and these can be divided into three major types, namely; linear communication models, transactional models and interactive models.

3.4.1 Linear Communication Models

- Laswell’s Model
- Aristotle’s Model, and
- Berlo’s SMCR Model

The linear model of communication is ideal for the persuasion of audience with intentional propaganda motivating for results (Ivanov, Parker & Dillingham, 2018: 222). These models are used effectively when dealing with mass communication which ordinarily would be one way. Too often feedback may not be expected, the receiver may opt to agree and not contest the sender’s message and information to the group. Because feedback may not be anticipated (Lee & Tandoc, 2017:436-449), the process is more like an instruction session. This model may result in the sender not knowing whether the message has been understood, accepted or rejected. Subsequently, the model has a simple set of components which comprise of the sender and the receiver of the message (Walther, Van Der Heide, Ramirez, Burgoon & Peña, 2015:22), the sender converts the message into codes (encoding) and decides on a channel that will be able to carry the message to the receiver (the decoder). The message is encoded by the sender to fit into the preferred channel, and the receiver decodes the message to make sense of what has been sent. The decoding process is the conversion of the message into understandable language. The model is characterised by the presence of or is comprised of the following components, namely; message, channel, receiver and the noise. These are illustrated clearly in table 3.3 below.

Table 3.3: Components of the Linear Communication Model

| COMPONENT | EXPLANATION |
|-----------|---|
| Message | The information encoded and dispatched by the encoder; the source of the information is what is expected to be responded to. |
| Channel | The message is sent through or is carried through a medium or media which should be the appropriate way or means to convey the message to the receiver. |
| Receiver | Is the targeted audience, the individual who decodes the message sent by the encoder and make sense of what has been sent. |
| Noise | The disruptions that take place in between the encoding and decoding of the message or in the channel with the message in transit. These disruptions may be an unclear message or negative perceptions. |

Source: own construction from literature

The linear model has or is explained by different researchers as indicated above, researchers who have drawn their own models which explain the linearity of the communication process.

- Laswell's Model; this model was developed by a communication theorist as a linear or one-way communication model.

This model has been considered to be amongst some of the most influential communication models which withstood the test of time. The model itself shows different steps of the process of communication as illustrated in figure 3.1 below:

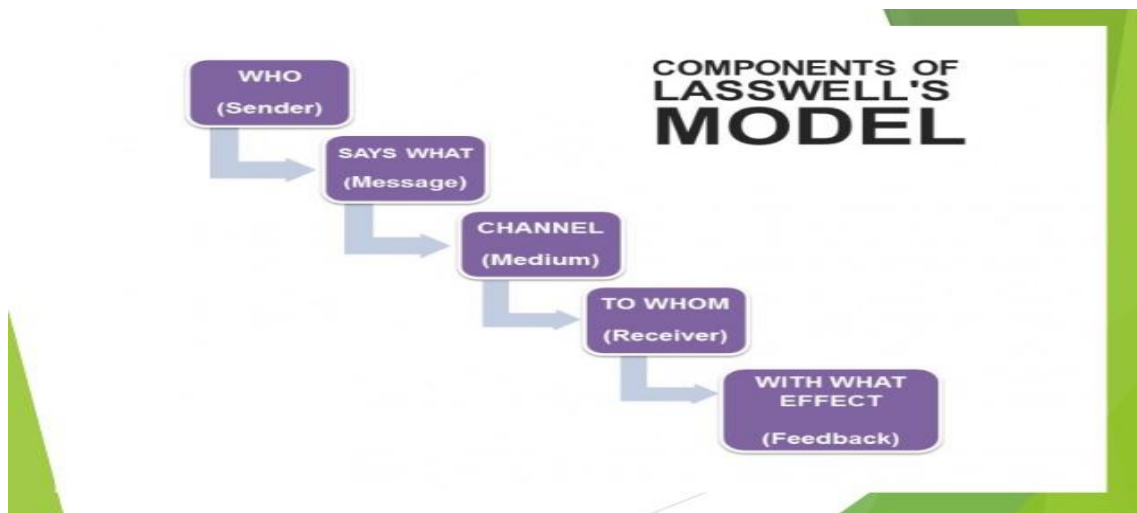


Figure 3.1: Components of Laswell's Communication model - Source: Costanzo (2018:5).

The model implies that the conversion of the thought to be translated into a message depends on, among other things on who is sending the message, and what does the message say, how is it transmitted, to whom is it transmitted and what is the impact of the message relayed. This process can assist in the answering of many other issues that might not be clearly understood in communication and its effects.

- Aristotle's Model; the study of communication models has been around for many centuries considering the days of Aristotle.

This model is considered the earliest linear model ever known; the model is illustrated in figure 3.2 below.

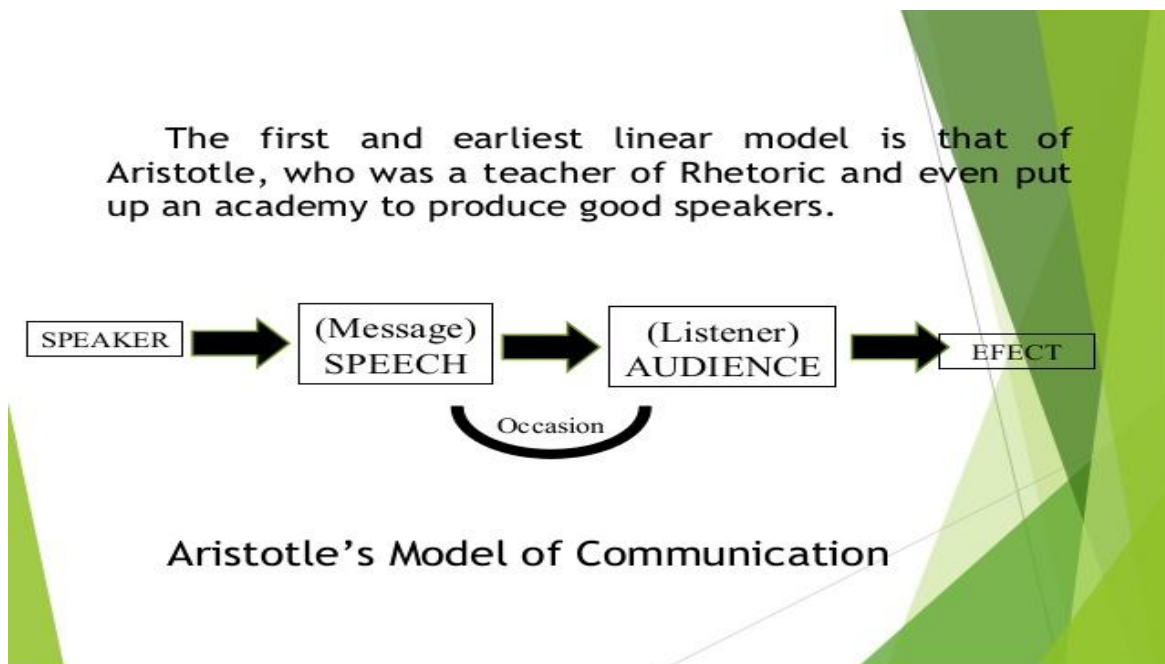


Figure 3.2: Aristotle's Communication Model -Source: Cooper (2018:63-83).

This is presumably the easiest model ever indicating the linear nature of how messages are transferred from the sender to the receiver. The speaker is the source of the message and the channel is through the speech to a listening audience, be it one individual and many people. The message is supposed to have an effect, presumably taking or rejecting the instructions provided. There has not been much criticism of this model, the few critics make reference to the absence of feedback in the model, some point out that there is no provision made for the failure of the communication, and of cause that the model is ideal for public speaking.

- Berlo's SMCR Model; the model focuses on factors that affect individual components of the communication process.

The concept of the model focused on the sender-message-channel-receiver (SMCR) theory as derived from the Shannon Weaver's model. The focus was on factors that make the communication efficient, using the concept of encoding and decoding of the message. The full model is illustrated in figure 3.3 below:

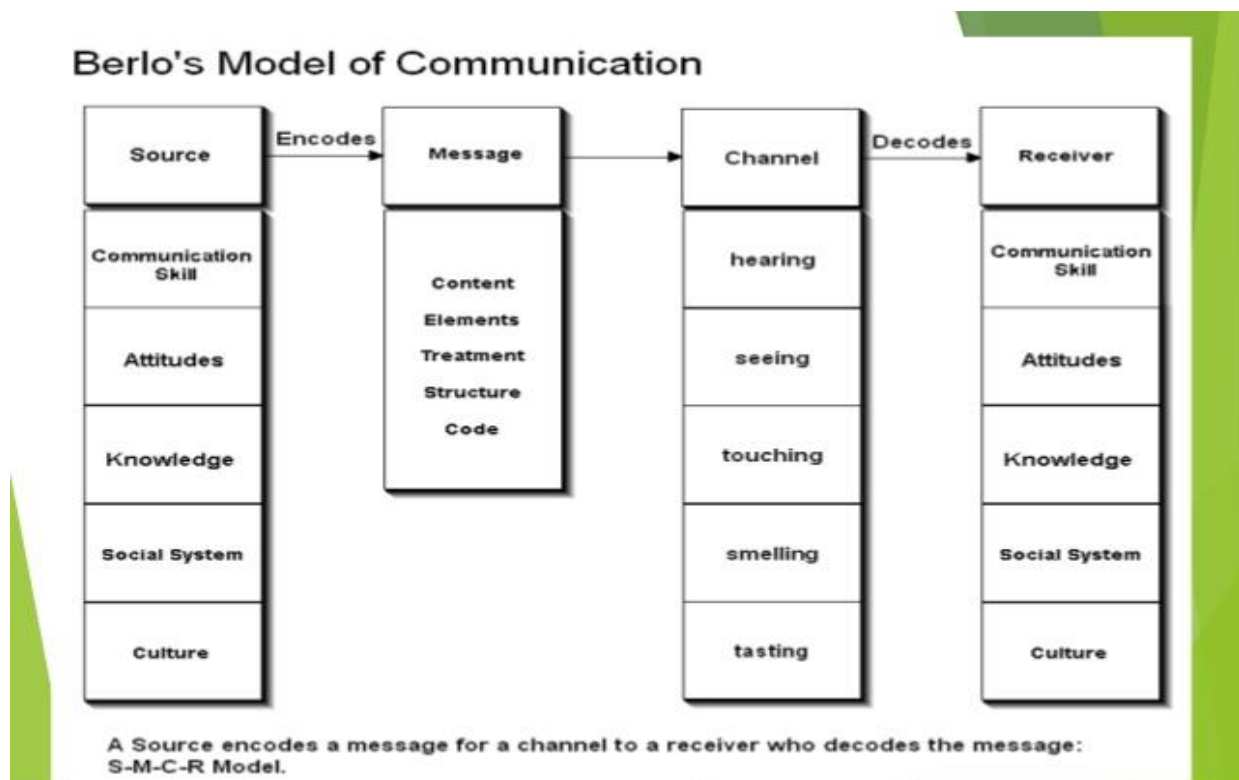


Figure 3.3: Berlo's Communication Model - Source: Rogers & Valente (2017:35-56).

This model, like the Aristotle model, has no provision for feedback and therefore, it is difficult to measure the effectiveness. Over and above, the model does not indicate the presence of noises and barriers to the communication process. Since it is linear, it is a one-way process

and is therefore ideal for mass address or instruction sessions. The assumption made is that the individuals communication must be related and hence the presumed absence of noises. The model identifies interesting aspects of the components of communication, the source of the message has to consider skills in communication, check on the attitude and relate to the cultural and social systems as the norms.

Communication is a process which involves many other steps and activities until the objective is achieved. It is important to note that the objective of communication is to pass a message or information from a source to a receiver. The source desires to send information to an identified recipient who may be expecting or not expecting the information. Therefore, the important aspects about the source can be itemized as follows:

SOURCE – has vital information to deliver to recipient [dispatches in the form of a message]. The source has to be the correct decipher of the information if it is to be accepted

- Has information to be transmitted for a purpose
- Identifies a specific recipient or recipients for the purpose
- Confirms that the message is relevant to the target
- Decides on the format to be used for the transmission
- Decides on the medium to be used to transmit, and
- Decides on when to transmit the information to the recipient, then
- Dispatches the information in the form of a message

The message disseminates to the intended destination wherein the target audience receives the message – this can be by signage, verbal or in written form. The first assumption made is that both the sender and receiver understand the message sent whether it is a language or a sign.

MESSAGE – the message must be tailored to suit the subject for which it is intended. It must have the correct format, the relevant content and be appropriate for the recipient

There are other factors to be considered around the dissemination of the message or information under discussion.

The source of the message to be delivered is important

The receiver or target for the message must be appropriate

The message must be considered desirable by the receiver

The message needs to be understandable by the receiver

The message should not be ambiguous to the receiver, and

The message must be transmitted through acceptable media

Messages to receivers may be what the receiver had been waiting for, either as feedback to earlier requests or expectations or purely for knowledge purposes. The circumstances under which the message is sent may also determine the importance of the message to the receiver. In many other cases, it matters who the sender is and the urgency that may be tied to the message.

The message or information is dispatched through a particular medium or channel which has its own characteristics. Channels are the paths through which the transmission is affected, thus they be of critical importance as they involve the ability of the medium to convey the message in its original form.

CHANNEL – should be such as to be able to deliver the message to the recipient; must be accessible to the target audience if it is to be received and understood

Send the message through the channel to be effective;

Who is the message meant for – the target recipient/s

Is this target accessible on the channel to be used?

Can the format desired be transmitted on the channel?

When the message finally gets to the recipient, it is important that the recipient should understand the message in the context within which it was sent. To a very large extent the treatment of the message may have many other factors impacting on how it will be treated.

RECEIVER- similarly to the sender, the receiver should make sense of the message by understanding and interpreting it in the way that the sender intended. The receiver decodes the message by assigning meaning to words used to get mutual understanding.

Therefore, the recipient decodes the message according to her/his knowledge of the subject, ability to use and interpret language, and past experiences. The receiver will generally make an immediate decision on how to react to the message.

- Barlund's Model
- Shannon and Weaver Model

Transactional models involve the sending of information from the source to a receiver, with the receiver sending a message back to the sender who now becomes the receiver. This is characterised by the shift from the linear one-way approach in earlier models by changing roles between sender and receiver. The characteristics of the transactional model are explained in table 3.4 below:

Table 3.4: Characteristics of the Transactional Models

| COMPONENT | EXPLANATION |
|-----------------------------|--|
| Simultaneous communication | There is an interchange of roles between the parties concerned because both the sender and receiver encode and decode interchangeably. There may be no distinction between the different parties (sender or receiver) after the communication has started. |
| Interpersonal communication | Ideal for communication that requires immediate or instant feedback, thereby making this model ideal for face to face or direct communication between sender and receiver. The process is a two way and allows for each individual's views on the issue. |
| Non-verbal communication | The communication may involve body language or signs which may be interpreted differently from the verbal communication. The use of body language assists in laying emphasis and confirming the message where body language agrees with verbal language. |
| Context of environment | The context is critical in that interpretation of the message depends on the context; is it business, social, anger, casual. Or even who is saying it, to whom and under what circumstances? |
| Noise with disruptions | Because the sender and receiver exchange roles, there may be competition for talking space causing disruptions or reduced attention to one another. There may be no clear distinction between the sender and the receiver during the process. |

Source: own construction from literature on transactional models

In this model both the sender and the receiver are communicators because, as stated above, each one takes turns to send and receive messages. The exchanges take place at the same time. A typical transactional model is represented diagrammatically in figure 3.4 below:

Transactional Model

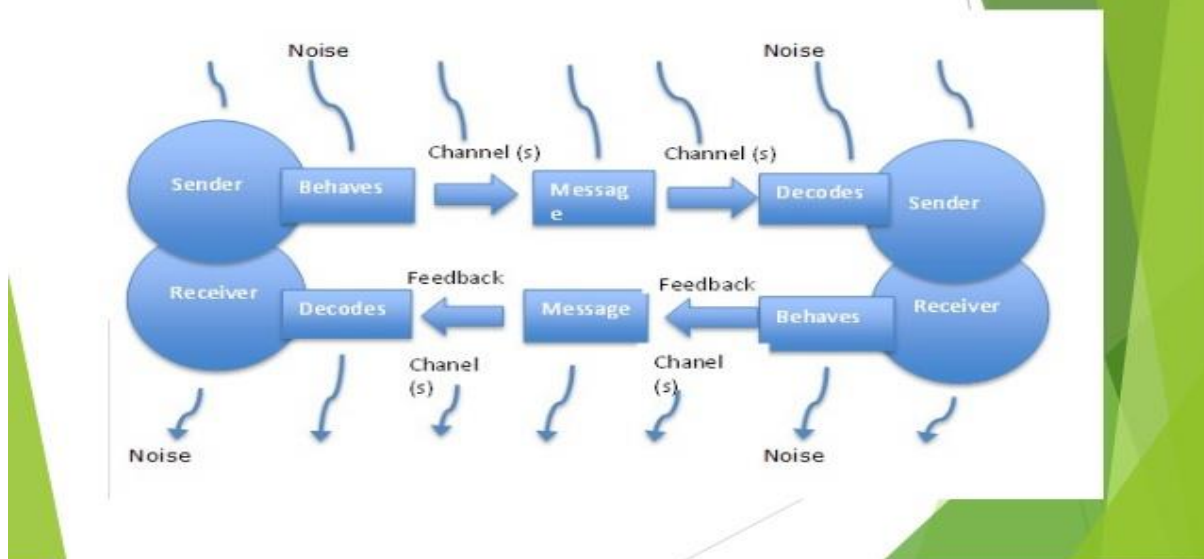


Figure 3.4: Transactional Communication Model - Source: Barnlund (2017:47-57).

The model shows the flow of information as going to and from, enabling interaction between the “communicators.” Provision is made for the noise that may emanate from either workplace noise, or any other interruptions they may disturb the communication. Similarly to other models, this model has been criticised, and some of these criticisms are, namely;

- If there is no verbal response the sender may not know if the message is received
- Feedback is critical in communication because it allows room to explain any ambiguity.
- The model allows for too much noise because the communicators participate simultaneously.

Two models fall into the category of transactional model of communication, namely; Barlund’s model and Shannon and Weaver model.

- Barlund’s Model; this model has been adopted by other researchers and is constantly referred to as the General Transactional Model. It is essentially a dynamic two-way interpersonal communication system emphasizing the nature of simultaneous sending and receiving of information between individuals. The model has certain components unique to the model, these are;
 - It shows a field experience that involves a sender and a receiver simultaneously communicating with each other.
 - The model is very complex in that both the sender and the receiver need to understand the codes used to communicate.
 - There should be commonality in the way the “communicators” exchange their messages with each other.

Shannon and Weaver Model; another category of the transactional model widely discussed in literature; the model involves the information source sending the message to a transmitter who

transfers it to the receiver. When the message is delivered to the receiver, who becomes the destination, the destination then sends it back to the initial source of the information as feedback. Figure 3.5 illustrates this below:

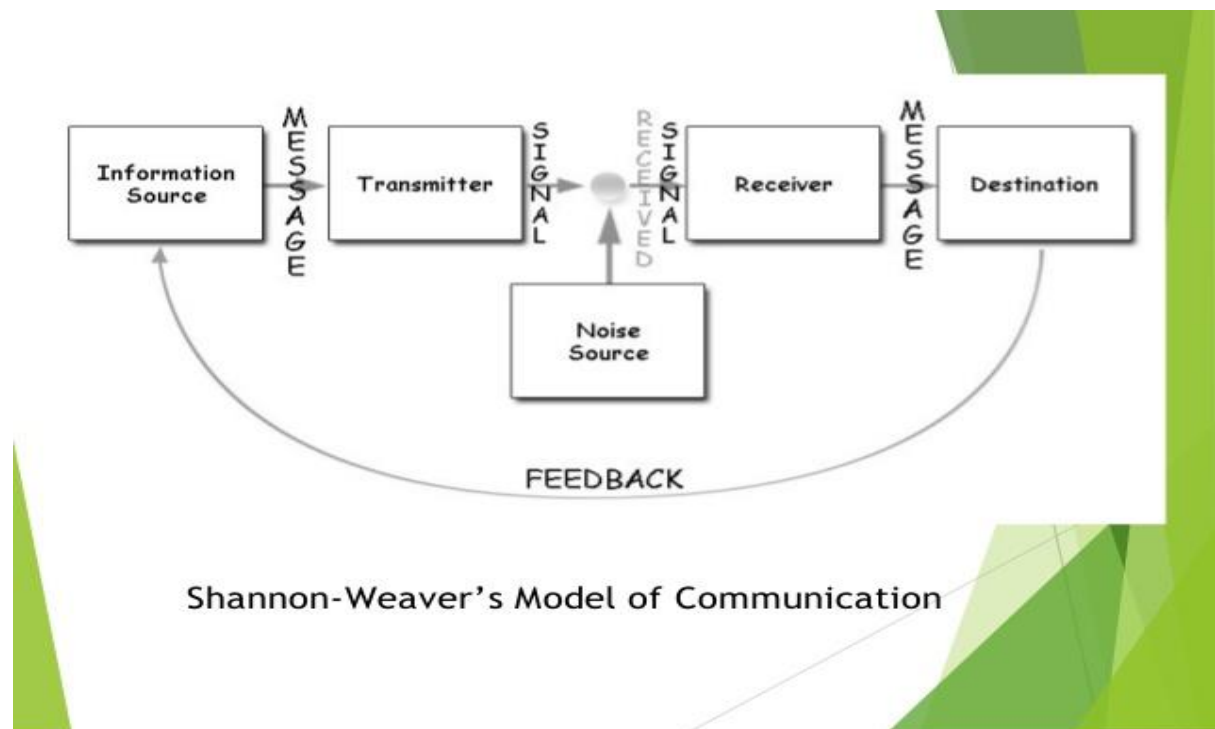


Figure 3.5: Shannon and Weaver transactional model - Source: Chaisanit (2018:9-18)

The criticisms around the model are centered on the nature of the communication model which is considered more ideal for personalised communication. In this model it is alleged that the receiver is somewhat subdued whereas the sender plays the main role of information dissemination. Because the receiver plays a low role, it can be hypothesized that the model does not put much importance to the feedback. It quantifies communication, making it sound mathematical, yet human communication cannot be quantified as being mathematical. The model is however credited with some advantages, namely;

- It introduces the concept of noise during the communication process which is a realistic feature in any human interaction.
- Identification of the noise as a problem can assist in removing the noise to reduce interruption of the process.
- The model emphasizes the two-way nature of communication which is the practical experience in all communication.
- The model introduces quantification of the communication thus making the process measurable.

The transactional model brought about a new thought into the way communication is understood. It is critical to state that in operations like project execution where the sending, receiving and feed-backing of information is of primary importance (Benedicentiet.al 2017:289-314). Studies have continued trying to find better explanations to the process of information distribution with intentions to make it more effective.

3.4.2 Interactive Models

- Schramm's Model
- White's Model

Interactive or convergence models are two linear models that have been paired with one on top of the other. The sender initiates the communication as the source of the message, once received, the receiver switches to be the sender starting a new linear model. This model postulates that communication is not complete until there is a feedback to the original message conveyed; this removes the notion of communication being a one-way process. This model takes cognizance of cultural background, the level of understanding of other people, religion and ethnicity and other experiences that inform the personality of an individual. The model recognizes the importance of feedback, but the feedback is not instant or is not provided simultaneously. Figure 3.6 demonstrates the model.

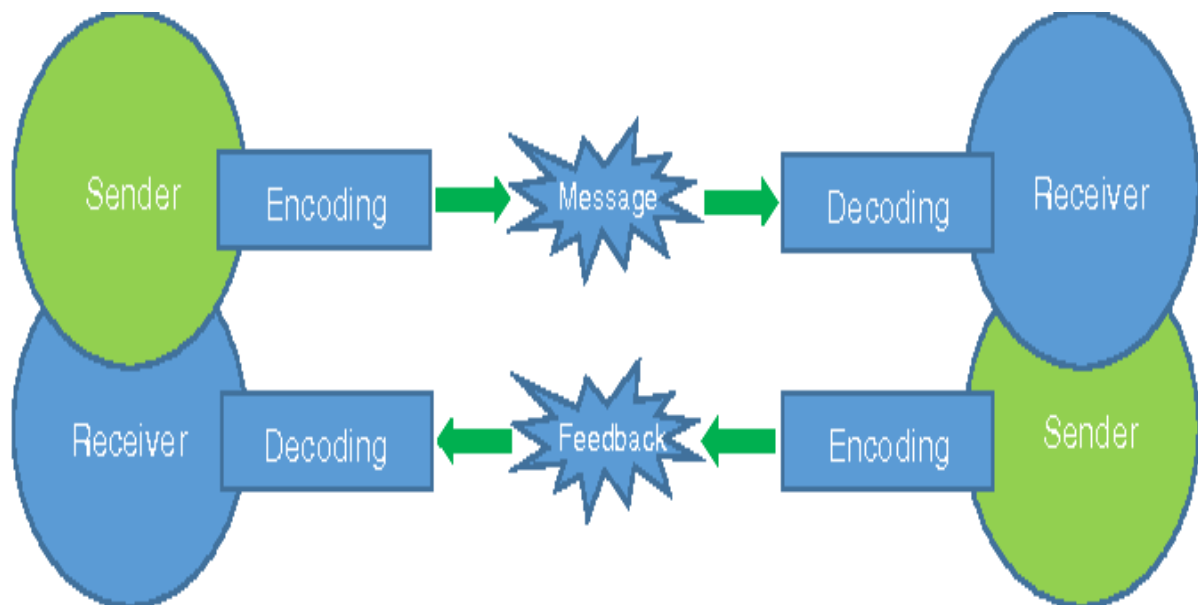


Figure 3.6 The Interactive Communication Model - Source: Llopis-Lorente et. al (2017:15511).

The Interactive Communication is the process followed in the sharing of information such as speaking to an individual or individuals who receive the information given to them (message) and interpret the information into a meaningful logical message. Two types of models are discussed under this class or group of communication models. These are, the Wilbur Schramm's Model and the White Model.

- Schramm's Model; this model stresses the importance of the media in the communication process.

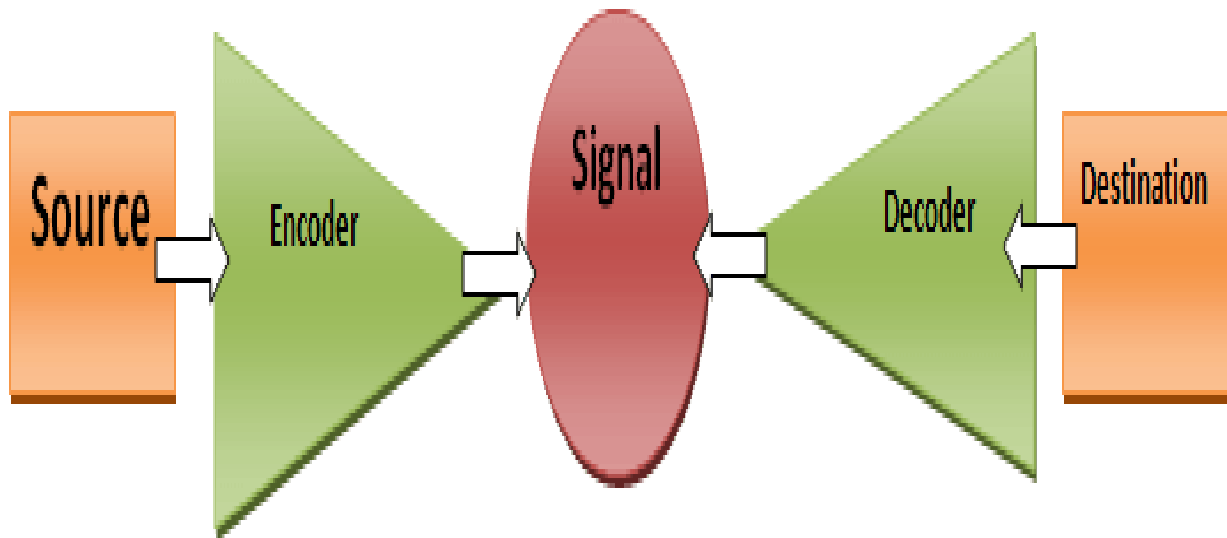


Fig: Schramm's Model

Figure 3.7 Schramm's Communication Model - Source: John, Brooks & Schriever (2019:12-21)

The SMCR (Source-Message-Channel-Receiver) explains the processes followed when communication takes place, and the model describes the four components involved in the information exchange between the communicating parties (Taecharungroj, 2017:552-571). The purpose of communicating is to enable the parties to share information with each other and assist on working towards the agreed objectives. Communication is critical for the effective execution of projects (Ren, Deng & Liang, 2018:1082-1103), and this is listed as a key component of the nine knowledge areas for effective project management. The components involved are, source, message, encoder, channel, decoder, receiver and feedback. These are discussed in detail below in table 3.5:

Table 3.5: Components of the Schramm Communication Model

| | |
|-----------|--|
| Source | This is where the communication begins, the source decides that there is a need to pass information to another individual(s) |
| Message: | This is the content or the substance to be transmitted by the sender to a receiver for the action / response or attention |
| Encoder | The encoder translates message to a form that is understood by the receiver; dealing directly with human senses |
| Channel: | The path and or means to transmit the message to the target audience from the originator of the message (the source). |
| Decoder: | When the message or information is correctly received, the same is decoded into meaningful information for the recipient |
| Receiver: | The receiver (destination) then constructs a response to the source which is then encoded back to the source |

| | |
|----------|--|
| Feedback | The positions of the parties therefore change, and each takes turns to be the encoder or decoder until the process is completed. The source regulates the flow |
|----------|--|

Source: own construction from literature

There is not much difference between the interactive and the transactional methods except that the interactive does not always have instant feedback. There are no hard and fast rules to be applied between these differences as there is a regular overlapping between the different models. With the development of technology there are many new blurred methods (mediated communication) with the use of technological advancement. Some of the grey areas appearing are;

- Interpersonal: this involves two or more people exchanging information using technology. This may be the use of the internet, e-mails or social networks.
- Intrapersonal: is the process where an individual exchanges information with themselves as in the use of an electronic energizer.
- Small Group: this is typical with communication with the use of tweeter, short message services, Facebook and other social networks.
- Large Group: generally involving large groups of more than a dozen people but generally restricted to a particular group or members of that group.
- Mass Media: this would entail communication by large professional structures involving hundreds of thousands of members who may not give feedback.

Interactive communication has been altered by the presence of advanced technologies and this has changed the way people communicate. Both asynchronous and synchronous means of communication have increased with the use of chat rooms, video conferencing, voice chat and virtual learning spaces.

Table 3.6: Differences between the models

| TRANSACTIONAL MODEL | OTHER MODELS |
|--|--|
| They use interpersonal communication | They use intrapersonal communication |
| Senders and receivers are communicators | Senders and receivers are different people |
| Includes role of context and environment | No mention of roles in other models |
| Identifies barriers as noises in the process | Does not have the concept of noise at all |
| Highlights non-verbal communication | Ignores non-verbal communication |
| Characterised by simultaneous feedback | Feedback may come latter and not then |

Source: own construction from literature

The different communication models may have relevance in certain contexts, but the models should not be dealt with as a one size fits all. The extent of the relevance and appropriateness depends on the type of communication to be done, whom it should be communicated and the objectives of the communication. Some of what is constantly referred to as communication may simply be instruction sessions where managers seek to instruct and give orders. The only feedback will be the movement of the subordinates to do or not to do what they are instructed to do.

3.5 Role of communication in project execution

Projects are divided into Work Breakdown Structures (WBS) which are headed by team leaders generally as experts in those areas (Kordova, Katz & Frank, 2019:227-242). The sum total of these WBSs constitutes the complete project to be executed. Depending on the complexity of the project, the WBSs may have sub-teams headed by supervisors who report to the head of the WBS, who in turn reports to the project leader. These leaders at various levels are involved in the execution of activities, which may not be similar to each other, but are interrelated. To coordinate these activities effectively, there is a need for effective communication to bring together all the functionaries in the project. The major function of the project leader is to coordinate all the activities (Arto, Ahola & Vartiainen, 2016:258-270) and integrate the project units into one project at different levels towards one product. Communication is the key to the effective integration of these activities. So, the process of imparting information or exchanging information whether verbally or through written documents is necessary. Communication can therefore be viewed as being formal or informal and the decision to use a particular format must be taken seriously. The formal communication can be viewed as “up to down”, “down to up”, “horizontal” and “cross” communication (Schley, Ahmed, Afzal & Radetzki, 2016:195-206).

Oral communication includes both spoken verbal communication as well as the use of visual aids as in the use of graphs, tables, pie charts, etc. to convey a message (Rotaru, 2018:61-82). Communication will inevitably flow in all directions during the execution of a project (Rocha-Lona, Garza-Reyes & Kumar (2013: 137), allowing for sender-receiver-feedback. This means then that the project leader should devise an effective communication plan to enable this free flow of information and strive to remove all communication barriers and noises. Magano & Thomas (2017:1-10) discussed numerous merits for effective communication in an organisation, namely; reduced labour turnover, enhanced employee performance, synergised teams, and empowered well informed workforce. The added benefits of effective

communication are improved understanding of the firm's goals, vision, reduced conflict and inclusiveness of the workforce as well as commitment to the firms endeavors.

3.6 Role of a project manager in project communication

The responsibility of coordinating the different units and making all of them working towards one objective resides in the manager's set of duties (Pop, Pop & Dumitrascu, 2013:1563). It follows therefore the effectiveness of a project leader may emanate from the ability of the leader to communicate and bring everybody to the same level of understanding about the project. Mayo, Wu, McCuen, Issa & Smith (2018:2-9) posit that project execution is the management of change, and the project leader should design an all-inclusive communication plan which will glue the whole team together. The project leader is an inevitable link between all the units of the organisation and communicates in all directions by keeping the flow of communication with external, internal and other peripheral stakeholders. The ability to communicate transforms the different units into one big team and not just another group residing and working together (Aapaoja, Haapasalo & Söderström, 2013:5). The clearer the information (effective communication) the less the chances of being misunderstood or the more ambiguity is reduced for the project practitioners. The communication process itself should identify information needed by specific individuals or teams to facilitate the effective execution of the project. Therefore, information sent to different stakeholders must be information relevant to them given their functions and expectations (Singhet.al 2018:389-405). The depth and breadth of the information should depend on the operational requirements of the units without causing unnecessary information overload, or the opposite, starving the units of adequate information for their own functioning. A well thought out and well implemented communication plan is the thread stitches all the different units together pointing them to one objective (Ylitolva, 2015:10), the purpose for which the workforce is put together.

Kanki (2019:103-137) posits that convening regular meetings at which the project leader exchanges views and discusses progress reports is a good starting point for communication. Action items are given priority and informed decisions can be made on the basis of the information available. Bringing together the different WBSs' activities and pointing them towards one direction is needful to avoid silo operations or fragmented work units in the same project. A proactively structured communication plan gives a direction that will assist in the analysis of the WBSs. Feedback should be encouraged bearing in mind that the purpose for communicating in a project is not merely to give instructions, but to have inputs from the practitioners themselves where things actually happen. Wanjiru Kabui (2016:1-13) postulated that multi-directly information flow (feedback) with open-door policies allows information to benefit the organisation immensely.

The absence of an open-door policy may create unnecessary fear from subordinates where lower level employees may exaggerate the extent to which they accept the opinions and suggestions from senior management (Ziek & Anderson, 2015:791). Opening up space for people to talk may be the best form to get feedback on operational issues and uncertainties. Research indicates that communication makes employees co-partners in the mission and vision of the organisation thereby increasing commitment and employee engagement (Thomason, 2018:138-180). This is said to bring about, employee satisfaction, promote conducive work environment, and it creates a good working relationship at all tiers of operations. It is therefore important that attention is paid to interpersonal communication skills of the project leaders. This is both with senior managers and with operation staff as this heightens the levels of synergy and allows for a gentle flow of understanding amongst the project members (Stephenson, 2012:37). The absence of that general flow of communication results in top management not making appropriate decisions when dealing with operational issues.

Libert *et.al* (2016:1121-1129) posit that when there is no feedback, this may result in ambiguity, uncertainty and reluctance for the practitioners to make meaningful decisions. Some of the critical problems emanating from that are listed below as:

1. The absence of correct information leads to poor decisions being made
2. The group or practitioners may end up denying that there are problems
3. Major errors may actually be considered to be trivial and too little to worry about
4. Any other information may be resented as contaminated and not ideal
5. Those willing to offer feedback may feel out of place and may withdraw

Jowah (2014:130-144) opines that politics is a necessary component of effective project execution in that resources need to be procured in time. A good working relationship with anyone in the organisation therefore requires effective communication. Politics, which is the quest to control the resources is used too often by project leaders, specifically where there is an authority gap) to try to solicit for assistance to get resources. Coffelt, Baker & Corey (2016:300-316) estimated that the average manager spends about 80% of their time communicating in the form of meetings, consultations, answering questions and queries. This communication takes place within the parameters discussed earlier on the different types of models, and managers do well to develop communication skills.

An effective communicator needs to have (Tench & Moreno, 2015:42) specific characteristics that will enable them to be effective and successful;

- Skills: be a people focused individual with genuine interest in the people working with or under you. A well cared for individual is very likely to be a loyal and motivated employee

- Knowledge – a knowledgeable individual is respected and may be listened to by the employees with trust. The communicator should not mislead people but indicate where they are in doubt.
- Personal attributes – a good set of soft-skills or people skills will enable one to be more acceptable and may get much cooperation from subordinates compared to task oriented impersonal managers – they have nothing to communicate.

In spite of all the positives above, and as indicated in preceding models, there will always be noises that will interrupt the flow of messages. A good project leader should be a good communicator who will put a risk management plan for the communication systems to be used – in the event. In the words of Tench & Moreno (2015: 40), an efficient and effective project communicator must develop appropriate networking skills, and well informed about issues in and outside of the project.

3.7 Communication barriers

As stated in the preceding models there are noises experienced during the communication process. These noises or disruptions may distort the message intended to be passed on to the receiver. The noises may be as a result of any of the components involved in the communication process, including the source, the channel or the receiver (Hayes, 2017:81-103). The larger part of the noises may have more to do with human interference that it will have to do with physical barriers like tools for communication (Bies, Hansen & Howard, 2017:49) or interruption of processes or channels used for the communication process. The responsibility of the project leader is to identify the barriers and remove them or at the least reduce their impact on the communication process. The function of the project manager involves among other things, the function of coordinating (Aga, Noorderhaven & Vallejo, 2016:806-818) which implies communication. Thus 80% of the work of the project leader will be organising, planning, controlling and leading – all of which is done through communication. From the literature above different types of noises or barriers to effective communication have been identified and listed in table 3.7 below:

Table 3.7: Barriers to effective communication in a project

| | | |
|-------------|----------------------|-------------------|
| culture | information overload | emotions |
| Language | inattentive | poor retention |
| Status | pressure | attitude |
| perceptions | destruction | misinterpretation |

Source: own construction

Numerous types of destructions are experienced in communication; the list above is not at all exhaustive. Human beings are emotional beings and have their own issues that destruct them

or reduce their attention, sometimes consciously deciding to ignore. This makes it difficult for people to cooperate and participate actively in the execution of the project. Zheng (2018:819-829) noted that use of the horizontal communication processes helps to overcome status barriers caused by the difference in professions or specialisation. Other barriers may emanate from the hierarchical structures (specifically tall structures) which prevent interaction between practitioners at difference levels. Pop, Pop & Dumitrascu (2013:1566) concur and recommend that a healthy communication climate be established to allow for horizontal, vertical or and lateral communication amongst the project practitioners. A well-integrated communication system is advocated for as a panacea for conflict and despondent workers (Whittle, 2018:276-293). Pigeon-holing employees into silos of their specialisation can only harm the process of communication and reduce the chances of meeting the iron triangle expectations.

A model is suggested by the author that will enhance communication systems in the project environment. The effectiveness of the plan is determined by the ability of the project manager and senior management to both appreciate and set systems to promote communication. From the strategic level during the initial planning stages for the project, some aspects of effective project execution should be put in place, among others;

1. There must be a well thought communication plan enabling the flow of information laterally, horizontally and vertically.
2. The plan must identify all key people heading the different units as targets for training on the importance of communication.
3. The communication system must include scheduled information sharing sessions across the project at all levels.
4. There is a need to identify the type of information required by different stakeholders and disseminate it as such.
5. Tasks may be established between silos or WBSs with the deliberate effort to allow for overlaps between silos.

Unless if there will be a deliberate effort to allow for communication in the project, the levels of morality, motivation, performance and job satisfaction may remain low. The end result will be the inability of the managers to meet their expectations of the iron triangle. Poor communication may mean regular reworks, cost overruns and never-ending conflicts caused by inadequate information for the practitioners. As stated above, communication improves the working relationships amongst the employees and enables different units to leverage (Whittle, 2018:276-293) and develop synergy necessary for effective project execution.

3.8 Chapter summary

To a large extent the WBSs separate the project into silos and thereby keep people psychologically limited to their workplaces. In those units they form their own teams and develop team synergy which might not be easy to break, they know each other and share much. Yet, these are merely a component of the whole project at large, with many interrelated

operations and tasks which should be harmonised. As long as they keep to themselves and do not liaise with other “silos” they remain separated from the other parts of the project. Educating them about operations and tasks from other units and how they relate to theirs is critical, as this helps to build a bridge between the “silos.” The tool that is used to bring them together is communicating to them the vision and mission statement of the entire project. This communication should be used to enable them to understand the interconnectedness of their operations. Further to that these unit leaders and indeed their operational staff should be made to meet and develop relationships. In the interaction with other departmental personnel exposed to different work tasks, the practitioners will learn from each other and develop interdepartmental synergy. Communication is the glue that will join these together as departments come to work together to provide the expertise needed to complete the scope of the project.

CHAPTER 4

RESEARCH METHODOLOGY AND DESIGN

4.1 Introduction

Research Methodology and design assists researchers to reduce the amount of complexity of the study when used appropriately and it helps to produce a logical procedure in addressing the research objectives and questions (Marczyk et al., 2005). This chapter further involves an overall look on research design and its sequences and procedures used in developing the flow and interrelationship of all activities involved in the research to answer the research questions (Kwofie, 2015:138).

The focus of this study is to understand the role played by communication as an indispensable project management tool that will assist in lowering the project failure rate in construction companies. The research process used for this study involves a general review of the literature on the subject area by identifying the main concepts, looking at previous communication models and the collection of data to meet the research scope. Creswell (2008:8-9) postulates that because research is a process, it follows certain steps or stages, and depending on the type of research (applied or pure), the process can be traced.

4.2 Problem statement

The construction industry is highly specialised and takes into management people who are coming from the built industry except for disciplines such as HR, Finance, etc. The rest of the personnel comprises of people with hard skills. The high failure rate in project execution therefore cannot be the results of technical skills, it must reside somewhere outside of the technical sphere. As alluded above, 80% of the manager's time (Laufer, Shapira & Telem, 2008:81) is spent communicating with peers and subordinates, the researcher seeks to identify how the management communicates, and whether there are formidable plans. Essentially, the research will look broadly at the knowledge areas with special focus on communication. Communication has been identified as the kingpin responsible for putting all the other knowledge areas into practice. The philosophy behind this is that projects are executed by people through people.

4.3 Research objectives

The research objective is the purpose for which the research is intended, the expectations or perceived or desired outcomes for the research. In this research, the objective of the study is to:

- Identify the role played by communication in the project execution processes.

- Identify the contribution of communication to the success or failure of the construction projects

4.4 Significance of the research

An understanding of the role played by communication as an indispensable project management tool will assist in lowering the project failure rate. Whilst the level of technical skills training in South Africa remains high, it is not clear what the cause for the failure rate would be. Establishing exactly what the problem may be will assist in directing training towards eradication of the cause for the high failure rate.

4.5 Research design and methodology

A combination of qualitative and quantitative research will be used because of the nature of the problem. Since this is primary research, the intention of the research is to try and establish the cause and effect relationship. In spite of the controversies around the positivistic and phenomenological research paradigms the researcher is of the opinion that both will contribute to the required knowledge. Two stages will be used for the research, namely; literature review and the empirical study. The research design (the blueprint) is the structure designed for collection, measurement and analysis of the data used to answer the research questions (Blumberg, 2008). The plan includes personal distribution and collection of questionnaires as a research tool. With regards to the research instrument, the questionnaire will have three sections; Section A, biography, Section B – Likert scale and Section C, open ended questions. Therefore, a mixed research method is suggested for this study to take advantage of the benefits from both the qualitative and quantitative research methods.

4.6 Research design

In any form of theoretical research being conducted, a researcher finds a way or develops a strategy in which he/she will undertake in conducting the research either theoretically or practically and that is called a research design. According to Creswell (2009), research design refers to information that is planned to provide suitable answers to research questions in any study conducted as well as displaying how the information will be collected and analysed. Easterby-Smith et al., (2003), added that a systematic and ideal sequence is offered through design and that research questions are linked with data that is collected which will enable the researcher to interpret and draw valid conclusions from the study. According to Yin (2009) cited by Kwofie (2015:142), design is viewed as a central structure that guides and boosts the most appropriate and suitable tool for collecting and analysing data which in turn will answer the research questions. Design is structured in a way that when choosing a method, that method will be crucial for the success of the study and research design would offer that solution (Saunders et al., 2009; Creswell, 2009). Yin (2009), further added that any choice of

design believed to be suitable in addressing the research questions as well as finding correlation among the variables can be utilized.

The nature of this research paper will focus on both qualitative and quantitative research analysis tools to tackle the research problems. The main intention of this research is to establish the cause and effect relationship of communication in a construction environment. In deciding to use both research analysis tools (qualitative and quantitative tools), the researcher believed that both tools will contribute to the knowledge and findings required for this research. The research will be divided into two stages, namely literature review and the empirical study. In this section on the paper, the empirical study will be the focus of the chapter; the plan will include personal distribution and collection of questionnaires. The questionnaire will have three sections: Section A – Biography, Section B – Likert Scale, Section C – Open Ended Questions. Using both the qualitative and quantitative research methods, the researcher seeks to take advantage of their benefits to get the best findings.

4.7 Target population

The company targeted has a staff complement of 360 individuals in the Western Cape, and the target population to be interviewed / given to respond to the questionnaire is put at a quarter of the population which is 90 respondents. Welman, Kruger & Mitchell, (2008), and Mendenhall, Beaver & Beaver (2009), stated that a population of 40-50 respondents will be adequate for generalisation. The company is spread-out across the Western Cape and the different departments are across those offices. The Project Management department is at the central business district (CBD) of Cape Town, Planning and Procurement department is at Pinelands and Finance department is at Milnerton. Some Planning and Procurement departments are up the province like Stellenbosch, Caledon etc.

4.8 Sample size and sampling methods

The number of respondents has been positioned at 90, just to be able to get a generally fair understanding. This number has been influenced by the works of Welman *et al* (2008) as alluded above. Five organisations have agreed in principle to assist with the research, and from these companies, the respondents will be randomly sampled. The sample size has also been determined by the cost of the exercise and accessibility to an assortment of small enterprises. The full employee compliment for these five sites is 195 people, and 102 of the respondents constitute 52% of the sample frame.

4.9 Data collection method and the research instrument

A well-structured questionnaire will be used as an instrument to gather the required data from the randomly selected organisations. According to Stevens *et al* (2008), a questionnaire is a list of well thought and carefully structured questions with the intention of soliciting for reliable

responses to research questions. The effort employed into the designing of the questionnaire seeks to assist in obtaining information from the population as accurately as possible, obtaining maximum cooperation from respondents from the target population and facilitating the collection and analysis of the data. The instrument will initially be issued to a minimum of 10 entrepreneurs chosen randomly as a sampling exercise. The feedback from the entrepreneurs will then be used to reconstruct the questionnaire for the research. The reconstructed instrument will subsequently be used to collect data from the respondents. This data will be analysed properly to give accurate information to the researcher.

4.10 Data analysis

The first step in the analysis is descriptive statistics which entails ordering and summarizing of the data through tabulation and graphic representation, this is followed by the calculation of the descriptive measures. This displays the inherent trends observed from the data collected. The second step is statistical inference, which entails drawing inferences about the population from which the sample was drawn. This is done by using descriptive measures that have been calculated. Descriptive statistics and statistical inference are the two main aspects of the data analysis; cognizance should be taken of the reality that information on any population will never be 100% correct. This introduces another concept to data analysis, the theory of probability; this is the bridge between descriptive and inferential statistics. The diagram below illustrates the data analysis process as suggested above.

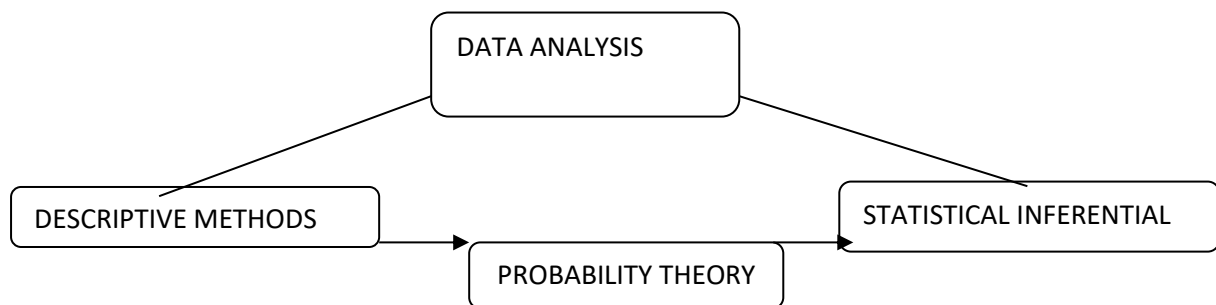


Figure 4.1: Data analysis process - Source: Jowah (2013:282).

The objectives of data analysis are essentially to acquire a feeling of the data, testing the goodness of the data and testing the hypothesis for the research (Sekaran & Bougie, 2010). This is based on statistical regularities in the occurrences of certain elements of the research instrument. This regularity assists in establishing inferences and identifying possible characteristics that may be required as critical core competencies for effective entrepreneurship.

4.11 Ethical consideration

Researchers have on numerous occasions carried out research without considering the conditions, values, beliefs and or interests of their target population. Too often they have trampled on the civil rights of the objects of their study, be they human beings or animals. In view of this, there have been many complaints from human and animal rights organisations in relation to practice of the researchers towards the target population. In accordance with the regulations of the Cape Peninsula University of Technology on ethical considerations, the research will respect the target population's rights, amongst others, which are; they have a right to refuse to participate in the research. They are free to pull out once they have started the interviews or filling in of questionnaires. They have a right to know what is expected of them and why they may participate in the research. And many other issues such as not wanting to answer certain questions, etc. The respondents' information will be treated confidentially; no names of organisations or individuals should appear on the data gathering instrument, thus protecting the identity of the respondent. Below is the demonstration of the research process followed for this research.

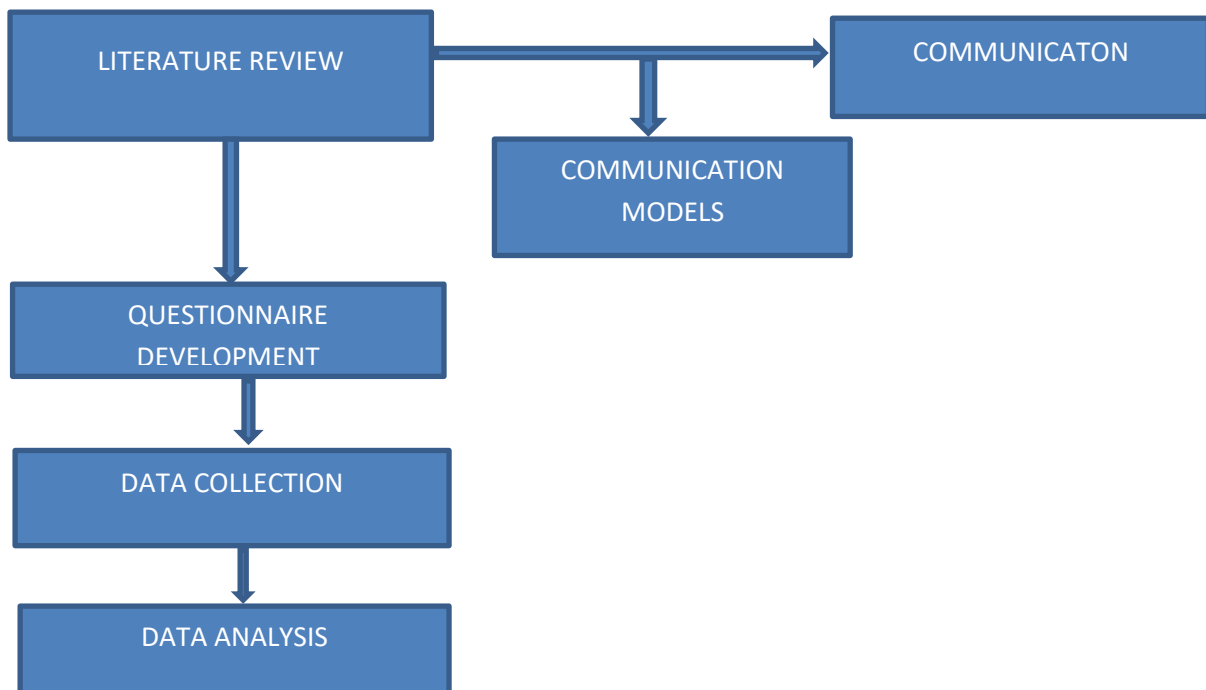


Figure 4.2: The research process: Source – own construction

Cresswell (2009) noted that there are several considerations that show case the logical position of any research. The philosophical paradigm in any study is crucial and appropriate research methodology is chosen (Cresswell, 2009; Easterby-Smith et al., 2003). In trying to understand the way research is done, an epistemological assumption will take place where epistemological assumption refers to an idea for an example what forms of knowledge can be

obtained and how a person can use all resources available in searching for something that is true from what is regarded as false, Burrell & Morgan cited by Kwofie (2015:140-142). Kwofie (2015:140-142) added that research study deals with problems related to the level of knowledge being accepted in a study. Cresswell (2009) developed a causal relationship between the researcher and the subject under consideration. Positivism and Interpretivism were identified as the two main epistemological assumptions especially in social science and construction management, (Bryman,2009; Cresswell, 2009). Looking at positivism epistemological position states that natural science methods can be used in a study of social phenomenon (Cresswell, 2009). According to Bryman (2009) and Saunders et al., (2009), the position of the positivism stated that research problem and questions can be addressed through using a process of objective measurement and repeatability approach where a researcher can stay being neutral and not biased in regard to the process.

On the other hand, interpretivism epistemological position states that researcher's perspective and point of reference will determine how the subject is being understood and interpreted in a research context and phenomenon (Cresswell, (2009); Saunders et al., 2009 & Marczyk et al., 2005). Through Interpretivism, a biased view is shown by the researcher in the interpretation of the study. The researchers' values and beliefs are clearly realised as how the researcher becomes the driving force in the interpretation of the research findings (Bryman, 2009; Vanderstoep & Johnston, 2009; Marczyk et al., 2005).

4.12 Empirical data

A well-structured questionnaire will be used as an instrument to gather the required data from the randomly selected organisations. According to Stevens *et al* (2008), a questionnaire is a list of well thought and carefully structured questions with the intention of soliciting for reliable responses to research questions. The effort put into the designing of the questionnaire seeks to assist in obtaining information from the population as accurately as possible, obtaining maximum cooperation from respondents in the targeted population and facilitating the collection and analysis of the data.

The number of respondents has been put at 90 individuals, to get an adequate and fair understanding of the results. The questionnaire constructed and given to the respondents consists of three sections with thirty-five questions. Section A dealt with biographical questions in terms of profiles of respondents. Section B which is a Likert Scale, dealt with questions regarding communication firstly in general and secondly how communication is being done in the company. Section C which are Open-ended questions, solicited respondents' opinions on communication and how important is good communication in an organisation to them.

4.12.1 Section A – Biography

Section A consisted of questions regarding the profile, qualifications, and years of experience that a respondent had. The aim of this section was to get an overview of a respondent's profile to the questionnaire and their qualifications and experiences. Their experiences and qualifications would provide an indication of the level of knowledge a respondent has about communication and construction communication.

4.12.2 Section B – Likert Scale

Section B entails questions regarding project management communication in general and communication questions that might be used in the company/organisation. The opinions of the respondents will be collected using a Likert scale of 1 to 5, where 1 represent strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree.

4.12.3 Section C – Open – Ended Questions.

Section C comprises of open-ended questions in which a respondent gets a chance to voice out their opinions concerning communication. In this section, respondents do not have limitations as to what they can answer. The first question requires the respondent to think deep and list communication problems they had encountered and problems which are affecting the company. The second question interrogates the respondent's view of what constitute as good communication. The last question prompts the respondents to provide their own view on what they would change to enable effective communication to take place when given the appropriate authority to make a change. The last question is meant to provide an overall view on how employees from different levels or department view communication in the company and what changes they would be able to make.

4.13 Chapter summary

Having gone through the above chapter, an individual can clearly see that the section under discussion did outline the determination of the research methodology of this study, clearly elaborating valid answers to the research question. Data was collected by means of questionnaire which has some open-ended questions to allow an individual's opinion. The researcher managed to utilise the data through the use of a descriptive method to analyse it and verify if the data was reliable. Finally, the researcher explained the sample selection, described the procedure used in designing the instrument, collecting the data and an explanation of the statistical procedures which were used to analyse the data

CHAPTER 5

DATA RECORDING, ANALYSIS AND INTERPRETATION

5.1 Introduction

The data collected during the field work with respondents is discussed in this chapter, using an Excel Spreadsheet; the data was first cleaned, edited, coded then captured on to the spreadsheet, from which illustrations were constructed. The illustrations essentially show the relationships between the variables as requested from the research instrument – the questionnaire. Random sampling was used to gather the data after explaining clearly to the respondents that participation was voluntarily, and ethical guidelines were followed to the latter (www.cput.ac.za, 2015: 2). The rights of the participants with regard to respect for human dignity, the safeguarding of confidentiality or anonymity, and the right to information were all observed. The objective of the research was to understand the importance of communication in project execution as stated in the PMBOK (2016) and as edified in all project management courses. The findings were also intended to aid in the development of some guidelines to be used for the training of future project leaders and coordinators. The study undertakes to identify, highlight, assess and explain the importance of effective communication during project execution in a generic form, but with specific emphasis on telecommunication projects.

5.2 Reporting of the results

The instrument used for collecting data had been constructed and reviewed by the statistician for validity and reliability. Furthermore, a pilot project was conducted, with intentions of updating the questionnaire, which was done successfully before the proper field work was embarked on. A statistician was assigned to assist with final touches on the questionnaire, and the specialist did both reliability and validity tests before the instrument was used. After collection of the data, the collected data was categorized, edited and analysed using Microsoft Excel Programme. This was chosen because of availability of the software, besides; it is user friendly and it was helpful with converting the data into graphs, charts and tables. The illustrations constructed from this exercise are hereby detailed including the researcher's interpretation of the findings and the relationships between the variables. The use of these illustrations made it easy to compare the variables under study and thereby clarify relationships. The questionnaire (the research instrument) was divided into three sections, namely;

- Section A - the biography – information on the respondents, which helped in identifying eligible participants. This was critical as it helped also in the validation of the findings of the research.
- Section B – the Likert scale – this measured the perceptions and attitudes of the respondents on respective issues. Considering that attitudes, perceptions, etc. are not quantifiable, the Likert scale served as a guide to the measure the extent of the respondents' thoughts about the variables to be measured.
- Section C – the section helped with interacting between the researcher and the respondents in a qualitative and uncontrolled structure. The open-ended section allowed for the respondents to freely address the issues as they perceived them.

The presentation of information in this chapter follows the structure of the questionnaire according to the sections described above. Each section had a number of questions and these questions are presented as they appeared in the research instrument – (item by item), the response is provided in both diagrammatical and word form. After the editing and cleaning, all the spoilt questionnaires were discarded (withdrawn) and their results are not included. Below are the questions and responses to all the questions presented in the format explained above.

5.2.1 Section A

In all 6 questions that were asked, they are reported in the format explained above to allow maximum attention per every question.

Question 1: Please indicate your highest level of education

The level of education helped to establish the level of operations and possible need for extended communication. +/-80% of the manager's responsibilities involve communication. Thus, suggesting that the higher the education the higher the likelihood of an individual playing a management of supervisory role.

Response; The respondents were expected to choose between the four (4) different educational levels; no-matric, matric, diploma, degree or other. The data collected was merely statistical report on the type of people who responded. The figure 5.1 below provides an interpretation of the findings.

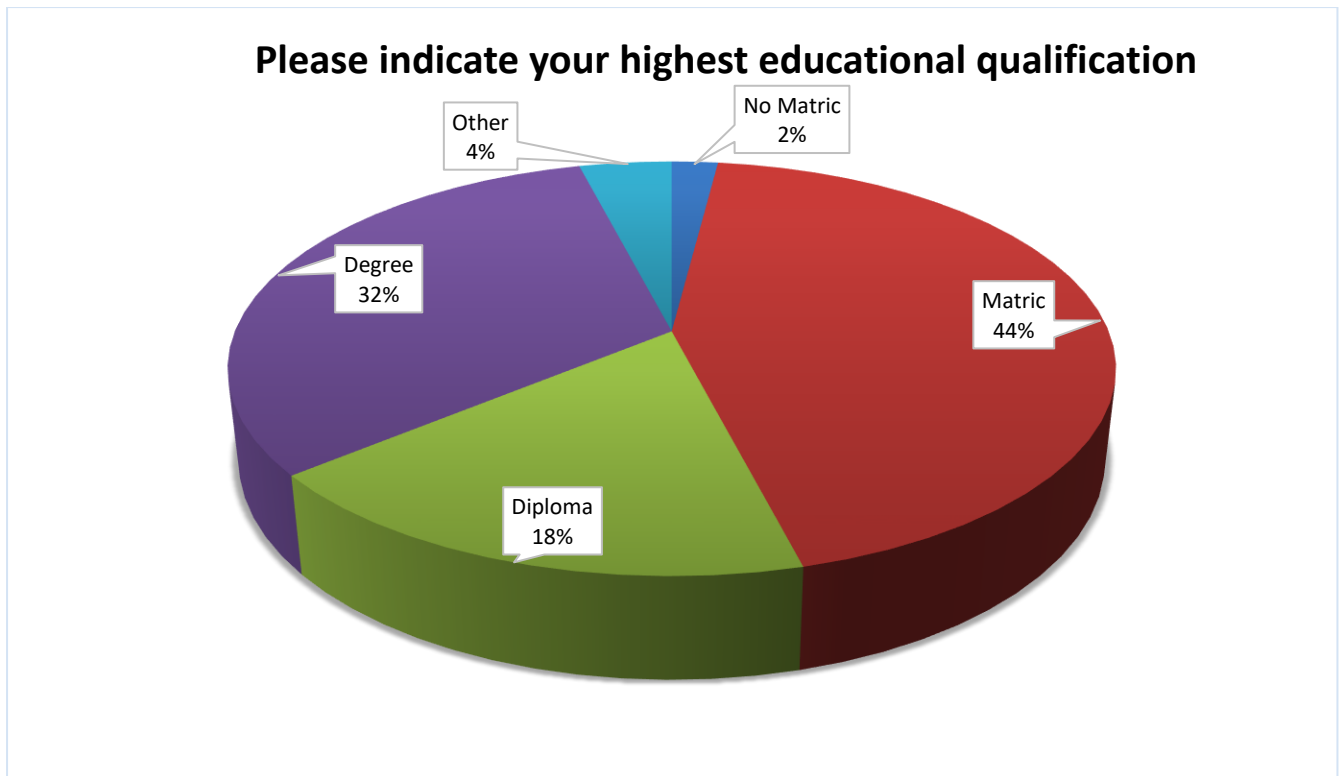


Figure 5.1 Level of education for the respondents - Source: own construction

Two percent (2%) of the respondents indicated that they did not have matric, this suggesting that they were not in managerial positions. The next level (4%) was those who said that they had other, little information was provided, except that most of them indicated that they had certificates. People with diplomas escalated to 18%, followed by those with degrees (32%) at almost double the diploma holders. The highest percentage was 44% for those with matric, some at this level, if they have extensive experience may have risen up to supervisory positions.

Question 2: What department do you work for in the organisation?

There are different departments in the organisation under study, and the nature of the departmental operations may impact on the communication structures and requirements.

Response; Five departments were provided for the respondents to choose from, namely; information technology (IT), project management, engineering, marketing and other. Because the sample selection was random, there was no stratification of the sample, nor special categorisation of who should be asked. Altogether respondents were randomly sampled and were considered as a mixed group of employees in the organisation. Their working system means that they interact and sometimes share offices and work stations. Respondents' answers to the question are illustrated in figure 5.2 below:

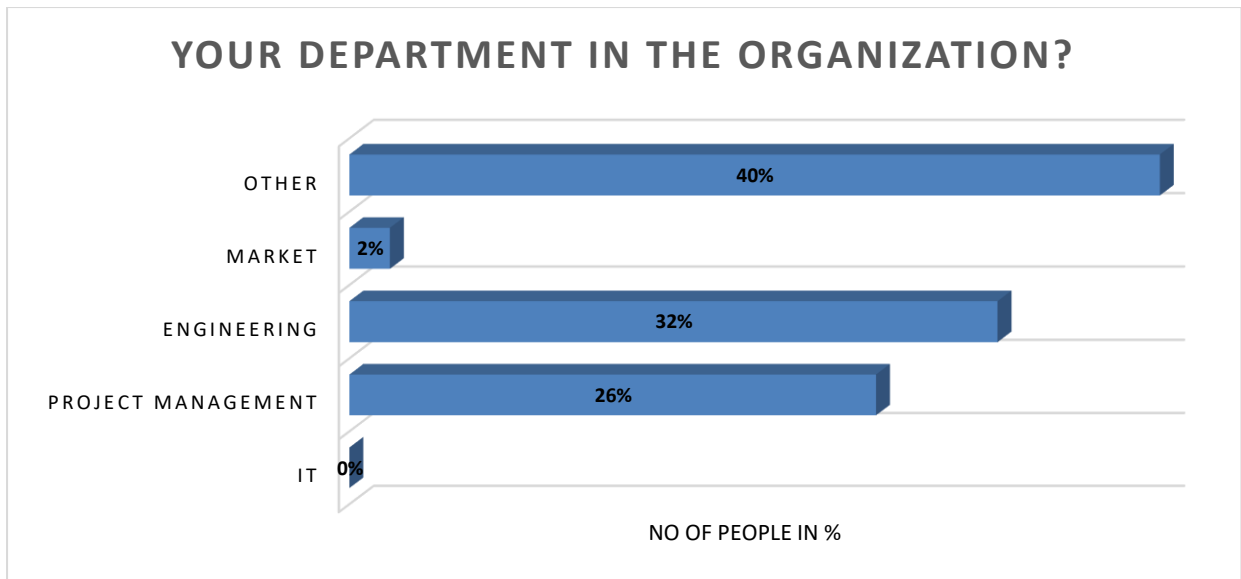


Figure 5.2 Department of the respondent - Source: own construction

No one from the IT section (0%) was interviewed (somewhat disconcerting), with 2% from marketing and with project management showing 26% of the respondents. Engineering had a considerably higher number with 32% and other at 40%. Some of the responses to other indicated that they were in administration, customer service, stores and logistics. However, there were people in projects seconded from other departments to execute specific duties for the duration of a project' it is not clear how they classified themselves.

Question 3: How long have you worked for the organisation?

There is assumed a direct association between the length of period and a position, and the general understanding of problems experienced by an organisation. People who have been in an organisation or a particular position may have incidents that they can respond to if there are certain questions asked.

Response; communication is considered critical for any organisation, and the absence thereof or poor communication may be the sole cause for conflicts. Respondents are expected to recall conflicts that may have been a result of miscommunication in their personal lives at work or at play. The response to this is recorded in figure 5.3 below.

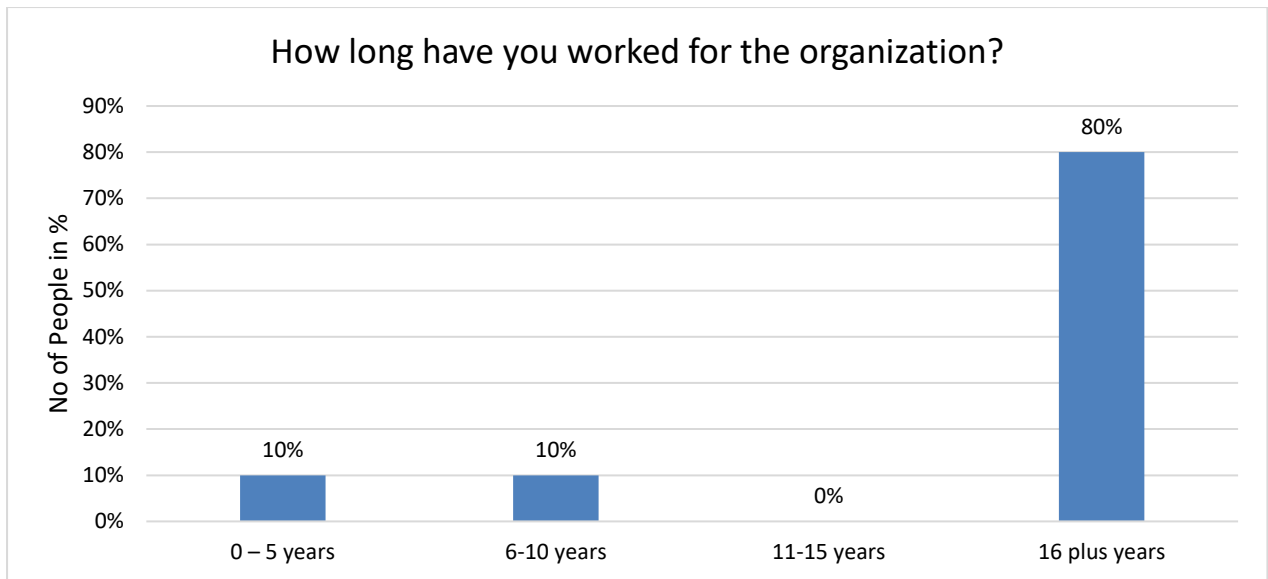


Figure 5.3 Length of service by respondents - Source: researcher's construction

Surprisingly, 80% of the respondents had been in the organisation for a period exceeding 16 years, suggesting that the organisation was an old entity. Those recording 0-5 years and 1-10 service each had 10% respectively, with none of the respondents having served the organisation for 11-15 years. It may be presumed that the large parts of the participants are senior in age if they had been with the organisation for that long.

Question 4: What is your position in the organisation?

Communication should be a two-way system between any two people, though too often instructions are taken for communication. All employees participate in some form of communication even though it depends on what is to be communicated, but the positions also imply a certain form of communication style.

Response; Because of the position in the organisation, so will be the understanding of what communication is. Sad to say most institutions operate "military" style where no response is expected except obeying the instructions of commands. The number of people in certain positions mattered in that there are common behavioural similarities depending on positions and tasks to be performed. Figure 5.4 below is a diagrammatic representation of the responses from the respondents.

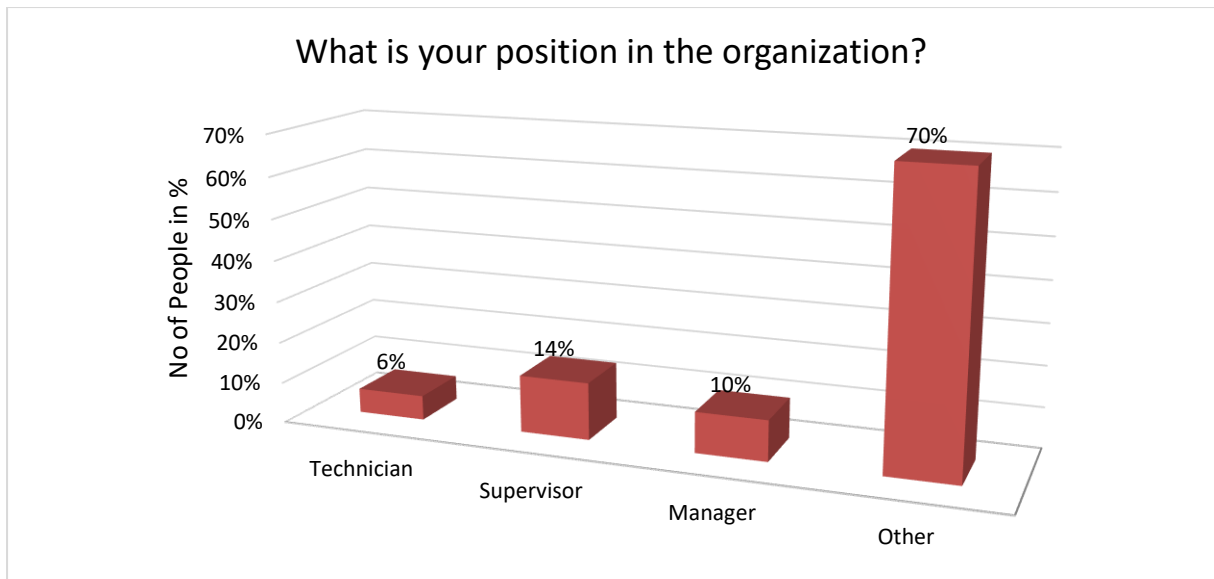


Figure 5.4: Positions of respondents- Source: own construction

The largest number of respondents was surprisingly “other” at 70%, the expectations were that there will be more technicians. Managers are low at 10% with supervisors at 14%, technicians surprisingly at 6% in an organisation focused on technical applications and operations. The other was not further classified to effectively evaluate the caliber of the respondents.

Question 5: Are there any people that report to you in the organisation?

Similarly, there are different styles of leadership, so the communication styles would also differ. Many managers and or leaders do not realise the importance of designing specific communication systems for specific people.

Response; The respondents’ understanding of who reports to them (if any) and what comprises of that reporting structure may impact on the communication adopted. Some organisations have clearly defined communication plans and that they follow a particular format. Figure 5.5 demonstrates the responses in diagrammatical form.

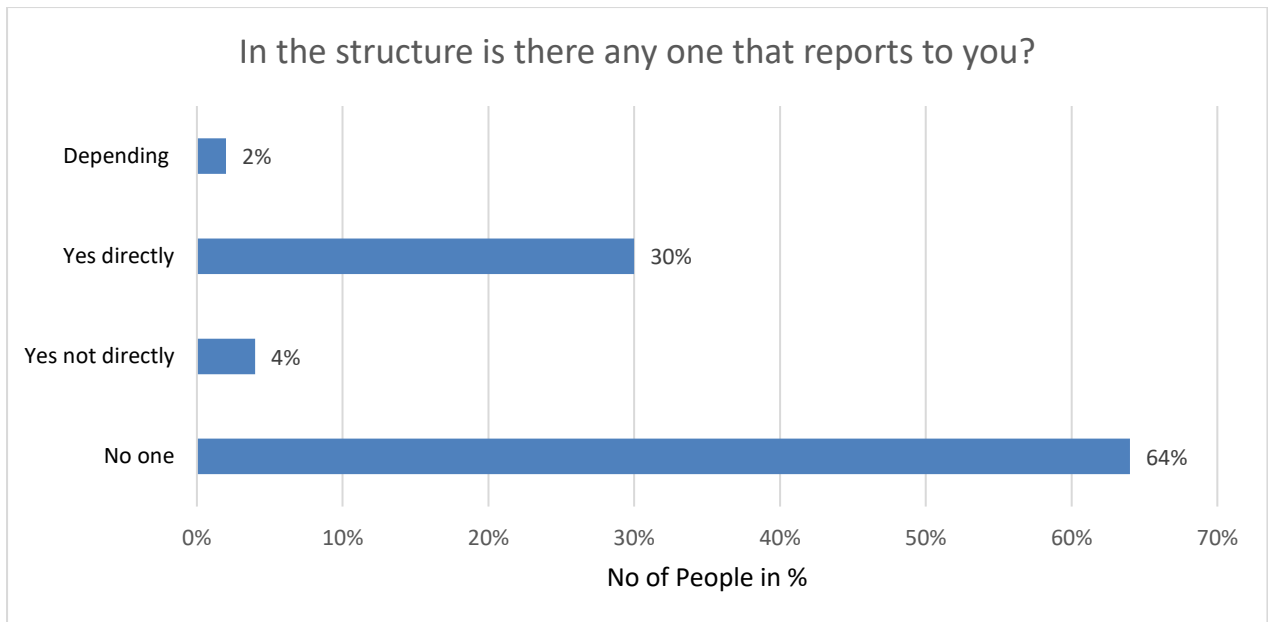


Figure 5.5: Respondents that have subordinates - Source: own construction

The larger parts of the respondents do not have any subordinates, and this can be compared and contrasted with the results in figure 5.4. 4% indicated that they have subordinates, but these do not report directly to them. This may be the case of embedded projects where individuals are seconded to certain units at certain stages in the execution of the project. Those reporting directly (30%) are likely to be those with specific tasks they perform, in which case permanent communication plans can be executed. The remaining 2% considered the reporting system to be dependent, no information (depending on what) was solicited for.

This section served to provide a better understanding of the type of people who responded to the study and is for statistical purposes only. The following section is a measure of the attitudes and perceptions of the respondent practitioners, and this forms the critical part of the study.

5.2.2 Section B Likert scale

The Likert scale is a measure of perception, attitudes and beliefs and as such helps the researcher to understand how communication is done and perceived. Pre-structured statements based on literature reviewed on communication guide the research process. The respondents are requested to rank the statements on a scale of 1-5; strongly disagree = 1, disagree = 2, neutral = 3, agree = 4 and strongly agree = 5.

The same pattern from above will be followed; below the statement is stated and discussion follows explaining the findings.

Statement 1: I can find or solve problems / issues without reporting to my manager

Response; The statement sought to measure the degree of independence and the practice of not communicating problems. Many reasons can be advanced, among which could be the nature of the problem, the skill of the respondent in relation to the task / problem, or even unwillingness to communicate with a particular manager.

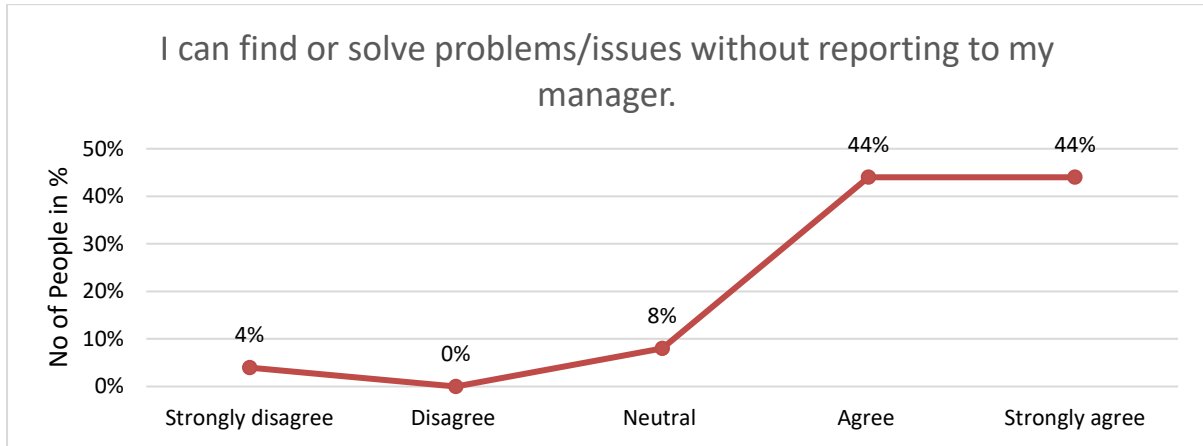


Figure 5.6: Ability to solve problems without communicating to manager - Source: own construction

It would appear that the majority of the respondents do not always or see no need to report most of their issues to the management. A total of 88% of the respondents (44% agree and 44% strongly agree) affirmed the assertion that was to be measured. It can be generalised here that the employees in the organisation are confident and that they do not need to communicate with the manager on these issues. However, 4% disagrees and 8% do not know what their position is on the issue.

Statement 2: I know the vision of the project without being told

Response; Many managers, let alone subordinates do not know the vision of their organisations let alone of the projects, they are involved in. There is also likelihood that some of the embedded projects may have no standalone visions. Knowledge of the vision assists in the contextualisation and interpretation of the communication within the project. The responses are shown in figure 5.7 below.

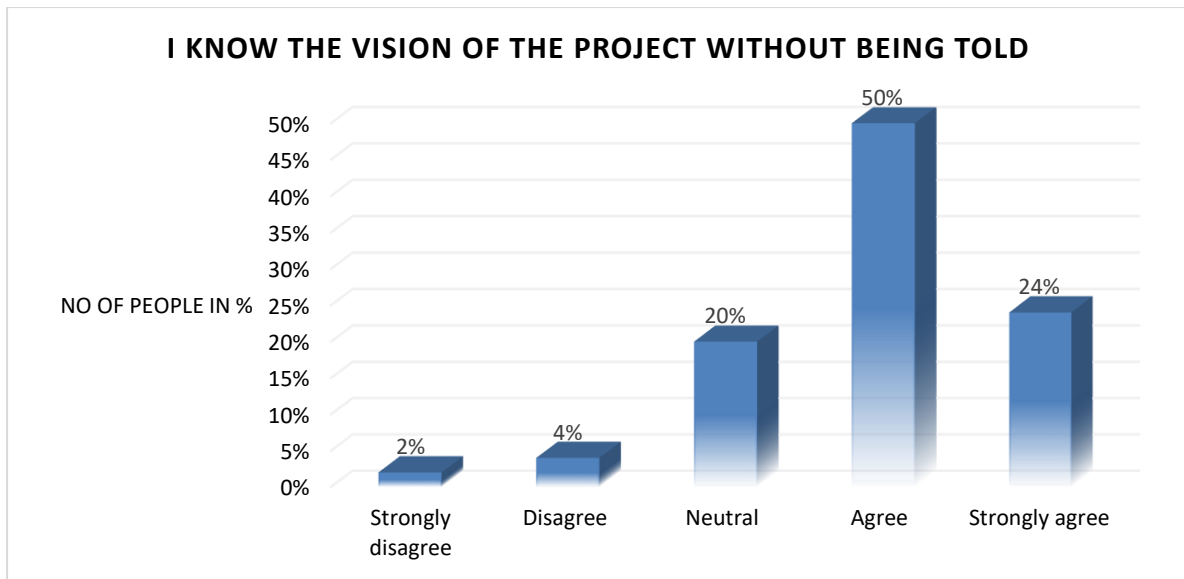


Figure 5.7: Knowledge of organisational vision without communication- Source: own construction

A total of 74% (50% agree and 24% strongly agree) indicated that they may be able to know the vision without being told. This is a very high number for people to assume knowledge of things they have not been told, unless if the vision is written somewhere in the organisation but not discussed. Those who are indifferent are high at 20%, generally not a comfortable number for people who are not sure exactly what they know or believe. The implication is that communicating of the vision may not be important; this contradicts existing knowledge on the importance of properly communicated vision (Heide, von Platen, Simonsson & Falkheimer, 2018:452-468).

Statement 3: Everyone always knows what the company vision is

Response; Too often when individuals join organisations, the induction does not involve special “communication” about the vision of the organisation. People get to know about these by default, through conversations with other employees or when they come to the vision on the wall somewhere. This statement sought to establish if the respondents think that knowledge of the vision should be treated as a given, or as an aspect that has to be formerly communicated

by the system. The responses are indicated in figure 5.8 below.

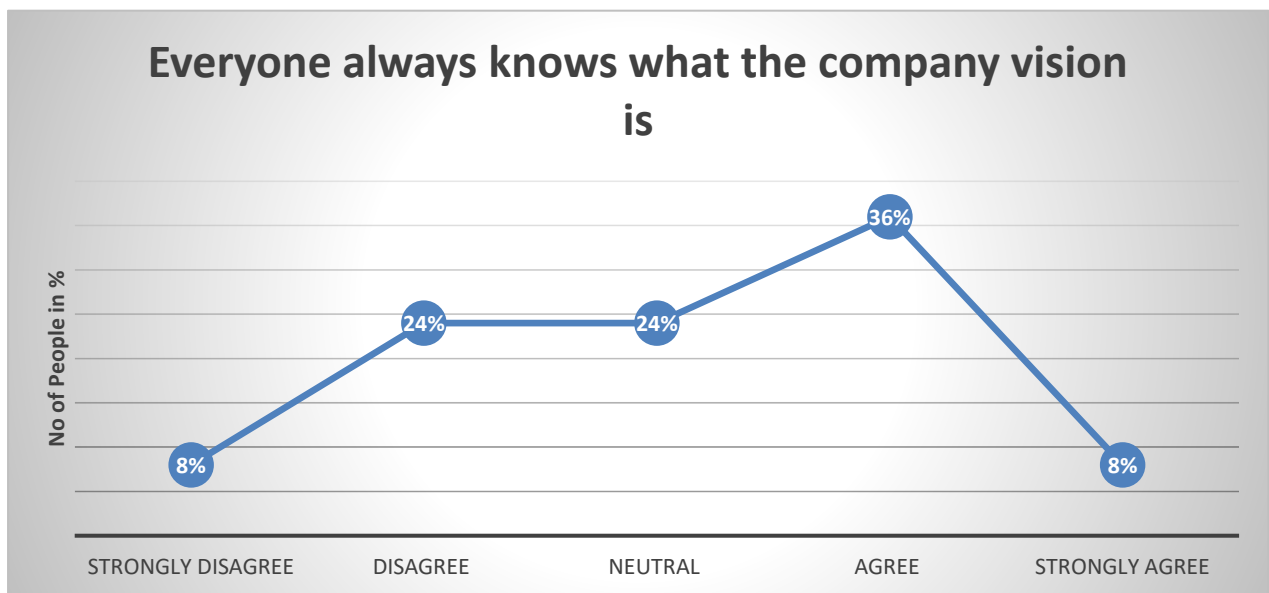


Figure 5.8: Everyone always knows the vision without being told - Source: own construction

The percentage neutral is uncomfortably high at 24% with 44% agreeing with the statement that everyone in the organisation knows about the vision. 32% in total disagree, thus leaving no room for generalisation on the responses.

Statement 4: Our company's management doesn't communicate the vision regularly

Response; It is the role of management to communicate the vision of the organisation to galvanise support for the achievement of the organisational goals. Since 80% of the manager's function is communication, it is equally expected that in the process the management will communicate the vision. In practice, very little is ever heard about organisational vision in the bulk of the meetings to which subordinates are summoned to. The participants' views about the issue are illustrated in figure 5.9

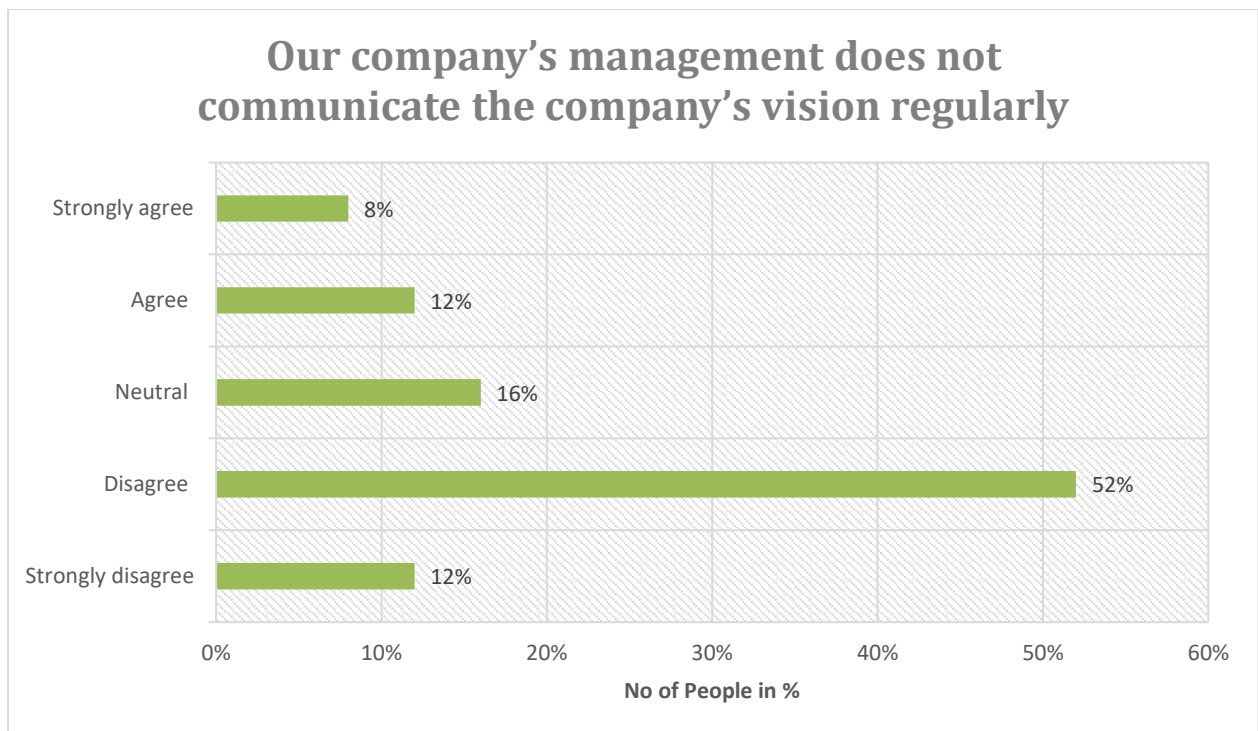


Figure 5.9: The role of management in communicating the vision - Source: own construction

A total of 20% agreed and strongly agreed with the assertion that management does not communicate the company's vision. If this is compared with figure 5.8, there is a disparity of 12% (32% disagreed that everyone knows the company's vision). Neutral is down by 8% from 24% in figure 5.8 to 16% in figure 5.9. of particular interest is the total of 64% (disagreeing and strongly disagreeing), suggesting that the management actually communicates the vision. It can be generalised therefore, based on the total of 64%, that management communicates the vision.

Statement 5: Management effectively gives feedback to the information requested

One of the greatest problems in management is that there are no responses to the information required by subordinates. This may explain the causes for strikes (sometimes violent) in the industry in South Africa. Subordinates feel marginalised when they do not get responses to any requests for information – be it for operation purposes or for grievances.

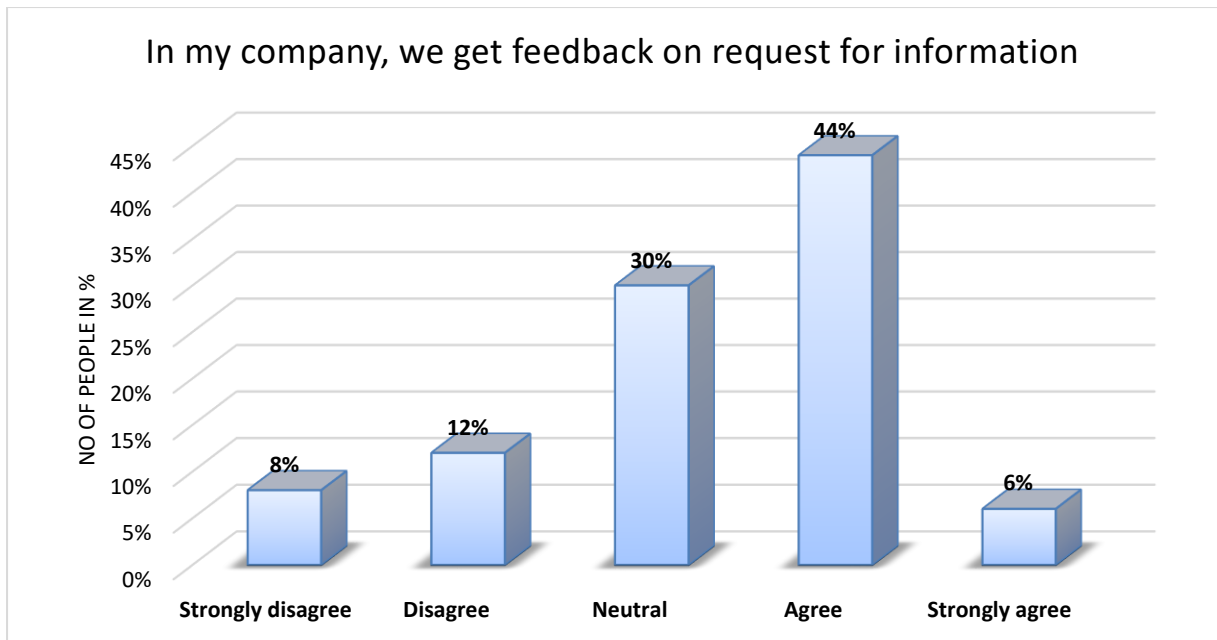


Figure 5.10 Effectiveness in the feedback on information requested- Source: own construction

Again, neutral is high at 30%, it is not clear why so many people do not know or are indifferent about this aspect since they work in the company. However, a total of 50% (which is ½ of the total respondents) indicated that the information they require is given promptly to them. The remainder of 20% disagrees with the sentiments expressed in the statement; this does not argue well for generalisation though 50% agreed.

Statement 6: Communication is important for operational purposes

For all operational purposes, responsiveness enables the subordinates to quickly get to do their tasks, and information (feedback) is therefore critical. It was with this in mind that the statement was advanced for ranking since communication is a critical component of the 10 PMBOK areas for effective project execution.

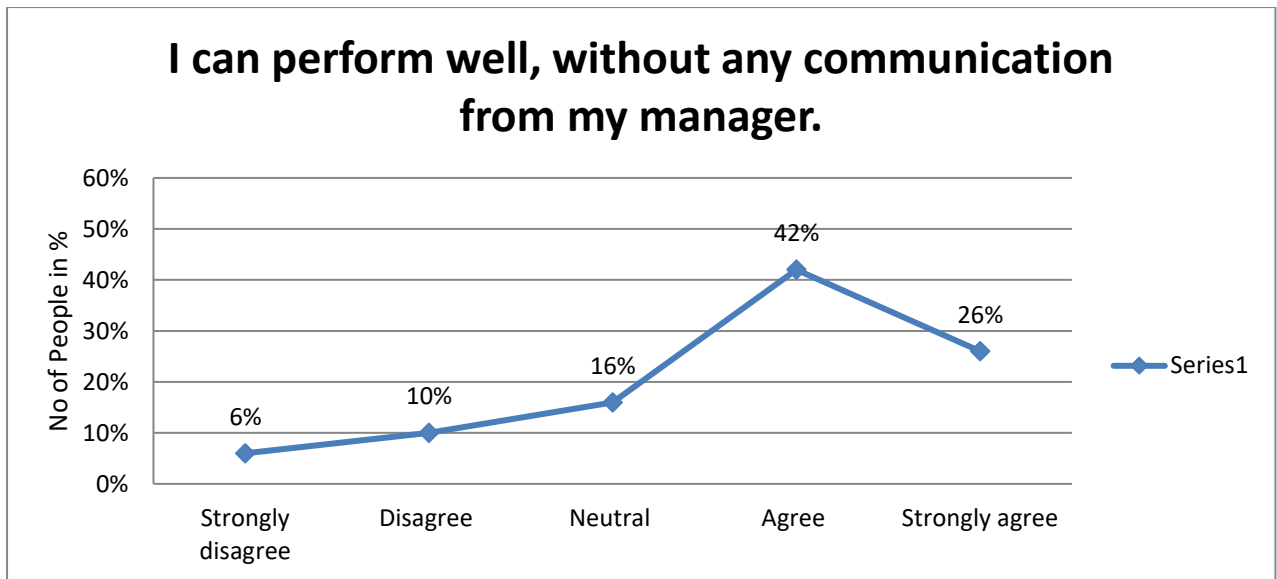


Figure 5.11 Importance of communication to respondent - Source: own construction

A total of 68% of the respondents (agreed and strongly agreed) are in support of the assertion that they can perform well without information from their managers. This gives mixed impressions, either these are professionals with clearly marked out tasks and do not need micro-management, or, they may be people doing the same tasks all the time and do not wait to be told what to do by the manager. However, 16% are indifferent (or do not know if they need the manager or not) whereas the other 16% (combined strongly disagree – 6% and disagree – 10%) opine that they cannot operate without communication from the manager. Therefore, it can be generalised that the majority of the respondents feel that they do not need the manager to communicate to and with them always, for them to operate effectively.

Statement 7: I can perform my tasks well without the required resources

It is expected that every task to be performed needs resources of one form or another. The type of resources would range from finance, human, equipment and other materials necessary to perform the tasks. It can also be pointed out that the classification of what resources are may have not been made in this statement, which would have caused uncertainties about what exactly was required. The assumption and expectation from the research point of view would be that resources are indispensable in any operations. The responses are presented in figure 5.12 below

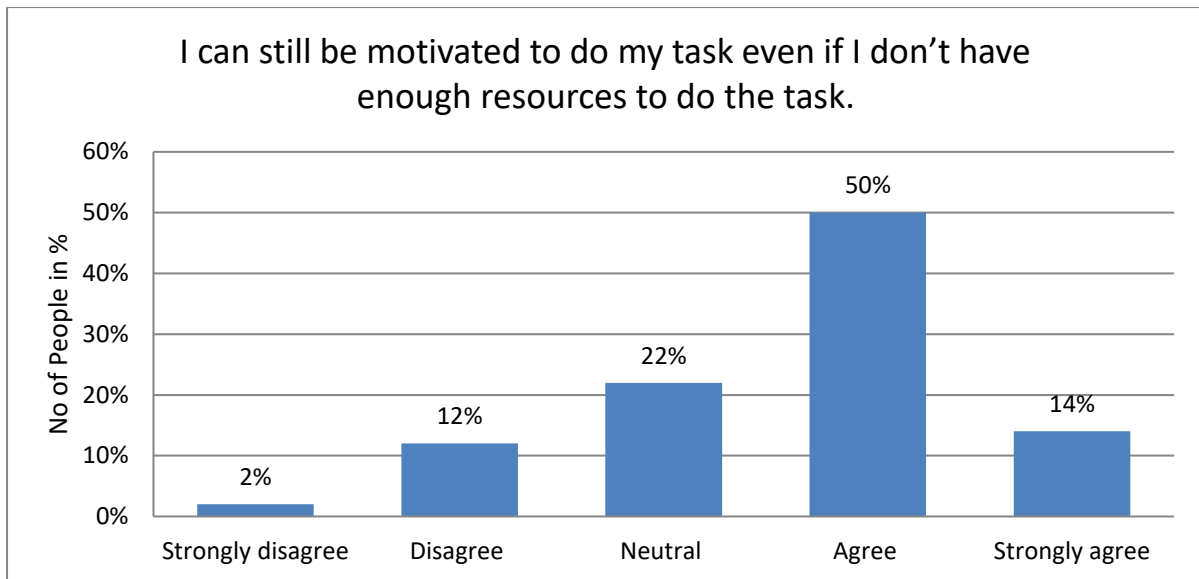


Figure 5.12 Ability to perform tasks without the required resources - Source: own construction

Neutral is high at 22% and that is more than $\frac{1}{5}$ of the respondents not sure what to say in the ranking. A total of 14% (disagreed – 12% and strongly disagreed – 2%) are of the view that they cannot operate without or may not be motivated if they do not have the resources. Surprisingly, a total of 64% of the respondents (agreeing – 50% and strongly agreeing – 14%) think they still can be motivated even if they do not have the necessary resources. This defeats logic, but it may be important (should have been specified) to identify the tasks they perform and what the requirements for those tasks are. It can however be generalised that the majority of the respondents (64%) can be motivated or remain motivated without resources.

Statement 8; In my company information needs to be frequently communicated, the researcher started with and is of the view that communication is critical for all operation purposes regardless of the type of task are to be performed. The ranked requested was expected to be in the affirmative since communication is essential when two or more people work together. There is inevitably the need for frequently communicating information back and forth since the tasks to be performed are generally interrelated in a project. The responses from the interviewees are illustrated in table 5.13 below.

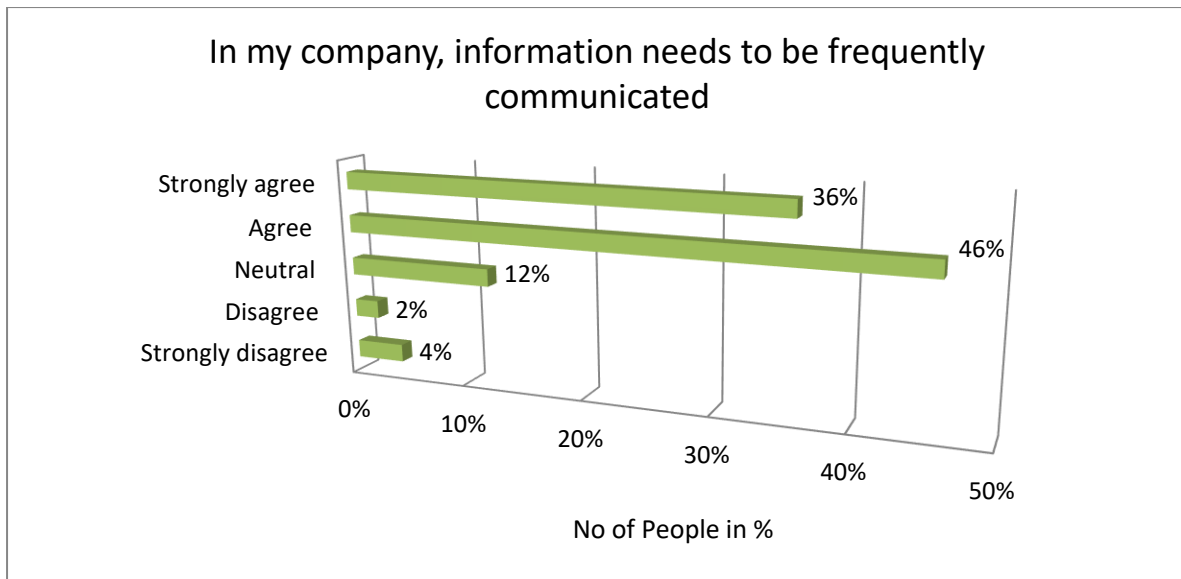


Figure 5.13 Need for frequent communication -Source: own construction

There is a seeming contradiction with earlier responses where communication was not considered to be that critical. Only 12% are neutral, a total of 6% disagree with the statement. A resounding 82% (strongly agreeing at 36% and agreeing at 46%) acknowledge the importance of frequently communicating. This confirms the expectations of PMBOK and affirms the general management understanding of the role of communication in business. It can therefore be generalised that frequent communication is an indispensable part of the company in line with general theories of management and effectiveness of managers.

Statement 9: I become demotivated if information is not sent in time

This statement is a follow up on the preceding statement with intentions of establishing the impact of information on performance. An assumption was made that, given the critical importance of information for operational purposes, the presence and or absence of timely information would inevitably affect operations. The respondents' views are illustrated in figure 5.14 below:

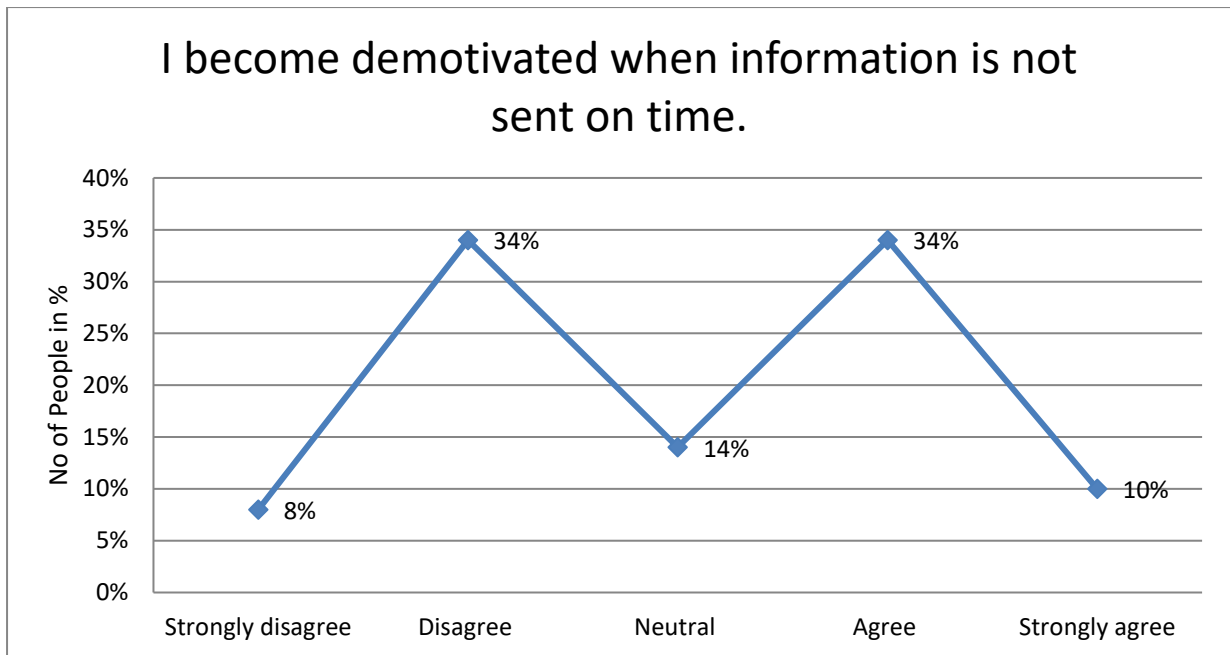


Figure 5.14 Impact of absence of information on performance - Source: own construction

Neutral is contained at 14% leaving 86% between those agreeing and those disagreeing. Of this 86%, 42% disagree (8% strongly disagreed and 34% disagreed) that they will become demotivated without timely information. On the other side of ambivalence is 34% agreeing (direct opposite of 34% disagreeing) and 10% strongly agreeing (compare this to 8% strongly disagreeing) this makes a total of 44% agreeing. The difference between those agreeing and those disagreeing is 2% (44% agreeing minus 42% disagreeing); evidently there is no generalisation that can be made on this finding. The expectations from the research were that the importance of communication / information was going to be established through the demotivation of the subordinates when information is not provided timely. It is noted again (previously demotivation and resources) that it is not very clear what their tasks are.

Statement 10: In my company directives from the top clarify issues for employees at the bottom

Depending on the respondents' understanding of communication, the directives may be the communication sought by the subordinates, thus there may not be much need for further communication, if the directives are clear for the employees. The position of the subordinate may be important considering the reporting order. The response is recorded in figure 5.15 below:

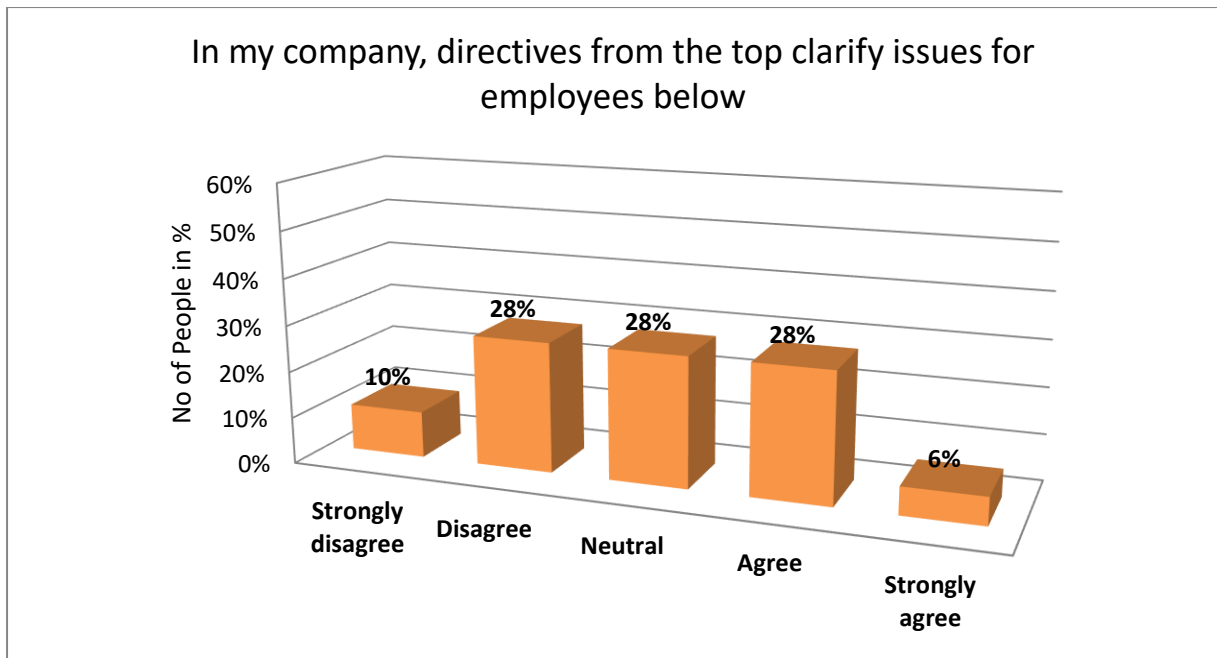


Figure 5.15 Information is provided as directives from the top - Source: own contribution

Another instances when ambivalence is high (28%) and usually in such instances generalisations are difficult to come by. Those disagreeing stand at a total of 38% (10% strongly disagree and 28% disagree) with a total of 34% agreeing (6% strongly agreeing and 28% agreeing). The difference between the agreeing and disagreeing is of no statistical significance and no generalisation can be made in this regard.

Statement 11: I become demotivated if I do not frequently communicate with the top management

The reporting order also becomes of primary importance in that subordinates lower down the command chain may have very little to do with top management. As such, interacting with (communicating with) top management may be of no significance to their operations, suggesting that they may never be worried by both, communicating and or not communicating. The response to this is illustrated in figure 5.16 below:

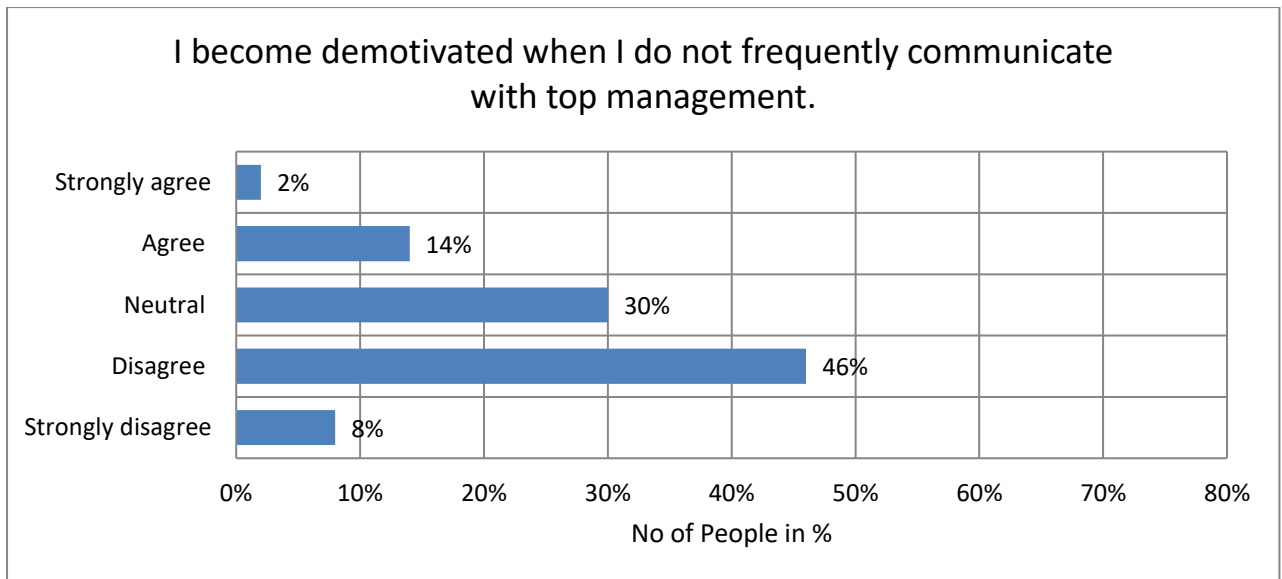


Figure 5.16 Impact on performance when respondents fail to communicate with top management - Source: own construction

Possibly due to the position in the company and the line of authority, 54% of the respondents disagree that they become demotivated (affected) when they do not communicate with top management. Of these 46% disagree whereas 8% strongly disagree with the statement. A neutral indicator remains high at 30%, usually when neutral is high there may be no generalisation. The remainder of 16% is for those strongly agreeing (2%) and those agreeing (14%), thus no generalisation is possible, none of the figures (percentages) exceeds 50%.

Statement 12: In my company employees get motivated without feedback from top management

This statement was merely the opposite of statement 11 in which were expected to get demotivated when they do not interact with top management. In this instance, the statement seeks to state that the absence of top management involvement is actually a motivation factor. Many things can be linked into this, if the top management is considered not to be friendly to the subordinates, their absence may be welcome relief. On the other hand, a subordinate team that does not perform well may want to stay out of the limelight, but figure 5.17 illustrates the feelings of the respondents.

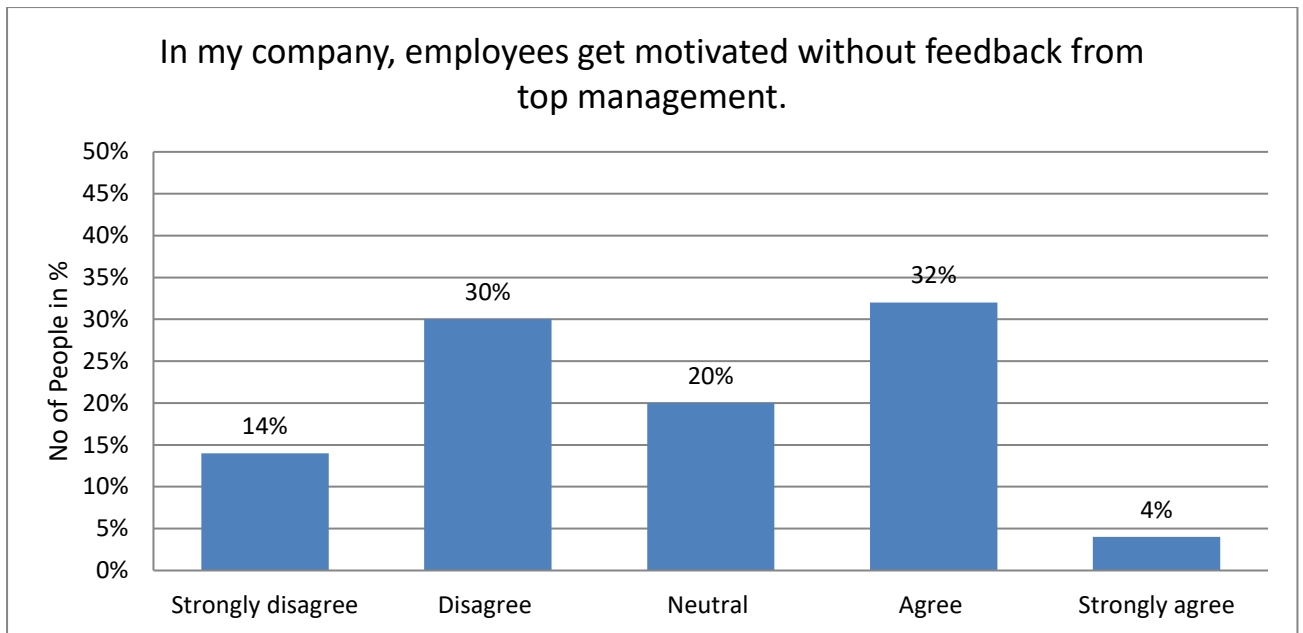


Figure 5.17 Ability of employees to be motivated without feedback from top management- Source: own construction

There seems to be a serious division amongst the opinions of subordinates over the involvement of top management. Again, a total of 44% which is less than 50% disagrees with 14% strongly disagreeing and 30% disagreeing with the statement – suggesting that employees actually get demotivated without feedback from top management. Indifference stands at 20% (which is $\frac{1}{5}$ of total responding) making a total of 64% with those disagreeing. The remainder of 36% agreeing does not make the majority, again allowing no generalisation, the involvement of top management seems to cause serious polarisation.

Statement 13: Seeing top management regularly motivates me to perform

Again, the level of the respondent in the organisation may influence the response. Depending on the type of tasks and the individuals concerned, to some the presence of top management may mean support and thereby motivation. Whereas, some employees may fear victimisation depending on the tasks and the expectations of management, “too often manager” may bring about the difference between motivation and demotivation. The feelings of the respondents are illustrated in figure 5.18 below:

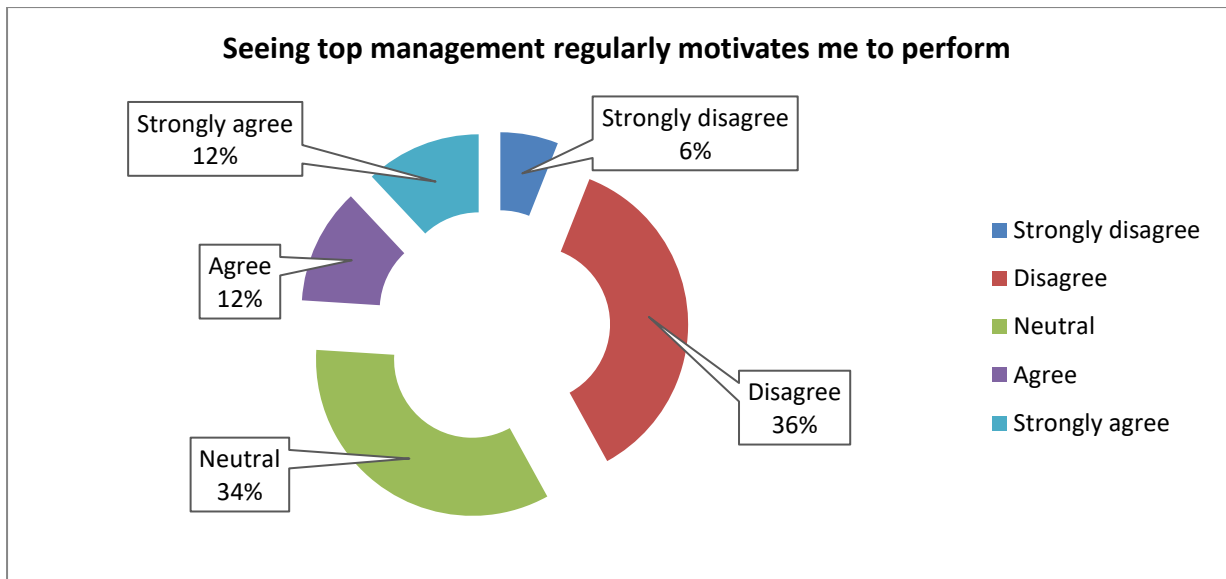


Figure 5.18 The impact of MBWA on subordinate performance - Source: own construction

Neutral is at an all times high, 34% which just above 1/3 of the respondents who are not decided on this statement. It is difficult to know and understand why they would be such ambivalence; however, it follows that there will be no generalisation. Those agreeing with the statement are at 12% apiece (12% agree and 12% strongly agree) making a total of 24%, of which if added to those on the affirmative (34% above) will total 58%. The remainder of 42% is split between the 6% strongly disagreeing and 36% disagreeing. No generalisation can be made, this has been the trend on everything to do with top management so far, and this raises questions about how the top management is perceived in the company.

Statement 14: I cannot solve difficult problems without the interference of top management

The type of problems has not been identified (classified) here, making it difficult to know at what point the top management would need to be involved. Normally operation problems are solved at operational levels and policy issues, labour relations issues (depending on the level of the respondent and the nature of the problem) may require senior management intervention. Except in small organisations where top management is actually very close to the shop floor and therefore see the problems regularly – say in a flat structure. The respondents' general perceptions about their problems and how they can be solved are illustrated in figure 5.19 below:

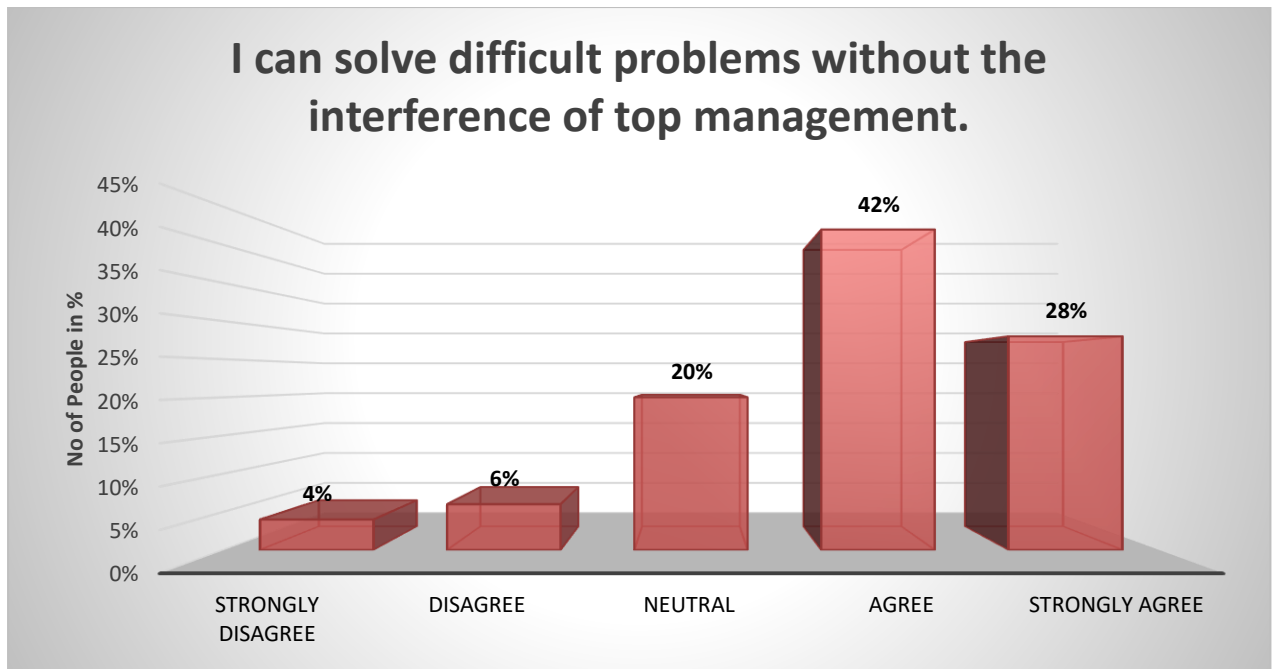


Figure 5.19 Ability to solve problems without top management - Source: own construction

Neutral is reduced at 20%, and the unexpected here is the 70% yes in agreement with the statement that top management is needed to solve serious problems. Given, it was not stated as to what problems are considered serious, but the senior management seems to be indispensable in this structure. It can be generalised that serious problems (though not classified) can only be attended to with the involvement of senior management. Only 10% of the respondents disagreed that they need top management to solve their problems, suggesting that they solve the serious problems on their own or through other means other than top management.

Statement 15: Every work breakdown structure (WBS) is a sub-team that must integrate with other teams

WBSs are characterised by being units performing similar tasks amongst themselves, usually with the team manager who may be a specialist in the tasks. However, the project as a whole is the sum total of these WBSs, thus there is a need to coordinate and integrate these together to move the project forward. Coordination involves the WBSs leaders meeting among themselves to liaise on operational issues as some of the operations can be carried simultaneously, whilst others may need the completion of some activities before they commence on theirs, these are generally portrayed in the Gantt chart. The harmonisation of these operations will take in many of the WBS members consulting on each other regularly. Communication and liaising between these units are critical since they are components of the

same project, the failure of a unit means the failure of the project as a whole. Figure 5.20 shows the response from the respondents on this issue.

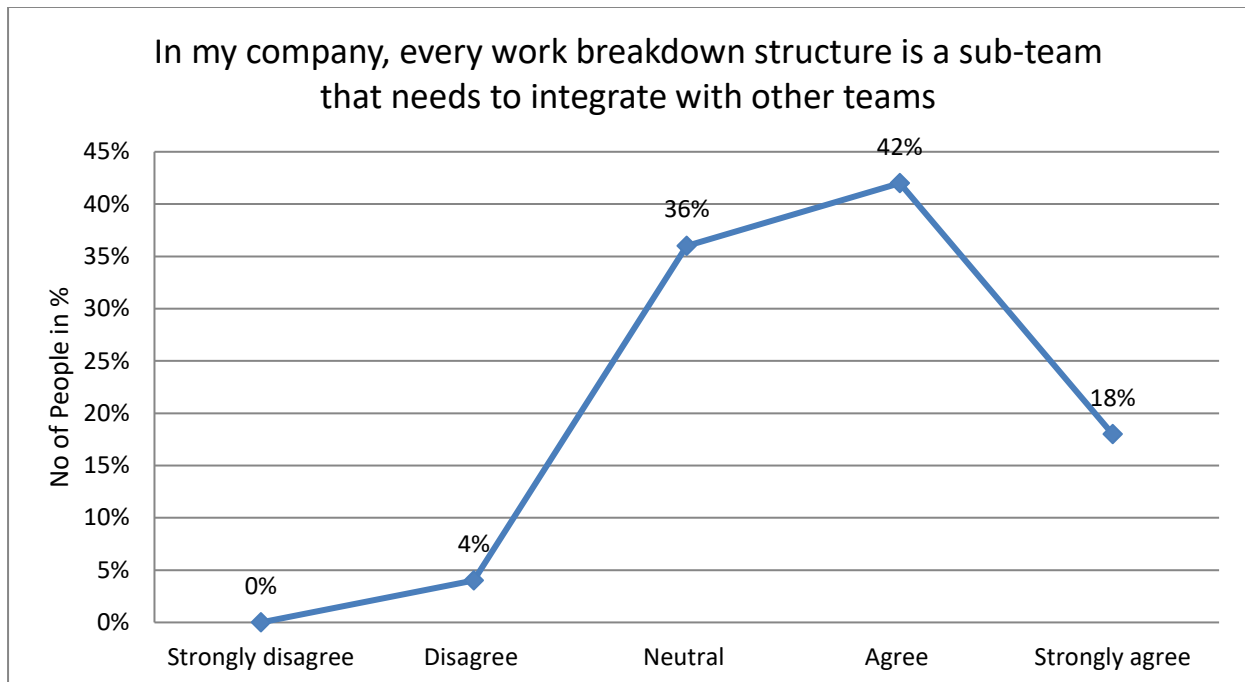


Figure 5.20 WBSs and the need for integration amongst themselves- Source: own construction

Ambivalence has escalated to 36%, above $\frac{1}{3}$ of the respondents were noncommittal for reasons we do not know. Normally, this impacts on the possibility of a generalization. However, the unusual has happened, 60% of the respondents agree (42% agree and 18% strongly agree) that coordination and integration of the WBS operations is a critical and integral part of effective project execution. Only 4% disagreed with the assertion with 0% strongly disagreeing and 4% agreeing. It can therefore be generalised that the majority of the respondents considers integrating WBSs important.

Statement 16: In my company integration of teams is not necessary

The larger the project, the larger the complexity resulting in the separation of tasks and areas of specialisation – sub teams. There is generally interdependence of the teams that work on the different aspects of the project whose sum-total makes the complete project. In a construction project for instance, the civil engineer has different tasks from the electrical engineer who has different functions from the chief plumber, etc. In between these are the bricklayers, plasterers, carpenters and others. The statement therefore seeks to establish the thinking of the respondent on interdependence of these different professionals. The response is illustrated in figure 5.21 below.

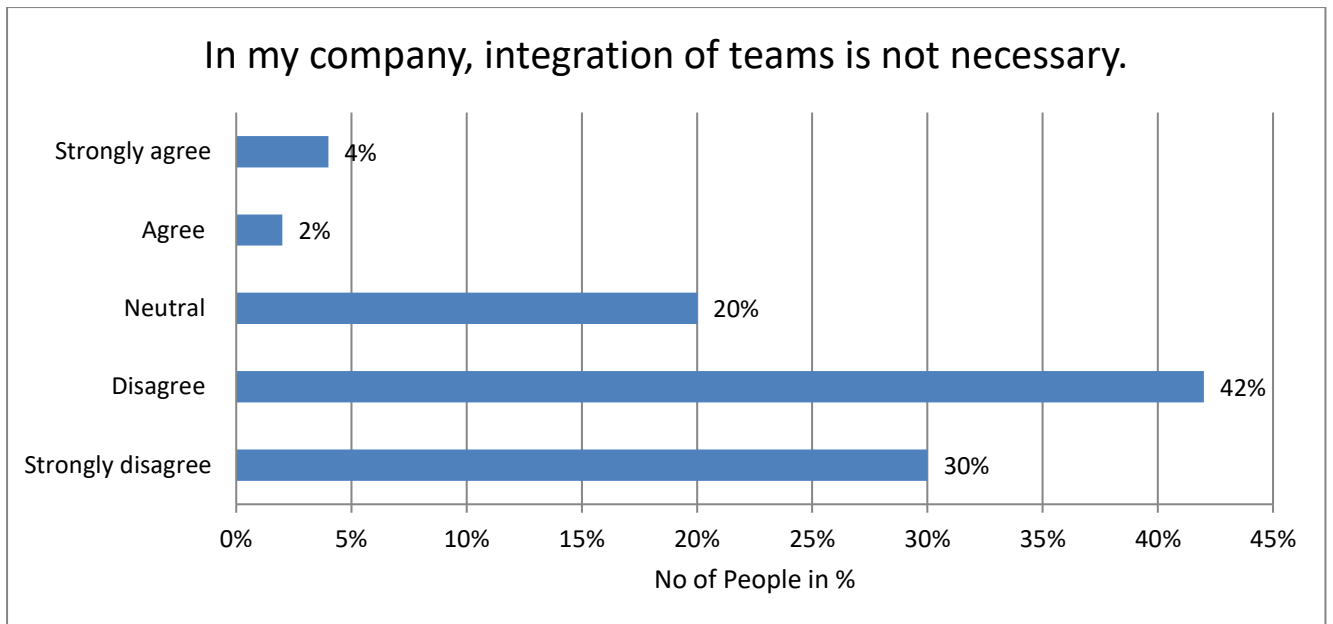


Figure 5.21 Perceived independence of sub teams from each other – Source: own construction

Ambivalence stands at 20% ironically, it is expected that the number of respondents remaining neutral should be low in such sections. But, 72% of the respondents disagree (with 30% strongly disagreeing and 42% disagree), suggesting that there is a need for interdependence. It can therefore be generalised that the majority of the respondents believe that there is or should be interdependence between the different tasks of a project.

Statement 17: Project teams do not need to work together to get the work done, by implication this statement presumes that though there is interdependence, still the teams may work on their own and bring their product or results to the pool where all project tasks are harmonised. At the harmonisation stage, the information will be passed on to or communicated to the other units to update them on the performance of the other teams. The other alternative would be the different task teams working together, interacting and making decisions together, thus reducing the need to pass information or communicate to the other task-teams. It is also accepted that some tasks may be so different from each other that the different task teams may have very little in common and very little to contribute. The respondents, coming from their specific backgrounds had this to say, and it is demonstrated in figure 5.22.

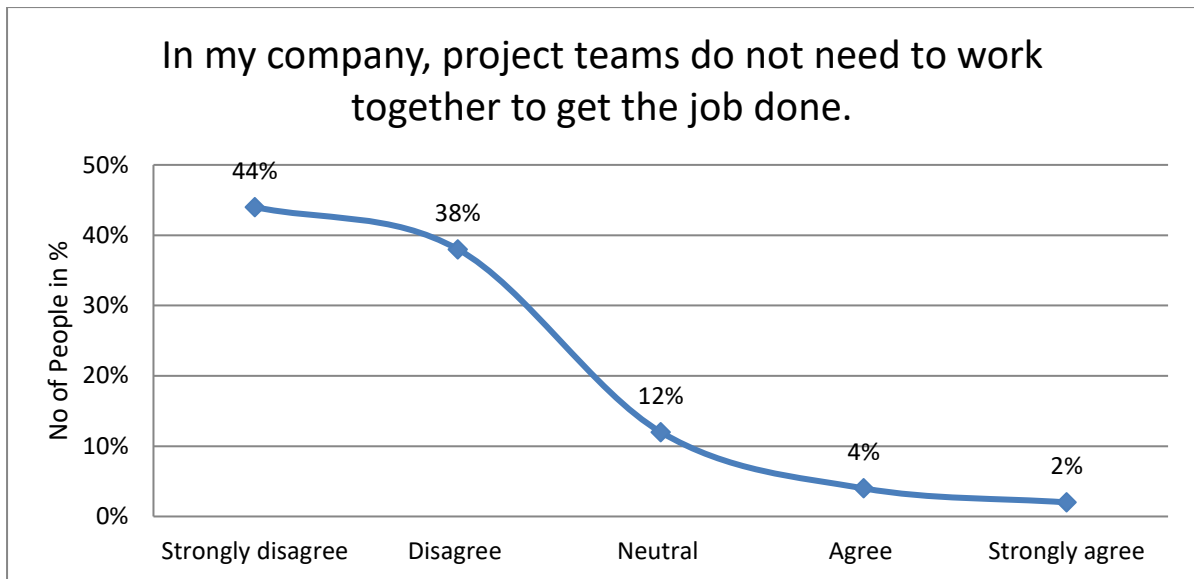


Figure 5.22 Ability of sub-teams to work independent of each other to achieve the same goal - Source: own construction

Neutral is low at 12% and does not sound any alarm bells at that level. However, 82% of the respondents clearly stated that working together is actually critical for the execution of a project. Only 6% believe that it is not necessary to work together, clearly the integration of the operations is considered as critical based on the response above. It may be important to point out that little communication of information will be necessary if the teams work together on the same tasks or side by side with their tasks.

Statement 18: I can work well in a project team that frequently communicates

It is understood and accepted that most of the conflicts that people have between and amongst themselves or each other may have much to do with communication. Communication in its broadest sense involves dispatch and receipt of information (feedback), suggesting that if information is communicated and is acceptable by the encoder, that may improve the understanding and relationship between the participants. Frequent communication between team members and teams may improve the cooperation, people need information to cooperate and operate. The more the information the easier it is for the other individual or sub-team to make informed decisions on what they want or need to do next. It may be extremely difficult to make correct decisions without adequate information hence the need for communication. Figure 5.23 below illustrates the responses.

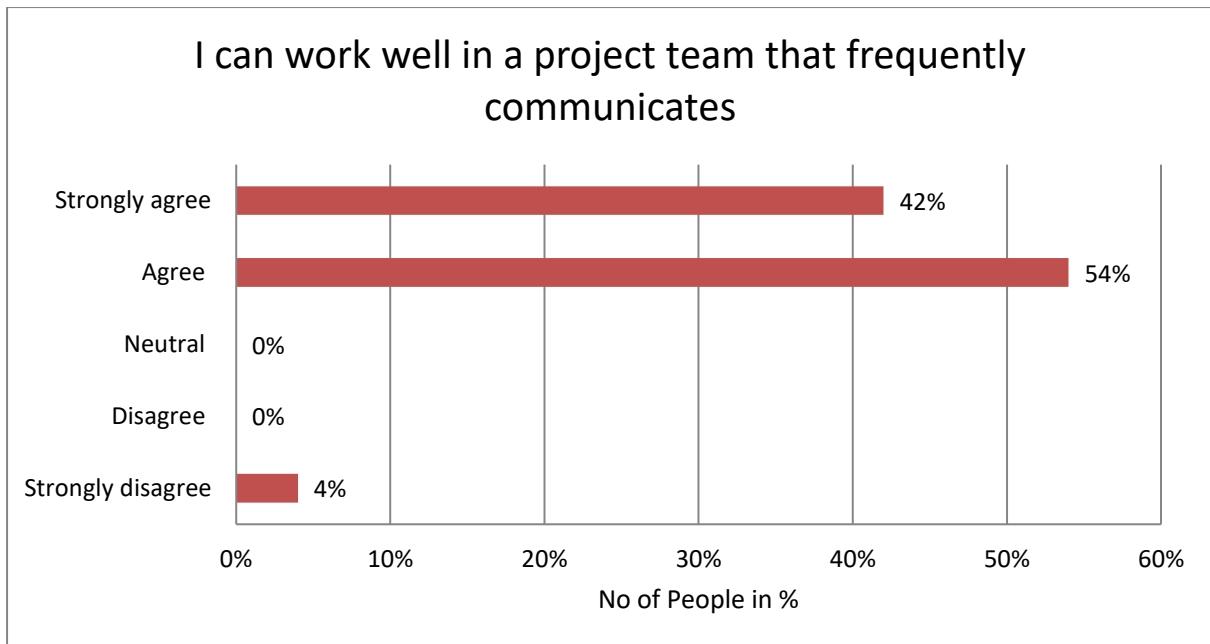


Figure 5.23 Impact of team communication on performance - Source: own construction

For the first time in this survey, neutral records a zero (0%), and the number affirming the need for frequent communication is 96%, highest score ever. It can therefore be concluded without further ado that frequent communication is key in project execution; this is in agreement with the PMBOK.

Statement 19: It does not matter what one team does as long as work is being completed

This statement was deliberately put to counter the previous statement and at the same measure the extent of the “silo mentality” within projects. Too often different units in organisations compete among each other instead of working together to build synergy. The response to this is in figure 5.24 below:

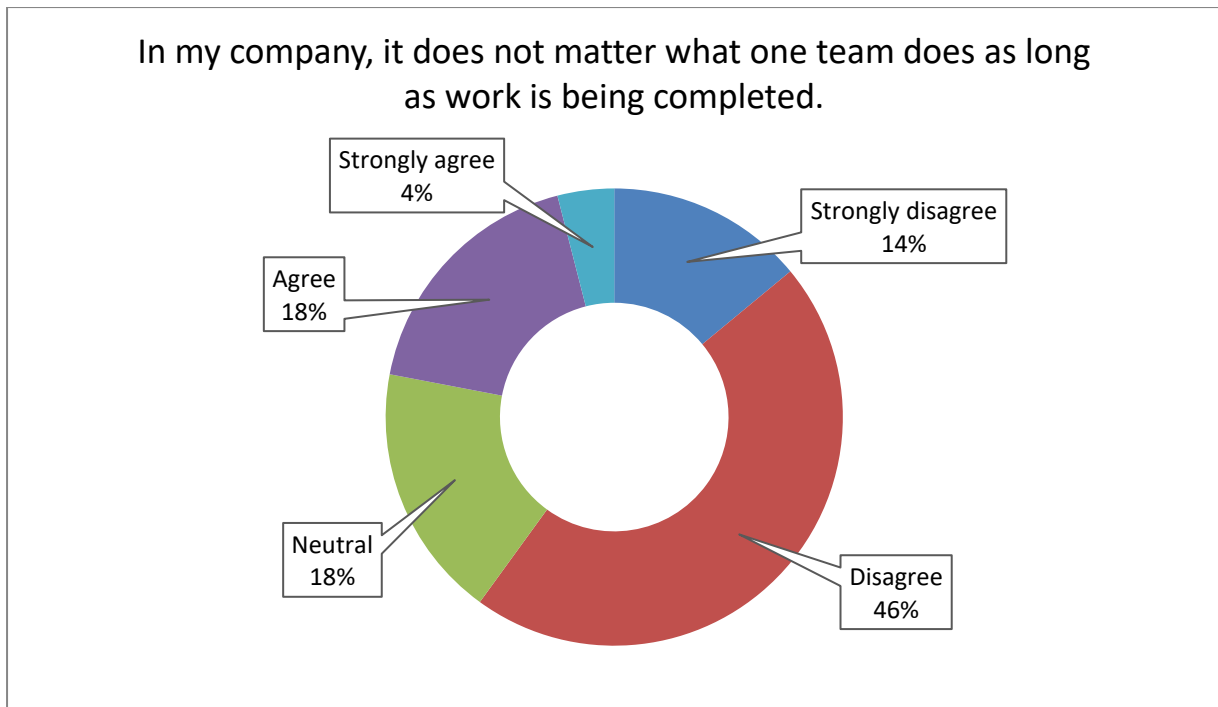


Figure 5.24 Ability of sub-teams to accomplish tasks without communicating - Source: own construction

14% strongly disagree and 46% disagree (total 60%) suggesting that generally the team members are against the “silo mentality.” Getting united and keeping frequent communication are key to the success of any project, since communication is the glue that keeps the body (project sub-teams) together. Neutral stood at 18% with the remainder of 22% shared between strongly agree (4%) and agree (18%).

Statement 20: It is important for employees to know what other units are doing.

It is assumed that the more knowledgeable an employee is about the activities in the organisation the more empowered they feel, and this improves employee engagement. Such an employee is likely to feel more belonging since they will understand well what is happening in the organisation. This may assist in the improvement on the level of participation and motivation to contribute by the employees. The response is illustrated in figure 5.25 below:

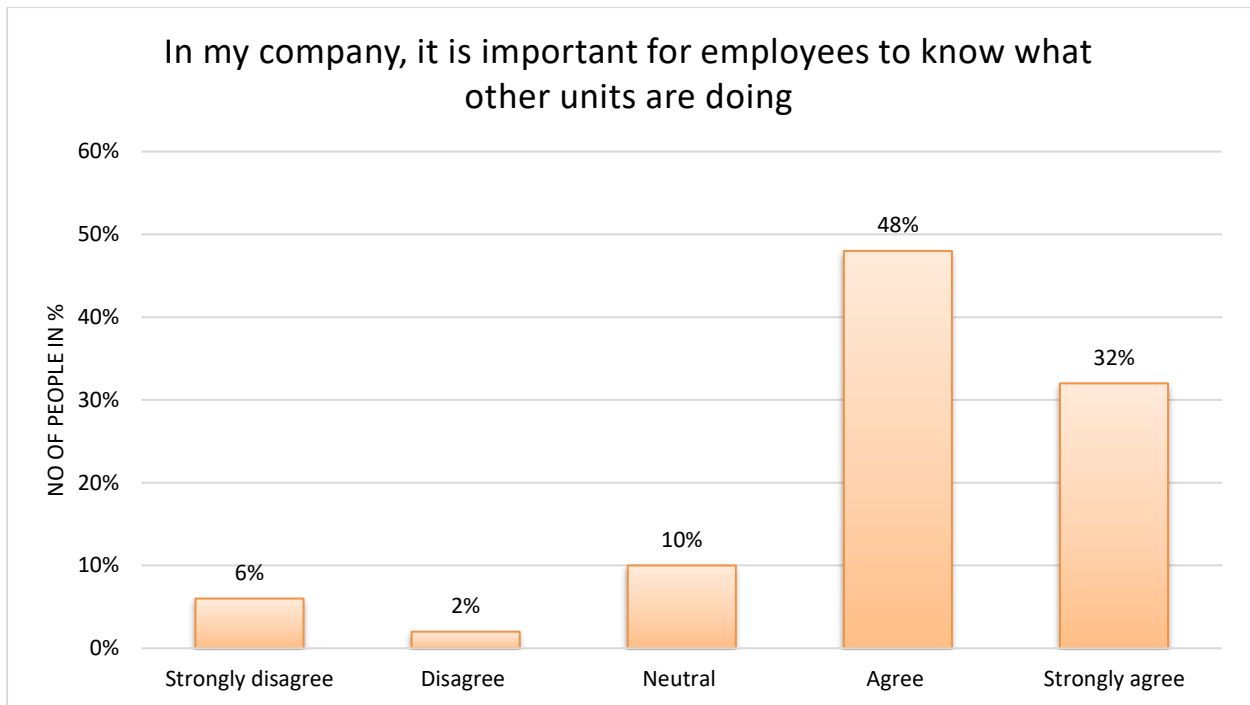


Figure 5.25 Importance of integrated operations in the project - Source: own construction

Knowing what other people are doing is considered positively, as supported by the 80% response in the affirmative. Those disagreeing are just a handful at 8% for both strongly disagreeing at 6% and disagreeing at 2%. Neutral is comfortably sitting at 10%, so it can be generalised comfortably that project practitioners consider knowing what other units are doing positively.

Statement 21: I can do my work even if I do not understand the scope of the problem

It is interesting how an individual would be able to work without an understanding of the problem – communication becomes important. Someone needs to communicate to you the scope of the problem. If you cannot measure it, how can you manage it? The response is in figure 5.26 below:

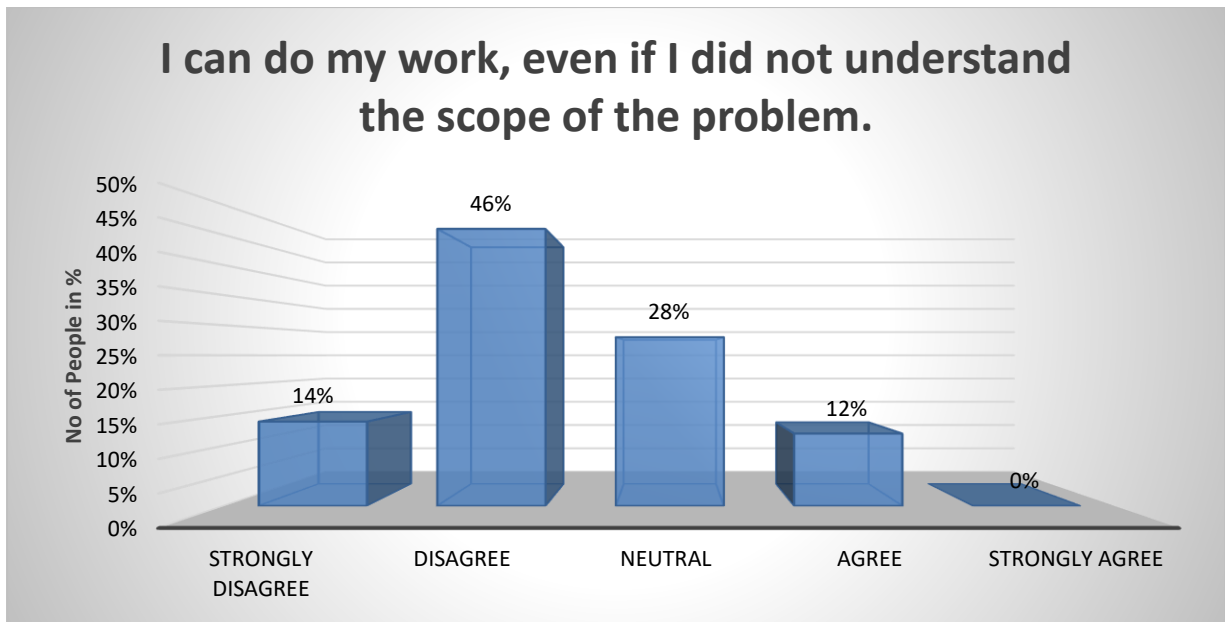


Figure 5.26 Ability of respondents to function without clarity on the scope - Source: own construction

60% of the respondents rejected the notion that they can do well without a scope, after all the success of the project is delivering a full product. An increase on the neutral pushed it to 28%, and this totals 88% with those disagreeing. Only 12% agreed with the statement, leaving the findings to allow for a generalisation that the scope is critical for effective project execution.

Statement 22: I can perform well if I know what others are doing within my team. This statement is similar to the preceding statement on working together with other teams and understanding what others (in other teams) are doing. It is therefore assumed that whatever is taking place within one' organisation may be more attracting. The responses are diagrammatically presented in figure 5.27.

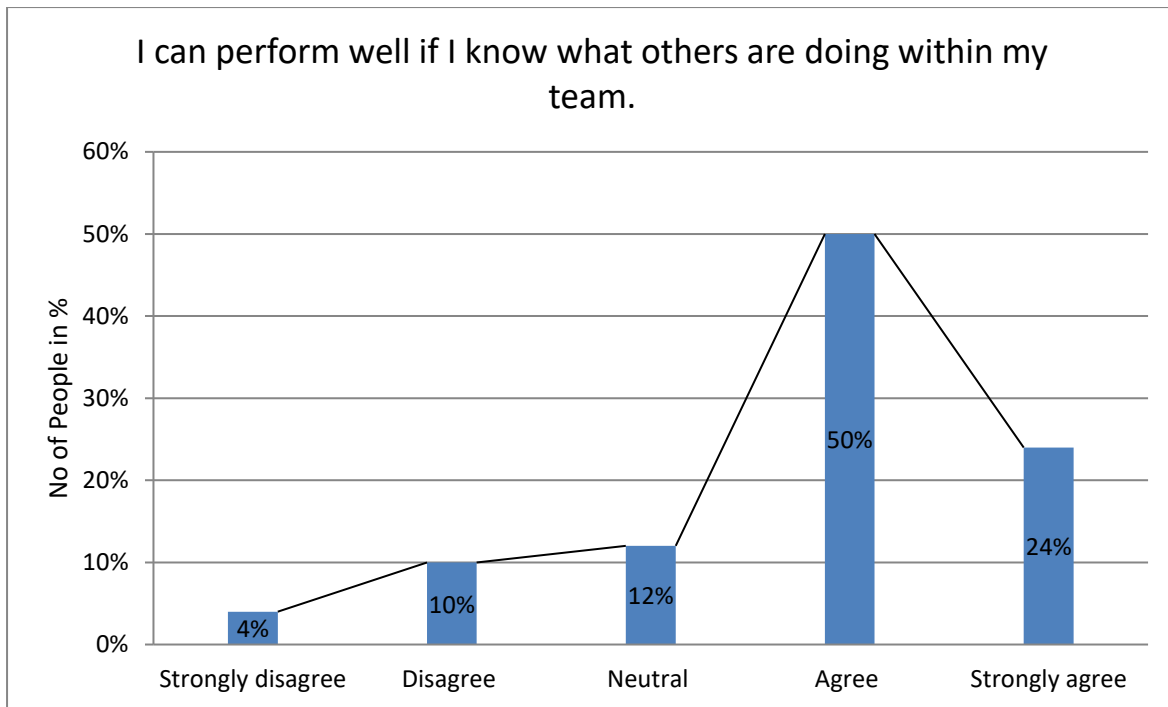


Figure 5.27 Impact of knowledge on activities of other sub-teams - Source: own construction

Those agreeing and strongly agreeing total 74%, a clear indication that knowledge is a motivating factor as well as critical for effective project execution. Neutral (12%) is low, and those disagreeing lie at strongly disagree (4%) and disagree (10%) which are ridiculously low compared to those on the affirmative. It can be generalised without concern that there is a strong feeling amongst the participants in favour of knowledge about what other team members are doing.

Statement 23: There is no relationship between my operations and other units in my projects

This has already been discussed and interdependence has been established between the different WBS. This ranking may simply serve as a control and assurance of what the participants have already indicated or alluded to in earlier responses. It is in the nature of projects that units are developed based on the similarities in the types of tasks or specialisations. It is on this basis that WBSs are formed and generally headed by people specialised in those aspects of the project. Yet, each unit is connected to the other units (WBSs) in that when all these units are completed within the technical specifications and scope, then they become one project. So, interdependence is in-built in the structure and specialised units of the project, meaning that there cannot be a unit independent of the overall project execution. The opinions are illustrated in figure 5.28 below:

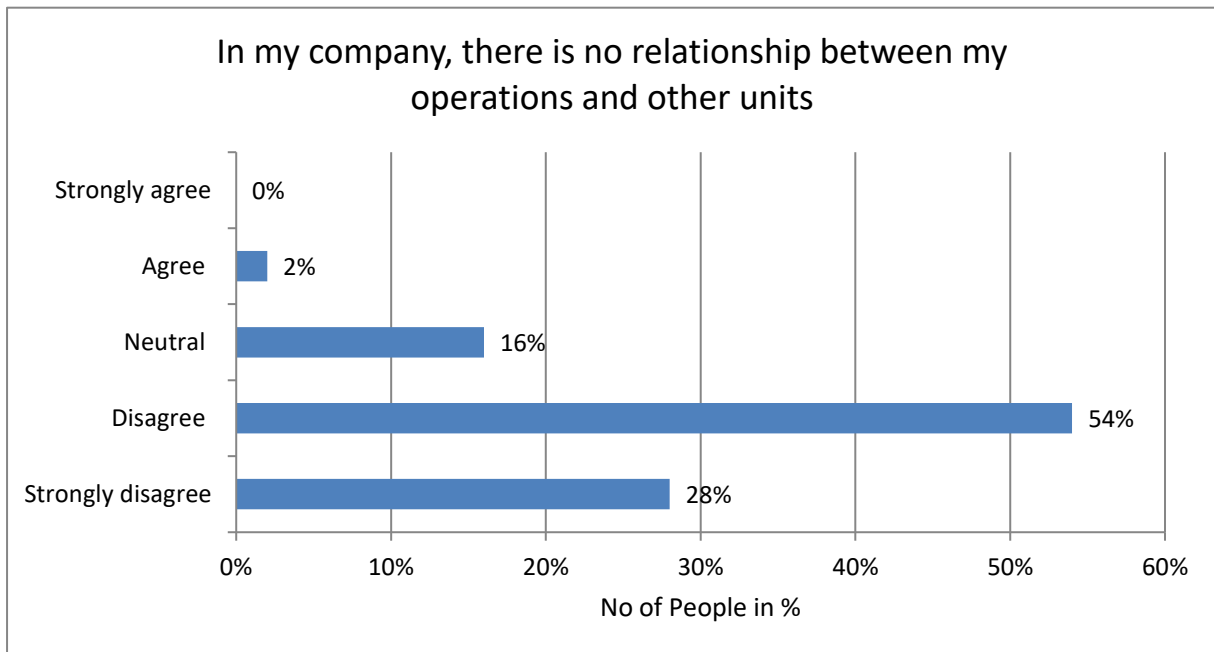


Figure 5.28 The level of disintegration between task units in the projects at hand - Source: own construction

Neutral is at 16%, and of particular interest is that those strongly agreeing (that their units have no working relationship with other units) are at 0%, those agreeing at 2%, giving a total of 2% alleging no relationship between units. That opinion has been utterly rejected, allowing for the view that there is a relationship between the units, and this is given by 82% with 28% strongly disagreeing with the statement and 54% disagreeing with the statement. It can therefore be generalised that the bulk of the participants are of the view that there is (there should be) a relationship between the units.

Statement 24: It takes different departments to complete a project

As already alluded to, this is merely a confirmation of the understanding that projects are multi-department and that each department contributes to the overall project. The sentiments previously expressed are expected to be repeated here; of importance is the consistency in this understanding. Equally important is the fact that the interdependence of these departments requires structured and effective communication between the different units for the good of the whole project. This helps in removing the silo mentality. The response to this statement is illustrated in the figure 5.29 below:

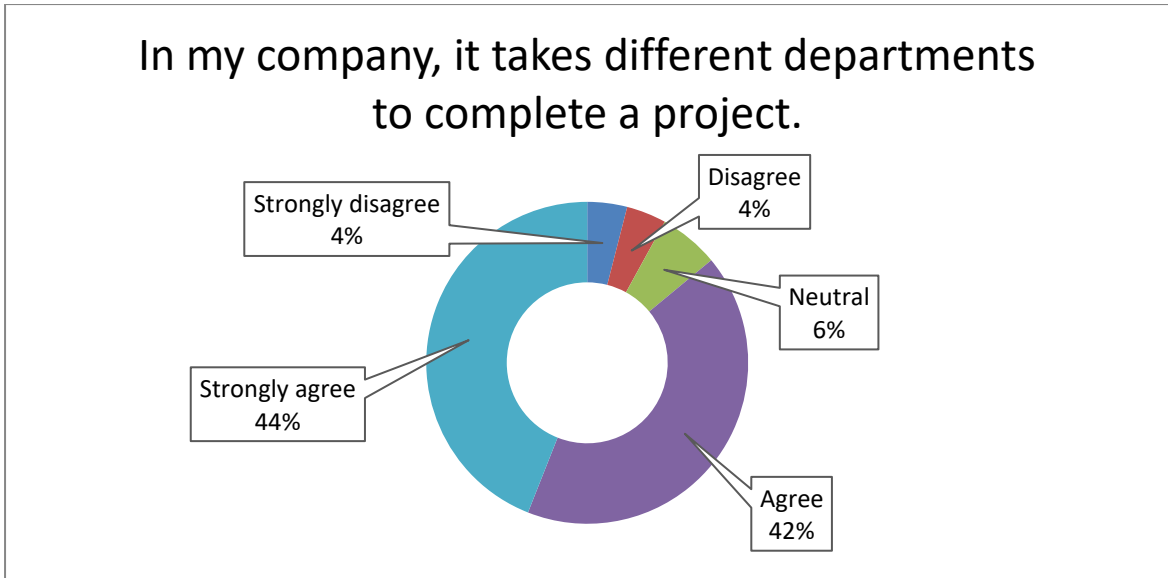


Figure 5.29: Perceptions about inter-departmental relations in project execution - Source: own construction

As expected, the response in favour of the assertion is 86% with 44% strongly agree and agree at 42%. Normally, more people will agree or disagree than those that strongly agree or disagree, this observation is interesting. Neutral is very low at 6% leaving the remainder of 8% to be split between disagree and strongly disagree. It is therefore registered as confirmed that participants adamantly believe that putting up a project is a multi-department undertaking, thereby confirming interdependence.

Statement 25: There is no relationship between my operations and other units Again, though this was specific to the individual participants, this had been covered as a general matter affecting all the operations. The individuals interviewed here responded largely based on the feelings of the rest of the people they work with, but the individual element cannot be removed. Their responses are tabulated below in table 5.1.

Table 5.1: Relationship between individual operation and project

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|-------------------|----------|---------|-------|----------------|
| 28% | 54% | 16% | 2% | 0% |

Source: own construction

The response is largely the same as the preceding ones; it is interesting to note that communication is the glue that binds the elements of project execution together.

5.2.3 Open ended section

To assist the research by extracting any other information that may be known to the respondents, but the information may have been left out. This section therefore requests the respondents to provide some information relating to the study as they see fit and understand. This category makes specific reference to the respondents' general understanding of the strategic role of human resources management in an organisation. Very few of the respondents filled in the number of the items requested for, but the responses provided were grouped (similar responses recorded together) and the details are provided below:

Request 1: list below in point form communication problems in your firm.

Conclusion: The three most common responses the employees wrote were system errors, miscommunication between departments & accountability amongst employees. Below is figure 5.30 that shows the responses from request 1.

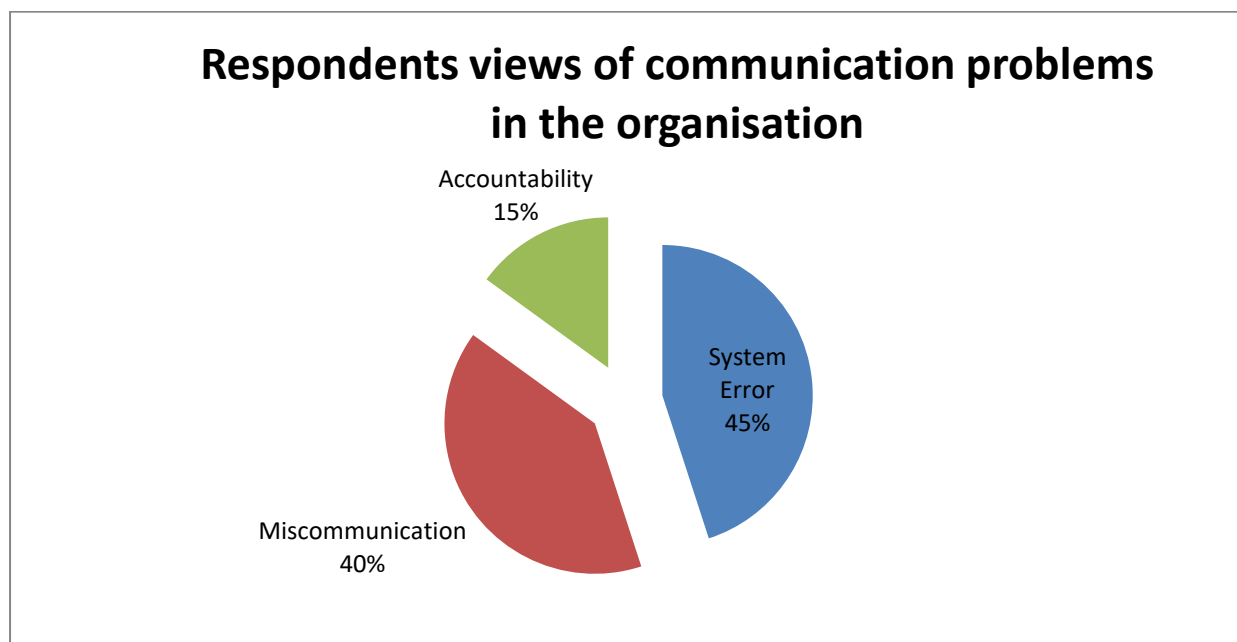


Figure 5.30: Respondents views of communication problems in the organisation- Source: Author's construction

45% of the respondents indicated system error, 40% of the respondents indicated miscommunication and lastly 15% of the respondents indicated accountability.

Recommendation: Most respondents chose not to answer or give their views in this section. The system errors part is out of their control and they could raise it up to top management to update their systems on a regular basis. Inter-departmental benchmarking or team building

assist to build relationships amongst employees and that will aid on employees double checking their work before stepping it on to other departments. Lastly accountability, employees can raise this with their supervisor and follow the company rules on how to tackle this type of issue and it will be up to the organisation to elevate their standards of strictness.

Request 2: Supply information below on what constitutes good communication

Few respondents chose not to answer this request; one of the reasons might be that respondents did not understand what was required of them to answer this request.

Conclusion: From the information that was provided, majority of the respondents stated that:

- Information being clearly understood from both sender and receiver.
- If changes need to be done, it needs to be communicated in advance.
- Receiving feedback in everything that is being communicated

Recommendation: the respondents clearly indicated what good communication meant to them as per their work environment. They clearly know what communication meant and they adapted to the work environment and what needs to change in order to improve their organisation.

Request 3: If you had the authority to - what would you change to enable effective communication in your firm

10% of the respondents indicated that in their opinion making use of surveys amongst the teams to get an idea of what needs to be done to improve communication & productivity of the organisation. 90% of the respondents did not provide their answers as this was one of the optional questions.

Recommendation: Most people did not answer this request. Benchmarking and team buildings are essential for teams to grow and good performance will also show at the end.

5.3 Chapter summary

Respondents that took part in the questionnaire survey were given options to pull out at any time during this survey as this was for a study purpose which most respondents exercised their right when it came to the open-Ended section. The chapter focused mostly on the respondents and it required the respondents to give their input about the organisation of which they feared that they might be victimized. The data indicated that the majority of these respondents that took part in the survey were in fact seasoned individuals in the organisation and that there are few respondents that were under the age of 30 years old. The respondents indicated that communication plays a major role in their organisation and that once a barrier is reached, the delay in the productivity will occur. The organisation invested much time in

employee development, and communication is paramount as it plays a big role on project success. Majority of the respondents indicated that they work best without any supervision and that top management does not affect any of their productivity as long as they have scope of the work they are required to do.

CHAPTER 6

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

Research objectives speak to the expectations from the research and what was intended by the research. In this survey the objectives were clearly stated as intentions to identify the role played by communication in the project execution processes. This would make reference and assist with establishing the contribution of communication to successful project execution. The understanding is that communication is a critical element of effective leadership and consequently it became the focus. The organisation under survey has put much into technical skills, and as alluded to in the literature review chapters, communication is a determinant of the eventual successful operation. But the research seeks to identify the weaknesses inherent in organisations that are based on hard skills with special emphasis on communication issues.

6.2 Research design and methodology

A combination of qualitative and quantitative was used to conduct the research using a structured questionnaire with three sections. The research instrument was designed based on the literature reviewed, on the basis of which the empirical research was finally conducted. The research instrument was administered personally to maximise on the return rate and assist respondents where they needed to get explanation and clarity. The respondents were 102 out of 195 eligible for the survey; this is 52% of the sample frame and was considered adequate for the purpose. Costs and accessibility were the critical factors; hence a few construction organisations were contacted for the survey. The instruments were tested for valid and reliability by a statistician and the reconstructed document was used for the survey.

6.3 Data analysis

The summary and interpretation follow the format in the preceding chapter (5), in the summary, conclusions and recommendations section. This analysis follows the pattern in the questionnaire as stated above starting with the biography, to the Likert scale and the open-ended section with open questions for the respondents.

6.4 Summary of the findings

6.4.1 Section A: Biography

Essentially helped in getting the correct people who fitted into the expected population characteristics. And this, illustrated in the data reporting chapter, is followed by the Likert scale. Six (6) questions were asked, and the summary thereof is submitted below. Of the respondents, 44% had matric and 50% had tertiary education.

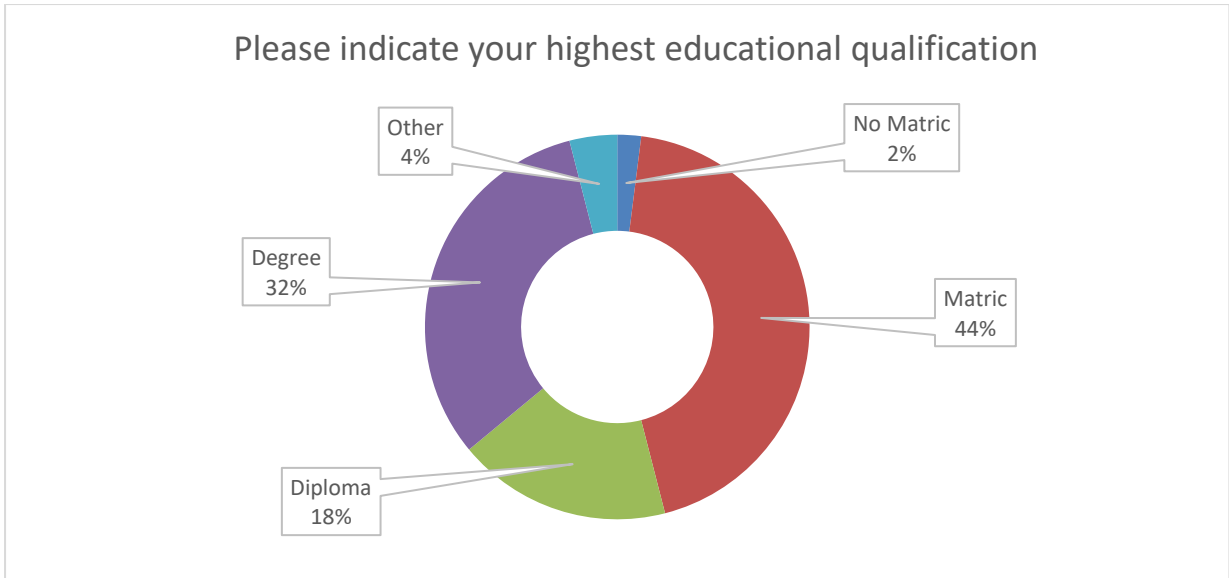


Figure 6.1: Please indicate your highest educational qualification- Source: own construction

- Conclusion; the statistics on the education levels suggests that with adequate training and good practice in communication, an organisation may be successful.
- Recommendations; It is hereby recommended that organisation invest in training of managers and subordinates to improve communication literacy. The organisation may also invest in personnel development including the 2% of those without matric.
- Question 2; It was important to identify the types of departments that people work in, precisely just to provide adequate information of their operations. Respondents inevitably come from a particular department or section in an organisation.

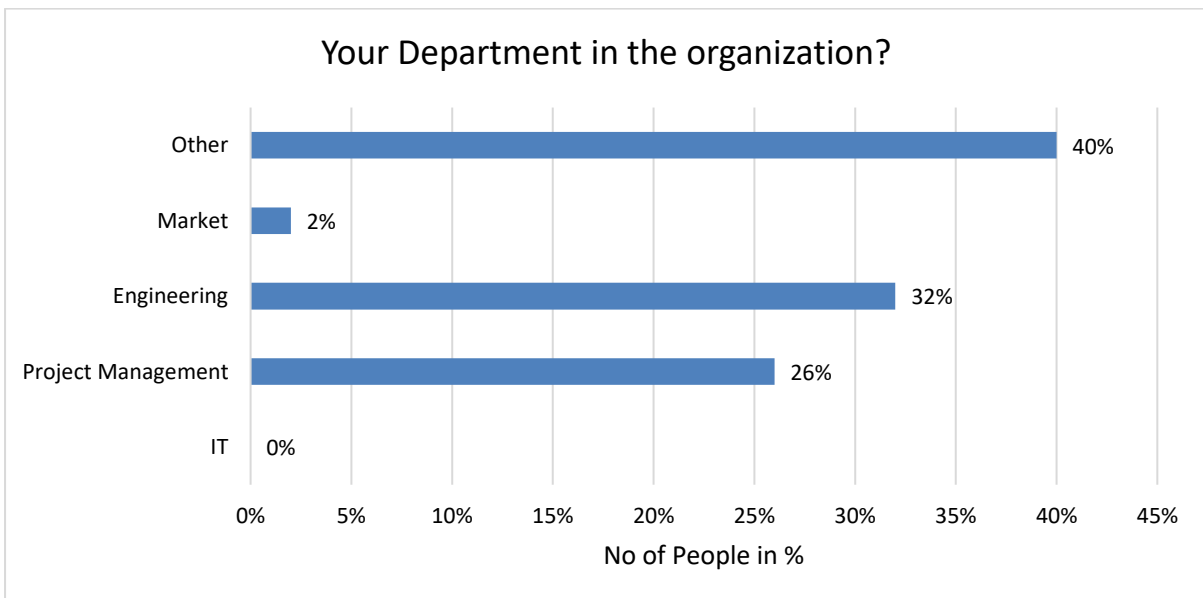


Figure 6.2: Your Department in the organisation- Source: own construction

- Conclusion; the percentage of other departments was high and it is not clear what sections within the organisations they came from. Engineering and project

management together make up 58%, suggesting that those involved in technical aspects of the operations are high on the list. The respondents are enough to assist with making generalisations.

- Recommendations; future research may probably have to identify specific disciplines and focus on communication problems in specific tasks. This is based on the theory that the type of tasks, the structures and the culture in a unit impacts on the needs for communication.
- Question 3; pertaining to the length of service in the organisation, this was intended to establish the possibility of them being informed about the situation in the organisation. Experience would definitely allow for reference that may assist in the type of response to the different problems and questions in the organisation.

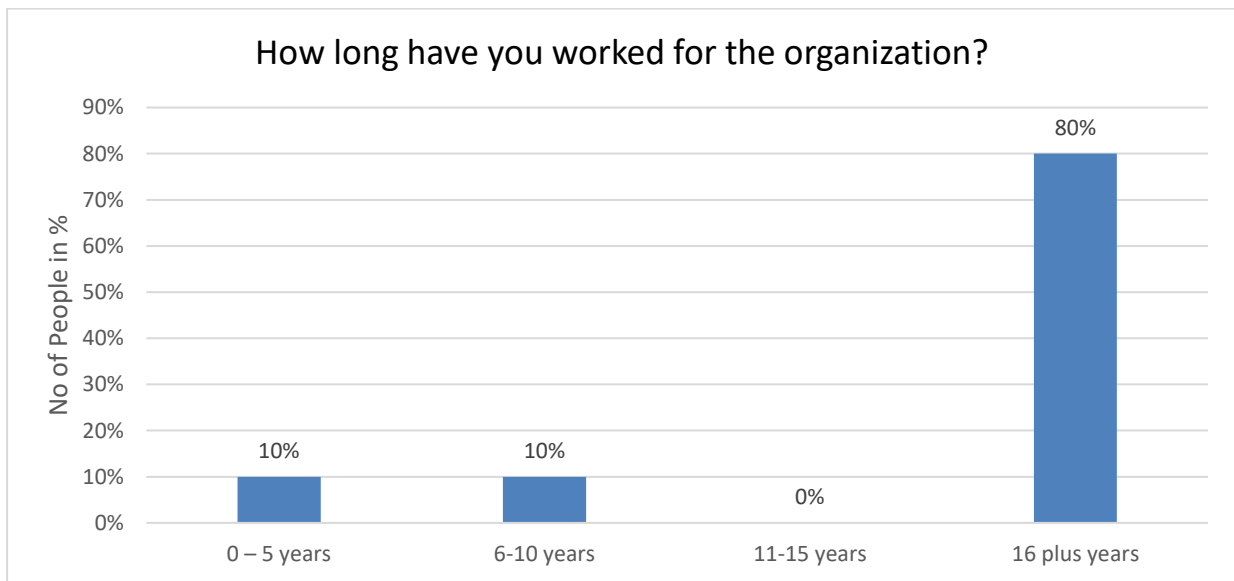


Figure 6.3: How long have you worked for the organisation- Source: own construction

- Conclusion: The respondents had the necessary experience and exposure to be able to assess correctly what the situation is in the organisations. With 80% of the respondents reporting that they had been in the trade for 16 years, it is deduced (concluded) that this is the most ideal type of respondent needed for this survey.
- Question 4: This related to the positions of the respondents to the survey and was critical in aiding the understanding of the functions in the organisations. This also assisted in that some may have developed in the organisation to their current positions and would understand the limitations of communication in the organisations.



Figure 6.4: What is your position in the organisation- Source: own construction

- Conclusion; The respondents filling in as the other (70%) comprise the largest part of the categories that indicated their positions. The intention was to establish the type of respondents to enable the researcher to know what type of communication they needed. These were working in the same environments with the managers (10%), technician (6%) and supervisors 14%. It is hereby concluded that communication remains critical for all the employees, specifically because supervisors and manager spend 80% of their time communicating.
- Recommendations;

It is hereby recommended that continuous workshops on training be maintained for both management and subordinates. This will allow for improved interaction between practitioners at different levels thereby enhancing a culture of communication. The training may also include diversity trainings, which will assist in breaking down barriers.
- Question 5; Are there any people that report to you in the organisation? It was considered important to ask this because most of the first line managers' operations involve interaction with the subordinates. Communication should be both vertical and horizontal.

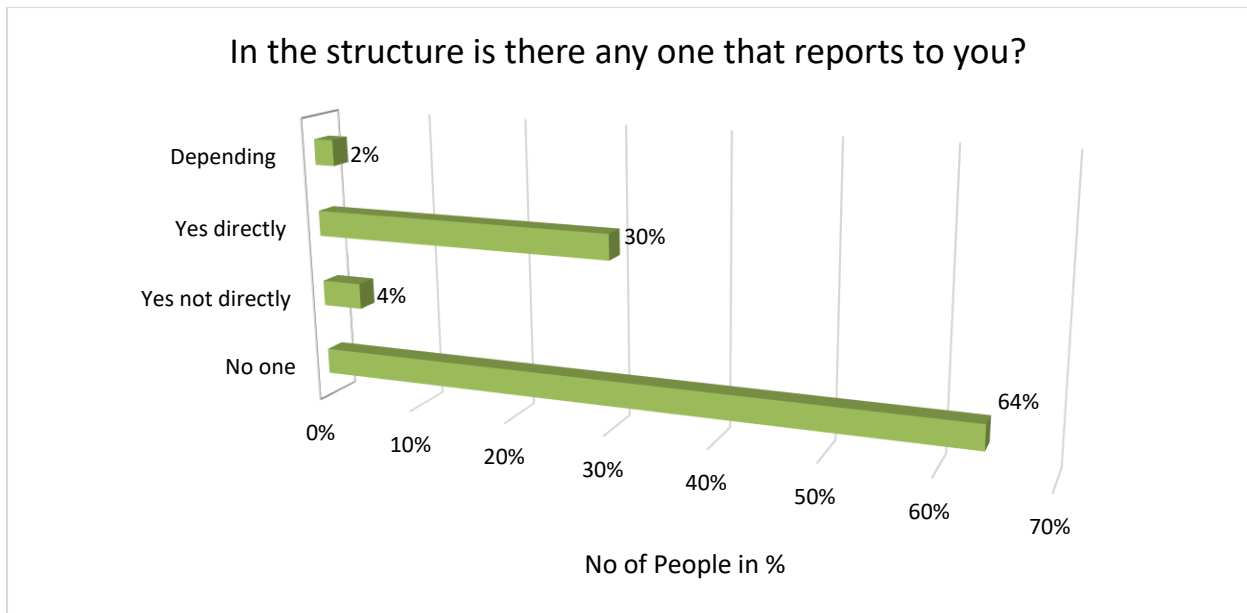


Figure 6.5: In the structure is there anyone that reports to you? - Source: own construction

- Conclusion: The presence of 34% of people who supervise or manage other fellow practitioners is positive and makes the study holistic. This allows for wide understanding at different levels of the operations, necessitating the need for enhanced communication at responsiveness.
- Recommendation; Training should be considered a critical operation tool, and the organisation must draw up communication plans to emphasise and manage the communication processes.

The process of conveying messages back and forth is the most common way of establishing relationships. In the process meanings are conveyed from entity to entity using all different forms of communication like, signs, symbols, and semiotic rules. The different methods that can be used are, visual, olfactory, electromagnetic and auditory.

6.4.2 Section B – Likert scale

A Likert scale is a psychometric tool which is done using questionnaires for a survey research; this is also referred to as a *rating scale*. The scale enables respondents to indicate the level of agreement or disagreement with a statement based on the literature reviewed. The level of agreement is on a symmetric agree-disagree scale, the range assists in capturing the intensity of the perceptions, beliefs or attitudes of the respondents towards the statements. This Likert scale is based on a scale of 1 to 5, with 1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree and 5 = strongly disagree.

| NEED FOR INFORMATION | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|--|-------------------|----------|---------|-------|----------------|
| DIRECTION FOR THE BUSINESS | % | % | % | % | % |
| I can find or solve problems/issues without reporting to my manager. | 4 | 0 | 8 | 44 | 44 |
| I can know the vision of the project without being told | 2 | 4 | 20 | 50 | 24 |
| Everyone always knows what the company vision is | 8 | 24 | 24 | 36 | 8 |
| Our company's management does not communicate the company's vision regularly | 12 | 52 | 16 | 12 | 8 |

Source: Author's construction

- Conclusion: the results above are responses from employees about the company, and with the direction of the business, majority of the employees felt that they can solve problems/issues without the supervision of the manager. Majority of the employees indicated that they know the vision of their organisations without them being told or constantly reminded.
- Recommendation: The Company can constantly send out emails and hold sessions with the employees to promote or remind them of the Company's Vision and Mission so that everyone can work in the same direction with the company. 52% of employees felt that the company does not communicate enough concerning its Vision.

| Operational requirements | % | % | % | % | % |
|--|---|----|----|----|---|
| In my company, we get feedback on request for information | 8 | 12 | 30 | 44 | 6 |
| I can perform well, without any communication from my manager. | 6 | 10 | 16 | 42 | 2 |
| I can still be motivated to do my task even if I don't have enough resources to do the task. | 2 | 12 | 22 | 50 | 1 |
| In my company, information needs to be frequently communicated | 4 | 2 | 12 | 46 | 3 |
| I become demotivated when information is not sent on time. | 8 | 34 | 14 | 34 | 1 |

Source: own construction

- Conclusion: 30% of employees were not sure if they are receiving information or feedback on time or when they requested it. The researcher feels that the reason might be the employees did not understand the question properly or that feedback is only

received by employees once requested by the supervisor. However, the majority (64 %) of employees felt motivated to do their tasks even if they do not have enough resources to complete the tasks given. This indicates a happy and possibly job-satisfied workforce that does not need much pushing for them to do their work.

- Recommendation: For the company to receive maximum effort from employees, it would need to construct surveys on the well-being of its employees and their working environment to get an overview of how their employees feel about certain operations and if needs be training can be recommended for the employees that need assistance. 44% of employees feel demotivated when information is not sent on time which results to progress hindrance of the company.

| Top management support | % | % | % | % | % |
|--|----|----|----|----|----|
| In my company, directives from the top clarify issues for employees below | 10 | 28 | 28 | 28 | 6 |
| I become demotivated when I do not frequently communicate with top management. | 8 | 46 | 30 | 14 | 2 |
| In my company, employees get motivated without feedback from top management. | 14 | 30 | 20 | 32 | 4 |
| Seeing top management regularly motivates me to perform | 6 | 36 | 34 | 12 | 12 |
| I can solve difficult problems without the interference of top management. | 4 | 6 | 20 | 42 | 28 |

Source: own construction

- Conclusion: The bulk of the employees indicated that they do not get motivation from communicating with top management, and that they are able to solve problems or come with solution to their projects without the interference of top management. This may be an indication of a work environment conducive for cooperation and good relationship between the employees, possibly with clearly defined tasks and therefore little need for micro-management.
- Recommendation: Top management should show face to employees especially to those that feel neutral or agreed that they feel motivated to perform when there is constant communication with top management.

| Inter-project team communication | % | % | % | % | % |
|--|----|----|----|----|----|
| In my company, every work breakdown structure is a sub-team that needs to integrate with other teams | 0 | 4 | 36 | 42 | 18 |
| In my company, integration of teams is not necessary. | 30 | 42 | 20 | 2 | 4 |
| In my company, project teams do not need to work together to get the job done. | 44 | 38 | 12 | 4 | 2 |
| I can work well in a project team that frequently communicates | 4 | 0 | 0 | 54 | 42 |
| In my company, it does not matter what one team does as long as work is being completed. | 14 | 46 | 18 | 18 | 4 |

Source: own construction

- Conclusion: 96% of employees indicated that they work best when there is frequent communication between the team and department. This may mean that the communication systems may be well structured and efficient and thereby allowing employees to get the information they need in the appropriate format for them. This may result in effective execution of projects and motivate the team further for future projects to be implemented.
- Recommendation: There is not much required in this section only that the company should also look at Benchmarking and see what the latest technology is in the industry and just train their various department or teams. Efforts should be made to keep the high standard and enable the team members to develop synergy which is critical in keeping the members together and reducing conflicts.

| Progress reports and state of project | % | % | % | % | % |
|---|----|----|----|----|----|
| In my company, it is important for employees to know what other units are doing | 6 | 2 | 10 | 48 | 32 |
| I can do my work, even if I did not understand the scope of the problem. | 14 | 46 | 28 | 12 | 0 |
| I can perform well if I know what others are doing within my team. | 4 | 10 | 12 | 50 | 24 |
| In my company, there is no relationship between my operations and other units | 28 | 54 | 16 | 2 | 0 |
| In my company, it takes different departments to complete a project. | 4 | 4 | 6 | 42 | 44 |

Source: own construction

- Conclusion: Progress report sections states that a total of 80% of the respondents perceive that inter-team cooperation is important, with 74% suggesting that knowing what the other departments are doing motivates them to perform. It can be concluded that team synergy and inter-team synergy are strong requirements for effective motivation during project execution.
- Recommendation: In a project environment it is recommended that teams work closely together for performance sake and that it minimizes the risks of projects failure. All elements of effective communication should be put in place to maintain or to improve on the levels of communication between sub-teams in a project setting. Possibly, use of regular meetings may help in improving and maintaining a high level of cooperation between different departments and teams in the same project.

6.4.3 Open-ended questions

- List below in point form; communication problems in your firm.

Most employees (53%) feel offended and demotivated when their communication to senior management is not responded to timeously, suggesting that responsiveness is a critical element of good management.

Conclusion; Communication is at the heart of the functions of any organisation, but top management does not always respond in time.

Recommendation: Top management should learn (or be taught) to respond to requests and questions from subordinates as this helps to motivate the subordinates.

- Supply information below; what constitutes good communication.

Conclusion; employees opined that good communication is one in which a message sent to the management must be addressed with the urgency it deserves. The workers are not worried specifically about what the response is but have a problem waiting in uncertainty. The waiting in uncertainty is thought to be more disastrous than a negative response to a request submitted and responded to timeously.

Recommendation: Top management needs to be trained / informed about the negative impact caused by delays in response to subordinates' requests. Delays make subordinates feel that they are not important in the organisation.

- If you had the authority to – what would you change to enable effective communication in your firm?

Conclusion; surprisingly, none of the respondents answered this section, it can be concluded that: none of them have an idea how things should be done and thus had no view. These employees had been assured that no information would be shared with the authorities.

Recommendation; training on communication should be an organisation wide practice for all levels since every member of the organisation communicates every day all the time. Research findings, alluded to earlier in the literature indicate that manager spends, the average, of 80% of their time in a form of communication. This involves meetings with top management, meetings with peers and meetings with subordinates as teams or individuals.

- Indicate if you have ever been taken for training on communication, relationship and or team building exercises.

None of the respondents reported any special classes or training in communication or relationship building in the organisation. Conclusion: a sizeable number indicated that some of these issues are covered occasionally during ad hoc departmental or tasks team meetings. These meetings are generally meant to solve or resolve issues that may have taken, specifically when there are conflicts.

Recommendations; since communication is critical for effectively managing any enterprise, management should always have trainings on communication at all levels to reduce probable conflicts due to misunderstandings.

6.5 Chapter summary

The research objective for this study was to identify the role played by the communication in the execution of projects. Communication is classified by the PMBOK as one of the 10 knowledge areas and therefore considered important in project execution. The findings of this research are based on the perceptions from the employees and their experience with the interaction they have with their managers in the project environment. Communication has been established (from the research) as a critical component of the project execution process. Of primary importance is the assertion that interdepartmental, inter-team and intra-team communication has been rated as very important. Considering that managers' responsibilities involve communication for 80% of the time and that subordinates getting motivated by timeous feedback. It can be concluded that without effective communication project execution may always have faults and failures resulting in cost overruns and other undesirable project risks.

REFERENCES

- Aapaoja, A., Haapasalo, H. & Söderström, P. 2013. Early Stakeholder Involvement in the Project Definition Phase: Case Renovation. ISRN *Industrial Engineering*.
- Aga, D.A., Noorderhaven, N. & Vallejo, B. 2016. Transformational leadership and project success: The mediating role of team-building. *International Journal of Project Management*, 34(5).
- Albuquerque, U.P., Ramos, M.A., de Lucena, R.F.P. & Alencar, N.L. 2014. Methods and techniques used to collect ethnobiological data. In *Methods and techniques in Ethnobiology and Ethnoecology*. Humana Press, New York, NY.
- Alles, M., Brennan, G., Kogan, A. & Vasarhelyi, M.A. 2018. Continuous monitoring of business process controls: A pilot implementation of a continuous auditing system at Siemens. In *Continuous Auditing: Theory and Application*. Emerald Publishing Limited.
- Arto, K., Ahola, T. & Vartiainen, V. 2016. From the front end of projects to the back end of operations: Managing projects for value creation throughout the system lifecycle. *International Journal of Project Management*, 34(2).
- Bacon, C.W. 2018. Stains, media, and procedures for analyzing endophytes. In *Biotechnology of endophytic fungi of grasses*. CRC Press.
- Barnlund, D.C. 2017. A transactional model of communication. In *Communication theory*. Routledge.
- Basu, R. 2017. Quality management tools and techniques in major infra-structure projects. In *2017 6th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO)*. IEEE.
- Berry, G.R. 2011. Enhancing effectiveness on virtual teams: Understanding why traditional team skills are insufficient. *The Journal of Business Communication* (1973), 48(2).
- Bi, S., Ho, C.K. & Zhang, R. 2015. Wireless powered communication: Opportunities and challenges. *IEEE Communications Magazine*, 53(4).
- Bies, D.A., Hansen, C. & Howard, C., 2017. *Engineering noise control*. CRC press.
- Binder, J. 2016. *Global project management: communication, collaboration and management across borders*. Routledge.
- Bland, W., Bouteiller, A., Herault, T., Bosilca, G. & Dongarra, J. 2013. Post-failure recovery of MPI communication capability: Design and rationale. *The International Journal of High Performance Computing Applications*, 27(3).
- Bligh, M.C. 2017. Leadership and trust. In *Leadership today*. Springer, Cham.

Brennan, N.M. & Merkl-Davies, D.M. 2018. Do firms effectively communicate with financial stakeholders? A conceptual model of corporate communication in a capital market context. *Accounting and Business Research*, 48(5).

Bright, F.A., Kayes, N.M., McPherson, K.M. & Worrall, L.E. 2018. Engaging people experiencing communication disability in stroke rehabilitation: a qualitative study. *International journal of language & communication disorders*, 53(5).

Bryde, D., Broquetas, M. & Volm, J.M. 2013. The project benefits of building information modelling (BIM). *International journal of project management*, 31(7).

Busse, H., Aboneh, E.A. & Tefera, G. 2014. Learning from developing countries in strengthening health systems: an evaluation of personal and professional impact among global health volunteers at Addis Ababa University's Tikur Anbessa Specialized Hospital (Ethiopia). *Globalization and health*, 10(1).

Cervone, H. F. 2014. Effective communication for project success. OCLC Systems and Services: *International digital library perspectives*, Vol. 30 Iss: 2

Chaffee, S.R. & McLeod, J.M. 2017. The construction of social reality. In *The social influence processes*. Routledge.

Chaisanit, S. 2018. A review of educational communication model: A practical teaching in the Thai classroom guide. *Journal of Humanities and Social Sciences Thonburi University*, 12(29).

Chiocchio, F., Forgues, D., Paradis, D. & Iordanova, I. 2011. Teamwork in integrated design projects: Understanding the effects of trust, conflict, and collaboration on performance. *Project Management Journal*, 42(6).

Chioino, J., Contreras, I., Barrientos, A. & Vives, L. 2018. Designing a decision tree for Cross-device communication technology aimed at iOS and Android developers. In *Proceedings of the 2nd International Conference on Information System and Data Mining*. ACM.

Cho, J.H., Swami, A. & Chen, R. 2009. Modelling and analysis of trust management for cognitive mission-driven group communication systems in mobile ad hoc networks. In *Computational Science and Engineering, 2009. CSE'09. International Conference on* (Vol. 2). IEEE.

Coffelt, T.A., Baker, M.J. & Corey, R.C. 2016. Business communication practices from employers' perspectives. *Business and Professional Communication Quarterly*, 79(3).

Cooper, M. 2018. Decentering judgment: Toward a postmodern communication ethic. In *Judgment calls*. Routledge.

Costanzo, P.J. 2018. A Course Project Designed to Aid Students' Understanding of the Structure of Advertisements: An Application of the Who Says What to Whom over What Channel with What Effect Model. *Atlantic Marketing Journal*, 7(1).

Creswell, J. W. 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

- Creswell, J.W. 2008. Educational research: Planning, conducting, and evaluating quantitative and qualitative research (3rd). Upper Saddle River, NJ: Prentice Hall. 8–9.
- Daim, T.U., Ha, A., Reutiman, S., Hughes, B., Pathak, U., Bynum, W. & Bhatla, A. 2012. Exploring the communication breakdown in global virtual teams. *International Journal of Project Management*, 30(2).
- Dave, B., Kubler, S., Främbling, K. & Koskela, L. 2016. Opportunities for enhanced lean construction management using Internet of Things standards. *Automation in construction*, 61.
- Ding, Z., Zhong, C., Ng, D.W.K., Peng, M., Suraweera, H.A., Schober, R. & Poor, H.V. 2015. Application of smart antenna technologies in simultaneous wireless information and power transfer. *IEEE Communications Magazine*, 53(4).
- El-Sabek, L.M. & McCabe, B.Y. 2018. Coordination challenges of production planning in the construction of international mega-projects in the Middle East. *International Journal of Construction Education and Research*, 14(2).
- Erba, J., Ternes, B., Bobkowski, P., Logan, T. & Liu, Y. 2018. Sampling Methods and Sample Populations in Quantitative Mass Communication Research Studies: A 15-Year Census of Six Journals. *Communication Research Reports*, 35(1).
- Flouris, T.G. & Lock, D. 2016. Defining the Project Task. In *Aviation Project Management*. Routledge.
- Garner, M., Wagner, C. & Kawulich, B. 2016. Quantitative or qualitative: Ontological and epistemological choices in research methods curricula. In *Teaching research methods in the social sciences*. Routledge.
- George, R.A., Siti-Nabiha, A.K. & Jalaludin, D. 2018. Sustainability institutionalisation: A mechanistic approach to control change. *Journal of Cleaner Production*, 205.
- Gilley, A., Godek, M. & Gilley, J.W. 2009. Change, resistance, and the organizational immune system. *SAM Advanced Management Journal*, 74(4).
- Gondal, U.H. & Shahbaz, M., 2012. Interdepartmental communication increases organizational performance keeping HRM as a mediating variable. *Journal of Asian Business Strategy*, 2(6).
- Goodwin, J.M. 2019. Communication Accommodation Theory: Finding the Right Approach. In *Returning to Interpersonal Dialogue and Understanding Human Communication in the Digital Age*. IGI Global.
- Govaerts, S., Holzer, A., Kocher, B., Vozniuk, A., Garbinato, B. & Gillet, D. 2018. Blending Digital and Face-to-face Interaction using a Co-located Social Media App in Class. *IEEE Transactions on Learning Technologies*, 11(4).
- Grint, K., Jones, O.S. & Holt, C. 2016. What is Leadership. *The Routledge Companion to Leadership*, p.3.

- Grunig, J.E., 2017. Symmetrical presuppositions as a framework for public relations theory. In *Public relations theory*. Routledge.
- Gustafsson, A., Kristensson, P. & Witell, L. 2012. Customer co-creation in service innovation: a matter of communication? *Journal of Service Management*, 23(3).
- Harrison, N. 2018. Using the Lens of 'Possible Selves' to Explore Access to Higher Education: A New Conceptual Model for Practice, Policy, and Research. *Social Sciences*, 7(10).
- Harvey, P.L. 2017. Towards a Scientific Collaborative Design Approach: The Construction of a Community Informatics Design Assistance System to Support Communities and Virtual Organizations. In *Community Informatics Design Applied to Digital Social Systems*. Springer, Cham.
- Hasan, A., Baroudi, B., Elmualim, A. & Rameezdeen, R. 2018. Factors affecting construction productivity: a 30 year systematic review. *Engineering, Construction and Architectural Management*, 25(7).
- Hayes, R.M. 2017. Measurement of information and communication: A set of definitions. In *Between communication and information*. Routledge.
- Heide, M., von Platen, S., Simonsson, C. & Falkheimer, J. 2018. Expanding the scope of strategic communication: Towards a holistic understanding of organizational complexity. *International Journal of Strategic Communication*, 12(4).
- Hirszenberger, H., Ranogajec, J., Vucetic, S., Lalic, B. & Gracanin, D. 2019. Collaborative projects in cultural heritage conservation—management challenges and risks. *Journal of Cultural Heritage*, 37.
- Ho, S.M. & Hancock, J.T. 2019. Context in a bottle: Language-action cues in spontaneous computer-mediated deception. *Computers in Human Behavior*, 91.
- Huang, R., Zmud, R.W. & Price, R.L. 2010. Influencing the effectiveness of IT governance practices through steering committees and communication policies. *European Journal of Information Systems*, 19(3).
- Huy, Q. & Shipilov, A. 2012. The key to social media success within organizations. *MIT Sloan Management Review*, 54(1).
- Ivanov, B., Parker, K.A. & Dillingham, L.L. 2018. Inoculation as a risk and health communication strategy in an evolving media environment. *Risk and Health Communication in an Evolving Media Environment*.
- Jiang, C., Li, D. & Xu, M. 2014. LTTP: an LT-code based transport protocol for many-to-one communication in data centers. *IEEE Journal on Selected areas in Communications*, 32(1).
- John, P., Brooks, B. & Schriever, U. 2019. Speech acts in professional maritime discourse: A pragmatic risk analysis of bridge team communication directives and commissives in full-mission simulation. *Journal of Pragmatics*, 140.

- Joslin, R. & Müller, R. 2015. Relationships between a project management methodology and project success in different project governance contexts. *International Journal of Project Management*, 33(6).
- Jawah, L. E. 2013. Followership: The forgotten kingmaker for effective leadership. *Journal of US-China Public Administration*, 10(7).
- Jawah, L. E. 2014. Critical Competencies for Effective Strategic Leadership in Project Management. Ph.D. Nelson Mandela Metropolitan University.
- Jawah, L. E. 2014. Politics and project execution; how organizational politics impacts on the effectiveness of a project manager; the government dilemma. *Journal of Leadership and Management Studies*. 2 (2).
- Kanki, B.G. 2019. Communication and crew resource management. In *Crew resource management*. Academic Press.
- Kanter, R.M. 2009. in Organizations. *Knowledge Management and Organisational Design*, 10.
- Keil, M., Lee, H.K. & Deng, T. 2013. Understanding the most critical skills for managing IT projects: A Delphi study of IT project managers. *Information & management*, 50(7).
- Kerzner, H. 2018. *Project management best practices: Achieving global excellence*. John Wiley & Sons.
- Keyton, J. 2011. *Communication and organizational culture: A key to understanding work experiences*. Sage.
- Kim, A., Kim, Y., Han, K., Jackson, S.E. & Ployhart, R.E., 2017. Multilevel influences on voluntary workplace green behavior: Individual differences, leader behavior, and coworker advocacy. *Journal of Management*, 43(5).
- Kordova, S., Katz, E. & Frank, M. 2019. Managing development projects—The partnership between project managers and systems engineers. *Systems Engineering*, 22(3).
- Lakeman, J., Lloyd, M., Challans, R., Wallace, A., Gardner-Stephen, P., Stute, M. & Hollick, M. 2017. A practical and secure social media facility for internet-deprived populations. In *2017 IEEE Global Humanitarian Technology Conference (GHTC)*. IEEE.
- Land, F. 2018. Social aspects of information systems. In *Management Information Systems: The Technology Challenge*. Routledge.
- Lechler, T.G. & Dvir, D. 2010. An alternative taxonomy of project management structures: linking project management structures and project success. *IEEE Transactions on Engineering Management*, 57(2).
- Lee, E.J. & Tandoc Jr, E.C. 2017. When news meets the audience: How audience feedback online affects news production and consumption. *Human Communication Research*, 43(4).

- Lee, J., Park, J.G. & Lee, S. 2015. Raising team social capital with knowledge and communication in information systems development projects. *International Journal of Project Management*, 33(4).
- Liang, C.J.M., Priyantha, N.B., Liu, J. & Terzis, A. 2010, November. Surviving wi-fi interference in low power zigbee networks. In *Proceedings of the 8th ACM Conference on Embedded Networked Sensor Systems*. ACM.
- Libert, Y., Canivet, D., Ménard, C., Van Achte, L., Farvacques, C., Merckaert, I., Liénard, A., Klastersky, J., Reynaert, C., Slachmuylder, J.L. & Durieux, J.F. 2016. Predictors of physicians' satisfaction with their management of uncertainty during a decision-making encounter with a simulated advanced stage cancer patient. *Patient education and counseling*, 99(7).
- Liu, Y., Van Nederveen, S. & Hertogh, M. 2017. Understanding effects of BIM on collaborative design and construction: An empirical study in China. *International Journal of Project Management*, 35(4).
- Llopis-Lorente, A., Díez, P., Sánchez, A., Marcos, M.D., Sancenón, F., Martínez-Ruiz, P., Villalonga, R. & Martínez-Máñez, R. 2017. Interactive models of communication at the nanoscale using nanoparticles that talk to one another. *Nature communications*, 8.
- Low, S.P., Liu, J. & He, S. 2009. External risk management practices of Chinese construction firms in Singapore. *KSCE journal of Civil Engineering*, 13(2).
- Lundin, R.A., Arvidsson, N., Brady, T., Ekstedt, E. & Midler, C. (2015). *Managing and working in project society*. Cambridge University Press.
- Magano, K.D. & Thomas, A. 2017. Organisational change and the psychological contract at a pharmaceutical company. *SA Journal of Human Resource Management*, 15(1).
- Manvi, S.S. & Tangade, S. 2017. A survey on authentication schemes in VANETs for secured communication. *Vehicular Communications*, 9.
- Markovic, M.R. and Salamzadeh, A., 2018. The importance of communication in business management. *Business management, entrepreneurship and entrepreneurial tendencies*.
- Mason, R.O. 2017. Four ethical issues of the information age. In *Computer Ethics*. Routledge.
- Mayo, G., Wu, W., McCuen, T., Issa, R.R. & Smith, D.K. 2018, March. Implementation of the BIM Body of Knowledge (BOK) Framework for Program Planning in Academia. In *Proceedings of the 12th BIM Academic Symposium & Job Task Analysis Review, Orlando, FL*.
- McEvily, B., Soda, G. & Tortoriello, M. 2014. More formally: Rediscovering the missing link between formal organization and informal social structure. *The Academy of Management Annals*, 8(1).
- Mohamed C. Sylvain D., & Jacques, R. 2014. *France's new economic regulations: insights from institutional legitimacy theory*. *Accounting, Auditing & Accountability Journal*, Vol. 27 Iss 2

- Moser, S.C. 2010. Communicating climate change: history, challenges, process and future directions. *Wiley Interdisciplinary Reviews: Climate Change*, 1(1).
- Murphy, M., O'Donnell, P. & Jameson, J. 2019. Business in Engineering Education: Issues, Identities, Hybrids, and Limits. In *The Engineering-Business Nexus*. Springer, Cham.
- Namhata, R. & Patnaik, P. 2019. The 'Verticals', 'Horizontals', and 'Diagonals' in Organisational Communication: Developing Models to Mitigate Communication Barriers Through Social Media Applications. In *Digital Business*. Springer, Cham.
- Nickolayev, V.P., Svintorzhitskaja, I.A., Bondar, I.A. & Ermakova, L.I. 2015. On subtle distinctions between lingual communication and interlingual miscommunication. *European Journal of Science and Theology*, 11(4).
- Nitithamyong, P. & Skibniewski, M.J. 2011. Success factors for the implementation of web-based construction project management systems: A cross-case analysis. *Construction Innovation*, 11(1).
- Park, N., Jin, B. & Jin, S.A.A. 2011. Effects of self-disclosure on relational intimacy in Facebook. *Computers in Human Behavior*, 27(5)
- Paulin, D. & Suneson, K. 2015. Knowledge transfer, knowledge sharing and knowledge barriers—three blurry terms in KM. *Leading Issues in Knowledge Management, Volume Two*, 2.
- Peppard, J., Galliers, R.D. & Thorogood, A. 2014. Information systems strategy as practice: Micro strategy and strategizing for IS. *J. Strategic Inf. Sys.*, 23(1).
- Perfetti, C.A. 2017. The representation problem in reading acquisition. In *Reading acquisition*. Routledge.
- Petit, Y. 2012. Project portfolios in dynamic environments: Organizing for uncertainty. *International Journal of Project Management*, 30(5).
- Pirandola, S., Laurenza, R., Ottaviani, C. & Banchi, L. 2017. Fundamental limits of repeaterless quantum communications. *Nature communications*, 8.
- Pop, A., Pop, L. & Dumitraşcu, D.D. 2014. Communication Process Modeling In Research Projects. *Balkan Region Conference on Engineering and Business Education Vol 1*. Iss 1.
- Porter, M.E. & Kramer, M.R. 2019. Creating shared value. In *Managing sustainable business*. Springer, Dordrecht.
- Prammer, K. & Neugebauer, C. 2012. Consulting organizational change cooperation—challenges, issues and solutions in theory and practice. *Journal of Management and Change*, 29(1).
- Ramazani, J. & Jergeas, G. 2015. Project managers and the journey from good to great: The benefits of investment in project management training and education. *International Journal of Project Management*, 33(1).

- Reed, M.S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., Prell, C., Quinn, C.H. & Stringer, L.C. 2009. Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of environmental management*, 90(5).
- Remidez, H. & Jones, N.B. 2012. Developing a model for social media in project management communications. *International Journal of Business and Social Science*, 3(3).
- Ren, X., Deng, X. & Liang, L. 2018. Knowledge transfer between projects within project-based organizations: the project nature perspective. *Journal of Knowledge Management*, 22(5).
- Rikitianskaia, M., Balbi, G. & Lobinger, K. 2018. The Mediatization of the Air: Wireless Telegraphy and the Origins of a Transnational Space of Communication, 1900-1910s. *Journal of Communication*, 68(4).
- Robles, M.M. 2012. Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, 75(4).
- Rocha-Lona, L., Garza-Reyes, J. A. & Kumar, V. 2013. *Building Quality Management Systems*. Boca Raton, London, New York: CRC Press, Taylor & Francis Group.
- Rogers, E.M. & Valente, T.W. 2017. A history of information theory in communication research. In *Between communication and information*. Routledge.
- Rotaru, M.C. 2018. The Importance of Visual Literacy: An Analysis of Potential Obstacles for Romanian Students in the Completion of IELTS Academic Writing Task 1. In *Foreign Language Teaching in Romanian Higher Education*. Springer, Cham.
- Saaty, T.L. 2013. Analytic hierarchy process. In *Encyclopedia of operations research and management science*. Springer, Boston, MA.
- Sanchez, A.X. & Joske, W. 2016. Benefits dictionary. *Delivering Value with BIM: A Whole-of-Life Approach*.
- Sanders, A., Elangeswaran, C. & Wulfsberg, J. 2016. Industry 4.0 implies lean manufacturing: research activities in industry 4.0 function as enablers for lean manufacturing. *Journal of Industrial Engineering and Management*, 9(3).
- Sauer, C. & Reich, B.H. 2009. Rethinking IT project management: Evidence of a new mindset and its implications. *International Journal of Project Management*, 27(2).
- Schement, J.R. 2017. An etymological exploration of the links between information and communication. In *Between Communication and Information*. Routledge.
- Schermerhorn, J.R., Hunt, J.G. & Osborn, R.N. 1994. *Managing Organization Behavior*, New York, John Willey & Sons.
- Schilke, O., Hu, S. & Helfat, C.E. 2018. Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research. *Academy of Management Annals*, 12(1).

Schley, G., Ahmed, I., Afzal, M. & Radetzki, M. 2016. Reconfigurable fault tolerant routing for networks-on-chip with logical hierarchy. *Computers & Electrical Engineering*, 51.

Serrat, O. 2017. Social network analysis. In *Knowledge solutions*. Springer, Singapore.

Sethi, D. & Seth, M. 2009. Interpersonal communication: Lifeblood of an organization. *IUP Journal of Soft Skills*, 3(3).

Shannon, C.E., & Weaver, W. (1949). The mathematical theory of communication. Urbana, IL: *The University of Illinois Press*.

Sheldrick, G.M. 2015. Crystal structure refinement with SHELXL. *Acta Crystallographica Section C: Structural Chemistry*, 71(1).

Siebers, P.O., Macal, C.M., Garnett, J., Buxton, D. & Pidd, M. 2010. Discrete-event simulation is dead, long live agent-based simulation! *Journal of Simulation*, 4(3).

Silverstone, R. 2017. Introduction. In *Media, technology and everyday life in Europe*. Routledge.

Silverstone, R. 2017. Introduction. In *Media, technology and everyday life in Europe*. Routledge.

Singh, C., Daron, J., Bazaz, A., Ziervogel, G., Spear, D., Krishnaswamy, J., Zaroug, M. & Kituyi, E. 2018. The utility of weather and climate information for adaptation decision-making: current uses and future prospects in Africa and India. *Climate and Development*, 10(5).

Skeels, M.M. & Grudin, J. 2009, May. When social networks cross boundaries: a case study of workplace use of facebook and linkedin. In *Proceedings of the ACM 2009 international conference on Supporting group work*. ACM.

Steinberg, L. & Darling, N. 2017. Parenting style as context: An integrative model. In *Interpersonal Development*. Routledge.

Stephenson, C. 2012. *What Causes Top Management Teams to Make Poor Strategic Decisions?* Ph.D. Southern Cross University.

Taecharungroj, V. 2017. Starbucks' marketing communications strategy on Twitter. *Journal of Marketing Communications*, 23(6).

Tan, H.C., Carrillo, P.M. & Anumba, C.J. 2011. Case study of knowledge management implementation in a medium-sized construction sector firm. *Journal of Management in Engineering*, 28(3).

Te'eni, D. 2001. A cognitive-affective model of organizational communication for designing IT. *MIS quarterly*, 25(2).

Tench, R. & Moreno, A. 2015. Mapping Communication Management Competencies for European Practitioners. *Journal of Communication Management*, Vol. 19 Iss 1.

- Thomas, G. 2017. *How to Do Your Research Project: A Guide for Students*. Sage.
- Thomason, G.F. 2018. Workers' Participation in Private Enterprise Organisations. In *Participation in Industry*. Routledge.
- Trevarthen, C. 2016. From the Intrinsic Motive Pulse of Infant Actions to the Life Time of Cultural Meanings. In *Philosophy and psychology of time*. Springer, Cham.
- Turnhout, E., Neves, K. & De Lijster, E. 2014. 'Measurementality' in biodiversity governance: knowledge, transparency, and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). *Environment and Planning A*, 46(3).
- Vlăduțescu, Ș. 2013. A Completion to the Traditions Matrix-Standard-RT Craig, Induced by the Transformation of Communication-as-a-Field Membrane in Communication-as-a-Universe Membrane. *American International Journal of Contemporary Research*, 3(10).
- Waisbord, S. 2018. Family tree of theories, methodologies, and strategies in development communication. *Handbook of Communication for Development and Social Change*.
- Walther, J.B., Van Der Heide, B., Ramirez, A., Burgoon, J.K. & Peña, J. 2015. Interpersonal and hyperpersonal dimensions of computer-mediated communication. *The handbook of the psychology of communication technology*, 1.
- Walumbwa, F.O., Mayer, D.M., Wang, P., Wang, H., Workman, K. & Christensen, A.L. 2011. Linking ethical leadership to employee performance: The roles of leader-member exchange, self-efficacy, and organizational identification. *Organizational Behavior and Human Decision Processes*, 115(2).
- Wang, C.X., Haider, F., Gao, X., You, X.H., Yang, Y., Yuan, D., Aggoune, H., Haas, H., Fletcher, S. & Hepsaydir, E. 2014. Cellular architecture and key technologies for 5G wireless communication networks. *IEEE Communications Magazine*, 52(2).
- Wanjiru Kabui, A.C. 2016. KTS Saving and Credit Society: managing communication. *Emerald Emerging Markets Case Studies*, 6(2).
- Waq, G., Mavo, H., Snowdon, W., Moodie, M., Nadakuitavuki, R., Mc Cabe, M. & Swinburn, B. 2013. Participants' perceptions of a knowledge-brokering strategy to facilitate evidence-informed policy-making in Fiji. *BMC Public Health*, 13(1).
- Whittle, T.N. 2018. Conflict, adaption, and strategic defiance: service providers' roles in constructing prisoner reentry through role adaption. *Journal of Crime and Justice*, 41(3).
- Wu, P., Wang, J. & Wang, X. 2016. A critical review of the use of 3-D printing in the construction industry. *Automation in Construction*, 68.
- Ylitolva, F. 2015. Internal Communications in Project Management - Case Company X. Bachelors. Turku University of Applied Sciences.

Zheng, J. 2018. Analysis of collaborative design and construction collaborative mechanism of cloud bim platform construction project based on green computing technology. *Journal of Intelligent & Fuzzy Systems*, 34(2).

Ziek, P. & Anderson, J.D. 2015. Communication, dialogue and project management. *International Journal of Managing Projects in Business*, 8(4).

Zimmerman, B.J. 2013. Theories of self-regulated learning and academic achievement: An overview and analysis. In *Self-regulated learning and academic achievement*. Routledge.

Zou, W., Kumaraswamy, M., Chung, J. & Wong, J. 2014. Identifying the critical success factors for relationship management in PPP projects. *International Journal of Project Management*, 32(2).

Zulch, B. 2016. A proposed model for construction project management communication in the South African construction industry. *Acta Structilia*, 23(1).

APPENDIX: QUESTIONNAIRE

Communication as a tool for effective project execution at selected construction sites in Cape Town. South Africa.

Your identity is protected, and your responses are confidential. Please do not write your name anywhere on this questionnaire. You are free to withdraw from the survey at any time if you are not comfortable because this is a voluntary exercise.

SECTION A: Biography

1. Please indicate your highest educational

No matric Matric Diploma Degree Other

2. Your Department in the organization?

IT Project Management Engineering Market Other

3. How long have you worked for the organization?

| | | | |
|-------------|------------|-------------|---------------|
| 0 – 5 years | 6-10 years | 11-15 years | 16 plus years |
|-------------|------------|-------------|---------------|

4. What is your position in the organization?

Technician Supervisor Manager Other

5. If other please specify.....

6. In the structure is there any one that reports to you?

No one Yes not directly Yes directly Depending

7. In the structure do you report to anyone?

Not at all Yes not directly Yes directly Yes sometimes

8. Are there any other issues you may want to highlight in relation to the above? Please list them in the space below.

-
-
-
-

SECTION B Likert scale

Using the Likert scale below; please rank the statements as provided; Strongly disagree = 1, Disagree = 2, Neutral = 3, Agree = 4 and strongly agree = 5.

| | NEED FOR INFORMATION | Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|----|--|-------------------|----------|---------|-------|----------------|
| | DIRECTION FOR THE BUSINESS | % | % | % | % | % |
| 1 | I can find or solve problems/issues without reporting to my manager. | 1 | 2 | 3 | 4 | 5 |
| 2 | I can know the vision of the project without being told | 1 | 2 | 3 | 4 | 5 |
| 3 | Everyone always knows what the company vision is | 1 | 2 | 3 | 4 | 5 |
| 4 | Our company's management does not communicate the company's vision regularly | 1 | 2 | 3 | 4 | 5 |
| | OPERATIONAL REQUIREMENTS | 1 | 2 | 3 | 4 | 5 |
| 5 | In my company, we get feedback on request for information | 1 | 2 | 3 | 4 | 5 |
| 6 | I can perform well, without any communication from my manager. | 1 | 2 | 3 | 4 | 5 |
| 7 | I can still be motivated to do my task even if I don't have enough resources to do the task. | 1 | 2 | 3 | 4 | 5 |
| 8 | In my company, information needs to be frequently communicated | 1 | 2 | 3 | 4 | 5 |
| 9 | I become demotivated when information is not sent on time. | 1 | 2 | 3 | 4 | 5 |
| | TOP MANAGEMENT SUPPORT | % | % | % | % | % |
| 10 | In my company, directives from the top clarify issues for employees below | 1 | 2 | 3 | 4 | 5 |
| 11 | I become demotivated when I do not frequently communicate with top management. | 1 | 2 | 3 | 4 | 5 |
| 12 | In my company, employees get motivated without feedback from top management. | 1 | 2 | 3 | 4 | 5 |
| 13 | Seeing top management regularly motivates me to perform | 1 | 2 | 3 | 4 | 5 |
| 14 | I can solve difficult problems without the interference of top management. | 1 | 2 | 3 | 4 | 5 |
| | INTER-PROJECT TEAM COMMUNICATION | % | % | % | % | % |
| 15 | In my company, every work breakdown structure is a sub-team that needs to integrate with other teams | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|----|--|---|---|---|---|---|
| 16 | In my company, integration of teams is not necessary. | 1 | 2 | 3 | 4 | 5 |
| 17 | In my company, project teams do not need to work together to get the job done. | 1 | 2 | 3 | 4 | 5 |
| 18 | I can work well in a project team that frequently communicates | 1 | 2 | 3 | 4 | 5 |
| 19 | In my company, it does not matter what one team does as long as work is being completed. | 1 | 2 | 3 | 4 | 5 |
| | PROGRESS REPORTS AND STATE OF PROJECT | % | % | % | % | % |
| 20 | In my company, it is important for employees to know what other units are doing | 1 | 2 | 3 | 4 | 5 |
| 21 | I can do my work, even if I did not understand the scope of the problem. | 1 | 2 | 3 | 4 | 5 |
| 22 | I can perform well if I know what others are doing within my team. | 1 | 2 | 3 | 4 | 5 |
| 23 | In my company, there is no relationship between my operations and other units | 1 | 2 | 3 | 4 | 5 |
| 24 | In my company, it takes different departments to complete a project. | 1 | 2 | 3 | 4 | 5 |

SECTION C – Open-ended section

1. List below in point form communication problems in your firm

-
-
-

2. Supply information below what constitutes good communication

-
-
-

3. If you had the authority to – what would you change to enable effective communication in your firm?

-
-
-

THANK YOU FOR PARTICIPATING – YOUR RESPONSE IS CONFIDENTIAL

[No information will be passed to any authority]